

EAST EUROPEAN ECONOMIC ASSESSMENT

Part 1—Country Studies, 1980

A COMPENDIUM OF PAPERS

SUBMITTED TO THE

JOINT ECONOMIC COMMITTEE

CONGRESS OF THE UNITED STATES



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LETTERS OF TRANSMITTAL

FEBRUARY 23, 1981.

To the Members of the Joint Economic Committee:

Transmitted herewith for the use by the Joint Economic Committee, the Congress, and the interested public is a compilation of papers assessing the economies of East Europe entitled "East European Economic Assessment, Part 1—Country Studies, 1980." This compilation provides up to date information and analysis about the individual countries of East Europe. A companion volume covering East Europe regional assessments will be transmitted in the near future.

We wish to express our gratitude to the Congressional Research Service of the Library of Congress for making available the services of John P. Hardt, who helped plan the scope of the research and coordinated and edited the contributions. He also wrote the lead essay in the compilation. Dr. Hardt was assisted by Kate T. Tomlinson of the Library staff. The project was supervised for the committee by Richard F. Kaufman.

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,

HENRY S. REUSS,
Chairman, Joint Economic Committee.

FEBRUARY 18, 1981.

HON. HENRY S. REUSS,
*Chairman, Joint Economic Committee,
Congress of the United States,
Washington, D.C.*

DEAR MR. CHAIRMAN: Transmitted herewith is a volume of papers on the economies of the countries of Eastern Europe entitled "East European Economic Assessment, Part 1—Country Studies, 1980." The volume contains papers written by scholars and specialists who were invited to contribute because of their expertise in East European affairs. The authors come from universities, private research organizations, and the Federal Government.

Of course, the views expressed in the papers are those of the individual authors and do not necessarily represent the views of their governmental or nongovernmental organizations or individual members of the Joint Economic Committee.

Sincerely,

RICHARD F. KAUFMAN,
Assistant Director, Joint Economic Committee.

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CHAIRMAN'S OVERVIEW

The Joint Economic Committee compendium of papers, "East European Economic Assessment, Part 1—Country Studies, 1980," contains a series of indepth analyses of the most pressing economic problems facing the nations of East Europe as well as economic profiles of those countries. The increasing importance of our economic relations with East Europe and the possibility of economic crises such as the one taking place in Poland, together with the greater role played by Congress in foreign economic policy, make it more important than ever for Members of Congress to be better informed about this region.

The following discussion summarizes the key economic issues for the region and each of the countries:

East European economic relations with the United States have taken on a central role in our political-economic relations, and so far as East Europe domestic politics are concerned, economic performance is the critical area for the East European leaders. Although the East European leaders have a degree of independence from Moscow with regard to economic policy, they are held much more accountable by their own people for economic performance than in any other area of their responsibilities. Success in economic performance may well turn on U.S. and Western policy toward these countries. Western policies with regard to credit, technology export, and grain sales are important factors in the economic strategies of each of the countries and could mean the difference between success and failure.

Under the umbrella of increasing Soviet commercial relations with the West, East European nations have opened their economies to Western imports. This trend is likely to continue despite the harmful effects on United States-Soviet relations of the Soviet invasion of Afghanistan. For example, economic initiatives involving Polish coal exports and American grain imports, cooperative ventures, such as production of International Harvester equipment in Poland for use there and sale on the world market have tied the economies closer together and made them somewhat interdependent.

As East European leaders and planners commit their economies to qualitative improvement, modernization becomes increasingly synonymous with emulating Western technology and management. Those countries, such as Hungary, that have opened more of their economic sectors to world market competition are developing economic mechanisms more compatible with Western free enterprise economies, and are more able to compete with Western exports and pay for useful imports.

Rising consumer incentives designed to promote productivity and respond to the rising expectations of the citizen—consumerism in East Europe—also tends to emulate Western standards and economic mechanisms. All the countries in East Europe have become very responsive to what appears to be an iron law of rising consumer require-

ments. Some face not only discontent, but strikes and violence if minimum expectations are not met.

For East Europe, failure of economic policy could lead to political instability and, in some countries, changes in leadership. East European leaders thus have a vital stake in maintaining good economic relations with the West.

For the United States and the Western Industrial Nations, East Europe is currently a substantial and potentially an even more important expanding market for industrial equipment, grain sales, and other products. To American commercial interests, markets in East Europe are already significant and could become more important if their economies perform reasonably well. Thus, on economic grounds, reasonable economic performance in East Europe, which cannot be easily assured, is in our interest, as well as theirs.

Just as it is important that Congress, as well as the Executive, become familiar with the political problems and likely options for dealing with them, Congress should also be aware of the possible short-term economic crises and the longer term economic issues that join and divide United States-East European interests. The major short-term issues are clear and may be enumerated.

Most of the political crises for East Europe regimes and opportunities for improvement are centered on economic performance:

POLISH DEBT CRISIS

Poland in 1980-81 is in a perilous balance-of-payment situation with their Western creditors. Official U.S. Eximbank and agricultural credits, as well as substantial U.S. private bank credits, are among the major Polish commitments. More credits may be needed to avoid re-scheduling in the near term. To redress the adverse foreign balances, more competitive exports from Poland to the West are required. Resolving the Polish balance of payments crisis is essential to the success of all other economic programs.

POST-TITO VIABILITY OF YUGOSLAVIA: POLITICAL STABILITY AND ECONOMIC GROWTH

Yugoslavia's success over the last several decades has been said to derive from the unifying force of President Tito's leadership and a generally healthy, dynamic economy. Tito has now passed from the scene and 1980 has been a very difficult year for Yugoslavia in its foreign economic relations. Substantial Western loans will probably be necessary to tide the Yugoslav economy over. If there is political instability, economic performance may become even more important.

FRAGILITY OF ROMANIAN INDEPENDENCE AND CONTINUED POLITICAL-ECONOMIC NORMALIZATION WITH UNITED STATES

Romanian independence has been built on moderate reliance on the Soviet economy, cordial relations with the South—including OPEC countries—and expanding relations with the United States and other Western industrial nations. This trilateral foreign economic policy has been reinforced by a tight control system at home. Each of

these pillars of Romanian policy has eroded: they are more dependent than ever on Soviet oil, OPEC—especially Iranian—relations have been costly and disappointing, and there are limits in expanding Western trade. Moreover, the Government is under increasing pressures from consumers to relax Romania's policy of independence with respect to the CMEA, the Warsaw Pact and the South is thus fragile. This may prove to be a basis of U.S. concern in the years ahead, if economic issues dictate a change in Romanian policy.

GDR RELATIONS WITH UNITED STATES STILL SHARPLY LIMITED

The existence of the Berlin Wall and the presence of East German technical advisers in the Middle East and Africa place constraints on normal relations. Pressures for more Western trade are also limited by severe balance-of-payments problems. Relations between the FRG and GDR—the two Germanies—also influence the options for the United States.

CZECHOSLOVAKIA UNDER THE SHADOW OF THE BREZHNEV DOCTRINE

Settlement of United States-Czech claims is precedent to normalized economic relations. But the shadow of the 1968 invasion, which was formally legitimized by Brezhnev, and Soviet constraints in Czech policy still loom large. Only if the political conditions change can improved United States-Czech relations become possible.

HUNGARIAN EXPERIMENT WITH "MARKET SOCIALISM": PROSPECTS OF FURTHER ECONOMIC REFORM

Domestic economic improvement in organization and efficiency has made Hungary's New Economic Mechanism the showcase of reform in East Europe. This reform has attempted to simulate market conditions and has reduced the direct influence of the Communist Party from management of the economy. With the United States-Hungarian trade agreement, improved relations are high on our current agendas. Just how far and fast Hungary can go will depend on many policies outside its control, including United States-Soviet relations, its ability to import energy, and trade from the West.

BULGARIA'S LOW PROFILE MAY CHANGE

Reported to be the most congenial with their Great Russian neighbor, Bulgaria seems to move naturally in conformance with the Soviet line. But pressures for modernization and consumerism, especially if accompanied by change in the terms of relations with the U.S.S.R., could lead to a more dynamic Bulgarian-Western relationship.

ALBANIA ADRIFT

Without strong affinity to either of the current Communist giants, Albania is more alone than before. With the eventual passing of their long-time leadership, Albania may cast some lines to the West. The United States has few outstanding problems with Albania, so it is in a position to initiate a thaw of relations for the West with Albania.

EAST EUROPEAN ECONOMIES IN CRISIS

By John P. Hardt

After a decade or more of economic growth, modernization, and improvement in their consumer's lot, the economies of East Europe face a period of crisis. In the past cheap and abundant Soviet hydrocarbons, western trade and loans fueled a policy of consumerism and modernization. Increased economic interdependence with the Soviet Union and the West, modernization, and consumerism have apparently become the imperatives of economic policy in most of East Europe. The means for fulfilling these goals are sharply restricted in each of the countries for a variety of reasons.

The decade of the 1980's is a vital time in East Europe's economic development. Crises in decisionmaking present not only opportunities for improvement but also intractable problems, seemingly beyond the control of East European leaders and planners.

Economic issues dominate the relation of the United States with the individual countries of East Europe. The U.S. Congress has become increasingly interested in developments within the East European region as a whole and in individual nations. Congressional initiatives in and actions on legislative and policy issues have ranged from economic normalization (i.e., approving trade agreements) to political relations such as the return of the Crown of St. Stephen to Budapest. These actions have involved many congressional members, committees and staff in travel to the region. Security and human rights questions may rank high in American councils, but Eastern flexibility in those areas is largely limited by Soviet policy control. As a result, economic issues, in which the Eastern European countries have more flexibility, dominate their relations with the United States.

In 1981 and thereafter some of the issues that may result in congressional and Federal concern, policy action, or even new legislation include the following:

A major Polish loan and other actions related to the possibility of international insolvency of Poland.

Instability in Yugoslavian economy and society requiring some special Western financing and added economic and military sales or aid.

Concern over compliance by Romania with the human rights, "freedom to emigrate," requirements of the United States-Romanian trade agreement in a time of falling economic performance and increasing consumer pressures.

Political and military restraints by the GDR affecting Berlin and their other Western borders resulting from concern over the Polish crisis and reduced economic prospects.

Possibly resumed interest in the barriers to a Czech-American trade agreement such as the Long-Gravel amendment to the Trade Act in the context of uncertain Czech political economic performance.

Extension and expansion of commercial relations with Hungary in a period of retrenchment and reduced economic growth in Hungary.

Consideration of normalized trade with Bulgaria at a time when their economy is tied even more closely to Soviet energy supplies and faces growth retardation.

A possible opening with Albania now bereft of Communist allies and barred by unsettled issues with other Western nations from progress toward some degree of normalization.

In coping with these policy problems, East European leaders must relate the imperatives of national interest, economic interdependence, modernization, and consumerism to each particular problem. This interaction of American and East European political processes will provide both opportunities and obligations for U.S. policymakers and East European leaders. How the latter deal with the imperatives of economic interdependence, modernization, and consumerism will influence U.S. options.

Economic interdependence was recognized as a global imperative of growing importance by the European Commission on Security and Cooperation in Helsinki in August 1975, reasserted at Belgrade in 1977; and Madrid in 1980-81. The Soviet Constitution of 1977 stressed the related need for economic interdependence among the nations of the Council for Mutual Economic Cooperation (CMEA) in Eastern Europe. Interest on the part of 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. For the West, Eastern Europe and the Soviet Union remain one of the larger untapped markets for its expanding economies.

The economic fortunes of the East European economies have already been significantly influenced by policies and developments outside their area. Soviet policy and performance certainly have been a major independent variable in East European performances since World War II. Increasingly in recent years the policy and performance of the advanced Western economies and OPEC have had a consequential impact on East European economies. Increasing economic interdependence has not been an unmixed blessing, however. Whereas many of the economic benefits come from advanced technology and cheaper materials from external economies, the costs of East European interdependence appear to be mounting sharply in recent years. Unfortunately, East European leaders have not done very well in perceiving and analyzing foreign economic developments.

In a time of global economic uncertainty and change, it is important for East European leaders and planners not only to correctly antici-

paste external developments and policies, but also to assess their implications for formulating their own plans. For example, until 1973, most East European countries adopted the cheap hydrocarbon policy of the Soviet Union and the OECD to their current sorrow. In the 1980's, the process of increasing economic interdependence, while making necessary internal structural changes, will be especially difficult, the margins for error small and the cost of mistakes very high indeed.

Domestic economic plans and pressures for change in Eastern Europe underpin the likelihood of more economic interdependence. "Extensive" has given way to "intensive" economic growth as the socialist economies unevenly proceed into a new, more qualitative stage of economic development. *Modernization*, the raising of efficiency in production and quality of supply close to that of the advanced Western industrial economies, has become imperative to support needed trade and to provide an opportunity for sustaining economic growth. *Consumerism*, the use of improved material incentives to foster productivity increases and insure political stability, has likewise become a given in East Europe. Albania alone has rejected the imperatives of interdependence and consumerism. In the years ahead, there will be extremely difficult policy choices requiring controversial assessments of the politico-economic costs and benefits of the available options for attaining an acceptable rate of modernization and improvement for consumers.

Increasing interdependence, modernization, and consumerism—the imperatives of East European policy and plans—threaten rising costs in terms of satisfying other priorities in resource allocation (e.g., defense commitments), challenge the traditional organization of the economy and long held socialist principles, and contradict the former goal of independence from foreign economic influences.

In formulating economic policy East European planners and leaders are faced with what may seem to be insoluble dilemmas with respect to internal and external economic policy. Each of them involves not only decisions for the short term but also hard choices relating current cost to future benefits, a type of decision especially vexing to policy-makers everywhere.

Dilemma No. 1: To expand economic relations with the West and OPEC countries while meeting domestic and CMEA demands.

In order to increase the efficiency of production and raise the quality of output to the level of the Western market, increased importation of Western products and technology is necessary. In the eyes of many East Europeans the prospective benefits of Western "economic miracles" await East European economies from effective absorption of Western technology. Like Western technology, increases in oil deliveries from the OPEC countries needed to sustain domestic economic growth must be paid for with scarce "hard goods," i.e., goods commanding hard or convertible currency on the world market.

However, expanding hard currency trade poses difficulties. Eastern goods often are not competitive on world markets. Hence, the Eastern European countries are likely to place even greater emphasis on compensation (product "buy-backs") arrangements and counter-trade re-

quirements. Some payments to the West and OPEC may be deferred, albeit at high long-term costs, by accepting high levels of commercial and governmental credit and heavier debt burdens. In order to reduce the Western debt burden to manageable portions, to husband scarce "hard" goods for domestic and Eastern markets and to reduce exposure to economic disturbances from political leverage by the West, commercial relations with the industrially advanced Western economies and OPEC should be held down. But to satisfy the imperatives of interdependence, modernization, and consumerism indicates the opposite. Somehow the East European countries must accommodate these costs.

Dilemma No. 2: To increase intra-CMEA hard goods trade and joint participation in Soviet resource development projects by smaller East European nations necessary in order to pay for hydrocarbons and other scarce materials from the U.S.S.R. while meeting domestic, Western, and OPEC economic requirements.

Oil, natural gas, and other scarce material and industrial requirements are expanding, creating critical import needs from the U.S.S.R., which are both expanding and critical in the drive for growth and efficiency. Both Soviet price increases and more frequent requirements to provide "hard" goods in payment raise the cost and burden of this form of intra-CMEA trade.

Such costs increasingly generate pressures in East European capitals to reduce the claim of imported energy on domestic growth generating activities and limit involvement in joint projects for the development of materials supplied primarily from the U.S.S.R. such as the CMEA-wide Orenburg natural gas pipeline project. Likewise, the defense and economic cooperation claims of Warsaw Pact and CMEA must be met to support Eastern solidarity. Pressures to support Warsaw-Pact defense requirements and Soviet foreign policy positions tend to impose high costs and burdens on domestic economic planning in the smaller East European nations. These broader costs may be an important part of intra-CMEA trade.

Onerous as the cost of some aspects of economic relations between the Soviet Union and other CMEA countries may be, critical aspects such as energy exchanges are imperative for East European economic growth.

Dilemma No. 3: To provide higher quality resources in greater quantity for domestic investment to stimulate needed growth while meeting pressing current export commitments to the Soviet Union, OPEC, Western countries and the contributions to the Warsaw Pact.

In order to increase the rate and quality of domestic economic growth, higher priority is needed for investment, especially for bringing on stream modern plant and facilities which can generate hard goods output for sale on the world market, and for meeting commitments at home and throughout CMEA. Future growth depends largely on current investment and the efficient use of production capacity.

Current commitments often entail giving priority to programs that compete with domestic investment. These include increasing domestic consumption as incentives for workers and managers; maintaining agreed to intra-CMEA relations including acceptable relations with

the Soviet Union; meeting Western repayment commitments by export of scarce hard goods; and limiting imports of Western investment goods for the sake of balancing foreign trade accounts in order to improve the East European countries' credit worthiness. Warsaw Pact defense claims, likewise, preempt scarce, high quality production facilities and skilled manpower. As pressing as these current claims on allocations of resources are, it is imperative that the rate of high quality investment be maintained and increased to stimulate economic growth needed for modernization and future consumer satisfaction.

Dilemma No. 4: To reform planning and management institutions and practices to stimulate productivity and quality of output while retaining traditional socialist institutions, principles, and practices perceived as essential.

In order to increase incentives to managers, workers and peasants to raise production, changes in the organization and staffs of planning, production, and trading organizations have been made. They are intended to increase competition, improve efficiency and eliminate "unproductive" activities. Consciously, if not explicitly, such changes are designed to incorporate the effective and necessary conditions of a well functioning market, while retaining the fundamentally socialist characteristics of the East Europe economic systems.

Reform or reorganization in planning, management, and incentives which differentiate rewards according to productivity tend to threaten some of the socialist institutions basic to the traditional approach to economic development in East Europe—domestic party involvement in the economy, job security and egalitarian wage payments. Increasing the role of the technical professional threatens the traditional role of the Party apparatus. Modernization of enterprises and economic sectors leads to reassignment or removal of some old professionals and reassignment of the labor force without the certainty of comparable reemployment. Differentiation in payments leads to inequality in material benefits and a possibility that some managers, workers, and peasants may suffer decreases in real income. Openness to the global economy may foster competition but also expose the East European economies to the adverse consequences of Western recession and inflation. Notwithstanding all these costs, the East European policies of modernization and consumerism make reform of their economic planning and management crucial.

Each of these dilemmas represents predicaments that have been faced in the past. However, in recent years sharply rising energy costs, global stagflation and other domestic and external events have led to a paradoxical result: East European planners are often compelled to follow growth-retarding policies, such as reducing energy imports for balance of payments reasons. Instead of expanding exports, import-reducing policies have been adopted, impairing the effective investment programs in order to reduce debts with Western banks to acceptable levels. The cost and uncertainties of intensive economic development have become sharply more apparent to the Eastern European leaders and planners, while Western inflation and recession have made the global relations uncertain and costly.

Looking to the 1980's, as the East European economies become more committed to economic growth with efficiency and to consumer

satisfaction more in line with Western levels, they will become increasingly unable to provide for the necessary import requirements to fulfill their growth plans. While recent economic performance in many of the nations of Eastern Europe, including Yugoslavia and Albania, may be assessed as ranging from adequate to excellent by international standards, the leaders and populace alike, generally seem to view economic performance as insufficient to meet major policy needs or as inadequate to fill strongly felt popular needs. For example, even a 4 percent annual growth in GNP is not enough if a minimum of 5 or 6 percent is officially planned or popularly desired. Poland is notable among the exceptions to the generally favorable growth record in East Europe. Polish Party leaders have been outspokenly and justifiably critical of their country's negative economic performance. It is understandable that leaders pay particular attention to economic performance. Indeed it is no exaggeration to say that the tenure and effectiveness in the office of most of the Eastern party leaders depends, in large part, on the satisfactory performance of their economies. Circumscribed by Soviet tutelage as the power of the East European leadership is in military, political, and ideological matters, economic policy remains the area of greatest indigenous autonomy and responsibility. This is all the more reason why the East European leaders are held to special account for economic performance.

Although the Soviets may have less control over economic issues than over other matters, the policies of the Eastern giant have a profound effect on the East European economies. Eastern Europe's economic dependence on the U.S.S.R. has been underlined whenever the Soviets raise oil prices to Eastern Europe and tightened their allocations. This onerous materials price burden added to the ever present defense claims, makes the influence of Soviet policy on East Europe appear generally unfavorable. To put this well recognized burden in perspective, it is fair to note that the Soviet Union is still accepting East European goods in trade that cannot be easily marketed elsewhere, especially in the West. The Soviet Union may thus receive more blame for unfavorable terms of trade than merited.

Unfavorable as Western inflation, trade restrictions, recession and the burdens of servicing the debt owed to the West have been for the critical development of East-West interdependence, modernization, and consumerism, the industrial West still appears to be the major source of good economic news in East Europe. Western imports of 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 published by the Committee. Three years later, "East European Economies Post-Helsinki" was released. These volumes joined what has become a triannual series on the economies of the Soviet Union, Eastern Europe and the People's Republic of China. This volume supports a continuum of assessments of the East European economies and is intended to provide definitive

analyses of a basis for assessing the current economic situation and the problems of the 1980's.

In the current compendium, specialists from governmental and academic institutions in the United States, the Federal Republic of Germany, the United Kingdom, France, and Canada have assessed East European economic policy, performance, and prospects. Special attention is given to changes in East European priorities and economic institutions, especially as they relate to commercial relations with the West, the United States and the Atlantic community. While the German Democratic Republic (GDR), Poland, Czechoslovakia, Hungary, Romania, and Bulgaria, the core East European nations of CEMA, are the central focus of the compendium, some attention is given to East Europe's nonmembers—Albania, and Yugoslavia. The U.S.S.R. is dealt with only to provide a frame of reference for analyzing policy and performance.

The chapters are grouped by country. Issuing a companion volume on regional aspects is a change from the format of the earlier volumes.¹ A special effort in the individual country studies was made to solicit comparable assessments on the recent trends in the domestic and foreign economic relations of the non-CMEA 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 in 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 relevant analysis may be found.

1. *Can political pluralism, including collective bargaining of unions, and freer speech, become compatible with improved economic performance to adequately serve domestic needs, satisfy the needs of international solvency and contribute to Eastern alliance needs?*

As for Poland where popular unrest with economic performance has often contributed to leadership changes, Richard Davis noted, that

... nothing significant is likely to change in the regime's policy and that, consequently, the probability of a new upheaval is considerable.

Both in Poland and in the West, the failures of the Gierek leadership are excused by some who point to the limits imposed by the Soviet head office. This does not explain how the Romanian and Hungarian leaderships, in quite different ways, have succeeded in stretching those limits. Ceausescu has shown that it is possible to oppose Moscow's will on important foreign-policy issues. Kadar has been able to exercise a considerable degree of autonomy in economic organization. [Davies, pp. 28.]

For some time there has been an almost uniform opinion of theoretical economists in Poland that the present difficulties cannot be eliminated and no recovery would be possible without some bold systemic changes. On the other hand, the official position seemed to be that it was not the right time to introduce reforms, because of the existence of serious macro-economic domestic and external disequilibria.

Without such reforms it is doubtful that a recovery from the present very serious economic crisis could be effected and that the leaders would be able to prevent some catastrophic political upheavals over which they might lose control. [Fallenbuchl, pp. 63, 65.]

The key to Poland's ability to manage its hard currency debt in the future will be its ability to substantially increase its hard currency exports, especially to the Industrial West countries. The leadership does have the option of further reducing imports from the I.W. However, imports are already at dangerously low levels, so that further cuts could impair domestic production and lead to increased consumer unrest. [Teske, p. 73.]

¹ "East European Economic Assessment: Part 2—Regional Aspects."

Growth in agricultural production in the early 1980's will not accelerate without a sustained improvement in the structure of incentives and stepped-up flows of resources to the private farm sector. If the leadership seeks again to speed the transition to socialized farming, the rapid acquisition of private farm land could swamp the absorptive capacity of the socialized sector. In this case, or even if present policies are unchanged, agriculture is likely to develop into the principal constraint preventing a rebound in Polish economic expansion in the early 1980's. [Newcomb, p. 97.]

After several years of exploratory discussions and negotiations, in 1972 a ten-year industrial cooperation agreement (ICA) was signed between International Harvester (IH) and BUMAR Foreign Trade Organization (FTO) to manufacture in Poland crawler tractors designed and engineered by IH. Since the original 1972 contract, further agreements have been reached, adding other types of construction machinery, extending the duration of the initial agreement, and initiating new joint activities in product development, product support systems, and marketing coordination. . . .

. . . Although Poland has the engineering capability to produce construction machinery technically comparable to machinery sold in the West, it still lacks sufficient total capability to penetrate world markets as rapidly as it would like. This is due to Poland's lack of a full range of proven product support systems, available from its competitors, the leading multinational corporations. This shortcoming is one of the Achilles' heels of a centrally planned economic system. BUMAR has now recognized the problem, and as a result, cooperation between IH and BUMAR is turning increasingly toward this area.

Because it is critical for Poland to increase hard-currency earnings, the long-term viability of the IH-BUMAR cooperation may well depend on the outcome of efforts in this area. [Garland and Marer, pp. 121, 137.]

2. With the political cohesion of Yugoslavia weakened by the death of Tito will economic performance continue to provide the economic glue for unifying the various ethnic groups in Yugoslavia?

The picture of recent Yugoslav economic performance that emerges from this paper exhibits both positive and negative features. On the positive side, the 1970's have witnessed a continuation of rapid growth and structural change at a pace in excess of that achieved in most middle income and developing countries. Yugoslavia has remained a front-runner in the development race despite shocks in the international economic system that have adversely affected its development prospects. Yugoslavia's growth performance has continued to reflect the LCY's goals of economic modernization, and diversification, combined with a significant increase in the standard of living. These goals have been successfully realized to a large extent. On the negative side, certain economic problems that began to develop in the post-1965 reform period have persisted, or in some cases have intensified, including problems of labor absorption, regional development differentials, cyclical macroeconomic instability, and the balance of payments constraint. By the end of the 1970's, Yugoslav economic performance presented some troubling signs, particularly in the areas of inflation and foreign economic performance. By 1979, the inflation rate was back up at the 20 percent level, the current account deficit was the worst in history, external indebtedness had increased in real terms by about 12.5 percent a year in the preceding four years (1974-79), and the debt service ratio was climbing.

Given current trends in export performance, import dependence and foreign indebtedness, it is reasonable to predict that the medium-term future will be a period of increasing foreign exchange constraints on domestic economic growth. [Tyson and Eichler, p. 206.]

With the reservations appropriate to forecasting in mind, it seems likely that Yugoslav industrial output will grow at progressively declining rates in the future. Some of the causes—notably demographic—are not amenable to substantial change by government policy actions. Other seemingly leave the leadership with only a Hobson's choice as far as industrial growth is concerned. One alternative is to liberalize the economic system in important, perhaps fundamental ways. The reforms necessary to this course involve strengthening the private sector and private initiatives in general. . . .

When the government changes, internal and external forces will be thrown into a struggle whose outcome could dramatically change the face of the country. [Moore, pp. 228-229.]

3. Why did the Romanian economy grow so fast from 1970 to 1978, then slow perceptibly in industry? Is this a pause or permanent trend in economic performance?

In 1978 and 1979, gross industrial output grew less than 10 percent for the first time since 1956. In 1979 NMP grew more slowly than it had since 1961. Although Romania's performance was good by the standard of what was happening in other countries, it was poor by past Romanian standards. . . .

A slower growth of all sectors has been projected in preliminary plans for 1981-85, suggesting that the outlook of Romanian leaders and planners is for a more or less permanent reduction in growth compared to the 1970's. [Jackson, p. 233.]

4. Is the economic slowdown of the GDR temporary? How have foreign trade difficulties, including relations with the FRG, influenced performance?

After the re-centralization and the change in economic leadership from Ulbrecht to Honecker, a pro-consumer policy was at first initiated at the 8th Party Congress of the SED in 1971. Rapid economic growth facilitated this target. The range of goods for sale increased and the standard of living improved visibly. However, the world-wide increase in raw material and energy prices only too quickly put an end to this period of undisturbed economic development. In the CMEA area, price adjustments were delayed until 1975. Since then the GDR with its sparse raw material resources has been confronted with exceptional raw material price increases, while prices for its export goods have not risen accordingly. Since then exports have, therefore, become the most essential target for planning and development. They will also continue to have top priority in the long run. [Cornelsen, pp. 299-300.]

Barring major efficiency-inducing reforms, export growth, on the other hand, will probably barely keep pace with rising imports. Exports to the West may even decelerate if the GDR is forced to divert additional resources for export to the U.S.S.R.—or perhaps OPEC—in order to obtain needed oil supplies.

We conclude, therefore, that the GDR will continue to suffer sizable imbalances (probably \$600-\$1,000 million or more) in its trade with the Industrial West over the next 3-5 years. [Oechsler, pp. 338-339.]

FRG-GDR economic relations are a significant case of East-West interactions which have been particularly effected by political considerations. As a result of the FRG's constant position that trade with GDR is not "foreign" commerce, and because it has sought to utilize this trade relationship in the promotion of its *Ostpolitik*, special arrangements have been developed and special advantages have been offered which have usually been accepted by the East Berlin regime. At the same time, GDR-FRG economic ties are essentially similar in character to those typically obtaining between Centrally Planned and Market economies. . . .

Indications as to future developments are mixed. Trade expansion has been limited since the mid-1970's, and constraints on the GDR economy appear to preclude much change in the foreseeable future. On the other hand, knowledgeable observers on both sides profess some optimism about the years ahead. The post Afghanistan East-West political climate further complicates attempts at prediction. [Stahnke, pp. 340-341.]

5. How did Czech economic performance fare after the Soviet intervention in 1968? What is the likely performance in the 1980's?

When after the Soviet intervention in 1968 a new leadership managed to establish itself in power, the foremost task in the economic field was to reverse most of the measures introduced during the reform period. The traditional type of directive central planning with binding quantitative plan targets and input limitations imposed on enterprises, with an again growing network of material balances and with strictly controlled prices, was reintroduced. By strengthening the authority of the central plan the period of crisis was to be overcome and the economy was to be led back to "normalcy."

For quite a time it seemed that the medicine prescribed by the new healers of economic ailments was working. The economy was growing again and there were some advances in the standard of living of the population. But under the surface

of quantitative growth some of the old ailments of inefficiency, waste of resources, and production for production's sake reappeared. More and more distinctly it is recognized that the system of management and planning, developed essentially in the early fifties by taking over indiscriminately the Soviet type of planning, ceased to serve under changed conditions as early as the end of the fifties.

The foregoing analysis suggests that there may be no easy solution for overcoming the obstacles to growth which have piled up in the recent past and are looming ahead. Professional economists and policy makers alike seem to agree that the coming decade or at least the first five years in the eighties will be a period of relatively slow growth, of structural adjustments to the new more demanding conditions, of soliciting new motivations for more efficient work and for economies in utilizing energy and materials, and of very little improvement—if any—in living standards. [Levcik, pp. 377-378, 414-415.]

Although our analysis employs a methodology and concepts which differ significantly from those of Friedrich Levcik's contribution to this volume, we come to similar conclusions. In particular, we are in agreement that the Czechoslovak economy progressed quite well in the first half of the decade. Planning was for the most part effective in conception and fortuitous legacies from the reform period and an enlightened industrial investment strategy provided some leeway to enable the economy to survive the ill-effects of the inflationary implementation of the plan. For the outcome of the Sixth Five-Year Plan our findings complement Levcik's. While Levcik attributes the difficulties encountered under this plan to an accumulation of specific failures and shortcomings, we would argue that the plan itself was infeasible. . . .

Czechoslovak policymakers appear to be facing a difficult dilemma. The deterioration of the terms of trade and increasing difficulties in obtaining incremental supplies of energy can be met by either supply side or demand side responses. In Czechoslovakia, as in most industrialized countries (regardless of economic system), the most appealing response was on the supply side: to produce more while using less energy and raw materials. One way to explain the apparent infeasibility of the Sixth Five-Year Plan is to posit that Czechoslovak planners expected large supply side improvements. Since these did not materialize, demand side restraints had to be introduced in 1979 and 1980. However, in light of the evident inability of the planners to restrain investment to planned levels for long periods of time, it is likely that Czechoslovak performance under the Seventh Five-Year Plan will be marked by further cycles of over-plan investment followed by severe cutbacks in investment. [Brada, King, and Schlagenhauf, p. 437.]

6. How has Hungarian reform survived the slow down in economic growth? How has reform affected its foreign economic policy, including convertibility?

Austerity came to Hungary in 1979. For the first time since the recession of the early 1960's planned growth rates of national income fell below 4 percent, and actual growth rates fell below that. Economic policy makers began talking not of increasing the standard of living, but of sustaining it. Plans called for decreasing investment. Economic and political leaders quite clearly stated that austerity would be the policy for at least the first half of the 1980's.

Hungary's economic problems are in part related to the profound consequences of the world economic crisis for the Hungarian economy. The dramatic changes in Hungarian terms of trade with the world economy, the increasingly difficult competitive conditions for Hungarian exports on world (especially European Community) markets, and the dramatic slow-down in increments to primary products supplies from the U.S.S.R., all have contributed to a significant deterioration in factors important in determining economic welfare in Hungary. Whatever else might have happened in the last six years, the events of 1974 required that some combination of real consumption, investment, and government spending would have to be lower than otherwise would have been the case.

The economic system itself is another important cause of Hungary's economic difficulties, a point on which the Party is now quite clear. The deteriorating external conditions facing the Hungarian economy have simply hastened recognition of problems which, as Ferenc Havasi has noted, ". . . would have surfaced sooner or later." These are not minor problems which can be rectified by changing this or that "regulator," or by tinkering with the economic system. They are

fundamental problems, related to the fact that the goals of the 1968 economic reforms have, in the main, not been attained.

The ultimate goals of the reform begun in 1968 were to "lift the balance of power over resource allocative decisions from planners and the administrative apparatus (the ministries) to the market and enterprises. The plans were to be stripped of their obligatory nature, in lieu of which major economic parameters (interest rates, exchange rates, prices, and so on) were to be used to influence relatively independent, profit-oriented, enterprises in their decisions on production and (to a more limited extent) investment. Prices, closely linked to world market economic conditions were to serve as the guide to decisions on production and investments. The measures introduced in 1968 did go a long way in the direction of realizing these aspirations, with the clearly stated intention of going still farther in the 1970's as what we called the "brakes" were released. In fact nothing of the sort happened in the 1970's; on the contrary the system "devolved" back in the direction of the old administrative model, a point discussed below. Consequently, while it is true that economic decision-making in Hungary today is far more decentralized than it was two decades ago (and more decentralized than any of the other CMEA countries), this is still a more centralized economic system than (in 1968) the reformers anticipated they would have in 1980. [Hewett, pp. 484-485.]

In the CMEA, the most far-reaching reforms were introduced in Hungary in 1968: its New Economic Mechanism (NEM) is described and evaluated in the previous contribution by Hewett. A center-piece of the NEM is the role assigned to Exchange Rates as determinants of the domestic price system and of the level and composition of exports and imports. In recent years suggestions have also been made by some Hungarian economists and bankers that it would be desirable and feasible to achieve convertibility for the Hungarian currency during the 1980's. . . .

Much more important than forint convertibility vis-a-vis Western currencies is the convertibility of intra-CMEA transactions on the current account. Little progress has been made up to now in the area of trade, except for that modest share (8 to 10 percent for Hungary). . . .

Yet, prospects for achieving intra-CMEA convertibility, as defined by the IMF, are poor so long as the majority of the CMEA countries wishes to adhere to a non-Hungarian type economic system and policy. [Marer, pp. 526, 546.]

Faced with increasingly serious economic problems, all the CMEA-member countries of Eastern Europe are planning or have recently adopted measures to reform their centrally planned economies. There is little prospect, however, that current reforms will push East European economic systems significantly in the direction of decentralization and freer play for market forces.

The one exception to this bleak outlook is Hungary. The Hungarians may well succeed in reforming their economy further because the reform program has strong backing in the leadership, the populace can be counted on for a measure of understanding, and the program is being prepared on a foundation of more than a decade's experience with reform. [Kramer and Danylyk, p. 549.]

7. What accounts for shortfalls in Bulgarian planned economic performance in recent years?

Bulgaria appears to have failed all major targets set in its Seventh Five-Year Plan for development from 1976 to 1980, except that for investment. Bulgarian leaders have recognized the problem by approving, sequentially, less ambitious annual plans in 1977 and again in 1979. . . .

. . . [T]he purposes of this paper are to identify the immediate causes of Bulgarian plan failure and to place recent international and CMEA inflations in their Bulgarian context. The former are found, first, in two domestic problems: (1) the failure of agriculture, officially blamed on adverse weather, to even repeat 1976 output levels in the following two or three years; and (2) declining coal output, for reasons yet unclear, when, in fact, the five-year plan projected a rapid growth. . . .

Bulgarian leaders have responded to problems evident in the economy since 1977 by protecting the continued rapid growth of priority industrial branches, machinery, chemicals and metallurgy. In doing so, they have accumulated future obligations to the Soviet Union and western banks. As an offset, they probably hope to have gained future material and energy imports from the LDCs. As additional costs, they have delayed investments needed in agriculture and have

reduced the growth of domestic consumption. Beyond this, dissatisfaction with the economy's performance has given a new impulse to organizational change, centered on agriculture. [Jackson, pp. 571-572.]

8. *To what extent did the termination of Albanian economic ties with the PRC contribute to the decline in economic performance?*

There can be no doubt that the difficulties experienced by the Albanian economy in recent years are directly related to the crisis in relations with China. The latter's insistence that Albania begin to repay its extensive debt in 1975 placed enormous pressures on the Albanian economy and global industrial output has not grown by more than 6 percent in any year since that time. This is a considerable drop for an economy which had been averaging well over 10 percent industrial growth per annum since 1950. [Schnytzer, p. 648.]

DATA AND STATISTICAL RELIABILITY

Economic statistics and other data required in analyses have been limited in scope, quality and quantity. The basic statistics required for conventional Western analyses have to be reconstructed and carefully evaluated from the limited data released by the respective countries. The national accounts and trade data are reconstructed in the companion volume by Thad Alton and Associates and Jan Vanous, respectively. Published data from East European sources have characteristically been limited in scope and quantity in comparison with Western reporting standards.

More information is now being published on the economies of East Europe than in the past. An annual statistical handbook for the member countries of CMEA appeared in recent years. Moreover, considerably more information is being provided through international media, such as the Economic Commission for Europe (ECE), bilateral government commissions, and private Western commercial and financial channels. However, even with some compliance by East European countries with the patterns of commercial and economic data disclosure agreed to in the Helsinki agreement, the data disclosed still falls far short of that commonly available among Western trading nations. In spite of the longer term trend toward more disclosure, in the last three years, since the last volume in this series, availability and quality of data released has been sharply reduced for some countries.

Shortfalls in national economic data makes objective external assessments difficult, albeit perhaps, more necessary. Low quality and availability of commercial data limits trade and financing because the paucity 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) and financial assets. Explicit requirements for these kinds of detailed data were not covered in the Helsinki agreements. However, Western commercial and banking interests have made progress in reconstructing the necessary data and publishing it. More reliable data is still needed to answer the legitimate credit worthiness questions raised by commercial and financial interests in the West:

(1) What are current and future prospects for East-West marketing?

(2) How much is owed to other creditors by debtor nations?

(3) What are the debtor nations' other assets that might be available to service debts during shortfalls in export deliveries to the West?

In assessing economic performance in East Europe, there are partially irresolvable differences in methodology. Western concepts of national accounting require adjustment of data reported by the statistical agencies in East Europe. The methodology used 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 of estimating missing data and making subjective judgments precludes the development of a fully defined, objective set of accounts. However, the reconstruction by Thad Alton and Associates best parallels 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 achieved and differences that still remain. Joan Zoeter has some differences with other experts, as the reader may observe. Some authors use the figures which 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 claimants for East European goods and services runs well ahead of the ability to increase output to satisfy their demands. Modest economic growth in the face of rising expectations is not unique to East Europe. However, the options for improved performances are especially limited, and the mixture of costs and benefits, particularly complex.

The above may 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 European states have long survived by persistence, ingenuity, and determination in the presence of superior neighboring 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 industrial West, with their formidable technological leadership, East Europe may not only survive, but prosper.

POLAND

POLITICO-ECONOMIC DYNAMICS OF EASTERN EUROPE: THE POLISH CASE

By R. T. Davies*

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I. INTRODUCTION

Following Polish Premier Jaroszewicz's cancellation on June 25, 1976, of the price rises he had announced less than 24 hours earlier, the Warsaw cafe wits remarked that, for a change, Poland had a new kind of government, one that really worked: a dictatorship of the proletariat.

To the distinctions they earned in 1956 and 1970 by toppling unpopular regimes and in 1976 by forcing the cancellation of the price increases, the Polish workers added another when, in February, 1980, the First Secretary of the United Polish Workers' Party (PZPR), Edward Gierek, dismissed Jaroszewicz. He did that in an effort to regain some vestige of the reputation he once had among the industrial workers as a result of his record as Party boss in Silesia, his nullification of Gomulka's 1970 increases in food prices and production norms, and his introduction of a policy of consumerism.

Generally despised by Poles as a particularly zealous representative in the PZPR leadership of the Moscow home office, Jaroszewicz has been replaced by Edward Babiuch, who, in alliance with Gierek, played an important part in helping Gomulka defeat the bid for power of General Mieczyslaw Moczar and his "partisans" at the Fifth Congress of the PZPR in November, 1968. Like Gierek, Babiuch is a former coal miner from Silesia. Primarily a Party apparatchik, he lacks any significant experience as an economic planner or executive. His appointment means that Gierek will now be directly identified in the public mind with the failures—or successes—of economic and social policy.

*Ambassador Davies served as Vice Consul and Third Secretary in Warsaw from 1947 to 1949 and as Chief of Mission there from 1972 to 1978.

The departure of Jaroszewicz and his appointees is a necessary prerequisite to the formulation of new policies. In itself, however, it is not enough to enable the Polish Communist regime to break the vicious circle which, since June, 1976, has effectively immobilized economic decisionmaking.

That vicious circle results from the interplay of economic and political factors, which have become increasingly intertwined.

II. WORKERS UNDER SOCIALISM

Polish workers believe the socialist state owes them a living. They take literally the promises, implicit and explicit, of socialism and are not inclined to excuse the Party leadership for failure to realize them.

The leading Polish sociologist, Professor Jan Szczepanski, wrote in a book published in 1970: "There is . . . an inclination to make the socialist order solely responsible for Poland's shortcomings. . . . The Polish people . . . take for granted the free welfare services, asking for more and more, often without considering the relation between their own work productivity and the possible scope of such services."¹

Now a member of the Council of State, the highest formal organ of government, Professor Szczepanski last summer prepared a confidential memorandum on the development of the Polish economy in the 1980's, in which he wrote: "The difficulties of the final years of the '70's accentuate problems which have been unsolved from the beginning of the post-war years, particularly since the six-year plan [1950-55] . . . These are the problems of the motivation of labor and the lack of any real connection between productive labor and wages. . . . The socialist economy has not yet found . . . effective means to induce the workers to labor intensively and productively. Why should people work when, without working, they can find themselves just as good a place to live, and sometimes an even better one? Of course, this question is an oversimplification, but everyone in our society who is not on piece-work is paid wages which have little correlation to his true labor input."²

The classic East European story is about two men walking along the street outside a factory, one of whom asks the other, "How many people work here?" To this, the answer is, "About half." The anecdote makes a valid point, but is not quite accurate, since even the half who are said to work do so only half the time.

A high official of one of the largest Polish coal-mining associations, or companies, told me the following story about his visit to the United States. He met the director of a large coal mine in Utah, who asked him to describe his duties. The Pole enumerated his responsibilities. First, and most importantly, he said, he had to make sure the kitchen at each pit-head was functioning properly, because, unless the miners got a substantial, nourishing, and hearty meal—of course, at a heavily subsidized price—the trade union and the Party works secretary would be after him. Second, he had to make sure that the housing manager and his staff promptly performed preventive and corrective maintenance

¹ Szczepanski, Jan. *Polish Society*, New York, N.Y.: Random House, 1970, p. 99. This work has not been published in Poland.

² Szczepanski, Jan. "Mostwość lat osiemdziesiątych," *Kultura*, Paris, January-February 1980, p. 232.

throughout the apartment houses belonging to the company, in which the miners and their families lived. Third, he was responsible for making sure the elementary school to which all the miners' children went was fully staffed and running properly, because the wives of his miners were not prepared to put up with sub-standard education. Fourth, he had to ensure the smooth operation of the fleets of buses which brought the miners to work and took them home and carried their children to school and back. Fifth, his company maintained a symphony orchestra. He had to provide satisfactory housing, a good meal once a day, schooling for the children, and a good instrument to each of the members of the orchestra; one of his chores during his American trip was to buy some brass instruments.

Appalled, the American mine director said to him, "But when in the world do you find time to worry about getting the coal out of the ground?" Concluding his story, the Polish director said to me, "Your system is infinitely preferable to ours, because your mine directors only have to worry about mining coal."

The same situation exists in every industry. At one of the principal Polish shipyards, I asked the managing director how he was coping with the meat shortage. With enthusiasm, he told me that the shipyard had just bought a farm and was raising its own pigs, so that the workers' dining room could put pork chops on the table every day. He said that this was socialist self-help. I said it reminded me more of the economy of the feudal manor.

But communal housing and meals are not enough to satisfy the worker and stop him from seeking a better life. Around the mining communities of Upper Silesia and in the suburbs of every industrial city, the miners and workers have built for themselves single-family brick houses, "made to last a hundred years," their builders will tell you. Rather than depend on the vagaries of the employing enterprises' allocation and maintenance of apartments, workers prefer to build and maintain their own homes. The worker who is able to do this can then grow some or most of his own food, keep some chickens and a cow, and raise a pig. Most of these proletarians are either urbanized peasants or only a generation or two removed from the ancestral village. At harvest time, the factories and mines are hampered by massive absenteeism as the workers return to their villages to help get in the crops. Those who no longer have a village to go back to have their own garden plots, which need a week or two of uninterrupted work each autumn.

The bloated infrastructure provided by each enterprise to house, feed, and otherwise care for its workers and their families, and the largely duplicative social infrastructure of city and town are only part of the ponderous overhead of socialism. All modern states are run by bureaucracies. Usually, the rule is, "To each organization, its own bureaucracy." But, under socialism of the Moscow confession, writes a radical Communist critic, Rudolf Bahro: "We find that the various levels of the party right up to the Central Committee apparatus, . . . actually *double* the corresponding branches and levels of the state and 'social' bureaucracy, without exception, in a compressed form, just as all branches of social life are already doubled in the

apparatus of the government and the official 'social' organizations."*

As a result of this proliferation of bureaucracies and the low level of productivity of employees and workers throughout the economy, everybody is employed, but only some really work and few produce what they should in order to repay the investment made by society as a whole in the supporting infrastructure.

Like his forebears and relatives abroad, the Polish worker is far from lazy. There is, however, not only a gross absence of correlation between productivity and wages. Since consumers have little influence on the decisions of economic policymakers, there is a lack of goods on which wages can be spent. People are tired of potatoes and cabbage, with an occasional sausage, and demand that, before they consider whether they should work hard, they at least have the possibility of eating well. Of equal importance is housing. Since the housing deficit is still enormous, the regime not only permits construction of private one-family dwellings, but encourages it.

Polish workers are in touch with their brothers, sisters, and cousins around the world—excepting only those in the USSR. They know how workers live in the Federal Republic of Germany, France, Belgium, the United Kingdom, the United States, Canada, Australia, Brazil, and the Union of South Africa. They know that even in Eastern Germany, that part of Germany which was more ruthlessly pillaged by the Soviets than their own country, the standard of living is higher than in Poland. After 35 years during which they have built a second Poland almost from scratch, they want to be able to enjoy some of the fruits of their labor. This feeling is all the stronger since official propagandists keep telling them that things are in fact better under "socialism" than under capitalism.

Little wonder that absenteeism, alcoholism, black-marketing, and moonlighting are widespread and consume such a large part of the productive energy of so many workers. The best among them find work outside the official place of employment which gives them a real return on their investment of time and energy. Whether it is cultivating a garden allotment made available at nominal rent by the enterprise or municipality—these, too, ring every large city—building a house, going home after work to the nearby family farmstead and putting in an additional four to six hours of work, utilizing for private gain the skill which is underutilized in the factory, or driving a taxi, the Polish worker shows that he is not lazy, just nobody's fool.

This diversion of effort into the "second economy" has grown in recent years as supplies of foodstuffs and consumer goods to state retail outlets have dried up and various other markets have been established in Poland. Just as there are four rates of exchange for the zloty, so there are multiple kinds of retail outlets. The PEWEX stores sell imported goods for hard currency. Citizens may legally maintain valid bank accounts, no questions asked, and for dollars, FRG marks, pounds, or francs, can buy in these stores a wide variety of luxury items, as well as "exotic" foodstuffs such as peanut butter and canned orange juice. Then there are the "commercial" shops, where meat and other scarce items can be purchased for zloty, but at prices very much

* Bahro, Rudolf (translated by David Fernbach). *The Alternative in Eastern Europe*. London, NLB, 1978, p. 248. Emphasis as in the original.

higher than those maintained in the state stores. In Warsaw, the "three stages of constructing socialism under Gierek" are said to be PEWEXism, commercialism, and cannibalism. The state stores are characterized by low prices and negligible stocks of the articles most in demand. The long lines which form at these stores gave rise to the popular verse:

One Pole is Pope of Rome.

Another helps run Carter's show.

Some kneel in homage to Uncle Brezhnev.

The rest queue in sunshine, rain, or snow.⁴

Western sociologists have posited the end of Communist ideology as a force capable of motivating populations. That they are right, by and large, is shown by the increasing reversion throughout the Communist world to slogans, symbols, and appeals based on traditional patriotic or nationalist motifs.

In Eastern Europe, however, one important group continues to take the ideology at face value: the industrial workers. It is to their advantage to hold the new ruling class, the Party and its camp-followers among the intelligentsia, to the promises which "socialism" of the Moscow confession makes: full employment, equal pay, social services. In effect, the workers say to the Party leadership: "We did not ask you to impose this system on us, but since you have, you are obliged to fulfill your claim that it cures all the ills of capitalism and gives us a better life. The burden of proof is on you, not us."

III. THE BOSSES

The ideology contains imperatives which, although they render impossible the solution of important problems, the leaders cannot discard. At their backs are the Moscow hegumens, whose concern above all is that each of these states be ruled by a party of the Leninist-Stalinist type. The demand which Moscow enforces is that the Eastern European leaderships maintain a monopoly of political, ideological, and economic power, i.e., central planning, centrally controlled industrial production, the pursuit of collectivization of agriculture, and an unceasing effort to eliminate belief-systems which compete with Marxism-Leninism.

The mentality of the Eastern European Communist leaders most resembles that of robber-barons of the late 19th and early 20th centuries. In a discussion with an American dignitary about Poland's creditworthiness, a high Polish Party official once said, "Ours is a reliable firm." Polish Enterprises, Ltd.!

On the one hand, the mentality that was prepared to have workers shot down at Homestead, Pennsylvania, in June, 1892, differs little from that which was prepared to have peaceful demonstrators fired upon in Gdansk in December, 1970. On the other, there is no ideologically prescribed inclination towards bloody-mindedness, as there was among the Nazis. The Communist attitude is pragmatic and paternalistic. Force will be resorted to only if the subjects do not understand

⁴ Jeden Polak jest Papieżem,
drugi ważny przy Carterze,
kilku przed Breżniewem kłeczy,
reszta się w kolejkach meczy.

that the bosses know best and are merely trying to insure that the masses are brought to salvation despite their regrettable contrariness.

The current Polish dilemma illustrates the way in which these attitudes of workers and bosses combine to immobilize the economy.

Confronted with a series of strikes following the demonstrations in the coastal cities which toppled Gomulka, Gierek rescinded the price rises of December, 1970, and restored the levels of 1967.⁵ He introduced a policy of rapid modernization of Polish industry, based on the promise to the workers that their demands for a better diet, more housing, and more durable consumer goods would be met and on a significant expansion of borrowing in the West to finance the importation of modern technology and plant. This process was to be paid for by increasing exports to the developed industrial countries of coal, copper, and sulfur, of ships, and, ultimately, of the products of imported plant.

With prices fixed, foreign indebtedness, wages, and consumption all increased rapidly. For a couple of years, Poland's rate of industrial growth rivalled that of Japan.

IV. THE AGRICULTURAL CHOKE

In 1974 and 1975, strains developed in this booming economy. Parallel with the increase in investment in the industrial sector, investment in agriculture was also rising, the overwhelming share going to the state farms (PGR's) and the small number of cooperative farms. Three-quarters of Poland's arable land is farmed by small-holders. For these farmers, most of them older people left behind by the convulsive post-war process of industrialization and urbanization, there was only grudging assistance. But the Polish small-holders are the productive producers, while the state farms, like the industrial enterprises on which they are modeled, carry an enormous overhead of bureaucracy, agronomists, managers, bookkeepers, and their families, together with numbers of specialized personnel who perform only narrowly defined functions.

Young American farmers who spent their summers on Polish state farms told me how sorry they were when their vacations were over. When they got back to the Midwestern family farms from which they came, they would have to resume getting up at 4:30 a.m., while on the PGR's they had gotten up at 7:30 or 8:00 a.m. Ruefully, they acknowledged that they had all gained weight. I asked how productive these farms were. Productive enough, they said, to feed everybody who lived there and provide a nice surplus which enabled the farm families to supply themselves more than adequately with clothing and other available consumer products. It appeared, however, that there was little left over for the market. These young Americans concluded that agricultural socialism worked just fine for the farmworkers, but they could not understand why the government continued to pour investment funds into the PGR's.

Despite this experience, the regime continues to proclaim its goal of "socialist transformation of the countryside," i.e., of eliminating pri-

⁵ For an authoritative discussion of December 1970, its causes and consequences, see Zbigniew M. Fallenbuehl, "The Polish Economy in the 1970's". East European Economies Post-Helsinki—A Compendium of Papers Submitted to the Joint Economic Committee of the Congress of the United States, Washington, D.C., 1977, pp. 826-84.

vate small-holdings and replacing them with large cooperative or state farms.

When he was Secretary of Commerce, the late Rogers B. Morton visited Warsaw and paid a call on Premier Jaroszewicz. Secretary Morton was an active farmer and asked Jaroszewicz about Polish agricultural productivity. Jaroszewicz spoke first in glowing terms of the accomplishments of the PGR's and the "agricultural circles," a kind of production cooperative. But, he said, as Secretary Morton no doubt knew, three-quarters of Poland's agricultural land belonged to private farmers and was split up into small-holdings which did not lend themselves to mechanization. Sensing a trade opportunity, Secretary Morton said that we had in the United States a thriving garden-machinery industry, which produced excellent small tractors and self-propelled implements, with attachments for plowing, harrowing, and cultivating. Perhaps we should get several manufacturers to come to Warsaw and talk with officials of the Ministry of Agriculture. Jaroszewicz displayed no interest at all in this offer, saying that Polish farmers were old-fashioned and preferred to stick to their horses.⁶ Morton pointed out that horses consume a great deal of fodder and feedgrain which otherwise could be used to produce meat both for export and domestic consumption and that the small pieces of equipment of which he spoke consumed minimal amounts of fuel. Jaroszewicz said the Polish farmer was suspicious that, if he had to rely on state agencies to provide him with fuel and spare parts, he could be subjected to political pressure. He therefore preferred to stick to horsepower which moved on four legs, even if it consumed a considerable part of his produce.

The tactics of Polish Communist policy towards the private farmer shift with each important political conjuncture, but the strategy has consistently been that of ultimately eliminating the small-holding and introducing in its stead large, mechanized units, regardless of the question of relative productivity. When the regime in 1977 offered to give immediate pensions to farmers who would turn their land over to the state, a number of older people took advantage of the offer. The land thus transferred to the State Land Fund remains for the most part fallow, since it is in scattered parcels, tends to be less productive than the average, and would require a considerable investment to bring it into production. The result has been not so much to advance the goal of socialization of the countryside as to contribute to the decline in agricultural production. In his review of recent Polish developments, Dr. Jan B. de Weydenthal writes of Polish economic policymaking: ". . . it has become increasingly clear that the leadership's actions are likely to exacerbate problems, rather than solve them."⁷ That is particularly true of agricultural policy. So long as the regime is unable to make its peace with the fact that individual farm ownership is the

⁶ According to FAO Production Yearbook-1978. Rome, 1979, pp. 199-201, Poland stands in eighth place in the world in total number of horses, but, with approximately 16.6 to each square mile of territory, has nearly twice as many in relation to its size as its closest competitor in this regard, Mexico.

⁷ de Weydenthal, Jan B. Poland: Communism Adrift. The Washington Papers of the Center for Strategic and International Studies of Georgetown University, No. 72. Beverly Hills/London. Sage Publications, 1979. pp. 39-40. Dr. de Weydenthal's is the best brief survey in English of developments in Poland since 1976. See also: Schoepflin, George. Poland: A Society in Crisis. Conflict Studies, No. 112, of the Institute for the Study of Conflict, London and Reading. The Eastern Press, Ltd., October 1978.

productive element in agriculture and to provide convincing assurances to private farmers that their efforts to improve their holdings will not eventually redound to the benefit of the state, rather than of their children, so long will the record of erratic agricultural performance continue.

Compounding these self-inflicted structural difficulties, unfavorable weather has reduced agricultural production over the past six years. Polish agricultural officials hope that the 1980 harvest will not suffer from one of the extremes, drought or flood, which the past six years have seen. They would like to avoid the Biblical seven lean years of which people in the countryside speak.

This hope is intensified by the fact that, following five years, 1976-80, during which Poland has been one of the largest recipients in the world of U.S. Commodity Credit Corporation credits for the purchase of feedgrains, the granting of further credits of this magnitude during U.S. fiscal year 1981 may be subject to serious debate. The regime's ability to make good from this source shortfalls occasioned in large part by its own policy failures may thus be limited. A number of unofficial Polish and American economists are asking whether further CCC credits ought not to be dependent upon the introduction of significant reforms, including a commitment to the unthreatened future of private landholding and farming going considerably beyond the ambiguous assurances offered in the past for tactical purposes.

The persistent shortage of meat was not caused primarily by harvest shortfalls resulting from bad weather, as the regime likes to claim, although that was certainly a contributing factor. Nor did it result from the low productivity of holdings which were too small for mechanization. Indeed, it is precisely the small-holders who are the principal source of the high-quality pork, hams, and veal which are the pride of Polish agriculture and a mainstay of Polish agricultural exports. It was rather the sharp rise in real wages, of over 40% between 1971 and 1975, and the consequent and predictable sharp rise in demand for quality meat, unchecked by any offsetting rise in prices. The regime compounded the problem by failing to raise procurement prices for livestock or to compensate adequately with imports for the poor grain and potato harvests of 1974. Pinched by the necessity of purchasing fodder and feedgrains at the high prices occasioned by the large ratio of imported to domestic feedstocks and by the maintenance of procurement prices at their previous levels, many farmers slaughtered their pigs over the winter of 1974-75.^a

During this period, Polish Communist leaders contended in private conversations that the average consumption of meat per capita in Poland had risen from about 50 kilograms in 1970 to between 70 and 80 in 1974 and, comparing this level favorably with that in various other developed industrial countries, complained that the average Pole was being unreasonable when he demanded more.

V. PRICE-RISE RIOTS PRECIPITATE THE DILEMMA

On June 22, 1976, Treasury Secretary William E. Simon arrived in Warsaw. He had instructed the U.S. Embassy to suggest to the Polish Government that its economic ministers meet with him on the

^a The Scope of Poland's Economic Dilemma—A Research Paper. Washington, Central Intelligence Agency National Foreign Assessment Center, July 1978, pp. 2-5.

morning of June 23 for a discussion of international financial and economic problems. When the American party arrived at the Council of Ministers building for this meeting, we found on the Polish side of the table only the second, third, or fourth vice-ministers of the economic departments. Deputy Premier Kazimierz Olszewski, who presided, apologized for the absence of the ministers, explaining that it was necessitated by the "economic maneuver" which the government was in the course of preparing. The ministers had been sent around the country to hold consultations with local Party and government leaders in preparation for announcement of the "maneuver."

Later that day, I talked with a couple of the ministers, who had returned from their travels in time to attend a dinner in honor of Secretary Simon. I asked them how significant the price rises would be. They said they did not know, since this question was still being debated by the Party leaders.

Up until that week, the Warsaw rumor mills had postulated the introduction of the rises only at the end of the year. These guesses were based largely on the belief that the regime would adhere to the promise made by First Secretary Gierek at the Seventh Party Congress, in December, 1975, when he said that increases were unavoidable, but should be made only after a process of thoroughgoing national discussion. In fact, the only discussion was apparently that which took the economic ministers out of Warsaw on June 23 and involved only a small number of provincial Party and government officials.

Both before and, with added emphasis, after June 24, a number of leading Polish economists and political observers pointed privately to the Hungarian price rises as a model of how such a maneuver should be handled. First, a high-level explanation provided the rationale for the increases. This was followed by protracted discussion at Party and plant meetings and then by a series of gradual, bite-size price increases, which, over the course of the year, accomplished the job.

The Polish leadership had recurrent evidence of the readiness of Polish workers to defend their standard of living by going into the streets, if necessary. Why then did it decide, apparently in the course of little more than a week, to raise prices on food and basic consumer goods drastically? The decision was all the more incomprehensible because Gierek himself had come to office as the replacement for Gomulka, whose resignation was compelled by the riots which followed the announcement of price rises just before Christmas, 1970. In the days following June 25, the wits of the Warsaw cafes asked, "Did you hear that Gomulka died on June 24 after he heard Jaroszewicz's speech?" "No. What of?" "He couldn't stop laughing."

There seemed to be only one reason which could have compelled the leadership to take this decision when and as it did. In early July, the Council for Mutual Economic Assistance (Comecon) was scheduled to hold its 30th session in East Berlin to coordinate the five-year plans of members for 1976-80. The other member-governments had published various materials in preparation for this meeting, but the Polish government had published very little. It later developed that the planning documents had been drawn up using the new, higher prices for food and consumer goods which Jaroszewicz announced to the Sejm on June 24. Before documents based on these figures could be published

or used as the basis for the discussions to be held by the Comecon Council, Jaroszewicz apparently insisted that the price rise be put into effect.

Observers of the Polish scene who, in the first half of 1976, inquired into the probable popular reaction to price rises learned that most Poles recognized their inevitability and were prepared, however grudgingly, to accept moderate increases. But the June 24 announcement provided for a 100 percent rise in the price of sugar, an average 69 percent for meat (which meant larger increases for the better cuts and smaller ones for sausage and the poorer cuts), and an average 40 percent for all basic foodstuffs taken together.

Obviously, there had been sharp disagreement within the leadership on the course to be followed, together with incomplete and incorrect information on the probable reaction of the industrial workers to a massive rise like that finally decided upon. The regime was unable correctly to assess worker reaction precisely because it failed to conduct the national discussion of which Gierek had spoken in December, 1975, and because it failed to inform local officials of the extent of the planned increases, which appears to have been dictated by Jaroszewicz's desire to hold up his head among his Comecon colleagues. Having spent 15 years as Poland's permanent representative to Comecon and a member of its Executive Committee, Jaroszewicz felt keenly that he must keep up with the Ivanovs.

Labor unrest is endemic in Poland. A plant manager once told me that it was difficult for him to tell whether it was simply a normal work-day in the factory or whether the workers were engaged in a slow-down or working to rule. The only way to find out, he said, was to wait until the secretary of the Party cell came to him with demands. Of course, this manager was both unusually candid and typically sardonic.

Most labor unrest is successfully confined to the place of employment. Ordinarily, Polish workers, who are credited with having invented the sit-down strike in the 1920's, know how to make their displeasure felt without rioting in the streets. Most labor grievances are settled by plant or local authorities without reference to Warsaw.

On June 24-25, 1976, however, serious disturbances occurred in two places. At Ursus, on the outskirts of Warsaw, said to be the largest factory in Europe making wheeled tractors, the workers spontaneously organized an effort to keep anyone from entering the plant and, among other things, blocked the railroad tracks and stopped the Paris-Warsaw express. The authorities confined themselves to photographing the crowd. As a result of this restraint, serious violence was avoided. In Radom, some 70 miles south of Warsaw, however, workers went in a peaceful procession to the provincial Party headquarters, only to find that the local First Secretary had just left in his Mercedes-Benz. Enraged by this refusal to meet with them, the workers set the building on fire and rioting and looting spread in the town before order was restored.

The regime arrested a number of workers both at Ursus and Radom and dismissed many more from their jobs, thereby providing the impulse for the organization first of the Workers' Defense Committee (KOR) and a whole series of other dissident groups. As a result, Poland now has the most fearless, numerous, and outspoken dissident

movement in the Communist world. The authorities subject dissidents to recurrent harassment, but the movement thrives.

The murder of a Krakow student and KOR activist, Stanislaw Pyjas, in May, 1977, apparently by local toughs set on by the secret police, and the sentencing of Kazimierz Switon in November, 1978, for his leadership in attempting to found an independent labor union, aroused strong protests in Poland and outside it. Now, the regime obviously feels it is not yet in a strong enough position to proceed to a final reckoning with the opposition. It appears to believe that, since the dissidents are predominantly intellectuals who have only tenuous links with the workers, their activity does not present a clear and immediate danger. Its strategy is one of tolerating the spate of dissident activity so long as it does not involve the industrial workers in a significant way. Once the workers' economic demands are better satisfied, the state would presumably move more energetically against the dissidents.

Meanwhile, the dissident movement is playing a vital educational role through the publication of a great variety and volume of *samizdat* and the Flying University, an evocation of pre-1914 opposition to Russification. Despite intense harassment, the secret police has so far not been able to halt these important efforts at parallel education.

VI. ON DEAD CENTER

The PZPR has fulfilled its ideological commitment to turn Poland into an industrial power. In terms of total GNP, Poland now ranks among the first twelve countries in the world.⁹

But the ideology which demands industrialization also enjoins its practitioners to collectivize agriculture. Beginning in 1956, the leadership found it necessary to ignore this injunction. It postponed the political struggle required to enforce collectivization upon a peasantry which had only in 1945-46 achieved its long-cherished and long-frustrated goal of winning for its own the land it had, in many cases, farmed for centuries.¹⁰

When the Gierek leadership began the process of modernization of industry, it failed to include in its plans investment and incentives which would have enabled the ablest private farmers to maximize production. This would necessarily have involved some provision for greater mechanization of small-scale farming, a problem surely not beyond the solution of thoughtful planners.

Instead, the essentially one-sided emphasis of ideologically determined decisionmaking dealt with the motivation of the industrial workers without dealing with the predictable effect of higher wages on consumption habits. This was the first mistake.

The second was, in the words of Professor Fallenbuchl, that ". . . the borrowing of foreign capital and large doses of imported foreign technology were accepted as a substitute for reforms . . ." ¹¹ In the

⁹ Block, Dr. Herbert. *The Planetary Product*. Washington, D.C., Department of State, Bureau of Public Affairs Special Report No. 58, October 1979, Table 10, "Ranking of Nations, 1978."

¹⁰ In Hammond, Thomas T., editor. *The Anatomy of Communist Takeovers*. New Haven, Yale University Press, 1975, Suzanne Lotarski points out that 17,000 people, including 4,000 members of the Communist Party, were killed in Poland in the immediate post-war years (p. 341). Many of these were victims of the Communist effort to introduce "co-operative" forms of agriculture against the opposition, often armed, of the peasants.

¹¹ *Op. cit.*, p. 858.

words of Professor Włodzimierz Brus, "The post-December, 1970, efforts to energize the economy through a powerful injection of resources from outside have so far yielded results only over the short term, and ones which have proved to be economically bogus. The dynamism lasted as long as the influx of extra resources grew. Domestic economic driving forces were, however, not set in motion."¹²

The clumsy, exorbitant, and inadequately prepared price-rise proposal of June 24, 1976, was the third mistake. It broke the tacit understanding the workers thought they had won from the regime in December, 1970, guaranteeing them a voice in major economic decisions which would have a direct effect on their lives.

The June debacle was followed by a chorus calling, both publicly and in private counsel to the leadership, for "greater democracy", i.e., for the institution of procedures which would ensure popular consultation and representation in the making of economic decisions. The discussion was followed by the activation of workers' councils at some enterprises, but none of the many suggestions was formally taken up and followed through. And the fact that the principal author of the June catastrophe, Jaroszewicz, with his tenacious loyalty to Soviet-style *komandoraniye*, was still Premier did not reassure those who hoped for a larger popular voice in the councils of the planners.

There are no doubt a number of reasons for Jaroszewicz's remaining. One of them surely was that he was useful in getting the Moscow "uncles" to come once again to the aid of their Polish subsidiary, as they had in early 1971 with a loan of some \$100-million, much of it in hard currency. So, in November, 1976, the Soviets provided a new credit, reportedly in the range of \$1.3 billion, but without significant hard-currency content. Utilizing resources freed by this credit, the Polish leadership was able in late 1976 and early 1977 to import significant quantities of meat and Western consumer goods, including furniture and even a number of Sony color-television sets.

As though shell-shocked by the June events, the PZPR leadership has been unable to devise and implement a consistent long-range program to deal with the impasse it has created for itself. Despite partially successful efforts to reduce borrowing and increase exports, Poland's gross hard-currency debt to the West had grown to an estimated \$20.5 billion by the end of 1979.¹³ The heavy burden of payments due in 1980 and 1981 has led to recurrent reports that the Polish Government was seeking to refinance its debt in the West. In October, 1979, for example, the French press reported that approaches to that effect had been made to the French foreign-trade insurance company and to FRG and Japanese institutions.¹⁴

Poland's political economy has been kept in precarious balance since 1976 by importing foodstuffs and consumer goods and by rushing supplies to factories and industrial areas where worker discontent was reaching a dangerous level. The opposition has its Flying University. The regime has its Flying Univermag, its rolling supermarket, which saturates the threatened area with supplies for a month or six weeks, until tempers have cooled. Above all, the leadership wishes to avoid a

¹² Brus, Włodzimierz. "Problemy gospodarcze Polski." *Kultura*, Paris, July-August 1979, p. 210.

¹³ See Zoeter, Joan, in part 2.

¹⁴ Cf. *Le Nouvel Economiste*, Paris, Oct. 29, 1979, p. 118.

fourth application by the skilled workers of the one lesson they have learned from the history of post-war Poland, that only by going into the streets can they be sure their voices will be heard.

On February 10, 1980, the Polish Press Agency (PAP) carried a report of an announcement by the Central Statistical Office that national income in Poland had declined in 1979 by "some 2%."¹⁵

The eminent Polish economist, Professor Brus, comments:

It is a bitter paradox that an economy defended on the basis of its planned character against the introduction of self-regulating elements of any sort, even of the Hungarian variety, is increasingly given over to drifting under the influence of processes which are not controlled either by the plan or by the market.¹⁶

Writing in 1970, Professor Szczepanski was relatively optimistic:

An inefficient administration forces citizens to violate the law in order to supply their wants and needs . . . An inefficient leadership cannot organize effective institutions and thereby gain the trust of the population. The anarchic tendencies in the population force the government to restrict the scope of liberties, which in turn enhances distrust. Nevertheless, there is no strictly determined and inevitable vicious circle. In the last twenty-three years, considerable progress has been achieved in national life. The economy has not only been rebuilt but also expanded; the extensive school system turns out skilled manpower and managerial personnel; there is a steady process of "maturation" of the state administration; living standards slowly but steadily rise. National values and myths, national symbols and traditions, are emphasized as organically linked with socialist ideology. In foreign policy, unity with the socialist bloc is viewed as the strongest guarantee of national existence. The most important issue, in the popular mind, is the state administration's efficiency in handling the everyday affairs of citizens.¹⁷

Now, in his memorandum on possibilities for the 1980's, dated July 9, 1979, Szczepanski takes a considerably gloomier view:

What are the possibilities of emerging from these difficulties, of a rapid improvement in the organization of the economy, of a change in the system of wages and prices in such a fashion that prices become prices and wages become wages? Of the systemization and simplification of wages, so that the worker knows what he is being paid for, and then of connecting wages to the real productivity of labor? Are these things possible? Hardly; hence it is improbable that they will be accomplished in the 80s . . . Rather, I foresee that the economy of the '80's will at the outset take the road of "let's hope for the best," until there is a severe upheaval which occasions radical changes in the methods of planning, managing, and directing. This, of course, will result at first in a certain degree of disorganization, but through persistent work can lead to an improvement in the economy.¹⁸

The July 9, 1979, memorandum was written presumably for confidential circulation to members of the Polish ruling group, while *Polish Society* was designed to be published in the West. Nevertheless, we may take the difference in point of view between the two quotations as representing some fading of hope that, under its present leadership, the Polish "socialist" system can successfully cope with its difficulties.

The December, 1979, issue of the Paris *Kultura* contains a penetrating "Letter from Warsaw" by a commentator in Poland who signs himself Antoni Powolny and describes himself as "not . . . a professional politician, only a so-called laboring man, having a specific profession and the difficulties and worries connected with it". Powolny writes:

¹⁵ Hudson, Cam. "Poland Reports a Negative Growth." Radio Free Europe Research, RAD Background Report/35 (Poland), Munich, FRG, Feb. 11, 1980.

¹⁶ Op. cit., p. 207.

¹⁷ Polish Society, p. 71.

¹⁸ "Mosiłwości lat osiemdziesiątych," p. 234.

A "Little Apocalypse" is playing itself out on Polish soil. It does not involve the actual self-immolation of this or that writer before the building of the Central Committee of the Party, but the fact that those who *must govern do not know how to govern*, as well as that *no one has the right to replace them and govern in their stead*. This Apocalypse will last until there is another social upheaval, which will be drowned in blood, but will perhaps create a mechanism, once more unique, for changing the team. Another possibility of changing the team is connected with the "martyr" Brezhnev, who also must govern, despite the fact that he is no longer up to it, but whose comrades are constantly unable to agree on who should replace him.²⁰

It is hard to escape the conclusion, pointed to from their various, very different vantage points by Szczepanski, de Weydenthal, and "Powolny", that nothing significant is likely to change in the regime's policy and that, consequently, the probability of a new upheaval is considerable.

Both in Poland and in the West, the failures of the Gierek leadership are excused by some who point to the limits imposed by the Soviet head office. This does not explain how the Romanian and Hungarian leaderships, in quite different ways, have succeeded in stretching those limits. Ceausescu has shown that it is possible to oppose Moscow's will on important foreign-policy issues. Kadar has been able to exercise a considerable degree of autonomy in economic organization.

In a wittily argued article, "On Trade with Russia", published in the *Information Bulletin* of KOR and republished in the Paris *Kultura*, the Polish journalist, Jozef Kusmierek, writes: "Our society is convinced that the authorities of the Polish People's Republic have taken many mistaken or insane economic decisions 'on Moscow's orders'." This was and is most convenient for every governing team. There is no simpler way of cleansing oneself of all blame for ill-considered economic decisions or their inadequate realization than Moscow's order or interdiction". Kusmierek contends that Soviet involvement in Polish decisionmaking is infrequent at worst. Of his own knowledge, he writes, the construction of the great, new Katowice steel plant resulted not from Soviet instructions, as most Poles believe, but was a Polish initiative for which Brezhnev's agreement was obtained only with difficulty. The serious inflationary effect of this gigantic project, therefore, cannot be blamed on the USSR.

In conclusion, Kusmierek says: "It appears that the Soviet side is not at all interested in making Poland dependent upon it, for now it is certain that Poland itself will propose such a degree of dependence as fully to satisfy the heirs and continuators of the Romanovs".²⁰

The Kremlin's abhorrence of the prospect of having to use Soviet troops to put down an eventual upheaval which proved to be beyond the capacity of the Polish authorities is a mighty weapon. There is little reason to believe that Gierek is using it, not to emulate the achievements of Ceausescu or Kadar, but in order to make a sensible start at resolving the increasingly threatening dilemmas of Polish politics. The *Treatise on Voluntary Slavery* of the 16th-century French polemicist and friend of Montaigne, Etienne de la Boetie, is instructive. De la Boetie demanded of those subject to the tyranny of another: "Where would he obtain his power over you, if you did not give it to him?"²¹

²⁰ Powolny, Antoni. "List z Warszawy". *Kultura*, Paris, December 1979, pp. 3 and 5-6. Emphasis as in the original.

²¹ Kusmierek, Jozef. "O handlu z Rosja". *Kultura*, Paris, March 1980, pp. 51 and 64.

²² Et'yen de la Boesi. *Rassuzhdeniye o dobrovol'nom rabstve*. Pervod i kommentariyi F. A. Kogan-Bernshtayn. Moskva, Izdatel'stvo Akademiyi Nauk USSR, 1952, p. 14.

VII. THE CHURCH, THE POPE, AND POLISH POLITICS

Out of political convenience, we lump the states of East-Central Europe together with those of the Balkans and label all of them "Eastern Europe." Culturally, however, Poland belongs to the West, like Czechoslovakia and Hungary, and this is nowhere more evident than in the deep and abiding fealty of the Polish people to the Catholic Church.

The rest of the Western world has been amazed at the way in which history has imitated fiction and brought to the throne of St. Peter not only the first non-Italian in nearly 500 years, but a Pole, at that! Some have interpreted the election of Karol Cardinal Wojtyla as an effort by the Cardinals to strengthen the Church in Communist Europe. It would be more to the point to say that the great strength of the Polish Church produced a man whom his fellow prelates found the fittest among them for the office of the Pope.

It was not so much that the visit last spring of John Paul II to Poland added to the strength of the Polish Church, although it certainly did that. Rather, the election of the Polish pope and his triumphal return to his homeland made people in the West aware of something about which they had been largely ignorant. As it had during the 123 years of the partition of Poland, so, after 1945 when the highest political offices in the land have been occupied by representatives of an alien power, ideology, and culture, the Church became the sole trustworthy repository and guardian of the Polish national idea. Under the First Republic, which ended in 1795, the Primate of Poland was Interrex, or regent, between the death of one king and the election of the next. The Primate of Poland since 1948, Stefan Cardinal Wyszynski, has in effect discharged this responsibility with consummate wisdom.

When the young Bishop Karol Wojtyla assumed the duties of the Archiepiscopate of Krakow in 1962, the PZPR leadership hoped it could play upon the ambitions and personalities of the two strong-willed men who dominated the Polish Church and pit one against the other. Instead, Wojtyla concentrated his energies on moral criticism and ethical guidance to the faithful, leaving policy and administrative responsibilities to his senior and more experienced colleague. Cardinal Wojtyla became so effective a critic of the temporal power that the chill of fear which seized the Polish Communist leaders upon his election as Pope in October, 1978, was mitigated a little by the relief of knowing that at least they would no longer have to cope with him inside the country.

In a second memorandum written last July, Professor Szczepanski assessed the significance of Pope John Paul II's visit to Poland and attempted to draw its political consequences. The final paragraph of that memorandum reads:

Obviously, there can be no question in Poland of an organized Christian Democratic Party or other organized Catholic party like those of Western Europe. But that does not exclude other forms of a Catholic political movement, and not a controlled, submissive, sham movement, but a real and independent one, although in partnership. The attempt made by PAX failed because the [Polish Communist] Party did not permit Piasecki's vision to be realized. But that does not mean that an attempt undertaken in the '80's, in a situation completely different from that of the '50's, must also fail. Then, the great cross on Victory Square [in the center of Warsaw] and the Pope celebrating the mass and delivering a sermon

beneath it were beyond the realm of the imagination. Today, the Pope has created the conditions for the realization of a new vision of a political role for Catholicism, which, under the pressure of the masses, may "be made flesh". Burying one's head in the sand doesn't eliminate that possibility.²²

PAX was founded by the pre-war leader of the Falanga, a home-grown Polish fascist group, Boleslaw Piasecki, who at the end of the war was briefly a prisoner of the Soviet secret police and subsequently created this lay organization of Catholics. In July, 1945, Piasecki gave a memorandum to the leadership of the Polish Workers' (i.e., Communist) Party, which contained this proposal: "We uphold the Christian world-outlook. . . . We want to contribute . . . by common service with the Marxists to the supreme task of building and rebuilding Polish statehood."²³ This is the "Piasecki vision."

The Church always maintained a very guarded attitude towards PAX and Piasecki, notwithstanding the fact that he became a member of the Council of State. Piasecki died at the beginning of 1979.

Stalin's experience with the pre-war Polish Communist Party (KPP) led him to doubt that any group of Polish Communists could maintain their fidelity to the Moscow line over an extended period. Piasecki and PAX were valuable as a potential alternative political instrumentality, the mere existence of which helped Moscow ensure the loyalty of the Polish Party leadership. In those immediate post-war years, the Soviet leaders could not foresee the advent of Polish Communist leaders who would voluntarily assume the mantle of servility and bow the knee even when the masters were not looking.

During his visit to Poland, Pope John Paul II called at Czestochowa for an "authentic dialogue" between Church and state, which "must respect the convictions of believers, and ensure all the rights of citizens as well as normal conditions for the activity of the Church as a religious community to which the vast majority of Poles belong."²⁴

Eighty-eight percent of the population of Poland are communicants of the Church, but Catholics cannot rise to policy-making positions in the government, nor are they generally entrusted with the principal executive position in any state, economic, or social organization, apart from PAX and the small groups they have been permitted to organize for Catholic intellectual and charitable purposes. It is not uncommon for a Catholic to provide the brains and managerial skills which make an enterprise successful, but, solely on the basis of religion, he or she is effectively debarred from rising to head it.

In proposing the "Piasecki vision" for the '80's as an exit from the deadend at which the development of Polish "socialism" has arrived, Professor Szczepanski evidently views it as a reservoir of unexploited reserves. Until October, 1956, the regime called upon the patriotism of the people, who were determined to rebuild their shattered country in defiance of both Nazis and Soviets, partners in the fourth partition of 1939. By December, 1970, that appeal, together with the other sources of "primitive socialist accumulation", was exhausted. June, 1976, marked the end of the brief and mismanaged experiment with consumerism. Now, in the view of this eminent Polish social scientist, there appears

²² Szczepanski, Jan. "Po wizycie". *Kultura*, Paris, January-February 1980, p. 229.

²³ Piekarski, Adam. *The Church in Poland: Facts, Figures, Information*. Warsaw, Interpress Publishers, 1978, pp. 149-50.

²⁴ *The Pope in Poland*. Munich, FRG, Radio Free Europe Research, 1979, p. 77.

to be only one way out: an appeal to the as yet only partially exploited patriotic and moral strength of Polish Catholics.

In this hope, Szczepanski appears to be encouraged by the fact that Cardinal Wyszynski has consistently used his influence to ensure that the congenital opposition of Poles to the "socialist" *pays légal* and its masters in Moscow not spill over into rebellion which could bring about a Soviet military occupation, like that which was threatened in October, 1956, or that which extinguished the drive for self-determination of the Czechs and Slovaks in 1968, or, worst of all, that which ended in rivers of blood in Hungary. In 1956, in December, 1970, in the summer and fall of 1976, and on many other occasions, the Primate has bolstered the political leadership when its weakness might otherwise eventually have exposed Poland to something worse than rule by native Communists. At the same time, the Primate has led the talented clergy and religious of the Polish Church in keeping vibrant the devotion of Poles to the belief that they have a right ultimately to determine their own destiny in freedom.

"Antoni Powolny" knows how to evaluate the possibilities for adoption of the "Piasecki vision." "An historical compromise," he writes:

. . . is an Italian business, not a Polish one. . . . Neither the Party nor the Church wants it. Even as things stand, the Party already has trouble with Moscow and with its own hardheads as a result of its overly liberal policy toward the Church and of the Pope's visit, which, by the way, was approved first by Brezhnev and then by Gierek. The Church is too strong for such a compromise, has too great a sense of identification with the people. Throughout the 35 years of the Polish People's Republic, the Church has never gone against society and will never do so in the future. This is Cardinal Wyszynski's great contribution, but no successor of his will be able to deviate from that course. Moreover, in the Vatican, at least for the time being, we have Pope Wojtyla, who would be the last to agree to an historical compromise. The essence of the Church is its religious mission and it will not identify itself with any opposition movement, but will defend every persecuted opposition movement. . . . It teaches evangelical love; hence, it cannot fan the flames of unrest in a situation in which an explosion could occur at any moment, but whose consequences are unpredictable.²⁵

The theoretical character of Professor Szczepanski's positing of the "Piasecki vision" can perhaps be deduced from the fact that, in his memorandum on possibilities for the '80's, dated less than a week later than "After the Visit," his conclusions are uniformly pessimistic and provide no indication that he believes *any* substantial step will be taken by the regime to arrest the drift toward the "severe upheaval" which he foresees. His initial raising of the "Piasecki vision" appears completely overtaken when, in the second memorandum, he writes that another ". . . problem is that of the primacy of politics over economics, understandable and necessary during the building of the foundations of the system, but the source of problems once the socialist economy begins to function in accordance with its own mechanisms and economic requirements. Each political decision which violates those rules must cause disturbances in the economy. It will be very difficult to change political habits in the '80's."²⁶

Neither the Polish nor the Soviet leadership is likely to change its political habits to the extent of admitting a "real and independent" Catholic political movement to even a small share of power. *In extremis*, the PZPR leadership might try a political maneuver which would

²⁵ Op. cit., pp. 6-7.

²⁶ "Mozliwosci lat osiemdziesiątych," p. 233.

make greater use of PAX, provided the latter remains a "controlled, submissive, sham movement", but that would fool no one in the Church hierarchy and few of the faithful.

VIII. CONCLUSION

A major reason for the sharp contrast between the favorable position to which the Hungarian people have won since 1956 and the unhappy situation of Poland today lies in the fact that the Polish Communist leadership continues to exclude from power some of the most capable and productive members of society, while Janos Kadar not only proclaimed, "Who is not against us is with us," but has given reasonable implementation to that rule.

In Poland, however, the ablest have been discarded one after the other. It is enough to mention the names of Party members alone, whose ideas and students have been discarded in favor of an essentially Soviet, rather than Polish, approach to economic planning and administration: Oskar Lange, Michal Kalecki, Wlodzimierz Brus, Jozef Pajestka.

On top of this and far exceeding it in wastefulness, 88 percent of the people are excluded from eligibility for the top positions in the economy.

Elections to the Sejm, or Diet, will have been held by the time this volume appears and Premier Babiuch will have formed his government and drafted a program. It is still possible to begin a process of "organic work" on the critical problems of Polish political, economic, and social life, to stop drifting, and to mobilize the great talents and energies of a gifted people.

The great Spanish liberal statesman and historian, Don Salvador de Madariaga, wrote: "It is easier to lecture the Poles than to live their lives between Berlin and Moscow."²⁷ It therefore seems proper to give the last word to John Paul II. who, at Krakow, warned:

Moral order is built up by . . . human beings. This order consists of a large number of tests, each one a test of faith and of character. From every victorious test moral order is built up. From every failed test moral disorder grows. We know from our entire history that we must not permit, absolutely and at whatever cost, this disorder. For this we have already paid a bitter price many times.²⁸

²⁷ de Madariaga, Salvador. *Victors, Beware*. London, Jonathan Cape, 1946, p. 214.

²⁸ *The Pope in Poland*, p. 80.

THE POLISH ECONOMY AT THE BEGINNING OF THE 1980's*

By Zbigniew M. Fallenbucht

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I. INTRODUCTION

It is impossible to understand current economic developments in Poland and to comment on prospects for the early 1980's without taking into consideration the existence of a vicious circle of stagnation in which the Polish economy found itself at the end of the 1960's; a "new development strategy" that was introduced by the new leadership, after workers' riots of December 1970, as an attempt to escape from that stagnation; and problems that appeared during the implementation of the strategy. The present economic situation is, to a great extent, the aftermath of the collapse of the strategy which, for various reasons, did not give the expected results and, instead, has created some new problems that seem to be even more serious than those which it was supposed to solve.

The most intriguing question in this connection is whether the difficulties which the Polish economy now faces have been created because of the adoption of this particular strategy and/or because of the way in which it was implemented, or whether they really represent a continuation of the stagnation of the late 1960's that was interrupted for a while by a new short-lived drive only to reappear when the drive had to come to an inevitable end?

There are some other related questions. Could the strategy have succeeded if it were differently implemented and what should this implementation have looked like? Would the Polish economy have been in a better or even in a worse shape if the new strategy were never even attempted? Has the new strategy established perhaps some foundations for a better performance in the future or, on the contrary, has it created some new obstacles? Has the introduction of the new strategy

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postponed some fundamental systemic changes without which further economic progress is not possible?

These are all very difficult questions and they have no simple, clear and uncontroversial answers. This paper can only provide a background for understanding what has actually happened and what the present situation is. No attempt is made to provide any speculative answers to the above questions.

II. THE "NEW DEVELOPMENT STRATEGY"

The so-called "Gierek's new development strategy" was designed to effect a switch from what the economists in Eastern Europe call the "extensive" pattern of development to an "intensive" one, i.e., from the situation in which growth depended mainly on increases in the quantity of inputs, to one in which it would depend, to a greater extent, on increases in their productivity.¹ The strategy envisaged a simultaneous expansion in investment and consumption that was only possible, at that time, with the help of an inflow of foreign capital. Increases in investment were needed to restructure the economy and to modernize it, utilizing a large-scale transfer of Western technology, in order to increase the overall efficiency of production processes. A significant expansion in consumption was regarded as necessary to give some real meaning to a greater use of monetary incentives, which were designed to stimulate labour productivity and to improve decisionmaking by the managers of the state enterprises. It was also probably regarded as essential to pacify the population, to ensure political stability and to gain support for the new leadership and its policies.

The need for restructuring of the economy existed because the industrial structure that had been constructed during the industrialization drive of the 1950's, and was further extended along mainly the same lines in the early 1960's, was based on import substitution and a priority development of heavy industry. As in other East European countries at that time, a very large number of products, especially producers' goods, were produced for the domestic use, mainly to provide machines and equipment for further industrialization. The "inward looking" policy ignored developments in outside world, not only in the West but also in other countries of the bloc, except Soviet import requirements that tended to induce the over-expansion of the heavily capital intensive coal mining and certain branches of metal and heavy engineering industries. No attention was given to benefits from specialization and trade. Almost all newly established, or rapidly expanded, industries were heavily capital-intensive and material-intensive and, therefore, in specific Polish conditions also import-intensive. They were also energy-intensive and required, therefore, a very rapid expansion of coal production and imports of oil and gas. This structure was geared to the "extensive" pattern of development and made the introduction of an "intensive" pattern difficult.²

¹The author has discussed these matters in Z. M. Fallenbuehl, "The Strategy of Development and Gierek's Economic Manoeuvre," in A. Bromke and J. W. Strong (eds.), *Gierek's Poland*, New York: Praeger, 1973, pp. 52-70; and Z. M. Fallenbuehl, "The Polish Economy in the 1970's," in J. P. Hardt (ed.), *East European Economics Post-Helsinki*, Washington, D.C.: Joint Economic Committee, Congress of the U.S., 1977, pp. 816-864.

²For a more detailed discussion of this point see Z. M. Fallenbuehl, "Industrial Structure and the Intensive Pattern of Development in Poland," *Jahrbuch der Wirtschaft Osteuropas*, Vol. 4, 1973, pp. 233-254.

Because of relatively high operating costs, caused by the neglect of the comparative advantage considerations and a small scale of production, many newly established industries were not internationally competitive. They represented a burden for the economy as a whole. Unprofitable enterprises and entire industries had to be subsidized at the expense of other sectors, including those which produced some traditional exports that were now neglected. With a rapid growth of the import of raw materials, induced by this policy, and inability to expand profitable exports, balance-of-payments difficulties had to appear. A considerable restructuring of the economy was, therefore, needed not only to reduce capital—and material—intensity but also to build a viable export sector.³

The need for modernization was partly the result of the policy of horizontal expansion of various productive capacities in order to expand the quantity of output, rather than to reduce costs or to improve the quality of products; to build new plants, rather than to modernize the existing productive capacities; and to allocate maximum possible resources for new investment, rather than for replacement of the obsolete or even physically used-up capital.⁴ At least partly, modernization was, however, also made necessary because of the previous heavy dependence, particularly during the main industrialization drive of the early 1950's when the Polish economy had been almost completely isolated from the world economy, on Soviet blueprints and equipment. In effect, instead of building an additional plant within the country, in order to expand the output of particular machines, the Soviet Union would let Poland establish that plant, exactly according to the Soviet specifications. Its output utilized Polish steel produced with the iron ore imported from the Soviet Union and domestic coal. There were some adverse consequences of this policy: (1) It was not clear that production of these particular machines and equipment in Poland was profitable—at least in some cases the Polish economy was subsidizing this export; (2) the technology was, as a rule, that which had already been in use in the Soviet Union, often for a long time, and the newly established plants were already obsolete at the time of their construction;⁵ (3) very often the products could not be sold outside the Soviet bloc, or even in any other country than the Soviet Union; and (4) as the same policy was applied in other East European countries, their economies became “parallel”—they were producing identical products made according to the same blueprints and with the help of the same equipment and technology and this tendency created a serious obstacle for trading among them.⁶

³ For a more detailed discussion see Z. M. Fallenbuchl, “Policy Alternatives in Polish Foreign Economic Relations,” in R. E. Kautz and M. D. Simon (eds.), *Policy and Politics in Gierek's Poland*, Boulder, Colorado: Westview Press, forthcoming.

⁴ Z. M. Fallenbuchl, “Some Structural Aspects of the Soviet-type Investment Policy,” *Soviet Studies*, Vol. XVI, No. 4, 1965, pp. 432–447.

⁵ R. Wilczewski, *Srodki trwałe w powojennym przemyśle polskim* (Fixed Assets in the Polish Post-War Industry), Warsaw 1971, p. 78; M. Nasilowski, “Systemy zarządzania gospodarką narodową a postęp techniczny,” (Systems of the Management of the National Economy and Technical Progress) in L. Gilejko (ed.), *Rewolucja naukowo-techniczna jako czynnik rozwoju* (Scientific-Technical Revolution as a Factor of Growth), Warsaw 1974, p. 225.

⁶ The author has discussed this point more extensively in Z. M. Fallenbuchl, “Growth Through Trade in the Socialist Economies,” in W. D. G. Hunter (ed.), *Papers and Proceedings of the Conference on Current Problems of Socialist Economics*, Hamilton, Ontario: McMaster University 1971, pp. 97–131.

As early as in the middle of the 1960's it became clear that in Poland, as in other East European countries, it was necessary to change the industrial structure, to modernize existing productive capacities, to expand expenditures on the development of pure and applied science and on research and development, and to effect some systemic reforms. The "new development strategy" concentrated on the modernization and restructuring of the economy. When it was introduced, it was expected to be accompanied by economic reforms which would make the centralized system of planning and management more flexible and better adjusted to the operation of a more open economy and to an "intensive" pattern of development. Later, as in other East European countries in the early 1970's, it became to be increasingly regarded as a substitute for economic reforms.⁷

The planners expected that with the help of Western credits and imported technology there would be a rapid expansion in the production of modern, highly sophisticated and efficiently produced commodities. These goods would be produced in new, or modernized, plants, utilizing the most modern Western machines, according to Western standards and, in some cases, on the basis of Western licenses and under industrial cooperation arrangements with leading firms. It was, therefore, hoped that it would not be difficult to export these commodities to the West. An excess of export over import would be secured in the near future and the debts would be repaid without difficulty. Export to other CMEA countries, and to less developed and to advanced non-socialist countries, would increase the scale of production which, together with the effect of a large proportion of very modern capital in the total capital stock, would ensure an "intensive" pattern of development.⁸

III. IMPLEMENTATION OF THE STRATEGY

Although the "new development strategy" was undoubtedly correct in the situation that the Polish economy faced at the beginning of the 1970's, its impact was endangered by a number of factors. Some of them, such as disturbances in the world economy and bad weather that adversely affected agricultural production, were beyond the government's control. However, even in these two fields government policies added to the difficulties, or reduced the ability of the economy to cope with them.

Among the factors for which the government was solely responsible was, first of all, an unrealistic macroeconomic policy. Attempts were made to enforce excessively high rates of growth and, therefore, an excessively large investment program which, even with a large inflow of foreign capital, had to collapse.

In 1971-75 the average rate of investment on fixed capital in the national economy was 18.4 percent and the average rate of growth of industrial investment was 21.9 percent. The annual rates of growth of investment in the economy at constant prices increased suddenly from 7.5 percent in 1971 to 23.6 percent in 1972 and 25 percent in 1973. This quick acceleration was followed by somewhat reduced but still

⁷ For a discussion of this point see Z. M. Fallenbuehl, "Economic Developments," in A. Bromke and D. Novak (eds.), *The Communist States in the Era of Detente*, Oakville, Ontario: Mosaic Press, 1978, pp. 245-274.

⁸ Fallenbuehl, "The Polish Economy in the 1970's."

very high rates of growth of 22.5 percent in 1974 and 14.2 percent in 1975. Investments in industry on fixed capital at constant prices were growing even more rapidly. The rates of growth were 10.4 percent in 1971, 34.6 percent in 1972, 22.2 percent in 1974 and 17 percent in 1975.

These were extremely high rates of growth. They greatly exceeded the capacity of the construction and engineering enterprises to process them. The investment front became very wide. It was impossible to complete all projects that had been started. There were delays, waste and a deterioration in workmanship in construction and installation. All these features should have been known to the planners from the previous experience. Twice before, in the first half of the 1950's and in the early 1960's, the optimum level of investment was exceeded and there were some very serious consequences for the economy.⁹ It is impossible to explain why the planners believed that they could ignore the danger of excessive investment this time. The large-scale inflow of foreign capital reduced somewhat the pressure on resources that was created, but it could not eliminate it entirely.

There were also excessively rapid, for given levels of investment, increases in the disposable income of the population, resulting from the expansion in social welfare payments, revisions of pensions, raising the minimum wage and upward adjustments in the wage structure.

Nominal personal incomes increased by 10.1 percent in 1971, 11.7 percent in 1972, 14.5 percent in 1973, 17.0 percent in 1974 and 15.3 percent in 1975. These increases exceeded the increases in the volume of goods and services available for the population. Shortages were further aggravated by the inability of the system to adjust the structure of supply to the structure of demand. Although the prices of basic foods were kept constant, upward price adjustments were necessary in respect of other goods, partly under the impact of external inflation which could not have been entirely stopped at the border.¹⁰ The official cost of living index registered a decline of -0.2 percent in 1971 and no change in 1972, but it increased by 2.6 percent in 1973, 6.8 percent in 1974 and 3.0 percent in 1975. Real personal incomes increased, therefore, slightly more than money incomes in 1971 and at the same rate in 1972. Subsequent increases lagged behind increases in money personal incomes, but were quite big: 11.6 percent in 1973, 9.6 percent in 1974 and 11.9 percent in 1975 (see table I).

After decades of suppressed personal incomes and a low standard of living, improvements were badly overdue. Considerable increases in monetary incentives were needed in order to induce a greater labour discipline and harder efforts. However, it seems that with increases in personal incomes at that scale, increases in investment should have been more moderate, even with an inflow of foreign capital. The big in-

⁹ Z. M. Fallenbuchl, "Investment Policy for Economic Development: Some Lessons of the Communist Experience," *The Canadian Journal of Economics and Political Science*, Vol. XXIX, No. 1, 1963, pp. 26-39.

¹⁰ For a more detailed analysis of this topic see A. A. Brown, Z. M. Fallenbuchl, J. A. Licari and E. Neuberger, "The Impact of International Stagnation on Systemic Policy Changes in Eastern Europe: Theoretical Reflections," in S. McInnes, W. McGrath, P. J. Potlichnyj (eds.), *The Soviet Union and Eastern Europe into the 80's*. Oakville, Ontario: Mosaic Press, 1978, pp. 309-323; Z. M. Fallenbuchl, E. Neuberger and L. D'Andrea Tyson, "East European Reactions to International Commodity Inflation," in J. P. Hardt (ed.), *East European Economies Post-Helsinki*, Washington, D.C.: Joint Economic Committee, Congress of the U.S., 1977, pp. 816-864; Z. M. Fallenbuchl, "The Impact of External Economic Disturbances on Poland Since 1971," in K. Neuberger and L. Tyson (eds.), *The Impact of International Economic Disturbances on the Soviet Union and Eastern Europe*, New York: Pergamon Press, 1980, pp. 280-304.

creases in both that were allowed were incompatible and had to create internal and external disequilibrium of the economy.

The planned increases in investment and in real income were already very high, but the actual increases largely exceeded them. The plan for 1971-75 envisaged an increase in total investment of about 42 percent in comparison with the outlays in 1966-70. The actual increase, at constant prices, was 90 percent. The planned increase in real personal income was 39 percent, the actual increase was 69 percent. The average real wage was supposed to increase by 18 percent during the plan period, but it actually increased by 42 percent.

The planners lost control over both investment and personal income because of political and social pressures, which were created by the backlog of long postponed increases in wages, pensions and social welfare payments, shortages of consumer goods and services, and competing claims on limited resources by sectors which had enjoyed priority in the past and were anxious to maintain their privileged position and those that had been neglected and wished to make up for it now. With a multi-centre direction of the economy, by the Central Planning Commission, the Presidium of the Council of Ministers and, above all, by the Central Committee of the party, with the existence of various pressure groups within the industrial management, the local government, economic ministries and within the party, many investment projects were added to the already excessive program during the preparation and implementation of the annual plans. For the same reasons higher wages were granted, in some specific cases, than those which had been originally planned.

Absolutely essential for the success of the "new development strategy" was performance in foreign trade. Imports should have been limited to what was necessary to effect the planned restructuring and modernization of the economy, with sufficient increases in consumption to provide a real meaning to monetary incentives. Imported investment goods should have been used, above all, to expand production for the export of those goods which had the best prospects in the Western markets.

Through the same mechanism of special political linkages, favoritism and personal contacts, operating against the background of backlogs, shortages and pressures, that led to the over expansion of investment, imports were allowed to reach excessively high levels. Imports from non-socialist countries increased at constant prices by 20.7 percent in 1971, 44.8 percent in 1972, 37.8 percent in 1973, 19.5 percent in 1974 and 12.1 percent in 1975, (see table II). Machines and equipment represented a very high proportion of these imports: 24.7 percent in 1971, 33.7 percent in 1972, 33.9 percent in 1973, 31.3 percent in 1974 and 35.9 percent in 1975 (all at current prices). The annual rates of growth of the import of machines and equipment from non-socialist countries at current prices were 24.7 percent in 1971, 96.9 percent in 1972, 66.7 percent in 1973, 41.6 percent in 1974 and 33.9 percent in 1975 (see table III).

Often investment goods were imported without ensuring an adequate supply of all necessary complementary domestic inputs. Some imported machines could not have been installed for a long time because the construction enterprises were unable to complete the buildings which were

to house them. Some deterioration, damage or even complete wastage occurred as the result of improper storage.¹¹ Above all, the expenditures had already been made or credit had been utilized, while results were delayed.

At the same time when imports were expanding rapidly, some problems were encountered with increasing exports, especially to the West. Except at the beginning of the period, the actual rates of growth lagged behind the planned rates, both at constant and current prices, and the difference between the two was widening. The planned rate was 12.9 percent and the actual 11.0 percent in 1973: The two rates were 18.9 percent and 12.8 percent in 1974 and 22.3 percent and 8.3 percent in 1975. At constant prices the rates of growth of export to non-socialist countries lagged behind the rates of growth of total export. They were 14.8 percent in 1972, 10.9 percent in 1973, 5.9 percent in 1974 and 5.9 percent in 1975 (see table II).

There were many reasons for the unsatisfactory performance in this field. Priority in the allocation of foreign exchanges and investment resources was given for the expansion of the productive capacity in the engineering industry. It was this industry that was expected to become the main exporter to the Western markets. However, some serious difficulties with expanding the export of machines and equipment to the West appeared. They included not only such factors as tariffs and non-tariff obstacles to trade in advanced countries and inability to offer sufficient credits in trade with less developing countries, but also the lack of marketing, advertising, servicing and spare parts. There was also the strong domestic demand for machines in Poland as the result of an excessively large investment program. The domestic market presented an easier alternative to exports, which always require more efforts, initiative and flexibility and are subject to a greater degree of uncertainty and risk.¹²

A very large proportion of industries that were selected for specialization, or which were expected to provide substitutes for imports, had more than average material intensity. In 1975 out of 16 branches of the engineering industry exporting to the socialist countries 10 were highly material-intensive. Out of 13 branches exporting to other countries, 9 were highly material intensive.¹³

Some of the main investment projects, which were started in 1971-75 in iron and steel, non-ferrous metals, chemicals and building materials, were highly material-intensive and, therefore, import-intensive. As the result of these investment projects the demand for fuels and energy was to increase by 30 percent by 1980, while the total domestic production of fuels and energy was expected to increase during this time by only 18 percent.¹⁴ The selection of these projects has, therefore, created a pressure on the balance of payments which not only adversely affects the situation at present but will probably continue to do so in

¹¹ A. Jung, "Czy można ulepszyć wykorzystanie importu?" (Is it Possible to Improve the Utilization of Import?), *Handel zagraniczny*, No. 2, 1977, p. 4; P. Kapuscinski, "Nie samym rolnictwem" (Not By Agriculture Alone), *Zycie gospodarcze*, No. 43, 1978, p. 6.

¹² W. Burzynski, J. Kozinski, "Problemy handlu zagranicznego Polski w zakresie maszyn i srodkow transportu" (Polish Trade in Machines and Transport Equipment), *Handel zagraniczny*, No. 3, 1977, p. 4; B. Korona, "Aktualne problemy handlu zagranicznego Polski" (Current Problems in Polish Foreign Trade), *Gospodarka planowa*, No. 2, 1978, pp. 101-103.

¹³ Burzynski, Kozinski, *op. cit.*, p. 4.

¹⁴ "Ciaglosc polityki—nowe elementy jej realizacji" (Continuity of Policy—New Elements in the Implementation), *Gospodarka planowa*, No. 2, 1977, p. 66.

the future. This was almost a built-in energy crisis, which indeed appeared with great severity in 1979, and a built-in balance-of-payments disequilibrium which has continued to plague the Polish economy until the present.

These investment decisions not only created additional demand for imports but, to the extent to which they made the production process more material- and energy-intensive, they endangered production for both domestic market and export by making it dependent on the availability of imports.

Performance in the field of foreign trade was also affected by disturbance in the world economy that took the form of the so called "stagflation." The inflation aspect of it increased prices of essential materials, immediately in the case of imports from the West and with a time-lag for imports from within the CMEA area. The prices of Western machines, which were necessary for successful completion of the restructuring and modernization, also increased and contributed to the increase in the total value of import beyond the planned levels.

At the same time, the "stag" aspect of stagflation, i.e. recession in the world markets, although it helped to obtain credits, hampered the expansion of exports to the West, other than the export of coal.

The particular way in which the planners tried to insulate the economy from disturbances in the world economic activity, by the price equalization mechanism of subsidies and taxes, increased the degree of distortion in the price structure and in the financial results of the socialist enterprises. The transformation of external disturbances, appearing in the form of price inflation, was delayed and reduced by the application of this insulation mechanism. However, to the extent to which the increased separation of domestic prices from the world prices and an increase in the degree of subsidization reduced the efficiency of the economy, the process of containing inflation reduced the ability of the economy to cope with external disturbances in the form of world-wide recession that followed the world commodity inflation.¹⁵

Moreover, difficulties in foreign trade were further aggravated by systemic factors which limit the flexibility with which changes in foreign demand have to be met. The expansion of export to the West could not be "decreed from above" by the central planners. It has to be the result of decentralized decisions of those who are in direct contact with foreign markets and can change the quality of the product, its specifications and packaging; who can alter the product mix, obtain quickly all necessary materials and parts; who have freedom to pay for additional labour in order to meet the delivery deadlines. Recession in the world markets increased the need for some radical changes in the operation of the Polish export sector and, indeed, of the entire economy because the export sector does not operate in a vacuum and its performance depends, to a great extent, on the performance of the whole economy.

Even more important than the creation of very serious disequilibria in the internal and external balance of the economy was a timid approach to systemic reforms. Only some limited modifications were introduced as the so called "new economic and financial system", which

¹⁵ The author has analyzed the insulating mechanism and the impact of its use on the Polish economy in Fallenbuehl, "The Impact of External Economic Disturbances on Poland Since 1971."

was giving a greater degree of autonomy to big economic organizations (W.O.G.) and attempts to steer the economy through a system of parameters rather than administrative orders and direct controls.¹⁶ The system was, at first, introduced on an experimental basis in some selected industrial enterprises and, finally, on a wide front in almost the whole industry in 1973. However, even these relatively moderate systemic modifications were partly withdrawn under a combined impact of domestically generated and foreign induced inflationary pressures.

And yet, the implementation of the "new development strategy" was simply too difficult to effect with the old, highly centralized system of planning and management. There seems to exist a strong interrelation between the economic system and development strategy. The highly centralized command system and the orthodox Soviet-type industrialization policy that depended on "extensive" factors of growth were consistent with one another. When some economic reforms were attempted after October 1956, but there was a determination to continue the old development strategy basically unchanged, the reforms could not be effected. The "new development strategy" required a more flexible system for its success. When no sufficiently bold reforms were introduced, the strategy had to collapse. Instead of moving the economy out of a vicious circle of stagnation and setting it on an upward trend, with an "intensive" pattern of development, it resulted in the creation of very strong balance-of-payments and internal macroeconomic disequilibria.

IV. THE COLLAPSE OF THE STRATEGY

At first the adoption of the "new development strategy" seemed to be an unqualified success. The results for the first half of the 1970's were very impressive in terms of the rates of growth. As, undoubtedly, the leaders assessed progress in this way, they had reasons to congratulate themselves. Some difficulties started, however, to appear as early as in 1974-75. By 1977 the situation became quite serious. According to the official statistical data, which tend to somewhat overstate good results, the average rate of growth of real Domestic Net Material Product (DNMP, or "Produced National Income" in marxist terminology that roughly corresponds to Net Domestic Product with the majority of services excluded) increased from 6.0 percent in 1966-70 to 9.8 percent in 1971-75 and declined to 3.2 percent in 1976-79 (see table IV).

The annual rates of growth of DNMP show a very rapid increase during the first three years of the 1970's (8.1 percent in 1971, 10.6 percent in 1972 and 10.8 percent in 1973). Starting with 1974 there has been a continuous downward trend. Until 1976 the rates of growth were still, however, relatively high (10.4 percent in 1974, 9 percent in 1975 and 6.8 percent in 1976). Afterwards the situation became critical. In 1977 the planned rate was 5.7 percent, the actual rate 5.0 percent. In 1978 the two rates were 5.4 percent and 3.0 percent, and in 1979, 2.8 percent and -2.0 percent.

¹⁶ On economic reforms in Poland see J. G. Zielinski, *Economic Reforms in Polish Industry*, London: Oxford University Press, 1973; J. G. Zielinski, "On Systemic Remodelling in Poland: A Pragmatic Approach," *Soviet Studies*, Vol. XXX, No. 1, 1978, pp. 3-38; J. Staniszkis, "On Remodelling the Polish Economic System," *Soviet Studies*, Vol. XXX, No. 4, 1978, pp. 547-552; P. T. Wanless, "Economic Reform in Poland 1973-79," *Soviet Studies*, No. 1, 1980, pp. 28-57.

Even the considerably scaled-down planned rates proved to be unrealistic. The gap between them and the actual rates was widening. The rates that were achieved in 1977 and 1978 were already among the lowest in the entire postwar period. Only three times before comparably low rates had been registered: 4.3 percent in 1960, 2.1 percent in 1962 and 2.9 percent in 1969. The decline that occurred in 1979 was the only absolute reduction in national product since the end of the Second World War.

The independently calculated indices of Poland's gross national product (GNP), with the 1965 level taken as 100 and with the 1969 weights, show a decline from 185.3 in 1978 to 185.2 in 1979, with an increase in industrial contribution to GNP from 220.7 to 222.2, a reduction in agriculture from 116.0 to 114.8, a reduction in construction from 250.6 to 238.6, unchanged output in forestry (115.5) and transport (291.1), and a very uneven pattern of growth of various services (see table V). How can this performance of the economy be related to the policies that were followed at various periods of time?

In the early 1970's there was a clearly visible impact of the inflow of foreign capital, which was a central feature of the "new development strategy." The rates of growth of real National Net Material Product (NNMP, or "Allocated National Income" in marxist terminology, roughly corresponding to Net National Product less the majority of services) were even more impressive in 1971-75 than the DNMP rates. The average NNMP rate reached 12.0 percent in that period, as compared with 5.8 percent average in 1966-70. The annual rates of growth of NNMP increased to 9.8 percent in 1971, 12.7 percent in 1972 and 14.3 percent in 1973. They also started to decline in the subsequent years but remained above the DNMP rates through 1976. They were 12.1 percent in 1974, 10.9 percent in 1975, 7.0 percent in 1976, 2.7 percent in 1977, 0.7 percent in 1978. The planned rate for 1979 was only 1.0 percent, as compared with the planned DNMP rate of 2.8 percent. The actual NNMP rate in that year was not available at the time this paper was prepared.

The high rates of growth of NNMP in 1971-75 made it possible to achieve high rates of growth of both investment and consumption. This is what the strategy implied. Investment in fixed capital and changes in stocks ("Accumulation" in marxist terminology) increased from the average rate of 6.3 percent in 1966-70 to a 19.0 percent average in 1971-75. The annual rates of growth reached 15.3 percent in 1971, 21.5 percent in 1972, 27.5 percent in 1973 and 20.7 percent in 1974. As has been pointed out before in connection with the rates of growth of investment in fixed capital, these were excessive rates. They had, therefore to be drastically reduced in the subsequent years. They were 10.6 percent in 1975, 3.7 percent in 1976, -5.3 percent in 1977 and -1.4 percent in 1978. This was the result of the policy that attempted to reduce the balance-of-payments deficit.

The average rate of consumption, both from personal incomes and the so-called "collective consumption", increased from 5.6 percent in 1966-70 to 8.7 percent in 1971-75. The annual rates did not, however, show any clear trend until 1976, when they started to decline rapidly. They fluctuated from 7.7 percent in 1971 to 9.1 percent in 1972, 8.1 percent in 1973, 7.4 percent in 1974 and 11.1 percent in 1975. Afterwards

the decline was very rapid: 8.8 percent in 1976, 6.8 percent in 1977 and 1.7 percent in 1978 (see table IV).

It is clearly seen that while accumulation had priority in 1971-74, when its rates of growth greatly exceeded the rates by which consumption was increasing, the reverse happened afterwards. In 1975-78 the rates of growth of consumption were higher than those of accumulation and in 1977 and 1978 remained positive when the latter were negative.

As a result of the discrepancy between the rates of growth of accumulation and consumption the share of accumulation in NNMP reached exceptionally high levels. The share was increasing rapidly through 1974. It was 27.5 percent in 1971, 29.6 percent in 1972, 33.0 percent in 1973 and 35.6 percent in 1974. It stayed at this very high level in 1975 (35.2 percent) and started to decline slowly in subsequent years, when it was 24.1 percent in 1976, 31.8 percent in 1977 and 31.1 percent in 1978 (see table VI). These were the highest shares of accumulation in the entire postwar period. Only once before the share of accumulation exceeded the 30 percent mark. It was at the highest point of the Stalinist industrialization drive in 1973 when it reached 32.0 percent.

These high shares of accumulation were made possible only because of an annual inflow of foreign capital. The difference between NNMP and DNMP is equal to an excess of import over export in trade in commodities and the so-called "productive services," which include transport and communications, licenses and technical documentation, services rendered in connection with export and expenditures on international fairs and exhibitions, increased by "wastes of national income" and "amounts unaccounted for." These last two items represented approximately -1 percent of DNMP in 1970-75. Ignoring them as relatively insignificant, it is possible to accept the difference NNMP-DNMP as approximately measuring the inflow of foreign capital at domestic prices which, it is important to remember, considerably differ from international prices at which foreign trade statistics are presented. As Poland is a net exporter of transit services to the neighbouring states and a net recipient of transfer payments from the relatives in the West to residents in the country,¹⁷ the balance between NNMP and DNMP is usually achieved with a negative balance of visible trade.

In 1971 there was still an outflow of capital, as had been the case almost every year between 1947 and 1970.¹⁸ Poland was a net exporter. The inflow of capital was unimportant in 1972 when it represented only 0.9 percent of accumulation (see table VI). In these two years the "new development strategy" did not yet start to have its impact. The high rates of growth that were achieved were caused by the so called "Gierek's economic manoeuvre", which was an effort to mobilize resources and to eliminate some obvious waste and inefficiency in the economy by a combination of monetary incentives and appeals to patriotism and self-interest. It was also the "new broom effect" of the change in the party and government leadership.

The importance of the inflow of foreign capital rapidly increased in the subsequent years. It represented 9.3 percent of accumulation in

¹⁷ P. Bozyk, B. Wojciechowski, *Handel zagraniczny Polski, 1945-1969* (The Foreign Trade of Poland, 1945-64), Warsaw 1971, pp. 273-274.

¹⁸ Fallenbuehl, "Policy Alternatives..."

1973, 12.3 percent in 1974, 15.5 percent in 1975 and 16.0 percent in 1976. It declined rapidly afterward to 10.7 percent in 1977 and 3.8 percent in 1978 (see table VI).

In 1972-76 there was also a big inflow of embodied Western technology. The "deviza coefficients" (the value of imported Western "embodied technology," i.e. complete industrial plants and machines and equipment, in "deviza zloty" per unit of investment outlays on machines and equipment in "domestic zloty" that can be accepted as an approximate measure of the relative importance of the inflow of the import of embodied technology) increased from 0.014 in 1972 to 0.018 in 1973, 0.020 in 1974, 0.022 in 1975 and 0.022 in 1976. The first decline occurred in 1977 when the coefficient was 0.019.¹⁸ The average "deviza coefficient" for the economy as a whole in 1972-77 was 0.020. In some sectors the average "deviza coefficients" were especially high: 0.051 in the chemical industry, 0.044 in the light industry, 0.040 in the wood-working and paper industry and 0.035 in the metallurgical industry. Surprisingly perhaps, the engineering industry that enjoyed top priority during the investment drive of the first half of the decade had a relatively low average "deviza coefficient" of 0.025 which implied that this expansion, restructuring and modernization were to a greater extent effected with the help of domestically produced machines than was the case in other industries. This fact could have added to the difficulties of increasing profitable export of the products of this industry to the West.

The "new development strategy" also resulted in a rapid increase in licenses. In 1971-77 some 300 Western licenses were purchased, as compared with 106 in 1948-65 and 121 in 1966-70. Almost the same amount was spent on their purchase during the first five years of the 1970's as during the entire period 1948-70 (1.2 billion deviza zloty, or approximately \$367 million, as compared with 1.6 billion deviza zloty).²⁰

Despite the rapid acceleration in the import of licenses that took place in the early 1970's, the license-intensity of the Polish economy is still, however, relatively low when compared with other countries and probably below the optimum level. The share of production based on foreign licenses in the total industrial output was only 1.3 percent in 1966, 3.1 percent in 1970 and 5.6 percent in 1975. Despite this rapid increase it was still a considerably lower proportion than in advanced countries. About 90 percent of all Research and Development work in Polish industry is conducted in the domestic R and D facilities, whereas in advanced countries almost one third of innovations are based on foreign licenses.²¹

The very impressive growth of the economy in the first half of the 1970's was, therefore, clearly associated with a large-scale inflow of

¹⁸ Z. M. Fallenbuehl, "Technology Transfer in East-West Economic Relations: The Case Study of Poland, 1971-1978," paper prepared for Organisation for Economic Co-operation and Development, Directorate for Science, Technology and Industry, December 1979.

¹⁹ J. Monkiewicz, "Protekcjonizm w ster. e zwi azkow technicznych Wschod-Zachod" (Protectionism in the Sphere of the East-West Technical Relations) *Handel zagraniczny*, No. 5-6, 1979, p. 12; R. Kapacki, "Licencje zagraniczne jako czynnik przyspieszenia wzrostu gospodarczego Polski" (Foreign Licenses as an Instrument for the Acceleration of Poland's Economic Growth), *Handel zagraniczny*, No. 1, 1978, p. 25.

²¹ W. Brozost, "Rola polityki licencyjnej w stymulowaniu postępu technicznego w gospodarce narodowej" (The Role of the Licensing Policy in the Stimulation of Technological Progress in the National Economy) in *Czynniki rozwoju społeczno-gospodarczego Polski Ludowej* (Growth Factors in the Socio-Economic Development of People's Poland), Warsaw, 1972.

foreign capital and a rapid acceleration in technology transfer from the West in the form of both imported machines and equipment and licenses. The average rate of growth of fixed capital per employee was 5.9 percent in 1971-75, as compared with only 2.8 percent in 1961-65 and 3.7 percent in 1966-70.

Although rapidly increasing capital per employee was the main engine of growth, productivity also increased quite considerably. The two productivity indicators, output/labour and output/fixed capital demonstrated marked improvement over the preceding decade. The average rate of growth of DNMP per employee was 7.6 percent in 1971-75, as compared with 4.3 percent in 1961-65 and 3.8 percent in 1966-70. The average rate of growth of DNMP per unit of fixed capital was 1.7 percent in 1971-75, as compared with 1.4 percent in 1961-65 and no change in 1966-70 (see table IV).

However, these averages hide changes which occurred during the period. The annual changes indicate that already before the end of the first half of the 1970's the pattern of development started to become not more but less "intensive." While the rate of growth of fixed capital per employee was growing continuously from one year to another until 1976 and declined only slightly in 1977, again slightly in 1978 and increased in 1979, the rate of growth of labour productivity behaved in a very erratic manner. It reached its highest level of 8.4 percent in 1973. It declined to 7.4 percent in 1974, slightly increased to 7.5 percent in 1975 and declined to 6.9 percent in 1976. Then it suddenly increased to 8.6 percent in 1977 and collapsed to 2.3 percent in 1978. Even the maintenance of high rates of growth of capital per labour was not sufficient to ensure high rates of labour productivity.

In industry labour productivity, measured by net production per one employee in production and development (i.e. excluding central industrial administration) was also erratic. The average rate in 1971-75 was 8.0 percent, as compared with 5.7 percent in 1961-65 and 4.3 percent in 1966-70. The average rate in 1976-79 was, however only 5.0 percent. The annual rates of growth were only 2.0 percent in 1978 and 3.3 percent in 1979.

While labour productivity increases were associated with faster increases in the capital/labour ratio and later could not be maintained at a high level even by high rates of increase in that ratio, the rates of growth of capital started to decline by 1972 and became negative in 1975.

The average rate of growth of capital productivity, measured by DNMP per unit of fixed directly productive capital, was 1.7 percent in 1971-75, as compared with 1.4 percent in 1961-65 and no change in 1966-70. The annual rates of growth increased to 1.8 percent in 1971 and 3.8 percent in 1972. A continuous decline began in the following year (see table IV).

As it is highly unlikely that the newly created productive capacities were increasingly less efficient, the decline must have been caused by their incomplete utilization. This could be the result of wrong investment decisions and inability to sell the produced output, for example, to the West if the production was intended for this purpose. It could also happen because of the delays in the completion of investment projects, the lack of complementary machines or cooperating plants, or

because of the shortage of energy and materials in sufficient quantity and of the required quality.

As the result of disparity between the rates of growth of import and export at current prices there was a very rapid growth in the deficits in trade with non-socialist countries, much exceeding those that had been envisaged as an integral part of the "new development strategy". In 1971 Poland had a positive balance of trade with those countries. There was only a moderate deficit of \$0.3 billion in 1972 and \$1.3 billion in 1973. The deficit increased to \$2.1 billion in 1974, \$2.7 billion in 1975 and \$2.9 billion in 1976 (see table II). Net hard currency debt to the West increased therefore from \$764 million to \$10,680 million during that period.²²

The rising trend in the deficit in trade with non-socialist countries was reversed in 1977 when it declined to \$2.2 billion as the result of an increase in the value of export at current prices by 9.8 percent and a decline in the value of import at current prices by -4.6 percent. At constant prices both import and export declined in that year but the decline in import was sharper (-10.6 percent) than in export (-0.2 percent).

Further reductions in the size of deficit occurred in 1978 and 1979 (to \$1.8 billion and \$1.4 billion). In these two years the rates of growth at constant prices were still unavailable at the time this paper was prepared, but there must have been another decline in the volume of import in 1978 and in 1979. At current prices import was kept constant in 1978 and increased by 5.6 percent in 1979, while export increased by 7.3 percent and 12.9 percent respectively. This improvement has, however, been achieved, as has been pointed out before, by a very drastic reduction in the rate of growth in DNMP in 1978 and an absolute reduction in national product in 1979.

The reduction in the size of the deficit in trade with nonsocialist countries was not however, sufficiently big to stop net indebtedness from increasing rapidly. It became \$10,680 million in 1976, \$13,532 million in 1977, \$16,972 million in 1978 and an estimated \$19,590 million in 1979.²³

It seems that at the end of the first five year period the leadership did not realize that the difficulties that had appeared in 1974 and 1975 were the beginning of some very serious problems. The Central Committee's directives for the Seventh Party Congress that took place at the end of that period were still full of enthusiasm about an unqualified success of the "new development strategy." There was no admission that the very high rates of growth of production and big simultaneous expansion in investment and consumption had been achieved only because of a large-scale inflow of foreign capital and that the net indebtedness of the country was increasing rapidly.²⁴

In practice the decision to abandon the "new development strategy" had already been made. The plan for 1976-80 was built on an assumption that no significant systemic modifications would be necessary in

²² Data provided by Joan Zoeter.

²³ *Ibid.*

²⁴ "O dynamiczny rozwój ludownictwa socjalistycznego—o wyższą jakość pracy i warunków życia narodu" (For a Dynamic Development of the Construction of Socialism For a Higher Quality of Work and Living Conditions of the Nation), *Nowe drogi*, 1975, pp. 31-54.

order: (a) to eliminate the difficulties that had appeared in the last two years of the previous plan period; and (b) to convert the deficit in trade with non-socialist countries into a surplus, without reducing investment and with some improvement in real personal incomes of the population. These various targets were not regarded as inconsistent because it was expected that the production capacity, which had been constructed and modernized on a large-scale in 1971-75, would permit a considerable increase in national product and especially in industrial production.

The planned increase in DNMP was to be 40-42 percent and the planned increase in NNMP 26 percent. The difference would be caused by an excess of export over import, i.e. by an outflow of capital. Investment outlays in the national economy would be 43.3 percent higher than those in 1971-75 and directly productive investment in the national economy would increase by 45.1 percent, while the so-called "non productive" investment (i.e. investment outlays on the socio-economic infrastructure) would increase by 36.4 percent. Real wages and other incomes were expected to increase by 16-18 percent, welfare payments by 70 percent and the new housing accommodations by 40 percent. Industrial production was to increase by 48-50 percent with production for export increasing by 86 percent, production for domestic market of goods purchased by the population by 56.6 percent and production for investment and for the supply of the economy with materials, energy and intermediate goods by 56.5 percent.²⁵

In order to achieve a positive balance in trade with non-socialist countries by 1978, export to that group of countries was to grow at an average rate of 14 percent with a considerable increase in the share of machines and equipment in total export. At the same time the import substitution investment of the first half of 1970's should start to give results and in 1980 about 74 percent of the total domestic requirements for investment goods would be supplied from the domestic production as compared with 66 percent in 1975. The import of metallurgical products would be reduced by 40 percent and the import of grain by 50 percent.²⁶

This plan implied the end of the "new development strategy." The stress was on converting the deficit with non-socialist countries into a surplus, an import substitution and a reduction in the inflow of foreign technology. The rates of growth continued, however, to decline, the pattern of development, instead of becoming more "intensive," was clearly more "extensive" than ever. There were serious disequilibria in the internal macroeconomic balance of the economy and in the balance of payments and it was impossible to stop the indebtedness from growing. All these developments were directly related to the way in which the "new development strategy" had been implemented by the planners, who tried to restructure and to modernize the economy and to effect a switch to an "intensive" pattern within a too short period, without taking into consideration what was physically possible and without introducing the necessary systemic changes. The "new development strategy" was replaced by a set of measures by which the planners attempted to reduce the internal and external disequilibria.

²⁵ N. Swidzinaka, *Plan 5—letni Polski na lata 1976-1980 (The Five-year Plan of Poland for 1976-1980)*. Warsaw, 1977, pp. 13, 28-29, 47-48.

²⁶ T. Wrzaszczyk, "Kierunki dalszego rozwoju gospodarki" (The Directions of the Further Development of the Economy), *Nowe drogi*, No. 1, 1977, pp. 2, 14.

Instead of a gradual reduction of the deficit in trade with non-socialist countries in such a way that the transfer of Western technology would not be interrupted, there was a drastic cut in import from the West which endangered not only the long-run prospects for further development, but also the current level of output and, in effect, also of export. The newly created productive capacities, for the establishment of which the country is still paying its debts, have been kept below the full utilization level and many investment goods that were purchased in the West have been wasted.

While the way in which the "new development strategy" was implemented was mainly responsible for its collapse, the policies that have been introduced to deal with its aftermath seem to aggravate rather than to reduce current difficulties.

V. POLICIES TO DEAL WITH THE AFTERMATH

In 1976, the first year of the new five-year plan during which the new workers' riots took place in protest against the proposed increases in the prices of basic foodstuffs, the annual rate of DNMP declined to 6.8 percent, import from non-socialist countries increased by 8.5 percent and export to those countries increased by 7.7 percent, both at current prices. As the result of these movements in export and import, the deficit with non-socialist countries reached \$2.9 billion, the highest level ever. Because of the inflow of foreign capital the rate of growth of NNMP exceeded that of DNMP and reached 7.0 percent. Consumption increased by 8.8 percent and accumulation (investment in fixed capital and changes in stocks) by 3.7 percent. In other words, total expenditure on consumption, both public and private, was allowed to grow more rapidly than the total domestic expenditure and this was achieved by a severe reduction in the rate of growth of investment.

In December 1976 the Central Committee adopted a policy which was referred to, by analogy with the "economic manoeuvre" that had been introduced in 1971, as a "new economic manoeuvre". It involved switching resources to the expansion of export and rationalization of imports. Priority was also given to agriculture, production of consumption goods for the domestic market and to the housing construction. These priorities were to be achieved by a reduction of investment in other sectors, improved efficiency of investment and production processes and by a reduced material intensity of production by the elimination of waste, selection of less material intensive technologies and deemphasizing of the growth of especially heavily material intensive sectors.

The so called "modified economic and financial system" was introduced early in 1977.²⁷ It was based, like the 1973 system, on the stimulation of effective decision-making and harder work with the help of economic parameters and financial incentives, which were linked to the result of the economic activity of the enterprises with the maximization of value added as the chief success indicator and net profits as the source of bonuses for the management. For this purpose the norms determining the wage-fund (the norm "R") and the management bonuses (the norm "N") were reinstated. Great efforts were,

²⁷ For an excellent discussion of the systemic modifications introduced in 1977 see Wanless, *op. cit.*, pp. 45-50.

however, made to "purify" the results from all "windfalls" resulting from the domestically generated and imported inflation. In the process, the financial results of the enterprises were even further separated from changes in prices, including those in the world markets. The foreign trade organizations had no incentive to react in a flexible way to changes in prices in the world markets and to transmit the relevant signals to the domestic producers. Despite the use of so called "transaction prices," or the actual prices in foreign trade multiplied by conversion coefficients, differentiated according to whether a given transaction takes place with the hard currency countries or with CMEA partners, the insulation of the domestic economy has increased and the price and cost structure has become even more distorted.

The main preoccupation of the "modified system" with controlling inflation put aside all other objectives. Specific, differentiated taxes and other "addressed" parameters, separately designed for individual W.O.G.'s did not differ much from directly sent administrative commands. In effect, instead of strengthening, they "weakened the link between economic performance in the market, economic performance as measured, and the remuneration which motivates the work force."²⁸

At the same time, in order to strengthen the "new economic manoeuvre," administrative measures were increased to ensure the required changes in the structure of production in favour of export and of the domestic market for consumption goods, the two areas in which production was lagging. A political campaign was launched to ensure maximum redistribution of resources in the shortest possible time. All this was completely incompatible with the rules of the new system which were in practice replaced by direct controls and highly centralized administrative commands.

A grotesque situation appeared. The enterprises that were producing component parts and other intermediate goods, and materials for the producers of final products discovered that their work was downgraded as "production for production's sake." The managers could improve their material position by obtaining various incentive payments and earn political and social esteem, a promotion or a state decoration, by directing as much of the output as possible to those wholesale trade organizations that were classified as purchasing for export or for the domestic consumption market rather than to supply other enterprises. The producers of the final products for export and for the domestic market of consumption goods were unable to meet their targets, while foreign trade firms were often unable to export the intermediate goods and materials at a good price. From the point of view of the producers of intermediate goods and materials the essential matter was not so much to increase their production, or to change the product mix, as to be able to send a larger portion of their unchanged output to the "right address."²⁹

Statistics would show an increase in the "sold output" for export and for the domestic consumption by the population as soon as the goods were purchased by the appropriate trade organizations. As such "improvements" in statistics would be in accordance with the party

²⁸ *Ibid.*, n. 54.

²⁹ R. Malinowski, "Kto ma byc odpowiedzialny za czesci zamienne" (Who Should be Responsible for Spare Parts), *Zycie gospodarcze*, No. 36, 1978, p. 8.

line, the authorities were not checking these cases at first too carefully. Despite various pronouncements on the importance of cooperative agreements between the producers of intermediate goods and materials and the producers of final goods, the practice continued. Moreover, various goods were not produced at all because they were designated as "for production" and not "for export" or "for the direct supply of the population."²⁰ These were, of course, typical distortions which tend to appear as by-products of the centralized administrative system in which an enterprise has in practice quite a wide range of possible alternatives from which it can select that which is the most advantageous to it.²¹

In April 1978 the Council of Ministers again announced that the output for export and for the direct supply of the population must be given priority, but that the cooperative agreements among the suppliers and the producers of final goods must be respected. To enforce this decree a typical bureaucratic solution was introduced. The control over the deliveries in all three areas was greatly strengthened and a number of "assortment lists" of particular important products were drawn and placed under a tri-level supervision by the government, by trade organizations and by the industrial associations. The producers had to deliver exact quantities of specified goods as per agreements with trade organizations.²²

Although the rules of the game, which had been introduced by the original and the modified economic and financial system, were in practice completely overruled and the planners depended mainly on direct controls and administrative commands to ensure the fulfillment of various priority targets, officially the system not only remained in operation but was gradually extended horizontally to cover more sectors of the economy. In 1978 the modified system was extended to construction. Again, it was based on linking material incentives with financial results of the operations of the enterprises. However, the planners were concerned about technological progress, lower material intensity and a shorter time of construction. They were also anxious to reduce excessively long hauls of heavy materials in domestic transport, which now became one of serious bottlenecks because of prolonged neglect in the past. Four "technical indicators" were, therefore, added to the main success indicators of value added and the net profit as a source of bonuses. They were: (1) reduction in the labour intensity of construction work; (2) reduction in the weight of construction; (3) reduction in the construction time; and (4) reduction in the distances over which materials were transported. All these objectives were, of course, perfectly respectable, but as soon as they had been introduced as administrative indicators with some material incentives and administrative pressure added to ensure their fulfillment, the economic and financial system collapsed. Depending on the relative importance of material incentives, administra-

²⁰ T. Wojciechowski, "Czy zaopatrzenie materialowe moze byc mniej kłopotliwe?" (Can the Material Supply be Less Troublesome?), *Zycie gospodarcze*, No. 7, 1978, p. 3.

²¹ This very well known fact has been recently often stressed by various Polish economists. See, for example, A. Pawlowski's discussion of tactics available to the enterprises under various systems of planning and administration in his section on "Funkcjonowanie Przedsiębiorstw" (Functioning of the Enterprises) in M. Nasilowski (ed.), *Ekonomia polityczna socjalizmu* (*The Political Economy of Socialism*), Warsaw, 1975, pp. 424-425.

²² *Z obrad Rady Ministrów* (From the Deliberations of the Council of Ministers), *Zycie gospodarcze*, No. 18, p. 5.

tive pressure and social acclaim, it became possible for the enterprises to build at higher costs but to show a reduction in labour intensity or in the weight or the length of construction.³³ The well known game of choosing among conflicting targets to maximize the gain had to start.

This phenomenon is now again widely spread throughout the economy. Moreover, as improvements in labour productivity have assumed paramount importance, there is a tendency to select the most expensive technology. High costs, increased by a fixed percentage of the profit margin, not only increase the absolute volume of profit on which bonuses depend, but also increase the value of output and "statistical labour productivity" increases whenever the value of output increases.³⁴

In the second half of 1978 many enterprises apparently expressed complaints about the burden of various planning and reporting activities which were imposed on them in the process of strengthening administrative planning. The number of various indicators has grown and, although some of them are described as "informational", in practice they all are obligatory.³⁵ The enterprises usually choose to fulfill some of these targets rather than to follow the rules of the game that had been imposed on them, in theory, by the modified economic and financial system.

Rigidity in responses by the enterprises has, therefore, increased again and the initiative of the managers declined, but at the same time also declined their responsibility and the necessity to take risks. They are again induced "to play one indicator against another," to bargain for the best targets, to impress with good performance in some selected fields, instead of trying to produce in the most efficient way the product mix that is in the greatest demand.

All these adverse features of the centralized administrative command system have been well known to the Polish economists for decades. They have been described and analyzed in detail. It is impossible to comprehend why the planners believed that this time these methods would avoid all the pitfalls and would produce satisfactory results. Just as the attempts to achieve excessive rates of growth and to exceed the optimum rate of investment seem to reappear from time to time, whatever the lessons of past experience, there also exists a propensity to look for a solution for all difficulties in an increase in the degree of centralization and in a greater use of administrative controls and commands. Perhaps this happens because the Polish leaders and planners were originally trained on the Stalinist model and whatever they have learned later about indirect methods, the role of economic instruments, decentralization and market forces, has never impressed them as much as the rules which they had learned in their youth. In a time of crisis they instinctively go back to their old habits of thinking.

Instead, therefore, of moving in the direction of a market socialist system, or even an effectively modified centrally planned system, in order to increase the flexibility of the economy which is necessary to expand export to the West, the planners have gone back to the orthodox

³³ M. Mazurski, "Zmiana systemu ekonomicznego w budownictwie," *Zycie gospodarcze* No. 1, 1978.

³⁴ J. G. Uproscic i odbiurokratyzowac (To Simplicity and to Reduce Bureaucratization), *Zycie gospodarcze*, No. 23, 1978, p. 2.

³⁵ *Ibid.*

system, despite all the claims that there is a new economic and financial system in operation. This regress is motivated by the determination of the planners to effect the necessary structural changes, i.e. to expand production for export and for the domestic market of consumption goods, to improve technology, to reduce capital-, energy- and material-intensity of production, and so on. But to achieve these objectives it is necessary to move in the opposite direction. They all can only be achieved as the result of decentralization, greater use of economic measures and improvements in the price and cost structure.

As the result of the adopted approach, the existing disequilibria in the external and the internal balance of the economy tend to become even deeper. It is difficult to expand profitable exports to the West, to reduce the degree of material-intensity and, therefore, import-intensity, to improve the effectiveness of investment and to increase the overall efficiency of the economy with the help of administrative commands. The centralized system can ensure a high degree of the mobilization of resources and their allocation to a few selected targets. It can enforce rapid expansion of the export of some primary goods, if necessary by a drastic reduction in domestic consumption, but it is unable to create the necessary conditions for improvements in the efficiency of production and the flexibility of responses which are necessary in order to sell profitably modern sophisticated goods in highly competitive world markets.

The policies that were selected to deal with the aftermath of the collapse of the "new development strategy" have, therefore, made the repayment of debts not easier but more difficult. Unable to expand profitable export to non-socialist countries and to reduce energy- and material-intensity that, in turn, would reduce import-intensity without reducing the level of current production and prospects for future development, the planners were forced to effect improvements in the balance-of-payments position by drastic administrative restrictions of import.

The first reduction in the negative balance of trade with non-socialist countries was achieved in 1977. It was achieved by cutting import by -4.6 percent at current and by -10.6 percent at constant prices. It is, of course, a decline at current prices that is relevant for the improvement of the balance-of-payments position, but the level of production is affected by a decline in the volume of import. It took twice as big a decrease in the volume of goods to reduce the value of import by about 5 percent. The adverse impact of a cut in the volume by 10 percent was quite strong. Export actually declined at constant prices by -0.2 percent, but because of favourable price changes, it increased by 9.8 percent at current prices. The expansion in export was not, therefore, achieved by increased production. Even the reduced deficit was still the third highest ever (\$2.2 billion).

A similar combination of import restrictions and a reduction in the current output that was induced by these restrictions occurred again in 1978 and 1979. The size of the deficit in trade with non-socialist countries declined to \$1.8 million and \$1.4 billion respectively. Even, however, an absolute decline in DNMP by -2.0 percent was unable to eliminate the deficit. This fact raised an important question: how big would the decline in DNMP have to be to eliminate the deficit eventually if this policy were to continue?

The drastic reduction in the volume of import was felt throughout the entire economy. In 1977 and 1978 the import of materials and intermediate goods was reduced to such an extent that some sectors of the economy were unable to fulfill their plans for the lack of materials. The shortage of materials became very critical in 1978, when unrealistically high targets for the domestic production of materials and intermediate goods were not met. The shortage of rolled steel, iron, copper, cement, plastics and other synthetic materials adversely affected the output of almost all sectors of the economy through the supply multiplier mechanism of magnified chain reactions.³⁶ In some cases production had to be interrupted from time to time because of the delays in the supply of materials. This, in turn, created delays in the delivery of other products, including those which were designated for export. In many cases penalties had to be paid in hard currencies.

The chemical industry was particularly badly hit by import restrictions.³⁷ An acute shortage of paints developed and had an adverse impact on the export of various products, including machines and equipment which were given priority in respect of everything else as the goods regarded as essential for the expansion of export to non-socialist countries.³⁸ Because of the difficulties experienced by the nitrogen fertilizer industry it was impossible to increase the supply of fertilizers in agriculture by more than about 1 percent per hectare of arable land.³⁹ The shortage of pharmaceutical products assumed the dimensions of a major crisis in the health services.⁴⁰

A critical situation developed in the supply of electrical power. While gross industrial production increased by 91.8% between 1970 and 1977, the output of electrical power grew by only 69.5%.⁴¹ It became necessary to switch off the supply from time to time even for industrial plants in order to meet the demand by newly established plants and because of the power failures that were caused by antiquated electrical power facilities and the lack of proper maintenance.⁴² A desperate situation in transport became another bottleneck that adversely affected production and export.⁴³

Rates of growth of net industrial growth reflected all these difficulties. Between 1975 and 1978 there was the following decline in the annual rates of growth: power and fuel from 3.2 percent to 2.1 percent, metallurgy from 9.6 percent to 6.3 percent, engineering from 16.6 percent to 5.6 percent, chemical industry from 17.3 percent to 3.1 percent, mineral industry from 12.9 percent to 2.5 percent, woodworking and paper from 13.3 percent to 2.3 percent, light industry from 13.2 percent to 2.1 percent and food industry from 4.6 percent to —5.6 percent. The rate of growth of the total socialist industry (state and cooperative) declined between these two years from 9.3 percent to 2.5 percent. In 1978 negative rates of growth appeared, in addition to the food

³⁶ "Narodowy Plan Społeczno-Gospodarczy na rok 1979" (The National Socio-Economic Plan for 1979). *Gospodarka Planowa*, No. 1, 1979, pp. 3-4.

³⁷ A. Musiał, "Podstawowe problemy rozwoju przemysłu w 1979 roku" (Basic Problems of the Development of Industry in 1979), *Gospodarka planowa*, No. 2, 1979, p. 62.

³⁸ J. Antosik, "Paliwa, surowce i materiały w 1979 roku" (Fuels and Materials in 1979), *Zycie gospodarcze*, No. 3, 1979, p. 7.

³⁹ "Narodowy Plan . . ." p. 4.

⁴⁰ *Ibid.*, p. 6.

⁴¹ G. U. S., *Rocznik statystyczny przemysłu 1978* (Statistical Yearbook of Industry 1978). Warsaw 1978, pp. 62, 91.

⁴² Musiał, *op. cit.*, p. 63.

⁴³ "Eksport: byc albo nie byc" (Export: a Matter of Life and Death), *Polityka*, No. 6, 1979, p. 17.

industry also in the building materials industry (—0.8 percent), which belongs to the “mineral industry” group, and in the paper industry (—2.2 percent), forming part of the “woodworking and paper” group. Very low rates were achieved in the leather goods industry (0.3 percent), which is part of the “light industry” group, in coal mining (1.0 percent), part of the “power and fuel” group, and in the clothing industry (1.1 percent), another member of the “light industry” (see Table VII).

At the end of 1978 all increases that actually had been achieved since 1975 lagged behind the time schedule of the five-year plan. The only exception was the stock of gross fixed “productive” capital that increased by 82.6 percent of the planned increase for 1980 at the 1975 base. Gross fixed “productive” capital stock in industry increased by 62.7 percent of its 1980 target increase. The increase in DNMP that was achieved during the first three years of the plan represented 37.1 percent or 39.0 percent of the 1980 target increase, the increase in NNMP 41.2 percent and gross industrial production 44.4 percent to 46.3 percent. Among various groups of industries the greatest lag was shown by the chemical industry (31.3 percent of the 1980 target increase), the food industry (35.9 percent), the light industry (37.0 percent) and the mineral industry (39.7 percent). No industry was even close to the increase that would be consistent with its 1980 target increase (see Table VIII).

Moreover, despite all the efforts, direct controls and administrative commands the industrial production sold by enterprises for export and for the domestic market of consumption goods increased only by 8.3 percent in 1978. Its share in total industrial sold production remained, therefore, almost unchanged (31.6 percent in 1977 and 31.8 percent in 1978). The planners had to recognize that an entirely new situation had developed in respect to the ability of the economy to utilize existing productive capacities. A discrepancy was created between the size of productive capacities that increased as the result of the investment drive of 1971–76 and the possibility of supplying them with sufficient quantities of domestic and imported materials. For this reason, “at present the growth of industrial production is limited not by the lack of productive capacities but by the availability of materials.”⁴⁴ It is, again, surprising that this situation was allowed to develop. A similar disparity occurred as the result of the first industrialization drive of the 1950’s. It has been discussed and criticized by various Polish economists, including the present vice-chairman of the central planning commission.⁴⁵

Instead of attempting to utilize fully all existing productive capacities, it became necessary in the plan for 1979 to achieve the maximum possible increase in the production of energy, raw materials and intermediate products. All available resources and organizational efforts were, therefore, directed to ensure the expansion of coal, lignite, sulphur, electric power, steel, copper and a few other basic materials, while the degree to which productive capacities would be utilized in the manufacturing industry was left to be determined by the ability to expand the production and import of materials and to increase the efficiency of their use throughout the economy.⁴⁶

⁴⁴ Musiał, *op. cit.*, p. 61.

⁴⁵ A. Karpinski, *Zagadnienia socjalistycznej industrializacji Polski (Problems of the Socialist Industrialization of Poland)*, Warsaw, 1958, pp. 182–193.

⁴⁶ Musiał, *op. cit.*, p. 61.

In effect, as the result of import restrictions it was not possible to achieve the optimum size of production in a number of plants and the unit cost increased.⁴⁷

The plan for 1979, the fourth year of the five-year period, was especially carefully prepared. It represented a determined effort to change the product mix in favour of production for export and for the domestic market of consumption goods, to reduce investment and to concentrate the reduced outlays on a few most important unfinished projects, above all in the production of materials and intermediate goods, even at the cost of stopping several less important constructions.⁴⁸ At the same time, it was not to be a taut plan. It had some reserves in order to deal with three areas of unforeseen developments in: (1) foreign trade; (2) atmospheric conditions; and (3) the supply and the effectiveness of the use of materials. The reserves in the material balance of basic goods were to be strictly controlled by the government. The plan was expected to be easily overfulfilled.⁴⁹

The DNMP was planned to increase by only 2.8 percent and NNMP by 1 percent, with consumption increasing by 3 percent and investment declining by -9 percent, so that the share of investment in NNMP was expected to be reduced from 25 percent in 1978 to 21 percent in 1979.

The planned increase in industrial production was a modest 4.9 percent, with production for the domestic market of consumption goods to increase by 7.7 percent, production for export by 9.6 percent and the so called production for cooperation, i.e. for the supply of other producers, by 6 percent and a decline in the production for the domestic investment by -9.7 percent. For the first time the planned targets for several products were negative. For example, the plan envisaged a reduction in the output of television sets by -0.6 percent, metal cutting machines by -5.3 percent, trucks by -10.3 percent, railway freight cars by -6.1 percent and electronic calculating machines by -3.7 percent.⁵⁰

The plan depended on the assumption that labour productivity in industry would increase by 5.3 percent, total costs in industry would decline by -0.5 percent and that the cost of materials would be reduced, because of a more efficient use, by -1.5 percent, a saving of materials by 26 billion zloty, as compared with 22 billion that had been achieved in 1978 (a decline by -1.3 percent). Investment in industry was supposed to decline by -10 percent, while investment in the energy and fuel industry would increase by 14 percent.⁵¹ Agricultural production was expected to increase by +5.3 percent.

The planned increase in export was 9 percent and that of import only 4 percent, both at constant prices. Trade turnover with socialist countries would expand by 9 percent while trade with capitalist countries would be limited to about 4 percent with the share of socialist countries in the total value of trade increasing from 52 percent in 1977 and 54 percent in 1978 to 56 percent in 1979. It was expected that there will be "a considerable improvement in the balance of payments position, especially in trade with the capitalist countries."⁵²

⁴⁷ "Eksport . . ." p. 18.

⁴⁸ "Narodowy Plan . . ." p. 5.

⁴⁹ Musiał, *op. cit.*, p. 67.

⁵⁰ *Ibid.*, pp. 63, 65.

⁵¹ Narodowy Plan . . ." p. 5

⁵² Musiał, *op. cit.*, p. 61.

Then came the highly disappointing results of 1979. DNMP declined by -2.0 percent. Consumption from personal incomes increased, however, by 3 percent, while investment declined by -8.2 percent, which was again a smaller reduction than had been planned. Among investment projects which were supposed to be completed about 30 percent were still unfinished. Out of 52 investment tasks that were classified as absolutely essential only 30 were completed. The plan envisaged an increase in productive capacities by 11.5 percent. The actual increase was only 5.7 percent.⁵³

An average nominal wage increased by 8.6 percent, an average pension by 11.5 percent and the individual farmers' income from the sale of produce by 8.0 percent. Nominal personal incomes increased by 9.5 percent. The cost of living rose, however, by 6.7 percent.

In industry the sold production increased by only 2.8 percent, production for the domestic market of goods purchased by the population by 4.1 percent and production for export by 4.4 percent. Industrial sales are reported at current prices. With an increase in the cost of living 6.7 percent, there was likely a decline in both gross and net production (contribution to national income) at constant prices in which the plan targets were expressed.⁵⁴ Employment in industry declined by -0.5 percent (planned change -0.2 percent) and labour productivity increased by 3.3 percent (plan 5.3 percent).

Gross agricultural production at constant prices⁵⁵ declined by -1.4 percent and the plant production decreased by -3.8 percent. The number of cattle declined by -0.6 percent, pigs by -2.3 percent and sheep by -0.6 percent (livestock figures are always calculated in June). Gross animal production for the year increased by 1.4 percent. The plan had envisaged an increase in the use of fertilizers by 8.0 percent. The actual supply declined by -1.1 percent.

Foreign trade turnover with socialist countries increased by 9.1 percent at current prices. As the planned increase was 9.0 percent at constant prices, it means that the plan was not fulfilled at constant prices. At current prices export to socialist countries increased by 11.6 percent and import by 6.5 percent. Trade turnover with capitalist countries expanded by 8.7 percent at current prices (plan was 4 percent at constant prices), with export increasing by 12.9 percent and import by 5.6 percent, both at current prices. The overall deficit in the balance of trade was reduced from 6.25 billion zld (deviza zloty) to 3.88 billion (from \$1.88 billion to \$1.17 billion). In trade with socialist countries the deficit of 0.27 billion zld was converted into a surplus of 1.16 billion zld (from $-\$81.3$ million to $+\$349.8$ million). The deficit in trade with the rest of the world declined from 5.98 billion zld to 5.04 billion zld (from \$1.80 billion to \$1.52 billion). In effect, the country imported capital from the West in 1979 in order to re-export about 23 percent of it to other socialist countries (probably the U.S.S.R.).

⁵³ Information on the fulfilment of the 1979 plan is based on *Polityka*, No. 7, 1980, p. 2, and *Trybuna ludu*, No. 34, 1980, pp. 4, 5.

⁵⁴ In 1978 the "sold industrial production" at current prices was 2,928 billion zloty. "global industrial production" at constant prices was 2,160 billion zloty and "net industrial production" (the contribution of industry to national income) was 901 billion zloty. G. T. S., *Rocznik statystyczny 1979 (Statistical Yearbook 1979)*, Warsaw 1979, pp. 134-135.

⁵⁵ Global production is higher than the contribution of agriculture to national income which is in the form of the "net final product." In 1978 the two were, at constant prices as follows: global production 653 billion zloty, net final production 325 billion zloty.

The reason was apparently the settlement of debts for the Polish contribution to the construction of the third stage of the Orenburg gas pipeline and Poland's participation in joint investment projects (construction work represented 10 percent of total export to U.S.S.R. in 1979). Export increased also because there were difficulties with placing various machines and equipment in non-socialist markets and there was some increase in the export of agricultural products. At the same time the planned level of import from socialist countries was not reached. Those countries also experienced, to various degrees, similar difficulties in production and, because of the hard currency indebtedness, they all gave priority to the expansion of export to capitalist countries. This situation adversely affected trade among socialist countries.⁵⁶

It was a great disappointment for the planners that export to non-socialist countries increased mainly because of an expansion in the export of the products of the metallurgical, light and food industries and agriculture, while the export of the products of the engineering industry declined. This was the industry that had enjoyed top priority during the restructuring and modernization drive of the early 1970's when great hopes were attached to its future role as the engine of growth for export to non-socialist countries. There was a decline in the volume of export in more than 20 groups of the products of that industry. In some cases, for example, in the production of the metal working machines, the structure of production is still not adjusted to the structure of the world demand. There were also branches of the engineering industry that were unable to meet foreign demand for their products because of the difficulties experienced in production, because of the shortage of materials or because some investment projects had not been completed, or because the planners had decided to reduce their output. There was also the pull of the domestic demand to the satisfaction of which some consumer durables were shifted.⁵⁷

There was a clear regression in the field of industrial cooperation with Western firms. There were no new agreements, there was an increase in the import-intensity of production based on existing agreements and it was difficult to find markets for some products based on foreign licenses.⁵⁸

On the import side a decline in the import of machines and metallurgical products from advanced countries was compensated by an increase in the import of oil and other raw materials from the developing countries. The balance of trade with the latter group became negative for the first time in several years. It was also for the first time in 1979 that Poland became a net importer of fuels and energy. This development was caused by a combination of a rapid increase in the domestic demand for these products, partly as the result of the expansion of particularly fuel- and energy-intensive industries, and of very unfavourable changes in the ratio between the prices of coal on one hand and oil and natural gas on the other (since 1972 one ton of coal has been buying 80 kg less of oil and 50 cubic meters less of natural

⁵⁶ "Polski handel zagraniczny w 1979 r" (Polish Foreign Trade in 1979), *Rynki zagraniczne*, No. 17, 1980, p. 3.

⁵⁷ *Ibid.*, p. 4.

⁵⁸ *Ibid.*

gas every year). Changes in the structure of Polish exports and imports are shown in Table IX.

A reduction in the size of the deficit in trade with non-socialist countries was a real achievement. However, the cost of it was very high for the economy. In 1979 Poland experienced a deterioration in terms of trade by -3.2 percent which was the sharpest decline in the decade (see Table X). To reduce the deficit it was necessary to increase the volume of export and, as the inability to expand production was limiting this increase,³⁰ it became necessary to cut the volume of import to a greater extent. The volume of total export increased by 6.7 percent and the volume of total import declined by -2.5 percent. A decline of this size, together with the non-fulfilment of the plan targets for domestic production of various essential materials and intermediate goods resulted in the appearance of various bottlenecks and restricted, through the supply multiplier mechanism, output in practically all sectors of the economy.

An expansion in the production of essential basic materials, energy and fuels was the most important part of the 1979 plan. On its fulfilment depended the degree of utilization of existing productive capacities in the manufacturing industry. Statistics show a decline in the output of oil refining by -2.1 percent, steel by -0.2 percent (planned increase 5.2 percent), plastics and other synthetic materials by -5.7 percent (planned increase 20.7 percent), chemical fibres by -3.0 percent (planned increase 4.7 percent), fertilizers by -6.2 percent, cement by -11.4 percent (planned increase 12.0 percent), bricks and other wall construction materials by -10.7 percent, paper by -5.6 percent (planned increase 4.6 percent) (see Table XI). In agriculture the crop of wheat declined by -30.6 percent, rye by -30.0 percent, oats by -12.3 percent, sugar beets by -9.9 percent, oleiferous plants by -64.2 percent.

There was also a decline in the production of several important manufactured consumption goods, such as furniture (-1.5 percent), washing machines (-5.7 percent), domestic refrigerators and freezers (-13.9 percent), television sets (actual decline -5.8 percent as compared with the planned decline of -0.6 percent), tape recorders (-6.9 percent), cotton and simulated cotton textiles (-3.8 percent), wool and simulated wool textiles (-0.9 percent), silk and simulated silk textiles (-2.6 percent) (see Table XI).

The planned restructuring of the total output was not achieved. While the production of electric power, materials, intermediate goods and some consumption goods declined instead of increasing, or increased by less than the planned rates of growth, the production of many investment goods that was supposed to decline, actually increased. For example, the plan had envisaged a decline in the production of the metal cutting machines by -5.3 percent, but their output increased by 5.5 percent.

The output of calculators and other mathematical machines was to decline by -3.7 percent, but it increased by 26.9 percent. The production of trucks was to decline by -10.3 percent. It declined, however, only by -8.4 percent. On the whole, it was the production of invest-

³⁰ *Ibid.*, p. 3.

ment goods that saved the total industrial production from declining even more at constant prices (see Table XI). As the result of the lack of sufficiently strong structural changes the socialist industry's sold production for export and for the direct supply of the population as a proportion of the total sold production of the socialist industry increased only from 31.8 percent in 1978 to 32.2 percent in 1979 (at current prices).

The Central Statistical Office's communique gives four reasons for the unsatisfactory results in 1979: (1) The energy crisis; (2) the difficulties experienced in transport; (3) the lack of sufficient supply of materials; and (4) the exceptionally severe winter.⁶⁰ The last factor was undoubtedly important. However, the plan was supposed to include some reserves for "bad atmospheric conditions." Even if these reserves were unable to cope with the exceptional conditions that were actually experienced, they should have helped to reduce the impact. It is difficult to explain the slow recovery during the subsequent months. The results for the first half of the year should not have been as bad as they were. Moreover, in some products the results for the whole year were even worse than for the first six months. For example, electric power increased by 2.2 percent in the first half of the year, as compared with the first half of 1978, but the increase for the whole year was only 1.6 percent. The output of steel increased at the rate of 0.4 percent in the first half of the year, but declined by -0.2 percent for the year as a whole. The rates of decline of the output of domestic refrigerators and freezers were -9.9 percent during the first half of the year and -13.9 percent for the whole year (see Table XI).

The plan had envisaged only an increase of 4 percent in trade with non-socialist countries, as compared with 9 percent in trade with socialist countries, both at constant prices. During the first half of the year trade with non-socialist countries increased, at current prices, by only 0.5 percent, with export increasing by 2.7 percent and import declining by -0.7 percent. Trade with socialist countries increased, at current prices, by 6.9 percent, with export increasing by 10.2 percent and import by 3.7 percent. In real terms there must have been quite a serious decline in import from non-socialist countries and probably also some decline in import from socialist countries. This reduction in the volume of import had a very strong adverse effect on the output of many industries. No wonder that the sold production of the socialist industry, at current prices, increased during the first six months only by 0.6 percent.⁶¹ This undoubtedly implied a reduction in output at constant prices.

Import from non-socialist countries was raised very rapidly in the second half of the year. It increased by 5.6 percent at current prices for the year as a whole. The drastic decline in trade with non-socialist countries in the first six months could have been caused partly by the exceptionally bad weather conditions that affected more maritime transport, which is mainly used for trade with non-socialist coun-

⁶⁰ "Komunikat glownego urzedu statystycznego o rozwoju gospodarki narodowej i o wykonaniu Narodowego Planu Spoleczno-Gospodarczego w 1979 r" (Communiqué of the Central Statistical Office on the Development of the National Economy and on the Fulfillment of the National Socio-Economic Plan for 1979), *Trybuna ludu*, No. 34, 1980, pp. 4, 5.

⁶¹ Statistics on the first half of 1979 on the basis of *Trybuna ludu*, No. 176, 1979, p. 5.

tries,⁶² than overland transport, used mainly in trade with other CMEA countries. This does not however, provide the whole explanation of the decline. There must have been an attempt to reduce import from non-socialist countries by an excessive amount that proved to be too harmful for the domestic production. The limited recovery that took place in the second half of the year was associated with a relatively improved situation in respect of import from non-socialist countries. It seems, therefore, that the availability of various commodities in the world markets compensated for the failure of the domestic production and that restrictions on import had to be relaxed.

The impact of the very severe weather was superimposed on the crisis that was generated by import restrictions and too ambitious restructuring, this time of the current output, by direct administrative commands. The crisis would have been even greater in the absence of a rapid relaxation of restrictions on import from non-socialist countries that the planners were forced to effect.

The performance of the economy in 1979 certainly created a shock for the leaders. The results had been published just before the Eighth Party Congress and created considerable embarrassment. It is not, therefore, surprising that premier Piotr Jaroszewicz, who had been known for his inflexibility in economic policies, and deputy premier Jan Szydłak, who had been the main authority on systemic modifications and had been responsible for the rejection of all more progressive proposals, had to resign and that a new minister of foreign trade and maritime economy, Ryszard Karski, was appointed in place of the former minister (J. Olszewski), who had resigned earlier. What is surprising however is that these were the only resignations and that neither the new premier, Edward Babiuch, nor the new deputy premier, Kazimierz Barcinkowski, are familiar with economic matters. The former is a party "aparatchik" without any significant government experience. The latter is also more an "aparatchik" who has dealt with agricultural matters than a specialist in this or any other sector of the economy and certainly not in the field of macroeconomic policies. Chairman of the Central Planning Commission, Tadeusz Wrzaszczyk, not only has kept his position, but has entered the Politbureau. Although an engineer by training and a former administrator in the automotive industry, he is the only member of the new Politbureau who has experience in economic matters.

VI. SEARCH FOR A STRATEGY FOR THE 1980's

During 1979 announcements were made, for example by some economic advisers to the First Secretary of the Central Committee, that the plan for 1981-85 was already predetermined by the repayment obligations, shortages of energy and materials, the necessity to complete the unfinished investment projects and to eliminate disequilibria in the balance of payments and in the domestic macroeconomic balance of the economy. In this situation the planners had practically no freedom of manoeuvre. The main strategic decision was apparently only to choose whether a concentrated effort should be made to complete the recovery in 1981-85, so that a new expansion could take place already

⁶² Z. M. Fallenbuchl, "Poland's Maritime Transport," in B. Mieczkowski (ed.), *East European Transport*, The Hague: Martinus Nijhoff, 1980, pp. 43-123.

in 1986-90, an entirely unrealistic idea, or whether the recovery should be effected more slowly, with efforts spread over the whole decade.⁶³

No decision in this matter seemed to be made at the Eighth Party Congress. The problem was not even raised. The stress was on the improvement in the overall efficiency of the economy and on a "harmonious" development. The latter implies a balanced growth of various sectors in order to avoid bottlenecks. The plan for 1981-86 seems to be built on the assumption that it should be possible to increase the utilization of existing productive capacities by: (1) increasing the number of shifts, especially in the engineering and building materials industries (a somewhat doubtful policy because of a decreasing number of new entrants into the labour force as the result of demographic factors and inability to increase the participation ratio any further, and because of the need to expand services); (2) improving the time during which machines and equipment are effectively in operation by proper maintenance, speedy repairs and adequate stocks of spare parts (this policy ignores various systemic reasons for the underutilization of machines and stoppages that are caused by bottlenecks in the supply of materials and by macroeconomic disequilibrium); and (3) transferring machines and equipment from those sectors and plants where they are not fully utilized to the economic organizations, including small socialist enterprises of local importance (a policy of a rather limited significance as most non-utilized machines may be of a specific nature and their use in other fields may lead to inefficiency and the waste of materials).

The purpose of these policies is, of course, an attempt to reduce capital-intensity and to reduce investment. It is expected that they will help to reduce the share of investment on fixed capital in NNMP to less than 20 percent.

At the same time changes in industrial structure will be made to reduce the relative importance of those sectors that are particularly heavily energy-, fuel- and material-intensive. Together with the introduction of the more energy- and material-saving technologies and with an administrative campaign for the reduction in the waste of materials, this policy is expected to reduce the use of materials per unit of production by 6-8 percent. However, most of these measures would require investment and may prevent the planned reduction in the share of investment outlays. The conflict is expected to be reduced by giving priority for the modernizing investments rather than for the construction of new plants, and for those investments that increase efficiency or "harmonization", i.e. remove bottlenecks. Special efforts will also be made to complete unfinished investment projects and not to allow the investment front to get wider again. Great emphasis will also be put on the improvement in the quality of products and services.

All these measures are not new. Efforts to reduce the capital- and material-intensity, to reduce investment, to prevent widening of the investment front, to give priority to the expansion and modernization of existing plants rather than to the construction of new plants, to improve the quality of products and so on have been mentioned as necessary objectives at least since the middle of the 1960's.⁶⁴ Their

⁶³ A. Rajkiewicz, an interview in *Zycie gospodarcze*, 1979.

⁶⁴ W. Gomolka, "Usprawnic proces planowania i inwestowanie" (On Improvement of the Process of Planning and Investment), *Nowe drogi*, 1969, pp. 51-62.

implementation has never been successful. There are no obvious reasons why it should be different this time.

The plan also emphasizes the importance of: (1) the substitution of domestically produced materials for those which are imported; and (2) the replacement of the export of raw materials by more highly processed exports. Both policies can give disastrous results, unless they are carefully implemented and only on a limited scale. When some inferior domestic materials, or intermediate goods, are used in preference of the imported high quality materials, parts and other intermediate goods for the production of modern machines and equipment, the quality of products can deteriorate and it may be difficult to export them, while the domestic production of these materials may increase the capital intensity of the industrial structure, which the plan attempts to reduce. The emphasis on the export of more highly processed commodities may lead to the loss of hard currency earnings, which until now have been provided by the export of raw materials, without any compensation by an expansion in the export of final products.

At the same time there is supposed to be a stress on the selection of export-stimulating investments and investments for the expansion of the food complex (agriculture and the food industry); the housing complex, including the building materials industry; the production of manufactured consumption goods for the domestic market; the production for an improved supply of materials for medical services; the production of energy; improvements in transport, including the loading facilities in the seaports; and for all those investments that ensure a more efficient use of fuels, energy and materials throughout the economy. This long enumeration of various fields to which investments are going to be allocated on priority basis is, in effect, a list of needs rather than that of priorities.

Only some targets of the new plan had been published at the time this paper was written. It seems that the planners attempt to achieve some very moderate increases. Many of them seem to be approximately of the same dimension as the increases that had been achieved during the first three years of the 1976-80 plan.⁶⁵

Gross industrial production is planned to increase by 20-24 percent, as compared with 22.2 percent in 1976-78, gross agricultural production by 12-13 percent, as compared with 10.4 percent, the output of the engineering industry by 33.0 percent, as compared with 32.4 percent, the output of the woodworking and paper industry by 18-24 percent, as compared with 24.7 percent. The plan envisages a much faster expansion in the production of the chemical (28-34 percent as compared with 20.2 percent in 1976-78) and food (15-20 percent as compared with 13.4 percent) industries. The output of coal is expected to reach 232-235 million tons in 1985 (an increase of 15-17 percent over the 1979 level of 201 million tons), the output of lignite 80-90 million tons (an increase of 95-120 percent over the 1978 output of 41 million tons), the output of steel 23-24 million tons (an increase of 19.8-25.0 percent over the output of 19.2 million tons in 1979) copper 500 thousand tons (an increase of 48.8 percent over the 1979 output of 336 thousand tons). Electric power is expected to increase by 24-28 percent.

⁶⁵ "Uchwały VIII Zjazdu" (The Resolutions of the Eighth Congress), *Trybuna Ludu*, No. 34, 1980, pp. 5, 6.

These targets imply that the engineering and chemical industries are expected to be the leading sectors of the manufacturing industry and that special efforts will be made to expand the "material base of the economy." The rate of growth of output of electricity will be only slightly higher, if at all, than the rate of growth of manufacturing, and this may be another source of difficulties in the future. The output of coal will increase rather slowly and the output of steel at approximately the same rate as manufacturing industry. It is in the output of lignite and copper that the substitution of domestic production for import and export of more highly processed commodities is, probably, expected to happen.

The plans seems to be the continuation of the same policy as that which has been applied since the collapse of the "new development strategy" to deal with the difficulties which have appeared as its aftermath. It can be summarized as follows:

(1) The reduction in the rate of growth of the economy to eliminate, or at least to reduce, the macroeconomic disequilibrium and the balance-of-payments difficulties and a steeper decline in investment in order to ensure some increases in consumption;

(2) A combination of the stimulation of export, which will have to depend mainly on the production of engineering and metallurgical industries because of a rather slow expansion in the production of coal and of agricultural products and food, and of import substitution;

(3) An attempt to effect a switch toward a more "intensive pattern of development";

(4) The elimination of the bottlenecks imposed by the shortage of materials;

(5) The maintenance of the priority expansion of the engineering industry, which is probably expected to provide machines and equipment for export and for import substitution; and

(6) The elimination of a serious lag in the development of the chemical industry; the industry is expected to become another leading industry, as it had been planned already in the second half of the 1960's and then, again, at the beginning of the 1970's.

For some time there has been an almost uniform opinion of theoretical economists in Poland that the present difficulties cannot be eliminated and no recovery would be possible without some bold systemic changes.⁶⁶ On the other hand, the official position seemed to be that it was not the right time to introduce reforms, because of the existence of serious macroeconomic domestic and external disequilibria. The latter view was defended by some economic advisers to the Central Committee⁶⁷ and it seems that it was a disagreement with this position that resulted in the resignation of one of them (Professor Janusz Beksiak) in 1979.

It is, therefore, somewhat surprising that there is an entire section in the resolutions of the Eighth Party Congress that deals with the "improvement of the system of functioning of the economy." Most of the suggestions are, however, not particularly exciting. They in-

⁶⁶ See, for example, papers presented at the conference on "Internally Consistent Mechanism of the Functioning of a Socialist Economy," Warsaw, November 1978, and at the conference on "Direct Instruments in the Management of Industrial Economic Organizations," Wrocław, September 1978.

⁶⁷ P. Rozyk, "Możliwości społeczno-gospodarczego rozwoju Polski w 1980—ych latach" (Possibilities of Socio-Economic Development of Poland in the 1980's), *Nowce drogi*, No. 1, 1979, p. 113 and J. Rajkiewicz, an interview in *Zycie gospodarcze*, 1979.

clude: (1) the strengthening of the role of central plans (both five-year and annual); (2) improvement in the discipline of the implementation of the plan and the avoidance of numerous corrections in the plan (to eliminate instability); (3) improvement in the structure of big economic organizations (W.O.G.); (4) an increase in the role of small and medium plants and the recognition of the role of small socialist local industry in the process of economic development of the country; (5) a reduction in the number of levels of administration (i.e. the elimination of the intermediate level between the industrial ministries and the enterprises); (6) an increase in the rights and in the responsibility of economic organizations and local administrative units, and in the role of economic mechanisms; improvement in the functioning of the financial system and economic and financial instruments in order to ensure the full utilization of productive capacities and greater efficiency, and in order to prevent unearned gains by the economic organizations (unsubstantiated increases in prices or changes in the product mix); (7) improvement in the system of prices of machines and materials in order to effect a reduction in costs, improvement in quality and better utilization of productive capacities; (8) an increase in the financial discipline in order to prevent wastes; and (9) improvement of management within the enterprises.

All this does not have to mean any change from the previous policy of "improving" the system without making any significant changes, the only effect of which has been creation of an additional source of confusion and instability.

There is, however, a statement which is almost inconsistent with the above list of useful desiderata. The Congress has decided that "it is necessary to assess the present system of planning and administration" and this must be done by 1980. On this basis a complex plan of improving the functioning of the economy is to be prepared for gradual introduction in such a way that the process would be completed in 1983, when the still now unknown system should be in operation in the entire economy. The purpose of the change is to stimulate a rapid improvement in the efficiency of the economy, to ensure a more flexible adaptation to the changing external conditions. The resolution states that the fulfillment of the tasks of the overcoming of the present difficulties and improving the economic situation will depend on the effectiveness of these changes, i.e. on the still unspecified new system that will be introduced at the beginning of the 1980's.

Was the introduction of this provision a last minute change of heart? Was this particular resolution enforced on the leadership by some delegates who felt embarrassed to approve the party program of inaction in view of the catastrophic economic results for 1979 that had just been published before the Congress met? Or was the provision about the revision of the present system and the promise to introduce a new system inserted only to make an impression that something will be done, to pacify the delegates and disarm any potential opposition? Only time will show which of these three hypotheses is closest to the truth. It seems, however, that only with a considerably modified system, at least to the extent to which the Hungarians have modified their system, would it be possible to operate an open economy which Poland now has and will have to expand as the result of the need to repay its debts to the West.

The last years have demonstrated that recentralization and regression towards a greater dependence on direct controls and administra-

five commands cannot eliminate the serious disequilibrium in the domestic and external balance of the economy without throwing the economy into stagnation and without endangering prospects for the future development of the country. No further progress seems to be possible without systemic modifications. One can only hope that the leaders have understood this lesson and that the systemic modifications which have been announced in the Eighth Congress resolutions will be sufficiently bold and far reaching. Without such reforms it is doubtful that a recovery from the present very serious economic crisis could be effected and that the leaders would be able to prevent some catastrophic political upheavals over which they might lose control.

TABLE I.—NOMINAL AND REAL PERSONAL INCOME, LABOR PRODUCTIVITY, REAL INCOME FROM WORK IN THE NATIONAL ECONOMY AND IN AGRICULTURE, AVERAGE REAL WAGE, PER CAPITA INCOME IN PRIVATE AGRICULTURE, WAGE FUND, COST OF LIVING

	1971	1972	1973	1974	1975	1976	1977	1978	1979
Nominal personal income.....	10.1	11.7	14.5	17.0	15.3	11.2	10.1	8.6	9.5
Real personal income.....	10.3	11.7	11.6	9.6	11.9	5.2	5.0	.3	2.8
Labor productivity in the national economy.....	6.8	8.1	8.4	7.4	7.5	6.9	8.6	2.3	NA
Real income from work in the national economy.....	9.2	12.3	12.2	10.1	10.9	5.6	3.9	-1.4	NA
Real income from work in private agriculture.....	9.0	9.9	3.3	-1.9	.4	9.5	5.2	-1.8	NA
Average nominal wage.....	5.5	6.4	11.5	13.8	11.8	8.8	7.3	6.1	8.6
Average real wage.....	5.7	6.4	8.7	6.6	8.5	3.9	2.3	-2.7	1.8
Per capita real income in private agriculture.....	16.2	15.9	4.3	-6.4	-5.8	8.5	NA	NA	NA
Wage fund.....	8.8	11.1	15.6	17.6	14.4	10.5	8.4	6.5	5.5
Cost of living.....	.2	0	2.6	6.8	3.0	4.7	4.9	8.7	6.7

NA=Not available.

Source: Główny Uzasad Statystyczny (G.U.S.), "Rocznik statystyczny 1979" (Statistical Yearbook 1979), Warsaw 1979, pp. 76, 77; G.U.S., "Rocznik statystyczny rolnictwa i gospodarki żywnościowej 1978" (Statistical Yearbook of Agriculture and Food Economy 1978), Warsaw 1978, pp. 420, 421; "Trybuna ludu," No. 34, 1980, pp. 4, 5.

TABLE II.—PLANNED AND ACTUAL RATES OF GROWTH OF IMPORT AND EXPORT, BALANCE OF TRADE WITH NON-SOCIALIST COUNTRIES, NET HARD CURRENCY DEBT

	1971	1972	1973	1974	1975	1976	1977	1978	1979
Import:									
Planned rate of growth (constant prices).....	NA	16.4	20.1	22.0	14.7	17.4	2.7	1.4	5.1
Actual rate of growth (constant prices).....	13.8	22.1	22.6	14.2	5.0	10.3	.4	1.5	-2.5
Actual rate of growth, non-Socialist countries (constant prices).....	20.7	44.8	37.8	19.5	12.1	11.4	-10.6	NA	NA
Actual rate of growth, non-Socialist countries (current prices).....	16.1	44.4	65.8	53.4	16.6	8.5	-4.6	0	5.7
Export:									
Planned rate of growth (constant prices).....	NA	4.9	12.9	18.9	22.3	16.6	13.0	10.0	9.1
Actual rate of growth (constant prices).....	6.5	15.2	11.0	12.8	8.3	5.4	8.8	5.7	6.7
Actual rate of growth, non-Socialist countries (constant prices).....	11.5	14.8	10.9	5.9	5.8	13.1	-.2	NA	NA
Actual rate of growth, non-Socialist countries (current prices).....	11.5	15.5	27.0	45.7	11.9	7.7	9.8	7.3	12.9
Balance of trade with non-Socialist countries (billion dollars).....	.1	-.3	-1.3	-2.1	-2.7	-2.9	-2.2	-1.8	-1.4
Percent of export to non-Socialist countries.....	7.9	-15.2	-50.2	-58.2	-64.8	-65.8	-44.3	-33.9	-23.7
Net hard currency debt to the West (million U.S. dollars).....	764	1,150	2,213	4,120	7,381	10,680	13,532	16,972	19,593

¹ Provisional.

NA=Not available.

Source: G.U.S., "Rocznik statystyczny 1979" (Statistical Yearbook 1979, p. XLV; "Gospodarka planowa," No. 4, 1972, p. 235; No. 5, 1972, p. 264; No. 4, 1973, p. 240; No. 4, 1974, p. 230; No. 4, 1975, p. 272; "Handel zagraniczny," No. 3, 1977, p. 18; No. 3, 1978; No. 3, 1979, p. 4; "Rynki zagraniczne," No. 14, 1980, p. 3; data on indebtedness provided by Joen Zoeter.

TABLE III.—IMPORT OF MACHINES AND EQUIPMENT (CMEA CLASSIFICATION, DEVIZA ZLOTY. CURRENT PRICES)

Year	All countries		Socialist countries		Rest of the world		As percent of total import of machines and equipment
	Million zld	Percent of total all countries	Million zld	Percent of total socialist countries	Million zld	Percent of total rest of the world	
1970.....	5,251	36.4	4,207	42.5	1,044	23.0	19.9
1971.....	5,612	34.7	4,310	39.6	1,302	24.7	23.2
1972.....	7,630	38.9	5,066	42.2	2,564	33.7	33.6
1973.....	10,730	41.1	6,456	47.9	4,274	33.9	39.8
1974.....	13,413	38.5	7,362	47.6	6,051	31.3	45.1
1975.....	15,573	37.4	7,471	39.1	8,103	35.9	52.0
1976.....	17,916	38.9	9,638	44.6	8,278	33.8	48.2
1977.....	18,362	37.8	10,784	42.8	7,578	32.5	41.3
1978.....	20,273	39.8	13,280	48.1	7,512	32.2	37.1
1979.....	19,548	36.2	13,994	47.6	5,656	22.9	28.9

¹ Products of engineering industry and construction work.

Note: 1 zld equals US\$0.25 (up to 1971), US\$0.272 (in 1972), US\$0.301 (since 1973).

Source: G.U.S., "Rocznik statystyczny handlu zagranicznego 1978" (Statistical Yearbook of Foreign Trade 1978), Warsaw 1978; "Handel zagraniczny," No. 3, 1979, pp. 3, 4; "Rynki zagraniczne," No. 17, 1980, p. 3.

TABLE IV.—RATES OF GROWTH: DOMESTIC NET MATERIAL PRODUCT ("PRODUCED NATIONAL INCOME"), NATIONAL NET MATERIAL PRODUCT "ALLOCATED NATIONAL INCOME"), FIXED CAPITAL STOCK, CONSUMPTION, INVESTMENT, AND VARIOUS RELATIONSHIPS (CONSTANT PRICES)

	1961-65	1966-70	1971-75	1976-78	1971	1972	1973	1974	1975	1976	1977	1978	Plan 1979	1979
DNMP.....	6.2	6.0	9.8	5.0	8.1	10.6	10.8	10.4	9.0	6.8	5.0	3.0	(2.8)	-2.0
Investment.....	6.8	8.2	18.4	2.7	7.5	23.6	25.0	22.5	14.2	2.2	4.3	1.6	(-9.0)	-8.6
Net industrial production.....	8.9	7.8	10.8	6.4	8.5	10.4	11.6	12.0	11.4	9.3	7.7	2.5	¹ (5.8)	¹ 2.8
Investment in industry.....	8.0	7.7	21.9	0	10.4	34.6	26.7	22.2	17.0	3.0	-0.8	-2.1	(?)	(?)
Net agricultural production.....	2.1	-1.6	-6	2.4	8.8	4.7	2.0	-5.2	-11.7	-2	-0.8	8.3	(?)	¹ -1.4
Investment in agriculture.....	12.7	8.0	14.1	5.3	4.4	14.9	17.2	18.0	16.5	2.1	14.2	.2	(?)	(?)
NNMP.....	5.9	5.8	12.0	3.5	9.8	12.7	14.3	12.1	10.9	7.0	2.7	.7	(1.0)	(?)
Consumption.....	5.0	5.6	8.7	5.7	7.7	9.1	8.1	7.4	11.1	8.8	6.8	1.7	(?)	(?)
Accumulation.....	8.5	6.3	19.0	-1.1	15.3	21.5	27.5	20.7	10.6	3.7	-5.3	-1.4	(?)	(?)
Fixed capital.....	4.4	6.1	8.0	9.5	2.9	6.5	7.6	9.3	10.2	9.7	9.8	9.1	(?)	5.7
Fixed capital per worker.....	2.8	3.7	5.9	8.9	4.1	4.2	5.3	6.3	8.6	9.7	8.6	8.3	(?)	(?)
DNMP per worker.....	4.3	3.8	7.6	5.9	6.8	8.1	8.4	7.4	7.5	6.9	8.6	2.3	(?)	(?)
DNMP per unit of fixed capital.....	1.4	0	1.7	-4.1	1.8	3.8	3.0	1.0	-1.1	-2.5	-4.3	-5.6	(?)	-7.3

¹ Sold production.

² Not available.

³ Global production.

Source: G.U.S., "Rocznik statystyczny" 1979 (Statistical Yearbook 1979), Warsaw 1979; "Trybuna ludu," No. 34, 1980, pp. 4, 5.

TABLE V.—POLAND—GNP BY SECTOR OF ORIGIN, AT 1969 ADJUSTED FACTOR COST, 1965 AND 1969-79

(Indexes: 1965=100, weights in percent of GNP)

	Weights ¹	1965	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979 ²
1. Industry.....	35.28	100	127.4	135.4	144.2	155.8	168.0	179.6	195.0	203.6	213.1	220.7	222.2
2. Agriculture.....	23.89	100	95.2	99.3	107.3	112.8	116.7	114.2	104.7	106.4	106.9	116.0	114.8
3. Forestry.....	.80	100	100.2	99.3	99.1	97.4	104.4	112.9	120.9	130.7	118.0	115.5	115.5
4. Construction.....	8.17	100	134.1	144.8	156.4	170.0	204.5	232.0	247.1	258.4	250.7	250.6	238.6
5. Transport, communications.....	8.72	100	128.8	135.9	157.2	171.2	186.6	216.6	246.5	263.8	274.9	291.1	291.1
6. Trade.....	6.54	100	126.9	131.8	141.3	158.4	174.6	188.6	207.1	220.1	231.6	236.9	240.5
7. Housing.....	7.24	100	111.7	117.8	123.7	126.1	128.8	131.5	134.9	139.3	144.0	146.5	148.7
8. Communal and miscellaneous services.....	3.56	100	112.1	115.5	118.2	124.6	131.0	136.7	147.1	151.9	154.9	157.9	160.9
9. Domestic and religious services.....	.04	100	104.5	104.7	105.4	107.5	109.9	109.9	110.6	112.2	113.3	114.6	115.9
10. Government.....	5.76	100	112.1	113.0	119.2	124.2	128.0	131.9	134.6	135.7	140.2	141.9	144.1
a. Education.....	1.97	100	120.3	124.5	128.9	134.4	138.8	142.4	146.4	148.1	148.1	149.8	152.1
b. Art, culture.....	.87	100	112.2	117.2	114.9	118.9	123.0	125.7	129.7	131.4	134.9	136.6	136.8
c. Science.....	.05	100	136.0	146.0	180.0	226.0	268.0	282.0	302.0	302.0	300.0	302.0	299.8
d. Health, welfare.....	1.33	100	114.7	118.6	127.6	133.9	139.6	145.4	152.2	157.6	164.7	168.5	172.9
e. Administration, justice.....	.79	100	100.0	99.5	100.0	100.0	98.0	97.6	91.7	92.7	92.2	92.7	92.7
f. Military personnel.....	.67	100	99.4	89.1	102.5	107.8	109.6	116.8	115.0	114.9	125.5	124.7	128.1
11. Total, GNP.....	100.00	100	115.7	121.7	130.4	139.9	150.2	159.1	166.6	173.5	178.3	185.3	185.2

¹ Weights: Percentages of GNP at 1969 adjusted factor cost. Indexes were aggregated at 1969=100 and restated at 1965=100.

² Provisional. Based on partial plan fulfillment data and other incomplete sources.

Source: L.W. International Finance Research, Inc.

TABLE VI.—NATIONAL NET MATERIAL PRODUCT ("ALLOCATED NATIONAL INCOME") DOMESTIC NET MATERIAL PRODUCT ("PRODUCED NATIONAL INCOME") AND ACCUMULATION AT CONSTANT 1971 PRICES

[in billion zloty]

	1971	1972	1973	1974	1975	1976	1977	1978
National net material product	841.8	948.4	1,083.6	1,214.3	1,309.6	1,403.3	1,411.2	1,451.3
Domestic net material product	855.4	945.9	1,048.1	1,157.6	1,237.6	1,326.0	1,392.3	1,434.1
NNMP—DNMP	-13.6	2.6	35.5	56.7	72.0	77.3	48.9	17.2
Accumulation	246.6	299.6	381.9	461.0	464.0	483.6	458.0	451.6
NNMP—DNMP A (percent)	-5.5	.9	9.3	12.3	15.5	16.0	10.7	3.8
A/ NNMP (percent)	27.5	29.6	33.0	35.6	35.2	34.1	31.8	31.1
A — (NNMP — DNMP) / NNMP (percent)	29.1	29.3	29.7	30.9	29.7	28.6	(31.5)	(30.6)
Share of fixed investment in NNMP (percent)	19.5	22.2	24.6	27.0	28.4	26.7	27.2	26.1

Source: NNMP, DNMP, and A for 1977 and 1978 are calculated using rates of growth at constant prices. The values and the share of accumulation calculated in this way differ from data given in "Rocznik statystyczny 1978" and "1979," which are at 1977 prices (the share of accumulation at 1977 prices given in parentheses).

TABLE VII.—RATES OF GROWTH OF NET INDUSTRIAL PRODUCTION (CONSTANT PRICES)

Industry	1961-65	1966-70	1971-75	1976-78	1974	1975	1976	1977	1978
Power and fuel	5.8	7.0	5.8	3.5	6.0	3.2	4.8	3.4	2.1
Coal	3.3	4.7	2.9	1.3			1.5	1.5	1.0
Fuels	9.1	13.6	9.3	5.0			8.1	4.6	2.4
Energy	14.9	8.0	9.8	5.9			7.2	6.0	4.5
Metallurgical	7.7	6.6	11.6	5.2	10.2	9.6	5.2	4.2	6.3
Iron and steel	7.7	5.3	9.3	5.0			4.2	4.2	6.5
Nonferrous	7.7	10.8	16.7	5.8			7.4	4.4	5.7
Engineering	16.1	11.3	15.2	10.2	16.1	16.6	13.9	11.2	5.6
Metal working	13.5	9.0	13.0	9.3			12.0	11.4	4.6
Machine building	14.9	12.0	15.5	10.4			14.2	13.0	4.4
Precision	19.8	10.8	22.6	13.2			21.5	12.0	6.6
Transportation equipment	15.9	11.4	14.1	8.7			12.2	7.9	6.0
Electrotechnical and electronics	21.6	13.4	16.9	11.4			14.1	12.3	8.0
Chemical	14.8	14.2	15.1	6.4	17.3	12.9	10.0	6.4	3.1
Mineral	7.8	5.2	9.9	6.2	12.9	10.4	8.8	7.3	2.5
Building material	7.2	4.7	8.7	3.2			6.0	4.6	-0.8
Glass	11.1	7.9	12.8	10.5			13.5	11.0	7.0
Ceramics	7.8	4.5	14.9	13.2			15.2	15.1	9.5
Wood and paper	7.7	6.5	9.9	7.3	12.8	13.3	10.8	9.0	2.3
Woodworking	7.4	7.2	10.9	8.4			11.4	10.3	3.7
Paper	8.5	4.9	7.1	3.9			9.0	5.1	-2.2
Light	8.3	6.6	10.7	5.9	13.2	11.1	8.8	6.8	2.1
Textile	7.1	6.6	10.7	6.1			9.0	7.0	2.5
Clothing	14.7	7.8	12.3	5.6			9.2	6.7	1.1
Leather	9.0	5.8	9.4	4.4			7.1	6.0	.3
Food	2.5	1.4	6.0	1.8	4.6	9.0	5.0	6.4	-5.6
Total socialist industry (state and cooperative)	9.1	7.8	11.0	6.3			9.3	7.3	2.5

Source: G.U.S., "Rocznik statystyczny przemyslu 1978" (Statistical Yearbook of Industry 1978), Warsaw, 1978, pp. 82, 83; G.U.S., "Rocznik statystyczny 1979" (Statistical Yearbook 1979), Warsaw, 1979, p. 135.

TABLE VIII.—TARGETS OF THE 1976-80 PLAN, FULFILMENT IN 1976-78 AND TARGETS OF THE 1981-85 PLAN (PERCENTAGE INCREASE OVER THE PLAN PERIOD)

	Plan 1980	Actual 1978	Actual 1978 as percent of plan 1980	Plan 1985
DNMP.....	40-42	15.6	39-37.1	na
NNMP.....	26	10.7	41.2	na
Gross fixed "productive" capital.....	38	31.4	82.6	na
Gross fixed "productive" capital in industry.....	59	37.0	62.7	na
Gross industrial production.....	48-50	22.2	46.3-44.4	20-24
Fuel and power.....	35.1	16.2	46.2	na
Metallurgical.....	37.2	17.8	47.8	na
Engineering.....	67.1	32.4	48.3	33
Chemical.....	64.6	20.2	31.3	28-34
Woodwork and paper.....	55.2	24.7	44.7	18-20
Light.....	47.9	17.7	37.0	18-23
Food.....	37.3	13.4	35.9	15-20
Net final agricultural production.....	NA	10.4	.....	12-30

NA = Not available.

Source: G.U.S., "Rocznik statystyczny 1979" (Statistical Yearbook 1979), Warsaw 1979, p. 60. N. Swidzinska, "Plan 5-letni Polski na lata 1976-80" (Poland's 5-year plan for 1976-80), Warsaw 1977, pp. 26, 29, 46. "Trybuna ludu," No. 34, 1980, pp. 4, 5.

TABLE IX.—RECENT CHANGES IN THE STRUCTURE OF POLISH IMPORT AND EXPORT (PERCENTAGES OF TOTAL IMPORT AND EXPORT, CURRENT PRICES)

	Total			Socialist countries			Non-Socialist countries		
	1977	1978	1979	1977	1978	1979	1977	1978	1979
Export, total.....	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Machines, equipment, and construction work.....	46.2	47.0	49.1	58.6	58.8	63.3	27.3	28.1	27.0
Fuels and energy.....	16.4	15.5	15.0	11.6	11.0	9.8	23.7	22.4	22.0
Metallurgical products.....	6.0	6.4	6.9	4.7	4.6	4.1	8.0	9.1	11.1
Chemical products.....	8.6	8.1	7.5	8.8	8.5	7.1	8.3	7.3	7.2
Products of the light industry.....	9.5	9.6	8.5	8.8	10.8	9.1	9.2	7.8	7.7
Products of agriculture and of the food industry.....	9.5	9.0	8.7	4.3	3.6	2.4	17.6	17.5	16.5
Other products.....	3.8	4.4	4.3	2.2	2.6	2.4	5.9	7.8	7.7
Import, total.....	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Machines, equipment, and construction work.....	40.3	39.8	36.2	48.9	48.1	47.6	32.3	32.2	22.9
Fuels and energy.....	11.5	12.7	15.0	16.2	18.6	20.7	6.6	6.0	8.7
Metallurgical products.....	13.4	12.4	12.0	12.4	11.6	11.0	14.5	12.8	12.9
Chemical products.....	11.6	11.8	12.4	8.0	7.7	7.2	15.3	16.3	18.2
Products of the light industry.....	4.5	4.1	4.4	4.5	4.4	3.8	4.4	3.9	5.0
Products of agriculture and of the food industry.....	13.3	13.9	14.4	5.0	4.4	4.2	21.8	23.3	25.7
Other products.....	5.4	5.3	5.0	4.9	5.2	5.6	5.1	5.5	6.6

Source: "Handel zagraniczny," No. 3, 1979, p. 3; "Rynek zagraniczny," No. 17, 1980, p. 3.

TABLE X.—INDEXES OF FOREIGN TRADE PRICES AND TERMS OF TRADE (ANNUAL PERCENTAGE CHANGES)

Year.....	1971	1972	1973	1974	1975	1976	1977	1978	1979
Import.....	-1.8	-0.4	8.8	16.9	12.0	0.4	5.5	3.8	8.7
Export.....	2.4	1.4	5.7	16.4	15.6	2.4	3.1	3.8	5.2
Terms of trade.....	4.3	1.8	-2.9	-5	3.2	2.0	-2.3	0	-3.2

Source: G.U.S., "Rocznik statystyczny 1979" (Statistical Yearbook 1979), Warsaw 1979, p. 298. "Polski handel zagraniczny w 1979 roku" (Polish Foreign Trade in 1979), "Rynek zagraniczny," No. 17, 1980, p. 3.

TABLE XL.—PLANNED AND ACTUAL RATES OF GROWTH OF SOME COMMODITIES IN 1979

Commodity	Plan for 1979	Actual 1st half 1979 over 1st half 1978	Actual 1979
Basic materials, energy, and fuels:			
Oil refining.....	NA	NA	-2.1
Coal.....	4.0	4.3	4.4
Electric power.....	5.5	2.2	1.6
Steel.....	5.2	.4	-2.2
Rolled steel products.....	10.9	.8	.1
Copper.....	17.4	.4	1.1
Plastic and other synthetic materials.....	20.7	-9.4	-5.7
Synthetic fibers.....	4.7	-1.1	-3.0
Synthetic rubber.....	NA	3.5	3.5
Fertilizer.....	NA	-12.0	-6.2
Cement.....	12.0	-9.1	-11.4
Bricks and other wall construction materials.....	NA	-17.6	-10.7
Paper.....	4.6	-13.2	-5.6
Foods.....	NA	NA	-7.1
Consumption goods other than food:			
Furniture.....	13.1	NA	-1.5
Passenger cars.....	4.6	5.1	7.5
Working machines.....	7.6	NA	-5.7
Domestic refrigerators and freezers.....	7.5	-9.9	-13.9
Radio sets.....	5.1	-.3	3.6
TV sets.....	-.6	-16.9	-5.8
Tape recorders.....	28.0	NA	-6.9
Sewing machines.....	NA	5.7	12.9
Cotton and cotton simulated fabrics.....	NA	-3.7	-3.8
Wool and wool simulated fabrics.....	NA	-2.5	-.9
Silk and silk simulated fabrics.....	NA	-6.2	-2.6
Knits.....	9.3	NA	1.6
Shoes.....	NA	0	1.2
Pharmaceuticals.....	NA	14.8	14.5
Investment goods:			
Metal working machines.....	-5.3	.4	5.5
Ball bearings.....	NA	23.3	18.0
Electrical motors and machines.....	1.8	-6.5	-.6
Automatic steering, regulative, and measuring equipment.....	NA	12.5	11.5
Electrical elements.....	NA	9.4	8.2
Calculators and other mathematical machines.....	-3.7	21.0	26.9
Agricultural machines.....	NA	-3.2	-.3
Buses.....	NA	2.7	-1.9
Trucks.....	-10.3	-10.2	-8.4
Freight railway cars.....	-6.1	NA	NA
Agricultural tractors.....	NA	-12.2	-8.9
Ships.....	NA	-7.5	7.0

NA—Not available.

Source: "Gospodarka planowa," No. 2, 1979, p. 65; "Trybuna ludu," No. 176, 1979, p. 5; No. 34, 1980, p. 4.

POLAND'S TRADE WITH THE INDUSTRIALIZED WEST: PERFORMANCE, PROBLEMS, AND PROSPECTS

By Gary R. Teske

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I. INTRODUCTION

Since the early 1970's, Poland has imported massive amounts of Western machinery and equipment 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; and (c) higher prices for imported goods. Although exports to the Industrialized West increased, they did not keep pace with the soaring imports.¹ This lagging export performance stemmed from numerous factors: supply constraints, reduced Western demand, Western import barriers, product quality shortfalls, marketing and servicing problems, as well as various systemic problems inherent to centrally-planned economics. 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 almost \$20 billion by yearend 1979 (see table 1).

¹For the purposes of the paper, the Industrialized Western (I. W.) countries 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, the term "I. W." refers to these fifteen countries. These countries will be used as a surrogate for Poland's total hard currency merchandise exports. As a group, they approximately account for 75 percent of Poland's hard currency merchandise exports. Although Poland's hard currency trade with the LDCs (especially the OPEC countries) is important and will become increasingly important, data insufficiencies (at the commodity breakdown level) preclude use of these countries in this paper. Moreover, the author believes that Poland will have to significantly penetrate the I. W. markets further if it is to have any chance of coping with its hard currency balance of payments problems in the 1980's.

TABLE 1.—POLAND: HARD CURRENCY DEBT

[In millions of dollars]

	1971	1972	1973	1974	1975	1976	1977	1978	1979
Commercial debt.....	420	856	1,951	3,586	6,547	9,159	10,393	13,430	15,400
Of which:									
Owed to U.S. banks.....	NA	NA	NA	NA	NA	NA	1,314	1,315	1,515
Officially backed debt.....	718	708	845	1,057	1,467	2,324	3,574	4,414	5,090
Of which:									
Owed to U.S. Eximbank.....	NA	NA	NA	NA	NA	NA	NA	NA	188
Owed to U.S. CCC programs..	NA	NA	NA	NA	NA	NA	NA	655	774
Gross debt.....	1,138	1,564	2,796	4,643	8,014	11,483	13,967	17,844	20,490
Less: Commercial assets.....	(374)	(414)	(583)	(523)	(633)	(803)	(435)	(872)	(900)
Net debt.....	764	1,150	2,213	4,120	7,381	10,680	13,532	16,972	19,590

Source: U.S. Government.

Poland's serious balance-of-payments problems have forced sharp reductions in the pace of economic growth and in the growth of workers' living standards. The labor disturbances in 1980 further complicated Warsaw's efforts to deal with its problems. The Kania regime, thus, faces serious—if not, overwhelming—problems as it formulates Poland's economic plans for the 1980s. Whereas Poland had a favorable external financial situation in 1970 to support an ambitious development program, it now has little leeway in trying to maintain even some modicum forward economic momentum in 1981–85.

The key to Poland's ability to manage its hard currency debt in the future will be its ability to substantially increase its hard currency exports, especially to the I.W. countries. The leadership does have the option of further reducing imports from the I.W. However, imports are already at dangerously low levels, and further cuts may impair domestic production and lead to increased consumer unrest. Consequently, this article will examine the outlook for Poland's trade with the I.W. in 1980–85, given the above constraints. Since exports are the key, emphasis will be placed on Poland's ability to generate greater hard currency exports. Any assessment, however, of export capabilities first must examine Poland's economic legacy of the 1970's.

II. THE LEGACY OF THE 1970's

A. Poland's Development Strategy³

When the Gierek regime came to power in 1970, it adopted a development strategy that placed emphasis on modernizing Poland's economy and boosting living standards, especially for urban workers. The government believed that a "new" approach was imperative—Poland's economic growth was steadily falling behind that of the less developed East European countries which had begun modernization programs in the 1960's. The ensuing development strategy involved switching from an "intensive" pattern of development to an "extensive" pattern in which emphasis was placed on increasing output through increased capital and labor productivity, rather than

³ For an excellent analysis of the regime's development strategy, see Zbigniew M. Fallenburg. "The Polish Economy in the 1970's." in "East European Economics Post-Helsinki." A compendium of papers submitted to the Joint Economic Committee, Congress of the U.S. (Washington D.C.: GPO, 1977).

through increased inputs of capital and labor.³ Such a shift was necessary because of a slowdown in the growth of labor migration from agriculture to industry, together with a precipitous drop in the growth of the labor participation ratio for women. In addition, the emphasis on heavy industry at the expense of consumer goods production during the Gomulka era resulted in serious shortages of consumer goods and a concomitant rise in consumer unrest.

In order to achieve the new policy, the regime realized that it had to maintain high rates of investment to build up Poland's neglected economic infrastructure, modernize existing production facilities, and develop a viable export sector. At the same time, in order to achieve the projected increases in labor productivity, the strategy assumed that workers had to be given added incentives to spur the growth of their output. To this end, significant increases were planned for the growth of personal incomes as well as in the quantity and quality of consumer goods. Finally, to ensure the effectiveness of each of the above policies, changes in the system of management and planning were envisaged.⁴

To help modernize industry, restructure the economy, and improve workers' productivity, the Poles believed that it was necessary to import large amounts of Western capital, technology, and consumer goods.⁵ To pay for these imports, the Poles realized that current hard currency earnings and reserves were insufficient and, therefore significant long-term borrowings would have to be sought from Western creditors. Although the Poles expected these credits to sharply increase their hard currency debt, they believed repayment could be made with expanded exports of goods produced in the newly constructed plants. For that reason, the latest and most advanced technology was acquired.⁶ It was implicitly assumed by Polish planners that the output produced from the new imports easily would be saleable in Western markets.

As previously noted, an important element in Poland's development strategy was to develop a viable export sector—especially with respect to the markets of the Industrialized Western economies. To this end, Polish economists and planners believed it was necessary to diversify Poland's export structure through the development of new export industries. Development of such industries was to be broad and to closely parallel existing and expected demands in Western export markets. Consequently, Poland decided to invest heavily to develop and/or expand the following industries:

Heavy machinery;

³ Poland's pattern of economic development in the 1950s and 1960s—as that of the other East European economies—was based on the Soviet model. See Zbigniew M. Fallenburg, "The Communist Pattern of Industrialization," *Soviet Studies*, V, XXI, No. 4, 1970, pp. 458-464.

⁴ A detailed discussion of such changes is beyond the scope of the paper. As Fallenburg notes in "The Polish Economy in the 1970's" (p. 845), the reforms implemented were initially successful, but collapsed during the Western recession and ensuing period of Western—and domestically—generated inflation.

⁵ As noted later, the bulk of consumer goods imports was mainly grains and feeds to support the growth of livestock inventories. Actual imports of Western manufactured consumer goods never were large and served mainly as a device—through the PEWEX stores—to siphon off some of the population's large hard currency holdings. Nevertheless, such imports, albeit small, give the appearance of "improved" living standards.

⁶ Polish financial managers and economists also believed that inflation was a permanent fixture in the world economy and, therefore, the real value of the accumulated debt would decline in the long run.

Chemicals (especially PVC, fertilizers, pharmaceuticals, and synthetic fibers);
 Aircraft and aircraft components;
 Construction equipment (especially, bulldozers, earth dumpers, and pipelaying tractors);
 Automobiles, trucks, and tractors (including components);
 Household appliances;
 Shipbuilding; and
 Electronics.

The payoff in exports from these projects generally was not expected until the early part of the 1976-80 plan period. In some instances, however, the payoff was not anticipated until much later. For example, a 1972 agreement with the Austrians did not provide for Polish export of trucks, at the earliest, until 1980.

At the same time, planners envisaged that traditional export industries (such as those producing coal, copper, meat and meat products, clothing, and textiles) would continue to grow, with increasing quantities available for export to the I.W. In general, these industries were planned to receive additional investments in 1971-80. Little imported Western capital equipment, however, was earmarked for the future development of these industries. Instead, planners believed that investments of domestically produced/CMEA equipment would be sufficient to allow these industries to grow at a rapid rate. It also was assumed that the Western economies would absorb the increased exports of these goods.

The final element in the foreign trade segment of the development plan called for the expansion of import substitution industries such as steel, cement, pulp and paper, and copper and copper manufactures. Such an effort was deemed necessary to reduce substantial hard currency outlays on these items—items that were essential for the growth of a viable export sector.

B. Foreign Trade Performance, 1972-78

1. THE GROWING TRADE GAP: 1972-75

As a result of Poland's development strategy, Poland's trade surpluses of the 1960s and early 1970s turned to deficits by 1972 (see table 2). Imports, paced by soaring purchases of Western manufactured goods, grew to \$5 billion by 1975—more than six times the 1971 level (see table 3). Manufactured goods imports (SITC 7 and 8) rose from \$261 million in 1971 to exceed \$2.5 billion by 1975. Rapid increases in domestic demand, rising world prices and some reductions in Soviet deliveries also led to sharp increases in imports of basic manufacturers (mainly, iron and steel). Increased purchases of high priced Western grains and feedstuffs (SITC 0) also contributed to the sharp rise in imports.

Poland's exports to the I.W. also rose rapidly in 1972-75—at an annual average rate of 26.7 percent—because of increased exports of coal, chemicals, foodstuffs, and light industrial products. However, more than 40 percent of the rise in export value represented higher export prices. Table 4 indicates, at the one-digit SITC level of detail, 1972-75

Polish exports to the I.W. The following observations can be made from an examination of the data:

In value terms, total exports doubled between 1972 and 1975, rising from \$1.4 billion to almost \$2.8 billion.

The percentage of primary products (SITC 0-4) in total exports in 1975 remained almost identical to 1972. The only difference noted was that the importance of food and live animal exports (SITC 0) dropped precipitously while exports of mineral fuels (SITC 3) rose dramatically. This can be explained largely as a result of growing agricultural problems in 1974-75 that reduced meat exports, as well as higher coal prices.

TABLE 2.—POLAND: TRADE WITH THE INDUSTRIALIZED WEST¹

[in millions of U.S. dollars]

Year	Imports	Exports	Balance
1971.....	812	1,072	+260
1972.....	1,542	1,353	-189
1973.....	2,965	1,888	-1,077
1974.....	4,296	2,431	-1,865
1975.....	4,999	2,761	-2,238
1976.....	5,171	3,237	-1,934
1977.....	4,714	3,391	-1,323
1978.....	5,309	3,808	-1,501
1979.....	5,672	4,537	-1,135

¹ See text footnote 1 for a definition of the 15 I.W. countries.

Tables 5 and 6 show Poland's top 20 export divisions (at the SITC 2-digit level) and top 30 exports items (at the SITC 5-digit level). The following observations about Poland's exports during this period can be drawn:

Polish exports were highly concentrated, with the top five (at the SITC 5-digit level) accounting for 44 percent of 1975 exports—this share was almost identical to the share accounted by the top five in 1972.

Coal (SITC 32) was the top hard currency earner by 1975, accounting for almost 31 percent of total exports to the I.W. The dramatic rise in importance of this category can be attributed to increases in both the volume and price of coal, as well as a drop in the value of exports of meat and meat preparations (SITC 01) and live animals (SITC 00).

Due to severe agricultural problems, as well as domestic pricing policy mistakes, both the value and the share of exports of meat and live animals (SITC 00 and 01) dropped sharply between 1972 and 1975.

Earnings from exports of ships remained fairly static (SITC 7353) over the period.

Due to intensive development efforts, the volume of sulfur (SITC 2741) and copper (SITC 68212) exports rose greatly, thereby becoming two of Poland's top five hard currency earners.

TABLE 3.—POLAND: IMPORTS FROM THE INDUSTRIALIZED WEST, 1971-78

[In millions of dollars]

SITC and description	1971		1972		1973		1974		1975		1976		1977		1978	
	Amount	Percent	Amount	Percent	Amount	Percent	Amount	Percent	Amount	Percent	Amount	Percent	Amount	Percent	Amount	Percent
0—Food and live animals.....	135.0	16.6	169.5	10.9	378.4	12.8	356.0	8.3	546.9	10.9	777.0	15.0	496.2	10.5	860.0	16.2
1—Beverages and tobacco.....	3.6	.4	5.6	.3	10.3	.3	13.4	.3	11.8	.2	15.5	.3	20.8	.4	24.2	.5
2—Crude materials, except fuels.....	74.5	9.2	119.3	7.7	195.6	6.6	257.1	6.0	306.0	6.1	242.1	4.7	274.0	5.8	386.3	7.3
3—Mineral fuels and related products.....	13.2	1.6	15.7	1.0	39.4	1.3	44.8	1.0	40.5	.8	41.8	.8	41.8	.9	34.2	.6
4—Animal, vegetable fats and oils.....	14.7	1.8	13.1	.8	18.1	.6	34.7	.8	32.8	.7	27.3	.5	33.0	.7	56.2	1.1
5—Chemicals.....	108.5	13.5	193.3	12.5	267.2	9.0	487.4	11.4	523.0	10.5	593.2	11.5	633.4	13.4	697.7	13.1
6—Basic manufactures.....	201.4	24.8	399.1	26.2	873.5	29.5	1,451.0	33.8	1,500.0	30.0	1,305.2	25.2	1,174.4	24.9	1,195.7	22.5
7—Machinery and transport equipment.....	229.1	28.2	557.7	36.2	1,078.5	36.4	1,508.9	35.1	2,037.5	40.8	1,940.7	37.5	1,827.6	38.8	1,835.0	34.8
8—Miscellaneous manufactured goods.....	31.5	3.9	68.8	4.5	104.2	3.5	142.4	3.3	147.9	3.0	182.5	3.5	167.7	3.6	170.9	3.2
9—Items not elsewhere classified.....	NA		NA		NA		NA		43.8	.9	45.3	.9	47.7	1.0	48.0	1.0
Total.....	811.5	100.0	1,542.1	100.0	2,965.2	100.0	4,286.7	100.0	4,998.5	100.0	5,170.6	100.0	4,713.6	100.0	5,309.2	100.0
0-4—Primary products.....	241.0	29.7	323.2	20.9	641.8	21.6	706	16.4	805.2	18.1	1,103.7	21.4	865.8	18.4	1,360.9	25.6
5-8—Intermediate goods.....	309.9	38.2	592.4	38.4	1,140.7	38.5	1,938.4	45.1	2,023.0	40.5	1,898.4	36.7	1,804.8	38.3	1,893.4	35.7
7-9—Manufactured goods.....	260.6	32.1	626.5	40.6	1,182.7	39.9	1,651.3	38.4	2,185.4	43.5	2,123.2	41.1	1,995.3	42.3	2,006.9	37.8

TABLE 4.—POLAND: EXPORTS TO THE INDUSTRIALIZED WEST, 1971-78

[In millions of dollars]

SIC and description	1971		1972		1973		1974		1975		1976		1977		1978	
	Amount	Percent	Amount	Percent	Amount	Percent	Amount	Percent	Amount	Percent	Amount	Percent	Amount	Percent	Amount	Percent
0—Food and live animals	319	29.8	404	29.9	559	48.0	408	16.4	464	16.8	552	17.0	576	17.0	648	17.0
1—Beverages and tobacco	12	1.1	9	.7	14	.7	11	.5	16	.6	22	.7	23	.7	27	.7
2—Crude materials, except fuels	128	11.9	144	10.6	222	11.8	278	11.2	266	9.6	321	9.9	331	9.8	339	8.9
3—Mineral fuels, and related products	228	21.3	268	19.8	324	17.2	673	27.0	933	33.8	948	29.3	785	23.2	842	22.1
4—Animal, vegetable oils, and fats	2	.2	5	.4	5	.3	9	.3	10	.4	10	.3	15	.5	17	.4
5—Chemicals	50	4.7	62	4.6	91	4.8	129	5.2	105	3.8	133	4.1	137	4.0	159	4.2
6—Basic manufactures	182	17.0	232	17.1	325	17.2	450	18.1	368	13.3	473	14.6	545	16.1	715	18.8
7—Machinery and transport equipment	70	6.5	108	8.0	176	9.3	194	7.8	306	11.1	429	13.3	550	16.2	598	15.7
8—Miscellaneous manufactures	81	7.5	121	8.9	172	9.1	223	9.0	269	9.7	320	9.9	385	11.3	431	11.4
9—Items not elsewhere classified	NA		NA		NA		116	4.7	23	.8	28	.9	44	1.2	30	.8
Total	1,072	100.0	1,353	100.0	1,888	100.0	2,491	100.0	2,761	100.0	3,237	100.0	3,391	100.0	3,808	100.0
0-4—Primary products	689	64.3	830	61.3	1,124	59.5	1,379	55.4	1,689	61.2	1,851	57.2	1,730	51.0	1,873	49.2
5-6—Intermediate goods	732	21.6	291	21.7	416	22.0	579	23.2	473	17.1	606	18.7	682	20.0	874	23.0
7-8—Manufactured goods	151	14.1	229	16.9	348	18.4	417	16.7	575	20.8	749	23.2	935	27.6	1,031	27.0

TABLE 5.--POLAND: MAJOR EXPORTS TO THE INDUSTRIALIZED WEST IN SELECTED YEARS¹ (2-DIGIT SITC LEVEL)

[In millions of dollars]

SITC and Description	1978 rank	1978 value	Percent of total	1976 rank	1976 value	Percent of total	1973 rank	1973 value	Percent of total
32 Coal, coke, and briquettes	1	675.8	17.7	1	762.9	23.6	1	300.5	15.8
01 Meat and meat preparation	2	330.7	8.7	2	292.8	9.0	2	281.2	14.7
73 Metalworking machinery	3	320.3	8.4	3	233.3	7.2	5	101.9	5.3
68 Nonferrous metals	4	250.5	6.6	6	156.7	4.8	4	107.8	5.7
84 Clothing	5	226.4	5.9	5	158.6	4.9	7	86.6	4.5
67 Iron and steel	6	217.3	5.7	8	115.6	3.6	8	82.0	4.3
71 Power generating machinery and equipment	7	194.2	5.1	7	145.1	4.5	11	48.0	2.5
33 Petroleum products	8	157.4	4.1	4	182.1	5.6	18	23.4	1.2
00 Live animals	9	139.5	3.7	11	85.8	2.7	3	156.1	8.2
24 Cork and wood	10	125.9	3.3	9	110.2	3.4	6	92.4	4.8
05 Fruits and vegetables	11	123.1	3.2	10	108.8	3.3	9	62.5	3.3
27 Crude fertilizers and minerals	12	91.8	2.4	12	80.9	2.5	12	43.3	2.3
51 Organic chemicals	13	86.6	2.3	14	66.7	2.1	13	40.3	2.1
65 Textile yarn and fabrics	14	85.9	2.3	13	75.3	2.3	10	54.5	2.9
72 Specialized machinery	15	83.7	2.2	17	50.9	1.6	16	25.8	1.4
82 Furniture	16	77.2	2.0	15	58.3	1.8	15	25.9	1.4
69 Metal manufacture, n.e.s.	17	71.1	1.9	16	57.9	1.8	14	35.4	1.9
85 Footwear	18	59.3	1.6	18	47.1	1.5	19	20.8	1.1
21 Hides and furskins	19	50.5	1.3	19	31.9	1.1	20	20.6	1.1
66 Nonmetallic mineral manufacturers	20	39.5	1.0	20	31.4	1.0	17	23.5	1.2
Top 20 total		3,046.7			2,853.3			1,632.5	
Total exports to industrialized west		3,809.1			3,233.0			1,907.4	
Top 20 as percent of total exports to industrialized West		89.4			88.2			85.6	

¹ The 15 industrialized West countries 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.

TABLE 6.—POLAND: MAJOR EXPORTS TO THE INDUSTRIALIZED WEST IN SELECTED YEARS¹ (5-DIGIT SITC LEVEL)

[in millions of dollars]

SITC	Description	1978 rank	1978 value	Percent of total	1976 rank	1976 value	Percent of total	1973 value	Percent of total
3214	Coal (anthracite, bituminous)	1	635.5	16.7	1	730.4	22.6	291.3	15.3
7353	Ships and boats	2	299.3	6.0	2	172.3	5.3	81.3	4.3
0138	Prepared or preserved meat	3	173.8	4.6	3	172.1	5.3	123.5	6.5
68212	Copper, refined	4	151.0	4.0	5	83.7	2.6	56.2	2.9
24321	Lumber, saws (conifer)	5	80.5	2.1	7	73.0	2.3	68.3	3.6
3323	Distillate fuels	6	77.8	2.0	8	68.0	2.1	15.2	.8
0015	Horses, asses, mules	7	75.2	2.0	11	50.3	1.6	29.4	1.5
84112	Women's outerwear, knit	8	71.9	1.9	9	52.3	1.6	30.7	1.6
7111	Internal combust on engines	9	71.1	1.9	10	50.5	1.6	1.1	.1
84111	Men's/boys' outer garments	10	62.2	1.6	13	41.5	1.3	21.9	1.2
7321	Passenger motor cars	11	62.1	1.6	25	24.8	.8	12.6	.7
2741	Sulfur	12	60.8	1.6	6	74.5	2.3	36.0	1.9
68111	Silver, unwrought	13	59.8	1.6	14	38.4	1.2	19.1	1.0
85102	Footwear, leather	14	55.5	1.5	12	44.5	1.4	19.6	1.0
0011	Bovine cattle	15	49.8	1.3	23	26.9	.8	122.9	6.4
6740	Iron/steel plates, sheets	16	49.3	1.3	57	9.1	.3	6.3	.3
67251	Iron/steel billets, slabs	17	46.9	1.2	(?)	0	0	0	0
82109	Furniture	18	44.4	1.2	15	35.3	1.1	13.8	.7
2120	Fur skins, undressed	19	44.2	1.2	20	28.9	.9	16.4	.9
05361	Fruits, frozen	20	44.0	1.2	16	31.3	1.0	16.1	.8
3321	Gasoline	21	41.3	1.1	(?)	.1	0	0	0
0114	Poultry, killed or dressed	22	40.9	1.1	17	31.2	1.0	25.4	1.3
84144	Outer garments, knitted	23	32.5	.9	29	18.6	.6	11.0	.6
3324	Residual fuel oils	24	32.3	.8	4	100.9	3.1	15.2	.8
7151	Metalworking machine tools	25	30.0	.8	27	20.6	.6	11.2	.6
67411	Iron/steel angles, shapes	26	29.5	.8	19	29.7	.9	15.1	.8
0121	Bacon, other dried pig meat	27	29.5	.8	18	30.2	.9	48.4	2.5
0115	Meat of horses, asses, mules	28	26.5	.7	34	16.9	.5	29.4	1.5
01189	Meat, edible offals, n.e.s.	29	23.1	.6	37	15.3	.5	14.3	.7
82101	Chairs, seat parts	30	22.5	.6	39	15.1	.5	6.8	.4
Top 30 total			2,453.1			2,086.4		1,158.2	
Total exports to industrialized West			3,809.1			3,236.8		1,907.4	
Top 30 as percent of total exports to industrialized West			64.4			64.5		60.7	

¹ The 15 industrialized West countries 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, the term "in-

dustrialized West" refers to these 15 countries.
² 1976 rank greater than 100.

TABLE 7.—GROWTH OF FOREIGN TRADE WITH THE INDUSTRIALIZED WEST

(Average annual growth in percent)

	1973-75	1975-78	1973-78
Exports.....	26.7	11.2	19.9
Agricultural goods ¹	9.8	11.8	10.7
Manufactured goods ²	39.7	21.5	31.6
Imports.....	57.5	2.0	30.8
Agricultural goods ¹	41.9	15.3	30.3
Manufactured goods ²	70.2	-2.9	33.9

¹ SITC 0.
² SITC 7-8

2. MOUNTING TRADE PROBLEMS AND REVISED PLANS, 1976-78

By 1976, Poland had to seek assistance from Moscow and alter its economic plans in order to cope with its growing domestic and foreign trade problems.⁷ Poor agricultural performance during 1974-75 led to severe consumer unrest in 1975 and early 1976 over chronic meat shortages and to reduced quantities of meat and live animals available for export to the I.W. Attempts to alleviate the meat shortages in June 1976 with massive price hikes on meat and other consumer goods shortly led to widespread worker violence. As a result, the Gierak regime was forced to rescind the price hikes, import meat, and divert exports earmarked for Western markets to the domestic market.

The leadership's initial reaction to its mounting trade problems in 1976 was to try to put a brake on its high level of imports from the I.W. As noted from table 3, cutbacks were made in purchases of iron and steel (SITC 6), crude materials (SITC 2) and machinery and equipment (SITC 7). The latter categories were difficult to curb because Poland was still receiving Western equipment and machinery on orders placed during its 1972-75 buying binge. These cutbacks, however, were largely offset by large purchases of Western consumer goods and grain that were needed to pacify consumers after the aborted June price hikes and to boost feed supplies that were required to maintain livestock production.

Warsaw also laid the groundwork for further import cuts in subsequent years. It canceled \$500 million of contracts involving heavy use of imported equipment that would not eventually yield hard currency exports. In addition, Warsaw indefinitely postponed planned major purchases in the I.W., including a \$700 million light van project with General Motors.

Finally, the Government revised the 1976-80 plan to increase the consumers share of the pie and lower foreign trade targets.⁸ The original five-year plan called for total real exports to the West to grow more

⁷ Moscow responded to Polish pleas with a substantial aid package that included a 1 billion ruble loan (which allowed Poland to run a trade deficit with the U.S.S.R.), above plan shipments of raw materials, consumer goods, and a resumption of grain deliveries—suspended in 1975-76—as a result of the disastrous 1975 Soviet grain harvest. In addition, the Soviets agreed to boost annual crude oil shipments from 11 million tons to 13 million tons in 1977-80 and may have agreed to increase deliveries of raw materials, such as iron ore, that Poland buys from the West for hard currency.

⁸ Briefly, on the consumer side, the Government announced that investment in agriculture, housing, and food industries would be significantly raised, the growth of production for the domestic market and consumer services also were boosted substantially. For a good analysis of the revised plan in its entirety, see "The Scope of Poland's Economic Dilemma," National Foreign Assessment Center, ER 78-10340U, July 1978, pp. 8-10.

than 30 percent annually, pushing trade into balance in 1979 and into a \$1 billion surplus in 1980. By the end of 1976, however, trade targets were substantially lowered to reflect the decline in some goods available for export and continued weak Western demand for Polish goods. Overall export targets (including trade with CMEA and less developed countries) were cut from an annual rate of 15.6 percent to about 12 percent to less than 5 percent. Though undefined, trade targets with the West were accordingly reduced.

Despite these cuts, the revisions still allowed for balanced trade with the Industrialized West by 1980. But this goal required exports to grow 15 percent each year (in real terms) and imports not to grow at all. To say the least, these goals were very ambitious. An examination of export growth to the I.W. in 1977 and 1978 shows that exports grew 4.8 percent and 12.3 percent respectively, while imports declined by 8.8 percent in 1977 and increased (relative to 1977) by 12.6 percent in 1978. The inability to achieve the revised export goals probably forced their abandonment because planned export growth rates for 1979 and 1980 were about 10 percent.*

Examination of tables 4, 5, 6 and 7 show the following export trends in 1976-78:

Exports to the I.W. grew at an 11.2 percent average annual rate. The share of primary products (SITC 0-4) in total exports declined significantly, falling from 57.2 percent in 1976 to 49.2 percent in 1978. At the same time, exports of intermediate goods (SITC 5-6) and manufactured goods (SITC 7-8) increased their share.

Coal (SITC 32) remained that dominant export item, although its relative importance declined significantly—from almost 24 percent of total exports in 1976 to about 18 percent in 1978.

Ship and boat exports (SITC 7353), rose sharply to maintain their position as Poland's second largest earners.

Prepared meats exports (SITC 0138), although maintaining its number three position, stagnated over the period.

Copper exports (SITC 68212) almost doubled to become Poland's fourth largest export item.

Exports of residual fuel oils (SITC 3324) plummeted, dropping two-thirds.

3. ANALYSIS OF POLAND'S EXPORTS TO THE I.W., 1972-78

Tables 4, 5, 6, and 7 again can provide interesting insights into Poland's export behavior since the adoption of its development plan. For the period as a whole, the following observations can be made:

The level of Polish exports to the I.W. has increased by almost three times between 1972 and 1978. The average annual growth of exports was 19.9 percent.

The share of primary products (SITC 0-4) in total exports has fallen sharply, dropping from 61.3 percent in 1972 to 49.2 percent in 1978. This reflects the sharp decline in exports of meat and other food products, as well as the stagnation in exports of

* Jerzy Borowski, "Exports Will Be Decisive," *Zycie Gospodarcze*, No. 8, February 23, 1979, p. 1, and "Poland: Cautious 1980 Plan Reflects Trade Balance Goal," *Business Eastern Europe*, January 11, 1980, p. 11.

coal. Nevertheless, coal (SITC 3214) has remained the dominant export item over the period.

As the share of primary products has fallen, the share of manufactured exports (SITC 7-8) has increased sharply, rising from 16.9 percent of the total in 1972 to 27.0 percent in 1978. At the same time, the share of exports of intermediate products (SITC 5-6) has increased slightly, rising from 21.7 percent of the total in 1972 to 23.0 percent in 1978. To some extent, this reflects Poland's development strategy to diversify exports, especially exports of manufactured goods.

The top four export items at the 5-digit SITC level still account for about one-third of total Polish exports to the I.W. This still indicates that Poland's exports have been concentrated in relatively few items. The top 30 items, likewise, roughly provide about three-fifths of Poland's earnings.

Since 1972, the composition of Poland's top five has changed slightly. The most noticeable difference is the sharp decline in exports of bovine cattle (SITC 0011), from third largest in 1972 to fifteenth in 1978. At the same time, exports of copper (SITC 68212) have risen sharply as a result of Warsaw's efforts to tap its large copper deposits.

The composition of the top thirty exports also has been quite stable. Noticeable gainers between 1972 and 1978 have been exports of basic iron and steel products (SITC 6740 and 67251), automobiles (SITC 7321), internal combustion engines (SITC 7115, gasoline (SITC 3321), and furniture (SITC 82109 and 82101). Significant losers—in relative terms—have been bacon (SITC 0121) and horse meat (SITC 0115). The latter losses reflect Poland's severe agricultural problems and the European Commodities (EC) ban on imports meat products and live animals from non-EC members.

C. What Went Wrong?

The obvious and simple reason for Poland's problems in its trade with the I.W. in the 1970's is that Polish imports grew faster than exports. But, this explanation begs further questions:

Why did Polish officials allow imports to grow so much faster than exports, especially when it became apparent that original export plans would not be achieved?

What factors inhibited Poland from achieving a high growth rate in exports to the I.W.? Were these factors beyond the control of the Government? Were there conditions inherent in Poland's economy that work against a rapid expansion and diversification of exports?

Were supply constraints responsible for the inability to achieve export targets?

Answers to these questions indicate that the reasons for Poland's hard currency trade problems may be classified in one or more of the following categories:

Factors beyond Warsaw's control:

Policy mistakes made by Polish officials:

Supply constraints; and

Factors inherent in Poland's planning and management system.

1. FACTORS BEYOND WARSAW'S CONTROL

The Western recession, beginning in late 1974, and its sluggish recovery sharply impacted on Poland's ability to increase its exports to the I.W. countries. A main goal of Poland's development plan was to boost traditional exports and develop new markets in the I.W. for Polish exports of manufactured goods. However, the recession and its aftermath, not envisaged by Polish planners, made it very difficult for Poland to maintain its Western market share in traditional exports, let alone open up new market opportunities in areas in which Poland previously had not competed.

A prime example of the impact of the recession and its slow recovery is exhibited by the rapid growth, then decline and stagnation of coal exports (SITC 32). Until 1976, earnings from coal and coke exports increased rapidly. The largest rise came between 1973 and 1974, with the forward surge in world energy prices. The momentum slowed between 1974 and 1975, but earnings still rose by nearly 40 percent, despite a slightly slower growth in volume deliveries. As the recession became deeper in 1975, world coal prices and orders began to stagnate, if not actually decline. As a result, coal exports declined by 10 percent in 1976. The sluggish recovery in 1976-77—especially in the basic steel industries—caused coal exports to decline further—exports were off by an additional 18 percent in 1977. It wasn't until 1978 that the volume of coal exports increased by 8 percent.

A similar example can be cited for exports of copper. Given that Poland has the largest deposits of copper in Europe and that world copper prices were at record levels in the early 1970's, it was natural for Polish planners to forge ahead with the rapid development of the copper industry. As copper production rapidly expanded in 1973 and 1974, Poland easily found markets and record earnings from its copper exports. As the recession took hold in 1975, copper prices plummeted. Despite an increase in volume, copper exports were off by more than 20 percent in 1975. Slow Western recovery in 1976-77 along with large copper stockpiles in the I.W. caused the value of copper exports to rise only slightly, even though volume significantly increased. With a jump in world copper prices in 1978, copper exports finally surged to a record level of \$151.0 million.

In addition to the recession, tariff and non-tariff barriers have restricted the expansion of Polish exports to the I.W.¹⁰ In fact, many Polish economists and economic writers blamed rising Western protectionism in 1976-78 for Poland's failure to significantly penetrate I.W. markets, especially in the manufactured goods markets.¹¹ They frequently cited the infamous Polish golf cart case in the United States as an example of how I.W. countries protect their markets against competitive manufactured exports from communist countries. Noted Polish economists, however, have cautioned against placing too much

¹⁰ For an excellent analysis of I. W. import protection devices against centrally-planned economies, see Karen C. Taylor, "Import Protection and East-West Trade: A Survey of Industrialized Country Practices," in *East European Economics Post Helsinki* (Washington, D.C. Joint Economic Committee, Congress of the United States, 1977).

¹¹ For example, see Zdzisław Grzebiak, "Rising Protectionism: Foreign Trade Intensification Policy Discussed," *Głos Robotniczy*, March 1978, p. 5 (Translated in JPRS 71150, May 19, 1978, pp. 109-112) and Sławian Krzywinski, "Foreign Trade at Five-Year Mid-Way Point Reviewed," *Handel Zagraniczny*, No. 12, December 1978, pp. 3-5 (Translated in JPRS 072865, May 9, 1979, pp. 19-26).

emphasis on Western protectionism as a cause of Poland's export problems. According to the Director of Poland's Foreign Trade Trends and Prices Institute, "Our setbacks cannot all be explained away in terms of being the manifestations of protectionism—such an explanation being only of marginal value."¹²

Nevertheless, concrete examples exist showing the negative impact that I.W. protectionist measures have had on Polish exports. An import ban imposed in 1974 on beef and cattle by the European Community caused Polish exports of bovine cattle (SITC 0011) to drop precipitously. Such exports reached \$160 million in 1973 and by 1975 they had declined to less than \$11 million. Due to the ban, as well as domestic agricultural problems, exports of bovine cattle by 1978 still had not reached one-third of their 1973 level. The United Kingdom's entry into the EC in 1974 also cut deeply into Polish exports of agricultural products to that country. Bacon exports to the U.N. declined by one-half between 1973 and 1974, cutting Poland at least \$20 million in 1974 and an indeterminate amount of future earnings from such exports.¹³

In addition to I.W. trade barriers—EC barriers, in particular—against agricultural exports, tariff and quota barriers also have been placed on Polish exports of clothing, textiles and yarn, chemicals, footwear, and some heavy-duty machinery. However, in the cases of clothing, textiles, and footwear, Poland still has been able to penetrate I.W. markets. Nevertheless, exports of these items have been substantially less than those envisioned by Polish planners.

Poland also has had to face stiff competition for Western markets from newly developed industries in other East European countries and from members of the Organization of Petroleum Exporting Countries (OPEC). This competition especially has been keen in trying to penetrate I.W. markets for petrochemicals. During the 1972-75 period, Poland imported massive amounts of plant and equipment to build-up its petrochemical industry. With the surges in world oil prices since 1973, Polish planners scaled-down plans for the development of this industry. Nevertheless, with massive investments for the production of PVC, synthetic fibers, and plastics already made, Polish trade officials have tried to boost chemical exports to the I.W. countries. Given the overcapacity of the chemical industries in the I.W. and stiff competition from other East European and OPEC countries (which generally decided to develop their petrochemical industries in the early 1970s), Poland has had little success in boosting the share of chemical exports in total exports to the I.W. (see table 4).

Finally, Poland's agricultural difficulties have caused serious problems for both exports and imports.¹⁴ It should be emphasized that Poland's agricultural problems do not stem entirely from weather-induced poor harvests. On the contrary, some would argue that Poland's problems stem primarily from Government agricultural and pricing policies. Nevertheless, poor weather has been a

¹² Jan Brezeski, Interview with Dr. Janusz Kaczurba, "Looking Further than the End of One's Nose," *Polityka*, No. 7, February 17, 1979, p. 18. (Translated by JPRS 073218, May 1979, p. 34).

¹³ This conclusion assumes that Poland, given its agricultural problems, could have maintained its UK market for bacon had not the UK joined the EC.

¹⁴ For an excellent analysis on Polish agriculture, see William J. Newcomb's contributions in this volume "Polish Agriculture: Policy and Performance."

factor that has caused some of Poland's trade problems in agricultural products.

One of Gierek's major goals was the attainment of higher levels of per capita meat consumption—the symbol of improvement in living standards for many Poles. Gierek's program met with early success. Four consecutive record grain imports allowed for a significant expansion in livestock and meat production. As a result, enough meat was produced to allow for a remarkable 25-percent rise in per capita meat consumption, as well as to permit a boost in meat exports to the I.W.

Agricultural problems, in part induced by either drought or extremely wet weather, however, have plagued Poland since late 1974.¹⁵ As a result, Poland has had to curb meat exports, boost grain imports to record levels, and, in some years, import significant quantities of meat—all of which have had a damaging impact on Poland's ability to control its chronic trade deficits with the I.W.

2. GOVERNMENT POLICY "MISCALCULATIONS"

The Government compounded its trade problems with key policy decisions. With the onset of the Western recession, most Eastern European countries cutback on plans for imports from the I.W., and, in some cases, on economic growth plans. But, the Polish Government, driven by the desire for rapid industrialization and the belief that domestic political stability was linked to further improvements in living standards, continued to push its ambitious development program. As a result, Polish imports of Western equipment and grain continued to surge. It was not until late 1976, in the face of mounting domestic economic and trade problems, that officials began trying to curb imports from the I.W.

Government income, pricing, and agricultural policies also contributed to Poland's adverse trade problems. A rapid growth in workers' incomes and stable consumer prices have been a key element in the Government's attempts to boost labor productivity. Government policies designed to boost meat consumption—at prices frozen at unrealistically low 1967 levels—have been disastrous. The rapid growth in incomes since 1971, along with a slower growth in supplies of attractive consumer goods and housing, have led to an excessive demand for meat and meat products. This excessive demand, largely since 1974, has resulted in chronic shortages of meat, accompanied by occasional outbreaks of consumer unrest.

In order to ensure "sufficient" meat supplies, the Government (as previously noted) has had to curb meat exports and boost grain imports. Policy changes that included a slow-down in wage growth along with gradual increases in meat and other food prices probably could have lessened the impact of Poland's agricultural problems on trade with the I.W. Specifically, if the Government had altered its pricing and income policies, it probably could have avoided the sharp cuts in meat exports as well as lowered its grain import requirements—all of which would have contributed to more manageable trade deficits with the I.W.

¹⁵ An exception to this trend was the harvest of 1976, during which grain and potato (as major source of swine food) production reached high levels.

Some Polish economists now question the underlying assumptions about Poland's original policy to diversify its export structure—at the expense of traditional exports—in order to build a more viable export sector. Most would agree, however, that Poland's export structure needed to be diversified, especially by increasing the share of manufactured exports to the I.W. At the beginning of the development plan, Poland's export structure—biased heavily toward the export of primary products—was characteristic of an economy at a lesser stage of industrial development.

The problems with Poland's attempts to diversify exports are that planners have allowed too many projects to be undertaken and have not ensured that export diversification has been logically planned, especially in light of Poland's poor infrastructure development. Rather than concentrating on a few "new" export industries, planners apparently adopted a "shot-gun" view—the more, the better. As a result, many new export industries are foundering and have not been able to generate the expected exports to the I.W.

At the same time, it is pointed out that because of the diversification attempts, Poland has created an industrial structure that, while not generating large exports to the I.W., remains dependent on increased inputs of Western materials. An example of this situation can be seen in the development and performance of Poland's automobile industry. The expansion and modernization of the industry is based wholly on West European equipment, technology, and licenses. Despite its start in the early 1970s, the industry continues to run deficits in its trade with the I.W. Exports of passenger cars have leveled off at about 21,000 units despite 30 percent annual increases in production.¹⁶ At the same time, imports of auto parts are now about five times those of automobile exports.¹⁷

A similar, although not as severe case can be cited in the development of Poland's shipbuilding industry. Poland has had a tradition of exporting ships to the I.W.—one of the few machinery/transport areas in which Polish products are highly competitive. Shipbuilding was, therefore, one of the few traditional export industries to be earmarked for modernization with Western plant and equipment. Polish planners also decided to concentrate on the production of specialized shipping vessels for the I.W. rather than on general cargo ships.¹⁸ As a result of this decision, Poland was somewhat immune from the worldwide slowdown in shipbuilding that occurred in the mid-1970s. However, the production of these specialized ships require a heavy infusion of Western technology and equipment e.g., specialty steels and advanced Western navigational system, in order to be saleable on Western markets. As a result, the *net* foreign exchange earnings from the sale of ships to the I.W. have significantly been less than expected.

Finally, Polish planners apparently lost sight of the need to make significant investments in the infrastructure—investments that are essential if Poland is to have a viable industrial and export structure. As the Polish economy rapidly grew in the early and mid 1970s increasing strains were placed on Poland's outdated internal transport

¹⁶ "The Scope of Poland's Economic Dilemma," p. 7.

¹⁷ *Ibid.*

¹⁸ An example of such specialized vessels are fishing trawlers—outfitted with the most advanced I.W. technology—that Poland mainly exports to France and the Scandinavian countries.

system and on electrical power generating facilities. This neglect has resulted in serious bottlenecks, especially in the transport of coal from southern Polish mines to northern seaports. Frequent electrical "brownouts" have caused the rationing of electricity for industrial (and residential use), which has resulted in lower industrial production, as well as creating more bottlenecks in the whole system of production. Significant new investments finally are being undertaken in these areas, but will take considerable time before they come on stream.¹⁹

3. SUPPLY CONSTRAINTS

In some cases, Poland's problems in generating increased exports to the I.W. stem from insufficient quantities available for export. According to a leading Polish economist, ". . . there is a lack of sufficient quantity of attractive commodities. For today we already produce many products which can be sold abroad, but the output is too small. Often it is too small, even for domestic needs."²⁰ In some cases this is the root of the problem—Poland cannot produce enough to meet domestic demand, let alone for export. An explicit example of this is in the export of agricultural products. Poland probably could boost its exports of meat products (mainly canned hams) to the I.W. if only it could produce such items in sufficient quantities. Current agricultural problems, however, preclude such production. In addition, due to periodic domestic coal shortages, Poland has had to divert coal earmarked for export to the domestic market. One could make the generalization that for any good Poland produces for export to the I.W., there probably exists substantial—and unsatisfied—demand for that good in the domestic market.

In addition to general constraints on supplies available for export, Poland also lacks adequate marketing, servicing, and advertising expertise, as well as problems in supplying replacement parts. Officials are trying to boost efforts in these support areas, but it will take Poland a long time to build such industries. Meanwhile, lack of such support definitely hampers Poland's ability to boost its exports of manufactured machinery (e.g., automobiles, metal working and glass working machinery, and household appliances) which have unrealized market potential in the West.

4. PLANNING AND MANAGEMENT LIMITATIONS

In addition to the above constraints on the ability to boost exports, flaws in Poland's management and planning system work against the development of a viable export sector. Top Polish officials concede

¹⁹ An example of one of the few successful ventures started from scratch has been in the production of components for tracked vehicles, which began in 1972. The production (under U.S. license) has expanded into the manufacture of complete vehicles—including bulldozers, tractors, earth dumpers, and pipelaying tractors—and has become a net earner of hard currency. For a detailed discussion of Poland's cooperation with International Harvester in the production and export of such vehicles, see Paul Marer's contribution in this volume. The study highlights some of the problems encountered by Western firms in trying to establish coproduction ventures with communist country foreign trade organizations.

²⁰ Daniel Passent, Aleksander Paszynski, and Jacek Poprzeczko "Export: To Be or Not to Be," *Polityka*, No. 2, June 16, 1979, p. 17 (Interview between *Polityka* editors and Professor Pawel Bozyk, Dr. Stanislaw Gruzewski, Metalexport Director General Aleksander Jung, Bumar Deputy Director Grzegorz Konarzewski, Deputy Finance Minister Marian Krzak, Polimex-Cekop Director General Zygmunt Makomaski, and Polmot Director Edward Pietrzak.)

that they have not been able to set up a consistent system of export incentives to entice domestic firms to produce for export markets.²¹ They point out that the existing system favors production for the domestic market because it is much easier for managers to attain plan goals (and bonuses) by producing for domestic consumers rather than trying to meet export goals that are much more difficult to achieve.²² The establishment in the mid-1970s of a hard currency reserve fund for firms that meet or exceed export targets to the I.W. has been an insufficient incentive for boosting exports, according to officials, because the Government—due to the need to service its large hard currency debt—has not allowed these firms to utilize such funds.²³

III. PLAINS FOR THE 1980's

Polish trade plans for the 1980's are still somewhat uncertain; definite targets probably will not be revealed until the 1981–85 plan is announced later this year. Nevertheless, Polish officials have announced preliminary trade targets.²⁴ Poland's Deputy Minister of Finance, Marian Krzak, noted that Poland, in 1980–85, hopes to boost exports to I.W. countries by 10-percent a year, while holding imports from the I.W. to a 2-percent annual growth. These goals appear to be modest, but, as the next section indicates, they may be difficult to achieve.

IV. OUTLOOK FOR POLAND'S TRADE WITH THE INDUSTRIALIZED WEST, 1981–85

To cope with its massive economic problems, Poland must continue to curb its trade deficits with the Industrialized West. The key to such action rests on substantially boosting export earnings rather than on curbing imports. Imports already are at dangerously low levels, such that further cuts could exacerbate Poland's chronic problems. As previously noted, Poland has had some success in boosting exports to the I.W., but greater success will be needed. The previous analysis highlighted the difficulties Poland faced in diversifying its exports, while increasing such traditional exports as coal, copper, and foodstuffs. The following will examine Poland's export capabilities as well as Poland's ability to restrain import growth during the forthcoming 1981–85 plan period.

A. Export Capabilities

Poland's prospects are not bright for realizing its plans to boost export volume to the OECD countries by an average annual rate of 10 percent during the 1981–85 plan period. Problems that thwarted Polish plans during the 1970s still remain, while new unforeseen problems

²¹ *Ibid.*, p. 17.

²² One economist concludes, "Economic ministries find themselves under strong pressure from an unsatiated internal market and are reacting to the hitherto functional necessities caused by the fact that the domestic consumer will accept practically any price and, nearly, any quality of goods." See Urszula Plowiec, "Improvements in Price System for Imports, Exports Urged," *Polityka*, No. 7, February 17, 1979, p. 17 (Translated in JPRS 073177, 1979, pp. 95–98).

²³ As originally planned, firms that exceeded their hard currency export goals were to be allowed to keep a percentage of their hard currency surplus. Managers were to be given a free rein as to how they would utilize these funds in improving the firm's productive capacity.

²⁴ "Poland: Cautious 1980 Plan Reflects Trade Balance Goal," *Business Eastern Europe*, p. 11.

may arise. Whereas Poland launched its massive development programs during an "upswing" in Western economic activity, it must now try to achieve goals—that it couldn't achieve in the 1970s—during a period of uncertain economic activity in the I.W. countries. OECD forecasts for significant growth of the I.W. countries in the 1980s are less than optimistic. Western economic prosperity will, therefore, play an important role in determining Poland's ability to boost its exports. In addition, greater protectionism in the I.W. would impact adversely on Polish attempts to increase its exports.

To analyze Poland's ability to boost its exports, examination of export trends developed in the previous sections will be used. Examination of such trends, given the inability to countries to rapidly change the composition of their export structure, can present a close indication of the kinds of Poland's exports and likely volumes during 1981-85. Precise projections for specific commodity exports are beyond the scope of this paper. Nevertheless, an attempt will be made to ascertain whether Poland will be able to achieve its stated goal of achieving a 10 percent average annual rate of growth in exports through 1985 to OECD countries.

In addition to the general problems inherent in the use of historical data to examine future export trends, one should be aware of a limitation which is specific to the data in this study. Data available for use in this paper includes only Polish exports to 15 Industrialized Western countries. While these countries represent the major source of hard currency merchandise export earnings for Poland there are additional markets not included: for example, some of the OECD countries, some less developed countries with which Poland settles in hard currency, and hard currency exports to OPEC countries. These additional markets are, however, limited sources of hard currency for Poland. Therefore, it can be logically argued that Poland's future hard currency export capabilities largely will be determined by penetrating the markets of these 15 Western countries.

From an examination of past export trends and future plans, the following analysis has been made on Poland's ability to increase its exports to the I.W.

1. COAL

Poland is the fourth largest coal producer in the world, and the second largest coal exporter; half of Poland's coal shipments go to hard currency countries. Coal is not only the key domestic energy resource, but also the primary hard currency earning commodity. In 1978, 18 percent of Poland's hard currency earnings from exports to the Industrialized West came from coal and coke (SITC 32). The importance of coal as an export commodity rests on Poland's vast reserves, whose development has been steadily maintained and will likely continue to be so in the future. Polish coal technology is also advanced, a factor which has figured favorably in coal development efforts.

Poland's export earnings from coal could remain sluggish into the early 1980s, as slow economic demand in the West keeps demand and prices from advancing. Coal trade, in particular, continues to suffer from the recession in basic steel industries (most of the coal traded internationally is used for making metallurgical coke). In

addition, rapidly rising domestic demand could make it difficult for Poland to boost coal exports, given the long lead times needed to construct new mines.²⁵ To the extent, however, that Poland is able to negotiate large contracts that have been proposed with several Western countries and have sufficient quantities available for export, deliveries may result that not only could raise earnings from their depressed late 1970's levels, but to expand them through the remainder of the 1980's.

Aside from contracts which already provide an outlet for a good deal of Polish coal, Poland's further efforts to broaden coal exports beyond these contracts could be complicated by European Coal and Steel Community (ECSC) members' attempts to limit imports of coal from non-ECSC countries. Because of geographic proximity, Poland's largest potential customers could be these very same countries; any quotas on imports by ECSC members, therefore, could erode Poland's coal export position.

Polish officials already seemed to be resigned to the fact that coal exports will grow more slowly in the future. In a recent article, the general director of Weglokoks (the Polish foreign trade organization responsible for coal exports), suggested that the present coal export level of 41 million metric tons may show no growth over the next decade.²⁶ It is evident that, despite rising production of coal, exports will be significantly constrained by rapidly growing domestic needs. Thus, the growth in hard currency earnings from coal will be highly dependent on world economic recovery and increases in world coal prices, rather than on increases in export volume.

2. MEAT AND MEAT PRODUCTS

Meat and meat preparations (SITC 01), Poland's second largest export group, accounted for 8.7 percent of exports to the I.W. in 1978—substantially down from its 13.6 percent share in 1972. As noted earlier, Poland's agricultural and pricing problems, which have led to considerable consumer unrest over chronic meat shortages, have forced the Government to restrict such exports in the late 1970's.

Looking at Polish agricultural developments in the late 1970s, prospects appear pessimistic for the future growth of meat exports. One of the primary objectives of the Government over the next several years will be to satisfy consumer demands for basic products. Certainly, meat is the foremost among the basics. Livestock numbers and meat production still have not reached peak 1974 levels and, given favorable agricultural conditions, it will take at least two to three years to regenerate supplies to what may only be approaching adequate levels. Admittedly the Poles are as much hard pressed to earn hard currency as they are to satisfy consumer demands. Therefore, the

²⁵ Polish mining officials concede that ". . . the growth of the black coal production capacity depends on the construction of new mines, since increasing the production capacity of existing mines is practically impossible." See Benon Stranz and Adam Szczurkowski, "Long-Range Coal Production Problems Outlined," *Nowe Droge*, No. 8, August 1979, p. 145. In addition, estimates suggest that Poland may have to substantially boost its purchases of expensive Western oil in the 1980s. Given Poland's need to hold down hard currency imports, added constraints would be placed on Poland's ability to increase or even maintain its coal exports to the I. W. See "The Scope of Poland's Economic Dilemma," p. 13.

²⁶ "Coal Exports Grow Slowly," *Financial Times*, September 10, 1979, p. 5.

choice between meat allocation for export versus domestic consumption will be difficult, with the probable result that meat exports, if they do increase, will do so modestly.

3. MANUFACTURED GOODS

Exports of manufactured goods (SITC 7-8) have been one of the bright spots in Poland's export picture. The importance of such exports has increased significantly in the 1970s—growing from 17 percent of total exports to the I.W. in 1972 to 27 percent in 1978.

An examination of Poland's manufactured exports is particularly interesting because it involves a look at some commodities that have been exported only recently. This development of new items for export reflects an effort to adjust the commodity composition of Poland's exports. As previously noted, during the 1971-75 Five-Year Plan, Poland adopted a deliberate policy of modernizing its manufacturing base through massive imports of Western plant, equipment, and technology. This effort, combined with the continuing development of traditional manufactured goods, was aimed at enabling Poland to significantly expand exports of manufacturers beginning in the second half of the seventies.

Among manufacturers, Poland's 1978 major hard currency earning groups were transport equipment (SITC 73), clothing (SITC 84), and power generating machinery (SITC 72). These three groups together accounted for almost three-fourths of hard currency earnings from finished manufactured goods exports to the I.W. in 1978.

The largest manufactured group exported, and one which exhibited the fastest growth over the period was transport equipment (SITC 73). Exports of ships (SITC 7353) accounted for most of this increase. Over 90 percent of hard currency earned by commodities in this sector came from exports of ships. Since 1972, earnings from ships have increased more than five-fold to reach nearly \$300 million in 1978.

At a time when traditional Western shipbuilders are suffering from lack of orders, demand for Polish ships will keep Poland's ship yards booked with orders until the early 1980s. It appears that price competitiveness, along with advanced shipbuilding technology, has enabled Poland to weather the global slump in shipbuilding industries. Poland's shipyards are highly export oriented with over 90 percent of production covered by global exports. As a result, hard currency exports from ships are likely to continue the upward trend of recent years.

Passenger cars (SITC 7321), the other significant item in the transport group, expanded earnings substantially during the 1970s. Poland has planned to significantly expand its automobile exports to the West, based on sales of the "Polski-Fiat," manufactured under license from the Italian Fiat concern. Half of all production is to be exported overseas in the future, with the United States, Great Britain, and Ireland as major targets. Passenger car exports may show significant improvement in the 1980s if Poland is successful in its drive to expand motor vehicle production. Domestic demand, however, has been increasing sharply, and it may very well be that a good deal of increased car production will have to be turned into the home market. In addition, to effectively exploit the Western market in this area,

Poland will have to upgrade its production quality, delivery times, supply of spare parts, and after-sales servicing.

Future expansion in hard currency earnings from clothing exports (SITC 84) will probably be constrained by Western import restriction measures. Textile agreements, outlining quotas on clothing imports, have been negotiated with the United States in early 1978 and a preliminary agreement is in effect with the EC. The EC agreement has allowed for about a four percent annual increase in clothing item exports through 1981. Future growth rates (1982-85) are expected to remain low. This limited growth rate could, however, be revised slightly upward if Poland can successfully negotiate bilateral agreements, *e.g.*, with West Germany, that allow for more rapid increases. To the extent that Western import barriers remain in effect, which they are likely to do for some time, Poland's hard currency earnings from clothing exports are not likely to achieve very dynamic growth.

Export earnings from nonelectric machinery (SITC 72) are likely to improve in the early 1980s as exports under earlier buyback agreements come on stream. Deliveries of tractors from a Massey-Ferguson deal were scheduled to begin in 1978, and these may boost exchange earnings in the future. Overall, however, it seems that the most promising growth, in the near term future, for finished manufactured products will come in ships. Exports of clothing, some other light industry products (*e.g.* sports equipment), tractors, passenger cars, machine tools, and internal combustion engines will probably advance at more moderate rates.

A further word of caution should be noted about Poland's ability to boost exports of manufactured goods to the I.W. in 1981-85. When most of the "new" production is available for export, it will represent technology that is five to 10 years old. Moreover, it will have to penetrate markets that are already well supplied. A survey of technology transfers to CMEA countries, including Poland, from West German firms shows that 50 percent of the coproduction deals involved goods that already face saturated I.W. markets and another 44 percent involved goods that are moving in the direction.²⁷

4. NONFERROUS METALS

Nonferrous metal exports (SITC 68) to the I.W. have consisted primarily of exports of copper, silver, and zinc. It is notable that nonferrous metal earnings have risen substantially despite continuing sluggish I.W. markets for the metals comprising that group.

Copper, which is the largest component of the nonferrous aggregation, has in recent years been one of Poland's most important hard currency earners among individual non-ferrous commodities. Over 50 percent of Polish nonferrous metal exports to the I.W. have been copper. Poland is said to possess Europe's largest copper reserves, and to develop these deposits, an extensive modernization scheme has been underway. Poland has sought Western help, primarily in terms of credits tied specifically to development of copper. It is clear that the Poles are committed to expanding their copper capacity, and effort which may very well pay off in the 1980's if, as some expect, Western demand and prices rise significantly.

²⁷ "The Scope of Poland's Economic Dilemma," p. 9.

For the near term, Polish copper exports will probably continue to increase moderately, as will earnings, despite persistent problems in demand and price. As with coal, copper exports are laid out largely through long-term contracts. For example, in 1975 Poland agreed to delivery 25 thousand tons per annum to France for the next fifteen years. In 1976 Poland signed a deal with West Germany to delivery 40 thousand tons/annum for the next twelve years. There is some indication that Italy is interested in negotiating for 50 thousand tons/annum in return for aid in copper development.

In addition to improved copper exports, zinc and silver exports should also be rising. If Western economies rebound from the depressed levels of the late 1970s, exports of these commodities will undoubtedly register improved performance. Nevertheless, the value of these exports will be greatly influenced by Western price movements—which, at times can be volatile.

For nonferrous metals exports on the whole, therefore, the near term prospects indicate a moderate expansion which could be significantly improved with better economic performance in the West.

5. CHEMICALS AND SULFUR

Polish planners expect significant increases in exports of chemicals to the developed West in the 1980's. Poland specifically plans to boost exports of sulfur and sulfuric acid, soda, nitrogen fertilizers, polyvinyl chloride (PVC), and synthetic fibers. Presently, Poland is the largest world exporter of sulfur, exporting over 70 percent of production. Almost half of these exports go to hard currency countries. Continued development of the Tarnobrzeg sulfur basin will enable Poland to continue expanding its exports. It appears that earnings from such exports will rise in the 1980s, so long as there exists sufficient world demand.

Polish chemical exports—generally, those that are not petroleum-based—could expand rapidly in the 1980s, depending on world demand. Large investment made earlier in the chemical industry are just now beginning to be realized in the expansion of output. A \$700 million heavy soda plant, constructed by a French-German consortium, came on stream in 1977-78 and has allowed for greater exports of caustic soda. Nitrogen fertilizer exports could be increasing by 1980 when an ammonia fertilizer complex is completed under a \$400 million agreement with Creusot-Loire of France. In addition, chemical earnings may also be boosted as a result of a commodity pay-back agreement signed in 1975 with British Petrocarbon Developments, Ltd. The \$450 million deal calls for the annual export—beginning in 1980—of almost \$125 million in PVC.

B. Import Limitations

Poland will have to maintain a tight rein on imports from the I.W. in 1981-85 if it is to balance trade with the I.S. during that period. Given the magnitude of Poland's problems, the planned 2-percent per annum growth in imports from OECD countries appears highly optimistic. Further curbs on imports, however, could seriously jeopardize Polish industrial production, especially for export. Large grain im-

ports will have to be maintained in order to ensure a continued growth in meat supplies. Poor harvests in 1981-83 only will exacerbate Poland's trade problems.

Finally, import problems could intensify in the 1980s if, as some estimates indicate, Poland has to import large amounts of expensive Western oil because of Soviet inability to meet Poland's oil needs.²⁸ These projections have Poland importing between \$1.5 billion and \$3 billion of Western oil by 1985. Substantially higher oil costs could force Poland to significantly decrease its purchases of I.W. raw materials and manufactures in the future. Such action could cause drastic reductions in Poland's economic growth and, at the same time, its ability to export.

V. SUMMARY AND CONCLUSIONS

Poland should be able to bring its trade with the I.W. into balance during the 1981-85 period if planned trade goals are realized. However, Warsaw will have to overcome a number of serious problems—on both the export and import side of the equation before such goals can be realized.

As noted earlier, the potential for increasing Polish exports to the I.W. countries through 1985 appears promising for several commodity groups. However, Warsaw still must confront those same problems that retarded export growth in the 1970s. Projected low rates of economic growth in the early 1980s for the OECD countries do not augur well for the attainment of trade goals. Potential agricultural problems could also thwart Polish plans to realize export targets.

At the same time, Poland must hold imports from the I.W. in check. Announced import targets from the I.W. although low, could be difficult to achieve, especially if Poland suffers further agricultural set backs and runs into oil import problems. Problems in obtaining Western financing in order to service its hard currency debt could seriously force Warsaw to make major import cuts, but such action, in turn, ultimately handicaps export and debt servicing capabilities and does not provide a permanent solution to Poland's problem which, essentially, must come from an expansion of Polish exports.

²⁸ "The Scope of Poland's Economic Dilemma," p. 13.

POLISH AGRICULTURE: POLICY AND PERFORMANCE

By William J. Newcomb*

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SUMMARY

Poland experienced an agricultural boom in the early 1970's that was unprecedented in its post-war development. A sharp increase in government-sponsored incentives helped foster a rapid rise in output in the large private farm sector. Growth in agricultural production was accompanied by expansion of the food processing industry permitting sizable gains in urban food consumption and exports.

During the mid-1970's, associated with a renewed attempt to speed the transition of farm holdings from private to socialized ownership, Warsaw allowed production incentives to deteriorate. The shift in farm policy, together with a period of unfavorable weather, caused crop production to sag and privately held livestock herds to fall. The resulting stagnation in farm output caused severe economic and political strains. A rise in net imports of food and agricultural raw materials also added substantially to Poland's hard-currency outlays.

*William Newcomb, Office of Economic Research, Central Intelligence Agency. I wish to thank Chet Wojciehowski for his generous assistance with Polish language sources, Brenda Nadjicka for her aid in researching events in 1978-79, and George Lowden for preparing the charts that accompany this article.

The accompanying decline in meat production led the government to attempt to reduce excess consumer demand by sharply raising retail prices in mid-1976—the very issue that had caused the fall of Wladyslaw Gomulka and the rise of Edward Gierek to power in December 1970. The magnitude of the retail price increases for meat and other quality foods provoked a high level of urban civil disturbances and the regime quickly rescinded the price hikes.

Unable or unwilling to adjust prices and wages, Warsaw tried to restore market equilibrium and calm consumers by boosting food supplies. In the near term, the government eased consumer tensions by importing beef and stocking shelves in advance of holiday periods of peak demand. For the long term, Gierek renewed efforts to stimulate private farm production by enhanced incentives. The new farm policy, announced in early 1977, included higher prices for agricultural products and easier access to credit to encourage investment. Unlike the government's earlier success in inducing the private sector to expand output, current policies have failed so far. Having witnessed the transitory nature of the earlier favorable policy towards the private sector, peasant farmers are too distrustful of the current policy shift to channel additional investments into farm facilities that may eventually be socialized. Most of the limited increase in production since 1976 was provided by socialized farms—accounting for one-fourth of total production.

Growth in agricultural production in the early 1980's will not accelerate without a sustained improvement in the structure of incentives and stepped-up flows of resources to the private farm sector. If the leadership seeks again to speed the transition to socialized farming, the rapid acquisition of private farm land could swamp the absorptive capacity of the socialized sector. In this case, or even if present policies are unchanged, agriculture is likely to develop into a principal constraint preventing a rebound in Polish economic expansion in the early 1980's.

I. INTRODUCTION

Poland is the only centrally planned economy that depends largely on private farming. As in other East European countries, the government in Poland attempted to collectivize agriculture in the early post-war period. Nearly one-half of the agricultural land was confiscated by the state, mainly from former German nationals, Polish citizens of German nationality, collaborators, and large land-holders. Roughly 60 percent of the seized land was distributed to peasants; the balance was reserved to establish state farms.

Collectivization of farms began in the late 1940's, but by the end of 1951, less than 4 percent of the agricultural land was collectivized. Relying on compulsory delivery quotas and taxes to overcome peasant resistance, the proportion had tripled by the end of 1955.

The cost of collectivization was high. State harassment of peasants and a general neglect of agricultural investment caused crop and livestock production to stagnate. These and other problems helped bring Wladyslaw Gomulka to power in 1956. Warsaw halted forced collectivization and adopted a "socialization" policy based on attrition in the ranks of private farmers to change the structure of land owner-

ship. Because of slowness in adoption and the voluntary nature of the policy, it did not threaten the interests of farmers and output was soon restored.

Although socialization of agriculture continued slowly throughout the 1960s, by 1970, 3 million small peasant farms continued to account for more than four-fifths of agricultural output. Since 1970, the private farm share of output has declined about 1.5 percent annually—three times faster than in the 1960s.

Because private farms account for the largest share of output, officials must carefully weigh the impact of policies that change the state's role in agricultural production. On the one hand, bold steps to take over large numbers of private farms discourage productivity when peasants perceive threats to their livelihood or property rights. On the other hand, maintaining increases in output dictates the adoption of pragmatic measures that improve incentives and incomes on private farms. The policymakers dilemma is that measures to increase private farm output also strengthens the farmers' hold on their land and frustrates the drive toward socialization.

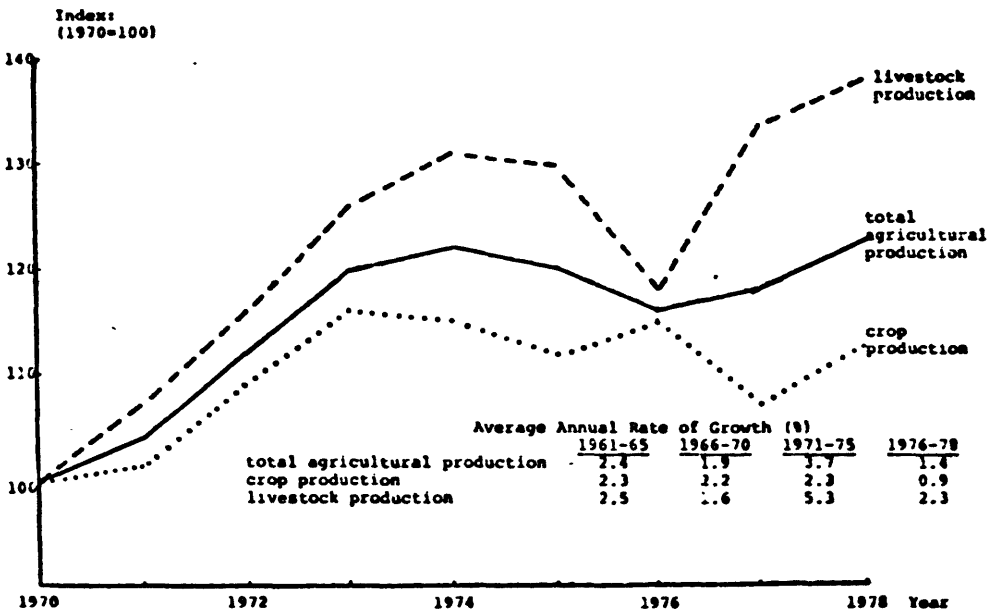
Officials justify the long term objective of socialization on two counts. First, it is claimed that socialized farming is more efficient because of specialized large-scale operations. Thus, the regime views socialization as the solution to structural problems in the private farm sector—such as land fragmentation, an aging labor force, and low rates of investment—that directly retard growth of output.

Second, in an environment of centralized planning for the balance of the economy, officials feel that privately controlled agriculture, naturally responsive to market forces, is not “responsive” enough to central direction from Warsaw.

This paper focuses on the response of the private sector to changes in government policies during the 1970's. Section II discusses the impact of agricultural problems on food consumption and trade. Section III examines structural aspects of private farms that strongly influence the scope and direction of farm policy. Section IV evaluates agricultural policy and performance in the 1970's. Finally, Section V assesses agricultural prospects in the early 1980's.

II. THE PROBLEM WITH AGRICULTURE

The Polish government's concern in recent years over the stagnation of agricultural output centers on its inability to boost domestic supplies of quality foods and to ease the pressure on the hard-currency trade balance caused by agricultural imports. Stimulated by a favorable production environment, including stepped-up flows of industrial producer goods to farms and improved terms of trade, the Polish private farm sector accelerated growth in output in the early years of the Gierek regime. The momentum achieved in 1971-73, however, was not sustained in later years (see figure 1).

FIGURE 1.—Poland: Gross agriculture output¹

¹ See appendix table 1.

SOURCES: Rocznik statystyczny rolnictwa i gospodarki żywnościowej, 1978, and Rocznik statystyczny, 1979.

A. Food Consumption Trends

The failure to maintain previous rates of growth in farm output has contributed to an undercurrent of political unrest. A rapid rise in disposable money income, coupled with an official policy of maintaining stable prices in state retail outlets, led to a surge in demand for quality foods. Polish economists estimated the income elasticity of the demand for food at 0.6 to 0.7.¹ Even with heavy state subsidies to keep food prices relatively low,² foodstuffs accounted for about 38 percent of consumer spending in 1978.³ A major reason for the large share of food in consumer outlays is a shortage of attractive alternate goods and services. According to Augustyn Wos, Director of the Polish Institute of Agricultural Economics,⁴

... in our country many families link the problem of ample diet not only with meeting the demand for foodstuffs but also with social prestige. Considering that the market does not have industrial articles of common use, society wants to buy increasing quantities of better foodstuffs.

Consumer spending on quality foods has focused on meat, especially pork. (Per capita meat consumption is compared with the level of real per capita disposable money income in figure 2.) Per capita expenditures on meat and meat products (in real terms) rose nearly 8 percent annually during the 1971-1975 period, but less than 2 percent annually since 1975. The slowing in the annual growth of con-

¹ In other words, for every 1 percent increase in disposable income an additional 0.6 to 0.7 percent of income will be spent on foodstuffs, see Joanna Sikorska, "Zroznicowanie wzorow spozycia ludnosci pracowniczej," *Gospodarka planowa*, No. 1, 1976, p. 36, and Irena Szczesna, "Ekonometryczne modele wydatkow konsumpcyjnych w wybranych grupach zawodowych," *Wiadomosci statystyczne*, No. 5, May 1978, p. 19.

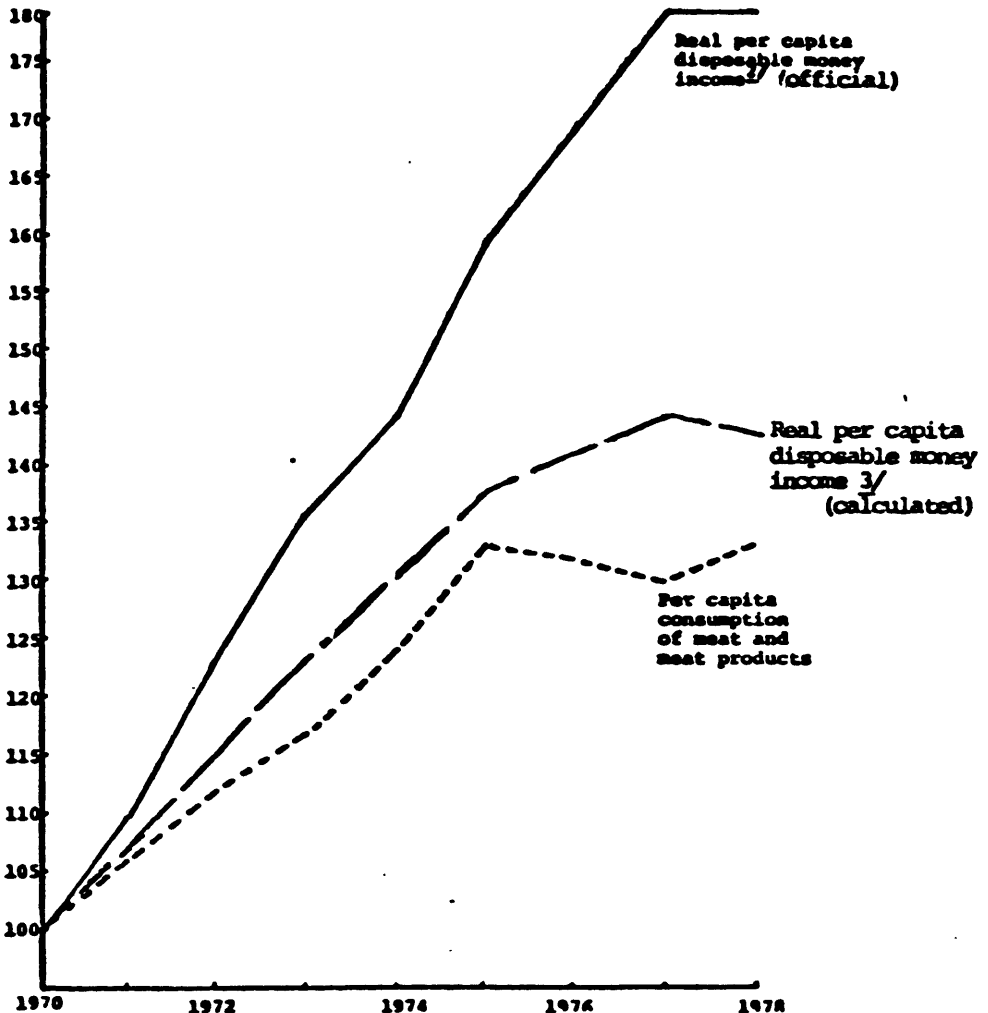
² Subsidies for food production (including direct farm subsidies) amount to 25 percent of the state budget in 1980, compared with about 15 percent in the mid-1970s.

³ Compared with 47 percent in 1970; trends in consumer income and spending are provided in Appendix Table 2.

⁴ Translated from an interview in *Trybuna Ludu*, Sept. 21, 1976.

sumer outlays on meat mainly reflected a leveling of retail supplies, accompanied by increases in shortages and lengthening queues in state retail outlets.

FIGURE 2.—Poland: Index of real per capita disposable money income and per capita consumption of meat and meat products¹



¹ Trends in real income and spending on foodstuffs are provided in appendix table 2.

² Real per capita disposable money income is defined in note 1 to appendix table 2.

³ Calculated with alternative price index as a deflator of nominal disposable income. See appendix table 2 and notes 3-5.

Sources: For official series on real disposable income and meat consumption, *Rocznik statystyczny rolnictwa i gospodarki żywnościowej*, 1978, and *Rocznik statystyczny*, 1979.

B. Trends in Foreign Trade

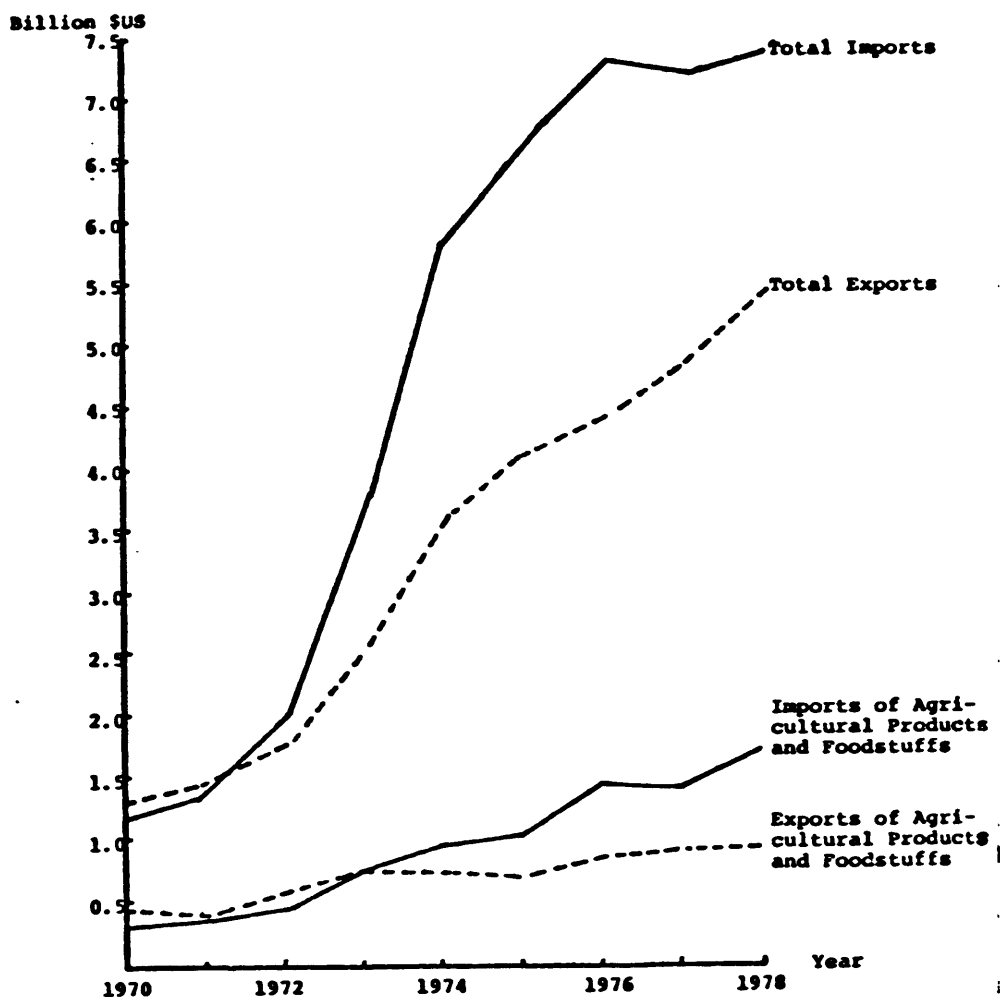
The need to bolster domestic supplies of select foods and to purchase larger amounts of livestock feed spurred the growth of agricultural imports in the 1970s. Growing dependence on imports of feedgrains and other fodder stuffs developed simultaneously with increasing reliance on Western suppliers.⁵ Production problems also hurt earnings

⁵ In the early 1970s, the USSR supplied about half of Poland's grain imports. Following a poor Soviet harvest in 1975, Moscow suspended grain shipments to East European clients; when Soviet grain production subsequently recovered, exports resumed at a lower level. Since 1975, the USSR has supplied less than one-fifth of Poland's grain imports.

from agricultural exports. In addition, traditional exports of live animals for slaughter and processed products, such as bacon, were subjected to tougher trade restrictions in Poland's major West European markets.⁶ Agricultural raw materials and processed foods that had provided nearly one-fourth of Poland's exports to the West during 1971-75, provided less than one-fifth of exports during 1976-78.

On a net basis, a positive balance in agricultural trade with the West was lost in 1973 and never regained (see figure 3). In 1971, net agricultural exports amounted to \$59 million, one-half of the hard-currency trade surplus. During 1976-78, net imports of agricultural products averaged \$675 million, nearly 30 percent of Poland's trade deficit with the West.

FIGURE 3.—Poland: Trade in agricultural products and foodstuffs with the West¹



¹ Zloty values are converted at average annual exchange rates as provided by Rocznik statystyczny handlu zagranicznego, 1979.

Source. Rocznik statystyczny handlu zagranicznego, 1976 and 1979.

⁶ The Polish view of the impact of the EC's common agricultural policy that was adopted in 1968 is presented by Jozef Misala, "EEC Agricultural Integration and Its Effect on Polish Agriculture and Food Exports," Polish Foreign Trade, No. 2, February 1978, pp. 32-35.

III. AN OVERVIEW OF STRUCTURAL PROBLEMS

Poland is the only centrally planned economy that relies principally on private farming (see table 1).¹ Despite a rising share of output attributable to the socialized sector, several million small peasant farms currently account for about three-fourths of agricultural output (see table 2). Unlike their counterparts in other East European countries where socialized agriculture prevails, because of the number and variety of private farms Polish planners cannot, for the most part, seek increases in output by directly allocating additional physical resources to the agricultural sector and by specifying areas and crops to be planted. Warsaw must create an environment that induces peasant farmers to grow and market more produce. Farmers' decisions, of course, are strongly influenced by their expected profits which need to be high enough to encourage farmers to spend more on farm supplies and investment to raise output. Profit margins and production patterns are largely determined by centrally controlled prices, credit availability, and tax rates. Planners then must coordinate changes in the farmers' demand for services, materials, and technology with production of investment and other producer goods in the state-controlled industrial sector.

TABLE 1.—POLAND: AGRICULTURAL LAND USE¹

	1960	1965	1970	1975	1976	1977	1978	1979
Index (1960 = 100):								
Agriculture land.....	100	96	97	94	94	94	93	93
Private farms ²	100	94	89	86	83	83	81	80
Socialized farms.....	100	112	139	151	160	167	172	177
Percent:								
Agriculture land.....	100	100	100	100	100	100	100	100
Private farms ²	87	85	81	79	78	77	76	75
Socialized farms.....	13	15	19	21	22	23	24	25

¹ Arable land, includes land under cultivation, orchards, meadows, and pastures.

² Calculated from use, not ownership; private farmers are permitted to lease and cultivate state-owned land.

Sources: Rocznik statystyczny rolnictwa i gospodarki żywnościowej, 1978, Rocznik statystyczny, 1979; and Wyniki spisu rolniczego, 1979.

TABLE 2.—POLAND: SHARES OF NET AGRICULTURAL PRODUCTION¹

(In percent)

	1960	1965	1970	1975	1976	1977	1978
Agricultural output.....							
Private farms.....	88	86	84	77	75	74	74
Socialized farms.....	12	14	16	23	25	26	26
Crop production.....							
Private farms.....	85	83	79	72	73	71	73
Socialized farms.....	15	17	21	28	27	29	27
Livestock production.....							
Private farms.....	90	88	86	79	76	76	75
Socialized farms.....	10	12	14	21	24	24	25

¹ In constant prices, net agricultural output according to official Polish methodology is defined in appendix table 1, footnote 2.

Sources: Rocznik statystyczny rolnictwa i gospodarki żywnościowej, 1978; Rocznik statystyczny, 1978, 1979.

² Private ownership of farms and the structural problems of agriculture associated with a large number of small farms present unique difficulties for Polish planners. Officials must contend with a system of property rights that permits individual decision-making to largely influence agricultural production. The farmer's livelihood, in turn, depends on decisions of policymakers. Over the long term, agricultural policies have attempted to diminish the role of the private sector. At times, however, the need to increase production has resulted in major shifts in agricultural policy to encourage larger output in the private sector.

Modernization of privately owned farms is complicated by the fragmentation of farm land (see table 3). Three farms in ten are less than 2 hectares in size, and probably one farm in eight produces only enough for household consumption.⁸ Such size distributions understate problems with small-scale farming since many small-to-moderate size farms consist of scattered plots.

Despite heavy outmigration of farm labor and higher farm wage costs relative to machinery prices,⁹ incomes are too low on a large number of the smallest farms to afford investment in equipment for mechanizing seasonal farm tasks, and peasant farming continues to be labor-intensive. In the mid-1970s, only one farmer in 13 owned a tractor. Hence, typically farmers continue to depend on horses for tractive power and personal transportation, as well as for social status. Most of the limited machinery services available are provided by government sponsored machinery cooperatives, known as "agricultural circles."

Moreover, the quality of the labor input is deteriorating; nearly one-third of Poland's private farmers are at least 60 years or above.¹⁰ The rural youth have opted for higher factory wages and city lights rather than long work hours at relatively (albeit rising) low pay on the farm. Finally, a rising share of the daily workload is shouldered by women as adult males in farm households increasingly commute to jobs in industry and construction.¹¹

TABLE 3.—POLAND: NUMBER AND SIZE OF PRIVATE FARMS

	1960 ¹	1970 ¹	1975	1976	1977	1978
Number of private farms (thousand farms).....	3,216	3,007	3,087	3,146	3,100	3,065
Share of farms by land area (percent): ²						
0.5 to 2 hectares.....	25	25	28	29	30	30
2 to 5 hectares.....	34	32	31	31	30	30
5 to 10 hectares.....	29	29	27	26	26	25
More than 10 hectares.....	12	14	14	13	14	14

¹ Census data, all other years as of June.

² Categories may not add to 100 due to rounding.

Sources: Rocznik statystyczny rolnictwa i gospodarki żywnościowej, 1978; Rocznik statystyczny 1975, 1979.

IV. AGRICULTURAL POLICY AND PERFORMANCE IN THE 1970's

A. Early Expansion 1971-73

Ushered to power by food-price riots in December 1970, the Gierek regime set out to quickly improve food supplies, especially meat.¹² The

⁸ Because of the relatively low level of net revenues on farms 5 hectares or less in size, nearly one-half of these farm families depend on non-agricultural employment for 50 percent or more of their income. Rocznik statystyczny, 1973, p. 287.

⁹ Machinery prices were relatively constant after 1970 until raised on 14 July 1976.

¹⁰ Rocznik statystyczny, 1975, p. 273.

¹¹ In the mid-1970s, about three out of seven private farms were run by women. By 1978, reportedly the ratio had increased to one out of two farms. Summary of World Broadcasts, British Broadcasting Corporation, 15 August 1978.

¹² In an excellent article on Polish economic policy and performance in the first half of the 1970s, Zbigniew Fallenbuchl discusses Gierek's new economic strategy and the attempt to raise living standards, see "The Polish Economy in the 1970s" East European Economics Post-Helsinki, a compendium of papers submitted to the Joint Economic Committee, Congress of the U.S., Washington, D.C.: GPO, 1977. In a recently published book, George Blazynski provides a valuable chronicle of events in Poland in the early and mid-1970s, see Flashpoint Poland, New York: Pergamon Press, 1979.

new leadership advanced a pragmatic farm policy that focused on boosting output in the private farm sector. For years, private farming had suffered from official neglect and policies had discouraged expansion and limited growth in productivity.¹³

The nature of the inherited agricultural problem was clear to Gierek—a feed shortage and low profitability had caused livestock numbers to tumble in 1969–70.¹⁴ To ease the fodder shortage, the regime appealed to Moscow for additional quantities of feedgrain. The Soviets complied, and Polish grain imports in 1971 reached a record 3 million tons. To enhance farmer incentive to rebuild herds, the new leadership increased purchase prices for livestock products three times during its first 18 months in power. The Gierek government also raised farm-gate prices for grain in 1971 to help increase grain production. In the following year, as further production and investment incentives, the government lowered land tax rates, modified rate structures, and abolished the onerous system of compulsory deliveries and “tie-in” contracts for the sale of coal in exchange for farm products.¹⁵ Finally, the government gave many farmers legal title to their land.¹⁶

Farmers responded to the improved structure of incentives by increasing outlays on current production materials, such as feeds, chemical fertilizers, and pesticides.¹⁷

Real expenditure on farm supplies, per hectare of agricultural land in 1971 constant prices:

1971	-----	102
1972	-----	121
1973	-----	139

NOTE.—Index: 1970–100.

An almost immediate result of the private farm-oriented agricultural policy was a surge in farm production and sales, as shown in the following tabulation:¹⁸

¹³ While Andrezej Korbonski and others have written extensively on Polish agricultural developments in the 1950s and 1960s, the following sources provide a concise survey of trends in farm policy and production. Polish farm policy in the 1950s and 1960s is discussed by Jan Marczewski in *Crisis in Socialist Planning: Eastern Europe and the USSR*, New York: Praeger Publishers, 1974, pp. 23–27. For a brief analytical discussion of the change in the early 1970s, see Josef Brabant, *Reflections on Poland's Economic Policies in the 1960s*, Berlin: Berichte Des Osteuropa-Instituts und der Freien Universität Berlin, 1973, pp. 17–23. Aspects of Polish agricultural performance and structure in the first half of the 1970s are discussed by Jacek Romanowski “Prospects for the Future of Polish Agriculture”, in Laird, Hajda, and Laird, ed. *The Future of Agriculture in the Soviet Union and Eastern Europe*, Boulder, Colorado: Westview Press, 1977, pp. 97–137.

¹⁴ In 1969, Poland harvested a record grain crop, a below average potato crop, and poor forage crops. With feed supplies tight, a decision by Gomulka, Gierek's predecessor as party leader, to step-up grain imports was made too late to prevent heavy slaughtering of livestock. In addition low state prices for livestock products and high production expenses depressed the market for future herd expansion. Compared with the previous year, the June 1970 livestock census revealed a decline of 1.2 million animals—mainly hogs. The 1970 fall harvest was marked by recovery of potato, fodder, and forage crops, but grain output fell by 2.3 million tons to maintain pressure on livestock herds.

¹⁵ Compulsory deliveries consisted of quotas of certain farm products which the farmer was required to sell to the government at low, fixed prices.

¹⁶ In many cases, peasants had waited for legal title since the post-war land reform. By early 1975, about 1.8 million out of 2.6 million eligible farmers had been granted deeds to their land. Summary of World Broadcasts, British Broadcasting Corporation, 10 April 1975.

¹⁷ Calculated by author from data contained in Rozalia Bachanska, “Analiza Kosztow opłacalności i dochodowości produkcji rolnej w gospodarce indywidualnej w latach 1970–1975”. *Zagadnienia ekonomiki rolnej*, Dodatek do zeszytu 4/76, pp. 17–63.

¹⁸ Output and sales comparisons are calculated in 1971 constant prices. *Rocznik statystyczny rolnictwa i gospodarki żywnościowej*, 1978, pp. 159 and 171.

(Index: 1970=100)

	1971	1972	1973
Private farm gross output and sales, per hectare of agricultural land:			
Crops:			
Output.....	101	112	120
Sales ¹	106	108	119
Livestock:			
Output.....	106	120	128
Sales ¹	102	126	136

¹ Including sales on peasant markets.

Food supplies improved quickly; per capita consumption of meat reached 62 kilograms in 1973, compared with 53 kilograms in 1970. The gain in three years nearly matched the increase in meat consumption during the decade of the 1960s. Exports of livestock for slaughter and meat products similarly expanded in 1971-73 because of a temporary increase in demand (mainly for beef) in West European countries. The regime supported the growth in livestock production to satisfy increased final demand by supplementing grain production with imported feedstuffs.¹⁹

B. Emerging Problems, 1974-76

With the crisis behind them, the policymakers in 1973 shifted their sights to the long term goal of socializing agriculture. Socialization was viewed by the regime as the solution to the severe structural problems in agriculture, particularly land fragmentation. The cornerstone of this policy was the state's acquisition of voluntarily surrendered farm land for the State Land Fund. In the 1960s and early 1970s, the pace of socialization was slow because poor, elderly peasants tended to cling to their land for the minimal security it offered.

Taking account of the large number of elderly farmers, in 1974 the regime attempted to speed-up retirements by liberalizing terms for eligibility in receiving farm pension benefits. To qualify for pensions the size of land holdings were reduced from 5 to 2 hectares—expanding the number of eligible farmers by at least 75 percent.

Moreover, despite the regime's initial efforts to boost farm income, by late 1974 earnings were being squeezed by more rapid increases in farm production costs than in revenues. In 1974, prices paid by farmers rose by about 10 percent;²⁰ prices received increased only 7 percent, in-

¹⁹ Importing grain to export meat was another major departure from Gomulka's policy of the 1960s that had stressed self-reliance in feed production to minimize feedgrain imports—with consequently lower meat production.

²⁰ Calculated by author from data contained in Bachanaka, op. cit., and Jadwiga Reinstein and Hanna Scheffa "Analiza kosztów, opłacalności i dochodowości produkcji rolnej w gospodarstwach indywidualnych w latach 1975-1977." *Zagadnienia ekonomiki rolnej. Dodatek do zeszytu 5/18*, pp. 17-49. Official Polish estimates admit to an implicit increase of only about 4 percent, *Rocznik statystyczny rolnictwa . . .*, 1978, pp. 184, 419. The 10 percent rate of increase cited reflects independent expenditure data of the Polish Institute of Agricultural Economics published by Bachanaka and partially revised by Reinstein and Scheffa for 1974. Their estimates imply a price increase in 1974 ranging from 6 to 14 percent; 10 percent represents the mid-point of this range.

Commenting on price increases in farm products, Zdzisław Grochowski, Deputy Director of the Polish Institute of Agricultural Economics, stated that price increases on farm supplies purchased by private farmers amounted to 15.5 percent between 1970 and 1975. *Ideologia i polityka*, September 1976, as provided in *Translations on Eastern Europe*, U.S. Joint Publications Research Service, November 3, 1976.

cluding prices on the free market.²¹ State-set purchase prices for grains declined in 1974, and prices for hogs increased only 5 percent.²²

At the same time that terms of trade turned against the farmer, poor weather reduced yields of domestically produced feedstuffs—root crops in 1974 and grain crops in 1975. Farmers, fearing shortfalls in government delivery of commercially mixed feed,²³ reserved more grain output on farms as feed. The sag in government grain purchases added to growing import requirements to help feed livestock on socialized farms.

In setting state purchase prices, officials may have knowingly failed to take higher unit production costs for farmers into account. The increase in purchase prices of agricultural products would have added to the subsidy burden on the government's budget as long as retail food prices were kept relatively low and below cost to the government. Thus, for example, higher imported grain prices and other rising costs were passed increasingly to farmers; after rising rapidly in 1971-73, total disposable real incomes of private farmers declined by 6.6 percent in 1974 and by 6.2 percent in 1975.²⁴

With real incomes falling, the improved pension benefits looked attractive to many farmers. In 1974 and 1975, the amount of private land turned over to the State Land Fund for a pension increased by more than 300 percent, compared with the previous two years. The land-pension exchange was so great that the state could only partially absorb the land in state and cooperative farms.²⁵

[Thousand hectares]

	1972	1973	1974	1975
Private farm land turned over to the state land fund.....	90	105	224	359
Of which: For pensions.....	54	66	174	315
State land fund acreage provided state and cooperative farms.....	119	84	129	157

Socialization also was changing the structure of farm output on the land acquired from private farmers. Since many of the parcels ab-

²¹ Rocznik statystyczny, 1979, p. 352.

²² Rocznik statystyczny rolnictwa . . . 1978, p. 440.

²³ Generally, a blend of grains and protein supplements, such as soybean or cottonseed meal.

²⁴ Officially defined, real disposable income is net of capital formation and includes income received in-kind and the balance of credit extended private farmers. Rocznik statystyczny, 1979, p. 215. Also, see Wiesz Wspolczesna, August 1977, pp. 38-44, as provided by Translations . . . October 5, 1977. As indicated in the notes to Appendix Table 2, the official series on real disposable income is believed to be biased upward due to an underestimate of the rate of inflation measured by the official price index used to deflate nominal money income. Hence, the decline in a "corrected" real income series would probably be larger than the amounts cited.

²⁵ Although land transfers are officially regulated, private farmers may transfer farms to heirs and sell and lease farm land. The average price of land fell in 1974 and 1975, as shown in the following tabulation:

Price of farm land (1970=100):	
1971	103
1972	105
1973	105
1974	103
1975	100

The decline in farm land prices, especially for smaller farms that had limited marketability, also made pensions more attractive.

Once land is acquired for the State Land Fund, land is available for incorporation into near-by state and cooperative farms. Some land is resold to the private sector, the amount largely determined by the availability of credit. Land is also provided to industries and for urban uses. Land remaining in the fund is leased or cultivated by agricultural circles. Rocznik statystyczny rolnictwa . . . 1978, pp. 88 and 461. Although land in the fund is not deliberately allowed to lie fallow, too frequently scattered parcels remain uncultivated. See, Blaszyński, op. cit., p. 250.

sorbed from the private sector were small, scattered and often below average soil quality, state farm managers found much of the land unsuited for capital-intensive cultivation of grain crops. In 1971-75, the average total area seeded to grain was nearly 400,000 hectares less than in 1966-70.²⁶ Weighted by the average yield, the loss in potential grain output was about 1 million tons annually or roughly 38 percent of average net imports during 1971-75.

By late 1975, tight feed supplies and the narrowing margin between the price for slaughter animals and cost resulted in a reduction in herds. The accelerated pace in retirement reinforced this downturn in livestock as these farmers also sold-off or slaughtered their stock. By June 1976, hog numbers had declined markedly, especially breeding stock.²⁷

(Million head at mid-year)

	1971	1972	1973	1974	1975	1976
Hog numbers on private farms.....	13.1	15.1	17	18	17.0	14.2
Of which: Sows.....	1.6	1.9	2	2	1.8	1.5

Shortages of meat in the marketplace worsened in late 1975. The regime reacted to growing consumer complaints by publically blaming much of the shortage on private farmers' low productivity and failure to produce enough feedstuffs. The government threatened to expropriate land of farmers who achieved yields below the average of similar farms.²⁸ Faced with falling net income and renewed official hostility from Warsaw, the private sector's enthusiasm for investment in agriculture quickly waned. In 1971-75, farmers had increased real investment expenditures nearly 10 percent annually. In 1976 real farm investment fell by roughly 13 percent with almost all of the decline occurring in farm construction.²⁹

C. Attempts to Control Demand for Food, 1976

Unable to halt the downturn in livestock production, Warsaw took steps to lessen the impact of lower meat production. In mid-1976, the regime moved to curb excess consumer demand—driven since 1970 by a 9 percent average annual surge in real personal income³⁰—by instituting long overdue price increases. Food prices were relatively low because the Gierek regime had revoked the price increases that had sparked rioting in December 1970 and did not pass on to consumers

²⁶ During 1971-75, the cumulative loss in agricultural land reached 334,000 hectares, mainly because of industrialization and urbanization. The cumulative loss of cultivated area during 1971-75 was 288,000 hectares (a decline of 704,000 hectares in the private sector and a gain of 416,000 hectares in the socialized sector). The cumulative loss in grain area was 482,000 hectares (a decline of 398,000 hectares in the private sector and 84,000 hectares in the socialized sector). Thus, even though the area of socialized farms expanded, absolutely less was planted with grain. The net difference between the decline in cultivated acreage (288,000 hectares) and grain acreage (482,000 hectares) probably was used as less productive meadows and pastures.

²⁷ Rocznik statystyczny rolnictwa . . . 1978, p. 88.

²⁸ On confiscation of private farms, see Blazynski, *op. cit.*, p. 249.

²⁹ Trends in real private farm investment are presented in Appendix Table 8.

³⁰ Based on official data: the official cost-of-living index used in deflating nominal money income probably understates the rate of inflation (see Alec Nove, *Political Economy and Soviet Socialism*, London: George Allen and Irwin, 1976, pp. 198-191). Using an independently derived price index as a deflator lowers the increase in real personal income to 5.8 percent annually. For the alternative calculation of the rate of inflation, see Note to Appendix Table 2.

subsequent increases in food production costs.²¹ Polish officials believed the price boosts had to be large to be effective because of the inelasticity of demand with respect to price for quality foods, especially meat.²² Combining substantial price increases for food with income compensation for lower income groups, the government tried to reduce the large budget subsidy.

Although expecting some increases, the populace was shocked at the magnitude of the proposed price hikes announced on 24 June 1976—averaging 69 percent for meat and meat products, 30 percent for poultry, 60 percent for quality cheese, almost 100 percent for sugar, and about 30 percent for selected vegetables. Workers reacted swiftly and often violently. Demonstrations, sit-ins, and widespread destruction of property at state-operated factories forced the regime to withdraw the price increase proposal on the following day.

Consumer unrest remained high for the remainder of 1976. Hoarding intensified shortages, especially of staples. Rationing of sugar was introduced in August and the generally favorable reception by consumers caused government planners to consider rationing meat as well.²³ De facto rationing, in fact, was widely practiced in many smaller towns where purchases were limited. A Party Plenum on 9 September 1976 grappled with agricultural policy changes, but the problems in agriculture continued to be hotly debated for the remainder of the year.

D. A "New" Approach Toward Agriculture, 1977

In early 1977, Gierek announced a new agricultural policy—essentially a reconstitution of the pragmatic measures that had stimulated output in the early 1970s. The new policy was coordinated with a revised Five Year Plan (announced at the end of 1976) that pumped more resources into agriculture, set higher production targets for crops, but lowered overly ambitious goals for livestock production (see table 4).

TABLE 4.—POLAND: PLANS FOR AGRICULTURE, 1976-80

	Actual 1971-75	Original plan 1976-80	Revised plan 1976-80
Gross agricultural production (average annual rate).....	3.7	2.8-3.0	3.0-3.5
Of which:			
Crop production (average annual rate).....	2.5	2.3-3.0	3.7-4.2
Livestock production (average annual rate).....	5.3	3.0-3.4	2.5-3.0
Investment in agriculture (in billion zloty).....	266	348	389
Investment in agriculture (percent of total).....	13.8	13.0	14.1
	1975	1980	1980
Tractors (thousands).....	400	550	700
Chemical fertilizer-nutrient content (kilogram per hectare).....	181.9	NA	250
Lime (kilogram per hectare).....	119.6	NA	NA
Grain production (million tons).....	19.6	26.5-28.2	26.2
Grain yields (quintals per hectare).....	25.5	31.0-33.0	31.0
Cattle (million head).....	13.2	15.0-15.5	14-14.3
Hogs (million head).....	21.3	25.0-26.0	22.0
Sheep (million head).....	3.1	4.0	4.2

Source: Announcement at Seventh Party Congress, December 1975, and Fifth Plenary Assembly, December 1976.

²¹ Retail prices were rolled back in 1972 and pegged at the 1967 level.

²² Polish studies indicate a high income elasticity for meat—ranging from 0.8 in higher income groups to more than 1.0 in the lower. With the absence of adequate substitutes, a high income elasticity implies a highly price inelastic demand for meat at prevailing, low state-set prices. A small price increase, thus, would result in an insignificant change in the quantity of meat demanded. See Trybuna Ludu, July 28, 1976 as provided by Translations . . . September 9, 1976, pp. 11-17. The same estimate of the income elasticity of meat is given in an article by Henryk Pogorzelski in Nasza Trybuna, August 28-29, 1976 on the economics of pork production.

²³ In the fall of 1976, the government also experimented with the introduction of "commercial" stores for meat where better quality cuts were available at prices twice the level charged in "regular" outlets. This too was generally accepted and has since expanded in terms of the number of stores and volume of meat sold. The New York Times, November 27, 1978.

The new farm policy stressed: (a) expanding production and improving efficiency in the private sector; (b) enlarging the size of more productive farms at the expense of smaller "dwarf" farms; and (c) boosting the share of private farm output produced on contract with the state. Prices farmers received from the state and the cost of fertilizer and other material purchases were to be adjusted at least annually to maintain a favorable price-cost ratio. Apart from short-term production incentives, higher profits provided farmers the wherewithal to purchase larger amounts of current materials, construction materials, and equipment. Moreover, higher incomes were to narrow rural-urban income differentials to slow labor migration from the farm.

To further encourage investment, the state offered larger amounts of subsidized credit; terms were especially attractive for construction of farm buildings. The government followed up its attempt to increase farm construction by enhancing rural supplies of cement and timber.⁵⁴

The changes in the price system had the additional intent of changing farming patterns. Principally, officials were concerned by the overdependence of livestock raisers on commercial feed and the relative neglect of fodder production on the farm.⁵⁵ Prices of commercial feed, for example, were raised sharply. The new price schedules benefitted larger sized farms and specialized livestock farms that obtained economies of scale in production, but penalized smaller farms. Specialized farms also were given priority in distribution of such supplies as coal, lime, fertilizer, and feed. Price discounts were made available to farmers who contract to sell output to the state, thus tying production closer to the marketing system.

The socialization policy was also changed to support structural change in the private sector. Policy focused on reducing the number of "dwarf" farms and persuading older farmers to turn land over to the state. Unlike previous policy which concentrated solely on acquiring land for state and cooperative farms, officials began encouraging efficient private farmers to enlarge their holdings. The government raised the ceiling on the maximum size of private farms⁵⁶ and offered credits for buying additional land.

Finally, private farmers were brought under the general pension scheme that applied to workers in the socialized sector of the economy. Previously, farmers had pension rights only in exchange for deeding their land to the state. Starting in 1980, retiring farmers were to receive pensions calculated on the value of farm output sold under contract to the state during the previous five years, adjusted by the condition of farm buildings and soil quality. The farmers, however, would not be required to surrender their land to the State Land Fund.⁵⁷ The intent was to increase food supplies available in the socialized market, to tie farmers closer to the state plan, and to encourage farm upkeep.

E. Production Response to the New Policies, 1977-79

After three years of implementation, the new farm policy has failed so far to lift agricultural output substantially. Officially criticized in

⁵⁴ Nowe Drozi, *Translations* . . . May 4, 1977, p. 34.

⁵⁵ *Trybuna Ludu*, August 4, 1976.

⁵⁶ Until 1976, private farms could not exceed 50 hectares of arable land (100 hectares in the Northwest). The new law doubled the maximum permitted size.

⁵⁷ While farmers could sell, lease, or will their farm and receive a pension, annuities were set higher for farmers that surrendered land to the State Land Fund.

1975-76, farmers are wary and, hence, skeptical of the regime's long run intentions. Although livestock numbers have been boosted back to peak levels, growth occurred almost entirely on socialized farms, especially on producer cooperatives.³⁸

An effective farm policy had to stimulate an increase in livestock numbers on private farms. For cattle, price increases were not accompanied by a requisite expansion of feed supplies.³⁹ A decline in sow numbers on private farms by roughly 4 percent in 1978—indicating probable farmer concern that either profits or feed supplies would not hold up—was only reversed by June 1979. Despite a poor feed grain crop in 1979, lack of reference to distress slaughtering in the Polish press during the fall-winter period of 1979-80 suggests that cattle and hog numbers probably have been maintained.⁴⁰

Little improvement has occurred in crop output. The area seeded to grain in 1977 expanded by nearly 3 percent; the socialized sector accounted for about 80 percent of the additional hectares planted—reversing the declining trend in grain area on state farms. Poor weather depressed yields 10-15 percent, however, more than offsetting the increase in sown area. In 1978, the grain area fell back to earlier levels, led by a reduction of 3 percent on private farms; socialized farms again increased the area sown to grain. Weather was better than average throughout the crop season, but late summer rains complicated harvesting and resulted in unexpected losses. Grain production, earlier projected at record levels by agricultural officials, reached 21.5 million tons. In 1979, weather problems again blunted the limited impact of policy tools, such as price adjustments. Delayed fall sowing, a severe winter, and a wet spring contributed to Poland's worst harvest since 1970; grain yields fell by nearly 20 percent, compared with 1978. Although the harvest of fodder root crops was above average in 1978 and 1979, a tightening of grain supplies forced farmers to continue depending on costly imported feed to maintain livestock herds.

*F. How Farmers Fared, 1971-73 Versus 1977-78*⁴¹

As indicated above, redirecting agricultural policy to favor the private farm sector did not generate the same results as achieved in the early 1970s. Lackluster agricultural performances in 1977 and 1978, beyond that attributable to adverse weather conditions, suggest that the government failed to make incentives attractive enough, and the regime was unable to convince farmers that its support of the private sector was more than transitory.

³⁸ The socialized sector accounted for all of the increase in cattle (cattle numbers declined on private farms), nearly one-half of the increase in hogs, and more than half of the increase in sheep. The socialized sector holds roughly one-fourth of Poland's cattle and hogs and about one-third of the sheep.

³⁹ As indicated previously, the size of livestock holdings depends on feed supply, the cost of feed, and the price of livestock products. Brenda Nadijcka analyzes this relationship in Appendix B. Regression results indicate that for cattle a 1 percent reduction in feed supply would lead to a 0.6 percent decline in cattle numbers, if price remains constant; and a 1 percent increase in purchase price results in a 0.2 percent rise in cattle numbers, feed supply constant.

⁴⁰ Livestock inventories on January 1, 1980 indicated a 2 percent drop in cattle numbers and a 1.5 percent decrease in hog numbers.

⁴¹ Data for 1979 are too incomplete to incorporate into an analysis of trends in private farm income.

A decisive factor in the success of Gierek's farm policy in the early 1970s was the rapid rise in farm profits.⁴² After falling in 1974 and 1975, real net farm income jumped in 1976 by 8 percent and continued to rise in following years.⁴³ Part of the increase in earnings can be attributed to a sharp cutback in spending on farm supplies—especially purchases of commercially prepared feeds, fertilizer, and lime.⁴⁴

During 1976–77, farmers used a much larger share of the higher profits to raise consumption levels, in contrast to the early 1970s when farmers chose to increase outlays on producer goods, construction of farm buildings, and increasing the value of carryover inventories of crops and livestock.

Unwillingness to make commensurate outlays for current production and capital formation, and the surge in consumption⁴⁵ including spending on housing improvements, indicated that farmers' expectations had changed concerning the benefits of expanding production.

Trends in farm investment in recent years have shifted to favor machinery and equipment relative to new construction. The change in investment patterns reflects both greater availability of equipment and uncertainty about current agricultural policy. Farm machinery has a quicker payoff than the return from new buildings, and, upon retirement, farmers can readily sell farm equipment.

Uncertainty over the regime's ultimate intentions also caused farmers to think twice before expanding land holdings. Although easier access to credit enabled farmers to quadruple purchases from the State Land Fund in 1977, the 78,000 hectares bought was less than in 1972 and 1973 when the future looked brighter.⁴⁶

Purchase of farmland from the State Land Fund by private farmers (in thousand hectares): 1970, 46; 1971, 53; 1972, 82; 1973, 90; 1974, 45; 1975, 17; 1976, 22; 1977, 78; and 1978, 94.⁴⁷

V. OUTLOOK FOR THE EARLY 1980's

The achievement of most of the regime's 1976–80 five year plan goals for agriculture are beyond reach. Gross agriculture production will clearly fall short of the target of a 3.0–3.5 percent average annual rate of growth for 1976–80.⁴⁸ More likely, growth in production during

⁴² *Zycie Gospodarcze*, June 27, 1976, as provided by Translations . . . , August 11, 1976, pp. 14–23.

⁴³ *Rocznik statystyczny*, 1979, p. 215.

⁴⁴ Compared with 1975, purchases of fertilizer fell 5 percent and industrially-produced fodder 19 percent in 1976 (in constant 1971 prices). *Wies wspolczesna*, Translations . . . , *op. cit.*

⁴⁵ During 1976–78, in keeping with the renewed emphasis on consumption, farmers also reserved somewhat more of their livestock production for home consumption. State retail outlets in rural areas were among the first to have allocations cut by officials struggling to boost meat supplies in state stores in industrial centers.

⁴⁶ There is evidence that the amount of land returned to the private sector was below plan in 1977 because local officials failed to fully support Gierek's policy. The 1976–80 five year plan called for the State Land Fund to return 500,000 hectares to the private sector, and the Ministry of Agriculture estimated that 300,000 to 400,000 hectares would be sold between 1978 and 1981. Among farmers willing to add to their holdings, many complained that they could not obtain timely approval from local officials.

⁴⁷ *Rocznik statystyczny rolnictwa* . . . 1978, p. 88, and *Rocznik statystyczny*, 1979, p. 219.

⁴⁸ This paper was completed in March 1980—prior to spring sowing; consequently, the author does not hazard a forecast of this year's crop output.

the 1976–80 period will be the lowest recorded for any five year period since 1960.⁴⁹

Similarly, raising grain yields in 1980 would have required an increase in the flow of fertilizer and other inputs to agriculture. Fertilizer usage, in terms of nutrient content per hectare, has not increased during the past three years and show no signs of improving.⁵⁰

A. Sluggish Growth in Farm Output

As a point of departure for the 1981–85 five year plan, a good harvest in 1980 would have given officials a leg up in supporting further increases in livestock numbers. Goals cited for 1985 include:⁵¹

[in million head]

	Actual, June 30, 1979	Plan, June 30, 1985
Cattle.....	13.0	15.0-15.5
Hogs.....	21.2	23.0-23.5
Sheep.....	4.2	5.5- 6.5

Grain yields are to average 30–32 quintals per hectare over the next five years,⁵² and the grain area is to expand to 8.6–8.7 million hectares.⁵³ These figures show a remarkable similarity to 1980 goals. Agricultural objectives so far revealed suggest that the state does not intend to support another livestock boom that outstrips the rate of increase in domestically produced feedstuffs. Rather, policymakers desire reactively faster growth in crop output to gradually reduce the import burden of supporting livestock production.⁵⁴

Even with modest livestock targets, unless planners can persuade farmers that the government will sustain a favorable profit environment, private livestock raising will remain a potential trouble spot. Moreover, even with better than average weather, increases in grain production are likely to be less than planners project. Loss of grain area will continue because of industrialization, urbanization, and the increase in the number of small farms that will be surrendered to the state for pensions. Boosting grain yields will be difficult, as well, requiring greatly stepped-up supplies of fertilizer. The fertilizer re-

⁴⁹ Attaining the lower 1980 goals for grain output and livestock numbers that were specified in 1977 is equally doubtful. For grain production to reach 26 million tons, harvested area must expand to more than 8.3 million hectares and yields must exceed 31 centners per hectare, up 5 and 16 percent, respectively, over the average of the previous five years. (The Agriculture and Food Committee of the Sejm, the Polish Parliament, recommended that the grain area exceed 8.3 million hectares. Summary of World Broadcasts, British Broadcasting Corporation, February 7, 1980). Much of the increase in area would have to occur on private farms—accounting for roughly 80 percent of grain acreage—that are increasingly being called upon to simultaneously expand non-grain fodder crop acreage.

⁵⁰ Sztandar m'odych, January 14, 1980, as provided by Translations . . . , February 26, 1980, p. 145. It is not clear whether supplies have been restricted or there is a continuing reluctance to increase purchases of farm supplies because of a cost-price squeeze.

⁵¹ Nowe Drogi, December 12, 1979, as provided by Translations . . . , February 20, 1980, p. 3A.

⁵² Loc. cit.

⁵³ Zycie Warszawy, January 24, 1980.

⁵⁴ Nowe Drogi, Translations . . . , op. cit. pp. 32–33.

quirement for 1985 is set at 250 kilograms of nutrient content per hectare, a 32 percent rise over the crop year ending 30 June 1979.⁵⁴

B. Food Supplies Remain Tight

While the gap between supply and demand (at current relative prices) may narrow for some foods over the next few years, meat shortages will continue. Planned meat consumption per capita was set at 75 kilograms for 1980,⁵⁵ about 7 percent higher than the 70 kilogram average attained in 1975-1978 and 4 percent higher than in 1979.⁵⁶ Beyond 1980, although planned growth in livestock numbers would support an increase in meat supply that is somewhat faster than population growth (about 1 percent per annum), supplies will not rise fast enough to correct the current disequilibrium.⁵⁷

C. Hard Currency Drain Continues

Despite official policy statements suggesting otherwise, large hard-currency expenditures for grain and fodder imports are not likely to fall off quickly. With annual grain requirements probably continuing to average roughly 27 million tons in the near term, Poland will need to import about 5 million tons or curtail its livestock expansion program. With the expected continuation of the USSR as a major net grain importer,⁵⁸ Warsaw must continue to look to the West for most of the grain imports as well as for the credit to buy it.

Overall, trade in agricultural raw materials and foodstuffs will likely remain in deficit, although the heavy burden of agriculture on the balance of payments may be reduced. Earnings from traditional exports of agricultural products—malt, potatoes, and slaughter animals—and food industry products will not offset the large hard currency outlays necessary to buy grain and oilseed meals.

Officials view meat exports, in particular, as a means of covering part of the cost of their livestock expansion program.⁵⁹ A substantial boost in meat exports to the West to help offset hard-currency outlays on foodstuffs would be doubly difficult. First, consumers view meat exports as a deduction from market supplies.⁶⁰ Second, Western market access restrictions are unlikely to ease, and Polish meat products compete with other East European suppliers for market shares.

D. Policy Shifts Possible

Only if Poland's leaders vigorously pursue policies that: (a) boost the flow of industrially produced materials and investment goods to farms, and (b) promote profitability in the private farm sector, will agricultural output from that sector accelerate in the 1980s. Even with

⁵⁴ Again this is the same as the 1980 goal.

⁵⁵ Lowered by the revised 1976-80 plan from an original target of 80 kilograms per capita.

⁵⁶ Per capita meat consumption in 1979 was reported at 72 kilograms. *Zycie Warszawy*, op. cit.

⁵⁷ *Loc. cit.*

⁵⁸ CIA, USSR: Long-term Outlook for Grain Imports, National Foreign Assessment Center, ER79-10057, January 1979.

⁵⁹ For a recent review of trade in agricultural products and the need to continue meat exports, see *Trybuna Ludu*, November 2, 1979.

⁶⁰ *Ibid.*

improved availability of machinery, equipment, and construction materials, the Gierek regime must overcome the peasant's skepticism and persuade them to voluntarily invest more in their farms. In addition, the farm sector needs upgraded infrastructure that is costly to develop and would absorb funds the regime would prefer to pour into industrial projects.

The most severe threat to agricultural expansion in the near to immediate term is a renewed attempt to step-up the pace of transition from private to socialized ownership. Since recent increases in overall farm output have been attributable to production gains in the socialized sector, the temptation to follow through with a strengthened socialization policy must be particularly appealing. Moreover, the regime probably is frustrated by the private farmer's unwillingness under the present incentive arrangements to increase the area planted to grain, expand livestock inventories, and improve farm facilities.

Prospects increase that policy changes would occur in 1981 because new programs could be coordinated with the new 1981-85 plan. Over the next few years about one-third of Poland's private farmers will be eligible for retirement. Officials are projecting the greatest turnover of agricultural land in the post-war period—about 5.7 million hectares, or about 40 percent of privately held area.⁶²

The redistribution of this land between the private and socialist sector critically depends on the level of profitability in farming and the degree to which bureaucratic obstacles impede transfers of land to the private sector.⁶³ Officials expect that about 4.5 million of the 5.7 million hectares will be retained in the private farm sector.⁶⁴

The leadership probably will not act hastily and threaten the private farm sector to the extent that agricultural output is seriously dislocated. A miscalculation, however, on the speed that land can be socialized, or on the level of profits required for the private farm to remain viable, could seriously retard the growth of output. Farmers, potentially, could exchange more than the expected amount of land for pension if the price of land declines on the free market, or if heirs are discouraged about farming's prospects. The socialized farm sector probably will be hard pressed just to incorporate the 1.2 million hectares already earmarked for its expansion, if accomplishments in the 1970s are any guide.

Overall, the outlook for adoption of output enhancing policies is not favorable. Hence, agriculture is likely to develop into a principle constraint preventing a rebound in Polish economic expansion.

APPENDIX A

Appendix A contains a collection of statistical tables that: (a) compare the growth of agricultural output with trends in income and expenditure on food-stuffs; (b) illustrate the flow of resources to the private and socialized sector, as represented by acquisition of tractors and fertilizer consumption; (c) relate comparative trends in investment in farm construction and machinery; and (d) contrast rates of growth in agricultural production, taking account of differences in land holdings and the size of the agricultural labor force.

⁶² Nowe Drogi, Translations. . . , op. cit.

⁶³ Trybuna Ludu, August 21, 1979.

⁶⁴ Nowe Drogi, Translations. . . , op. cit.

APPENDIX TABLE 1.—POLAND: AGRICULTURAL OUTPUT

	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979
Official measures:										
Index: 1970 = 100:										
A. Gross agricultural output ¹	100	104	112	120	122	120	116	118	123	121
(1) Crops.....	100	101	109	116	115	112	115	107	113	NA
(2) Livestock production.....	100	107	116	126	131	130	118	134	138	NA
B. Final (net) agricultural output ²	100	106	116	124	124	120	121	125	136	NA
(1) Crops.....	100	104	111	114	104	96	116	98	NA	NA
(2) Livestock production.....	100	107	118	129	134	132	121	130	NA	NA
Alternative measures:										
Index: 1968-71 = 100:										
C. Net agricultural output ³	102	101	106	111	113	115	110	108	117	NA
Index: 1970 = 100:										
D. Net agricultural output ⁴	100	101	108	116	118	118	116	120	128	128
(1) Crops.....	100	92	94	90	92	102	111	102	107	103
(2) Livestock.....	100	107	117	128	136	130	120	132	143	145

¹ Gross agricultural output is the total value of output of crops and livestock products measured in constant prices. The index over-states production available for producer's own consumption and sale because it includes into: mediate production, such as feed and seed. Indexes are spliced together in 1975; 1970-75 are in 1971 constant prices and 1976-79 are in 1976/77 prices.

² Final (net) output is defined as the sum of the value of marketed output, consumption-in-kind, and the change in farm inventories of crops and livestock numbers. The index is "net" of feed, seed, and manure to the extent that feed retained on farms is not included. The value of feedstuffs returned to farms after minor processing, however, is included as part of output.

³ This index is published by the FAO. The index is net of estimated agriculturally produced intermediate product and includes changes in the inventory of livestock numbers. The index excludes changes in crop inventories because data are not generally available for the number of countries considered by the FAO.

⁴ This is an independently calculated index constructed by Gregor Lazarcik and published by the Research Project on National Income in East Central Europe. The index is based on FAO methodology and is the product of individual physical series of output (18 crops and 17 animal products) weighted by average 1970 Polish prices. The crop index is net of agriculturally produced intermediate products (e.g., seed, feed for livestock) and excludes changes in the value of crop inventories. The livestock production index also is net of intermediate products (e.g., eggs for hatching, milk sucked by calves, manure) and includes the change in the value of inventories.

Sources: Rocznik statystyczny rolnictwa . . . 1978. Rocznik statystyczny, 1978, 1979, FAO production yearbook, vol. 32, 1978, and Agricultural Output, Expenses and Depreciation, Gross Product, and Net Product in Eastern Europe, 1965-78 occasional paper—56, New York: L.W. International Financial Research, Inc., 1979. Updated and revised by Gregor Lazarcik.

NOTES

1. During 1970-79, the various indices in appendix table 1 show generally the same trend. In some years, however, the direction of the indices sharply diverge. Differences in concepts of production and methods of calculation have a sizable impact on the representation of trends in farm output. (This problem is also discussed by Gregor Lazarcik in his article on East European agriculture in the forthcoming Joint Economic Committee compendium.) In 1971, for example, the official final output index of crop production increases 4 percentage points, compared with 1970; in the same year, Lazarcik's crop index declines 8 percentage points, compared with 1970. The official index reflects a relative decline in the consumption of agriculturally produced intermediate production; partly the result of increased sales to the industrial sector for minor processing and partly the substitution of a record level of imported feedstuffs to offset a reduction in the 1970 grain harvest and the 1971 potato harvest. The decline in the 1971 potato harvest, thus, did not result in a fall in net output because the amount available for consumption and sale remained roughly the same. In addition, imports added to the value of carryover inventories. The alternative index reflects a bumper harvest of potatoes, fruits, and vegetables in 1970—items that probably account for about 1/2 of the value of crop production—and a sharp decline in output of these crops in 1971 that more than offset a rise in the value of grain output (less feed and seed). Lazarcik also deducts as intermediate production grain for feed that is returned to the farm sector after minor processing. The Polish net crop index, as previously indicated, considers all sales final and, consequently, the deduction is less.

2. Each output series also could be represented in 3 to 5 yr moving averages. While such indices depress the influence of weather on output, they conceal the abrupt changes encountered by Polish planners and producers who are reacting, in a policymaking context, to year to year changes in output.

3. None of the indices in appendix table 1 attempt to calculate farm production using a method similar to the measure adopted by the U.S. Department of Agriculture for the United States. The index of farm output published by the USDA measures crop output, less seed, and the "net" production of livestock, by deducting feed from livestock production to obtain value-added. (See Major Statistical Series of the U.S. Department of Agriculture, Agricultural Handbook No. 365, pp. 15-17).

4. Each of the agricultural indices has its own particular strength and weakness. Index D, for example, is constructed in a known manner and does not involve shifting price weights, so long term comparisons are enhanced. In measuring year-to-year changes, however, lack of crop inventory data impair its usefulness as a measure of change in planners' and producers' perceptions of the relative performance over time and the need for possible alternative policies. Index C can readily be compared with agricultural performance in other countries, but is less useful for analyzing trends within a country. The Polish gross output index was selected to represent farm production trends in this paper. In the case of crops, the planners' and farmers' perception of agricultural performance is determined in the first instance by the size of the overall harvest regardless of its final disposition. For livestock products, gross production trends approximate changes in output for home consumption and sale.

APPENDIX TABLE 2.—POLAND: TRENDS IN REAL INCOME AND CONSUMPTION

	1970	1971	1972	1973	1974	1975	1976	1977	1978
Real per capita disposable money income (thousand 1971 zloty) ¹	14.55	15.94	17.95	19.75	20.97	23.08	24.53	26.01	26.01
Alternate calculation of real per capita disposable money income (thousand 1971 zloty) ²	15.01	15.94	17.26	18.45	19.24	20.45	21.04	21.54	21.30
Real per capita spending on food (thousand 1971 zloty) ³	6.8	7.0	7.3	7.6	7.8	8.3	8.9	9.8	9.0
Real per capita spending on meat and meat products (thousand 1971 zloty) ³	1.8	1.9	2.1	2.3	2.4	2.6	2.6	2.6	2.7
Per capita consumption of meat and meat products (kilograms) ⁴	53.0	56.1	59.3	62.1	65.6	70.3	70.0	69.1	70.6

¹ See notes 1-3 to appendix table 2.

² Calculated by deflating nominal values by an estimated price index of goods and services. See notes 4-6.

³ Estimated by author.

⁴ In 1960 per capita consumption of meat and meat products was 42.5 kg; in 1965, 49.2 kg.

Sources: Rocznik statystyczny rolnictwa i gospodarki zywnosciowej, 1978 and Rocznik statystyczny, 1974-1976, 1979.

NOTES

1. Per capita disposable money income is defined as total income of the population less social services received-in-kind, less income-in-kind, divided by the population at mid-year. Official Polish data was used to construct a 1970-78 series, expressed in current prices. The nominal series was deflated by the official Polish retail price index with 1971 set equal to 100.

2. The series on real per capita spending on foodstuffs, including meat and meat products, during 1970-76 are official Polish data. Estimated real per capita spending on foodstuffs and on meat and meat products in 1971 prices for 1977 and 1978 were obtained from the ratio of officially reported spending in 1975 on these items in 1977 prices to spending in 1971 prices. While substitution possibilities result in some bias, the degree of aggregation minimizes error and results in approximate actual values.

3. Western observers believe a major problem with the trends presented for real per capita income and outlays is attributable to the Polish index of retail prices, as indicated by the alternative price index shown below. There is general agreement on the direction—biased downward—if not the magnitude. The index is more misleading in the post-1974 period when repackaging "old" goods in smaller sizes, at the same or higher prices, or with lowered quality became more common as enterprises attempted to disguise price increases. Martin Kohn discusses inflation in Poland in his article in the forthcoming Joint Economic Committee compendium.

4. An alternative Consumer Price Index has been calculated for Poland by Thad Alton & Associates, (see Thad P. Alton, Gregor Lazarcik, Elizabeth M. Bass, George J. Staller, Wasyli Znayenko, "Official and Alternative Consumer Price Indexes in Eastern Europe, Selected Years, 1960-78", in Working Papers, September 1979, Economic Studies, L.W. International Financial Research, Inc., New York, September 1979). The alternative index is derived by dividing official personal consumption in current prices by a constructed index of personal consumption in constant prices. The alternative index indicates a faster rate of inflation than admitted by official statistics:

	1970	1971	1972	1973	1974	1975	1976	1977	1978
Index: 1971=100:									
Official price index.....	100	100	100	103	110	113	118	124	134
Alternative price index.....	97	100	104	110	120	128	138	150	164

The alternative index, of course, does not measure repressed and hidden inflation in the form of long queues, bare-shelves, rationing, or lowered quality.

5. Real per capita income calculated by deflating nominal values by the alternative price index grew only 5.8 percent annually during 1971-75, compared with 9 percent annually in the official index. During 1976-78, the alternative index indicates that growth in real per capita income slowed, increasing 1.5 percent annually, compared with the official estimate of a 4 percent average annual rate of growth.

APPENDIX TABLE 3.—POLAND: TRACTORS IN SOCIALIZED AND PRIVATE AGRICULTURE

	¹ 1960	¹ 1965	1970	1975	1976	1977	1978
Socialized agriculture:							
Number of tractors (thousands) ²	61.2	126.8	213.3	318.0	337.8	367.8	386.2
On state farms (thousands).....	51.9	75.0	97.7	127.3	132.6	155.5	167.2
Horsepower per hectare of agricultural land (1970=100).....	40	74	100	133	138	143	145
Private agriculture:							
Number of tractors (thousands) ²	16.0	27.5	65.5	210.0	240.0	274.8	322.5
Percent on private farms.....	21	18	24	40	42	43	45
Horsepower per hectare of agricultural land (1970=100).....	22	40	100	334	390	454	540

¹ Does not include garden tractors.

² Standard units (all tractors regardless of size are converted to 15 hp at the hitch equivalents).

Sources: Rocznik statystyczny rolnictwa i gospodarki zywnosciowej, 1978, and Rocznik statystyczny, 1979.

APPENDIX TABLE 4—Poland: International Comparison of Land-Tractor Ratios, 1975

	Hectares per tractor ¹
Poland	87.6
Western Europe:	
Austria	5.5
West Germany	5.6
Belgium	8.5
France	13.8
Spain	51.9
Eastern Europe:	
East Germany	35.3
Czechoslovakia	87.0
Bulgaria	65.6
Romania	87.9
Hungary	88.6

¹ Arable land.

Source: Rocznik statystyczny, 1977, 1978.

APPENDIX TABLE 5.—POLAND: CONSUMPTION OF CHEMICAL FERTILIZERS

[Kilograms of nutrient content per hectare of agricultural land]¹

	1960	1965	1970	1975	1976	1977	1978
State farms	66.5	95.3	206.6	310.8	326.4	318.7	323.7
Nitrogen	18.0	29.4	70.2	103.9	108.9	106.2	104.9
Phosphorous	16.3	29.3	52.6	83.3	87.9	85.8	90.5
Potassium	32.2	36.6	83.8	123.6	130.3	126.5	128.3
Lime	54.6	114.3	153.7	197.2	193.3	169.9	224.4
Producer cooperative	50.6	102.5	183.5	260.5	276.9	302.4	302.5
Nitrogen	13.9	29.4	53.4	77.6	83.4	106.3	92.5
Phosphorus	12.1	25.5	47.7	71.3	76.5	80.7	84.5
Potassium	24.6	47.6	82.5	111.6	117.0	115.4	125.5
Lime	21.4	137.4	204.4	215.5	180.1	132.4	170.5
Private farms	32.2	49.5	108.3	152.2	161.5	155.5	151.5
Nitrogen	11.5	18.0	34.7	50.2	54.5	52.8	55.2
Phosphorus	7.9	14.3	26.4	38.1	40.7	39.7	38.0
Potassium	12.9	17.2	47.2	63.9	66.3	63.0	58.3
Lime	6.5	36.7	78.2	102.5	100.4	113.8	120.3

¹ Year ending June 30.

Sources: Rocznik statystyczny, 1977, 1978, and Rocznik statystyczny rolnictwa i gospodarki żywnościowej, 1978.

APPENDIX TABLE 6.—Poland: International comparison of chemical fertilizer consumption in 1976¹ in kilograms of nutrient content per hectare of agricultural land

Poland	193.5
Western Europe:	
Belgium	298.8
West Germany	232.8
France	143.0
Austria	81.7
Spain	45.0
Eastern Europe:	
East Germany	289.9
Czechoslovakia	236.0
Hungary	224.0
Bulgaria	114.0
Romania	79.9

¹ Year ending June 30.

Source: Rocznik statystyczny, 1977, 1978.

APPENDIX TABLE 7.—POLAND: NOMINAL INVESTMENT IN AGRICULTURE

	1970	1971	1972	1973	1974	1975	1976	1977	1978
Total investment in agriculture, (billion zlotys in current prices): ¹	33.5	37.9	43.8	51.6	61.4	72.4	88.0	106.6	108.5
Socialized agriculture, of which.....	21.3	23.7	28.1	32.5	48.3	50.3	68.3	78.5	73.7
Construction.....	6.8	8.1	11.4	14.6	19.9	26.0	34.9	42.4	36.4
Machinery.....	8.4	8.6	9.7	10.5	13.0	14.8	20.3	24.5	26.5
Private agriculture, of which.....	12.2	14.2	15.7	19.1	21.1	22.1	21.7	28.1	32.7
Construction.....	8.9	9.9	10.3	12.8	15.1	15.8	14.1	18.7	18.5
Machinery.....	3.1	4.1	5.2	6.0	5.8	6.0	7.3	11.1	13.8
Investment per hectare (Index: 1970=100): ²									
Socialized agriculture.....	100	110	131	150	184	217	270	305	286
Private agriculture.....	100	117	130	160	178	190	190	250	295
Socialized to private investment per hectare (ratio).....	7.5	7.0	7.4	7.0	7.8	8.6	10.7	9.1	7.2

¹ Excludes inv. stment in rural housing.

² Agricultural land.

Source: Rocznik statystyczny rolnictwa i gospodarki zwnosciowej, 1978 and Rocznik statystyczny, 1979.

APPENDIX TABLE 8.—POLAND: REAL INVESTMENT IN PRIVATE AGRICULTURE¹

	1970	1971	1972	1973	1974	1975	1976	1977	1978
Billion 1971 zloty:									
Real investment in private agriculture, of which.....	12.7	14.2	15.5	18.6	20.1	20.3	17.7	19.5	22.6
Construction.....	9.4	9.9	10.1	12.4	14.2	14.1	11.7	11.9	13.2
Machinery.....	3.0	4.1	5.2	6.0	5.8	6.0	5.8	7.4	9.2
Index: 1970=100:									
Total investment ²	100	112	122	147	159	160	140	154	178
Investment per hectare ³	100	112	124	150	163	167	149	167	196

¹ Unless otherwise indicated data are from Rocznik statystyczny 1975, 1976, 1979.

² Calculated as the sum of construction, machinery, and a residual assumed to equal 1 percent to the total. Polish data on total real private investment for 1976-78 are available only in 1977 prices (ie. in 1977 prices investment in 1976 came to 24.5 billion zloty; 1977=27.1 billion zloty; 1978=30.3 billion zloty).

³ Estimated as a residual after deducting 1 percent for nonspecified investment.

⁴ Obtained by deflating expenditures in current prices. Prices for agricultural machinery and construction materials were increased on July 14, 1976. For machinery the price increase is roughly calculated at 50 percent; for construction materials at 40 percent, an amount consistent with the deflator derived from the gross value of non-Socialist construction in current and constant 1977 prices. The weighted sum of investment outlays for 1975 in these estimated 1977 prices equals 29 billion zloty; this compares with officially reported investment of 29.1 billion zloty for 1975 in 1977 prices. For 1976, only 1/3 of the price increase was applied.

⁵ Estimated at the same value as in current prices since machinery prices reportedly were held constant between 1970 and 1976.

⁶ Calculated from unrounded data.

⁷ Agricultural land.

APPENDIX TABLE 9.—POLAND: COMPARATIVE PERFORMANCE IN SOCIALIZED AND PRIVATE AGRICULTURE

[Index: 1961-65=100]

	1966-70	1971-75	1976-78
Net output per worker:			
State farms.....	125	158	172
Private farms.....	119	141	140
Net output per hectare: ¹			
Socialized farms.....	130	165	193
Private farms.....	118	141	151

¹ Agricultural land.

Sources: Rocznik statystyczny rolnictwa i gospodarki zwnosciowej, 1978, Rocznik statystyczny, 1979, and calculations by author.

APPENDIX B

THE RELATIONSHIP OF LIVESTOCK NUMBERS TO FEED AVAILABILITY AND
PROCUREMENT PRICES IN POLAND

By Brenda Nadijcka

A major objective of the Gierek regime was to satisfy rising consumer expectations by increasing the supply of meat on the retail market. The domestic output of meat depends largely on private farm output; in 1978, 59 percent of the cattle and 63 percent of the hogs slaughtered were purchased from the private sector.⁶² Despite the regime's effort to boost livestock production, livestock numbers on private farms have fluctuated widely; mostly visibly in 1978, when the hog numbers declined 17 percent and cattle herds 9 percent compared with the previous year. Hog and cattle numbers also declined substantially in 1970, and each time, rebuilding herds required several years.⁶³

This paper tests the hypothesis that changes in the livestock sector are linked not only to the availability of feed, but also to economic variables that determine the level of profitability. The regression results that follow clearly support the proposition that prices and costs of livestock production heavily influence changes in livestock numbers on private farms.

Summary of Regressions

Hog numbers at mid-year for each of the 18 years from 1961 to 1978 were regressed on: (1) the total feed balance which includes potatoes, barley and rye expressed in terms of oat values lagged one year;⁶⁴ (2) the average procurement price for hogs in the preceding year used as a proxy for revenue per unit; and (3) the one year lagged procurement price for potatoes used as a proxy for unit cost. All values were expressed in log form which permits interpretation of the coefficients as elasticities. In this regression, both the feed supply and procurement price coefficients were found positive, as expected, and significant at the 99 percent level. The cost of feed coefficient was negative, as expected, and significant at the 95 percent level.

$$\text{NSHOG} = .17 + .65 \text{ Feed } (-1) + .54 \text{ Price } (-1) - .36 \text{ Potato } (-1)$$

(4.27) (2.64) (-2.48)

$$\bar{R}^2 = .87$$

$$\text{D.W.} = 1.22$$

where

NSHOG index of the number of hogs in the non-socialized sector of agriculture according to the June census, 1961-1978

Feed index of the total oat value of barley, rye, and potato balances, 1960-1978.
Price index of the average zloty procurement price of hogs per kilogram, 1960 to 1978. Potato index of the average zloty procurement price of potatoes per kilogram, 1960-1978.

The results show that feed and procurement prices have a strong effect on hog numbers. For example, if feed availability increases 1 percent, the number of hogs will increase by 0.65 percent; if the procurement price for hogs increases 1 percent, a 0.54 percent increase in hogs is expected, if potato procurement prices increase 1 percent, however, the number of hogs is expected to drop by 0.36 percent.

The same procedure was used for cattle. The cattle population, excluding cows,⁶⁵ was regressed on: (1) the lagged feed balance of hay, fodder beets, and pulses expressed in terms of oat values; and (2) the lagged procurement price of cattle used as proxy for unit revenue. A proxy variable for the cost of feed to the farmer was not available for the entire time period analyzed. All values

⁶² Rocznik statystyczny, 1979, p. 208.

⁶³ Rocznik statystyczny rolnictwa i gospodarki żywnościowej 1978, p. 260-261.

⁶⁴ Data for the calculation of the oat values and grain balances can be found in H. Christine Collins, "The Feed Livestock Economy of Poland: Prospects to 1980," Foreign Agricultural Economic Report No. 99, Economic Research Service U.S. Department of Agriculture, 1975, p. 65.

⁶⁵ Cows are excluded from the data because they are associated with dairy products, not meat production. Even in the aftermath of a poor harvest, the number of cows fluctuated only a few percentage points.

in the equation were expressed in log form. Feed and price variables were found positive and significant at the 99 percent level, as expected.

$$\text{NSCAT} = .07 + .57 \text{ Feed } (-1) + .20 \text{ Price } (-1)$$

$$\overline{R}^2 = .87$$

$$(4.61) \qquad (2.70)$$

$$\text{D.W.} = 1.17$$

where

NSCAT index of the number of cattle, excluding cows, in the non-socialized sector of agriculture, according to the June census, 1961 to 1978.

Feed index of the total oat value of hay, fodder beets, and pulse balances, 1960 to 1978.

Price Index of the average zloty procurement price of cattle per kilogram, 1960 to 1978.

As in the case of hogs, the results of this regression show that feed and procurement price have a strong effect on the number of cattle. If feed availability increases by 1 percent, the number of cattle is expected to increase 0.57 percent; if the procurement price of cattle increases by 1 percent a 0.2 percent rise in cattle numbers is expected.

U.S. MULTINATIONALS IN POLAND: A CASE STUDY OF THE INTERNATIONAL HARVESTER-BUMAR COOPERATION IN CONSTRUCTION MACHINERY

By John Garland and Paul Marer*

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I. INTRODUCTION

After several years of exploratory discussions and negotiations, in 1972 a ten-year industrial cooperation agreement (ICA) was signed between International Harvester (IH) and BUMAR Foreign Trade Organization (FTO) to manufacture in Poland crawler tractors designed and engineered by IH. Since the original 1972 contract, further agreements have been reached, adding other types of construction machinery, extending the duration of the initial agreement, and initiating new joint activities in product development, product support systems, and marketing coordination. The case study presented here focuses on this network of agreements between IH and BUMAR.¹

* Indiana University; in cooperation with Robert W. Campbell and Joseph C. Miller, Indiana University; and Thomas A. Wolf, Ohio State University. This contribution represents the summing up of a more detailed case study, which in turn is part of a large, comprehensive project on US-Polish industrial cooperation, funded by grants from the US Department of Commerce, US Department of State, the Ford Foundation, and IREX whose support is gratefully acknowledged. On the larger project, the authors have worked closely with Josef C. Brada of Arizona State University and Howard Perlmutter of the University of Pennsylvania, whose contributions we are pleased to acknowledge. We also thank Catherine Sokil for her valuable comments.

¹ We acknowledge and thank the people from International Harvester and BUMAR, and others knowledgeable about the project for giving their time generously in numerous interviews. However, the assessment herein reflects our understanding and interpretation, and not necessarily that of either International Harvester, BUMAR, or our colleagues in Poland with whom we discussed this case. For a more detailed joint case study and joint assessment by an American and Polish team of scholars of the IH-BUMAR cooperation and other aspects of US-Polish economic relations, see Paul Marer and Eugeniusz Tabaczynski (eds.), *East-West Industrial Cooperation in the 1980s: Findings of a Joint US-Polish Project* (Bloomington: Indiana University Press, forthcoming).

Several other ICAs have been signed between U.S. multinationals and Polish enterprises. While in some respects each is unique, all share common features with respect to the political and economic environment in Poland, the problems that arise in negotiating and implementing an ICA in that country, and the attitudes and approaches that facilitate problem resolution. Other important agreements between U.S. multinationals and Polish enterprises, approximating the IH-BUMAR ICA in terms of size and complexity, are:

Clark Equipment and BUMAR (1972) for production in Poland of heavy duty drive axles for wheeled construction machines and mobile cranes.

Westinghouse and UNITRA (1973) for the transfer of technology to produce semi-conductors and circuit breakers.

Singer and PREDOM (1973) for the manufacture in Poland of sewing machines.

Honeywell and MERA (1973) for the production in Poland of an industrial process control system and (1974) electronic pressure transmitters.

Corning Glass and RCA complementary agreements with UNITRA (1976) for the manufacture in Poland of glass and electric components for color television picture tubes.

These comprehensive ICAs are supplemented by numerous other, less complex arrangements (such as licensing deals) between American and Polish enterprises. As a result, the US no longer lags far behind its competitors in West Europe in the number or importance of ICAs in Poland, in spite of the US's comparatively late start in this area.²

This case study focuses on the IH-BUMAR agreement because it is the largest, most comprehensive and most complex agreement between an American multinational and a Polish enterprise, behind which lies nearly a decade of negotiation and implementation experience to be examined, and because the authors have had excellent cooperation from both the American and Polish partners to this venture. We have talked repeatedly and at some length with many of the key decisionmakers involved in this project and have gotten a first-hand look at the operations by visiting the plants in the US and in Poland.

This case study focuses on the motives, possibilities, and problems of building close links between a market-oriented Western firm and an enterprise in a centrally-directed economy such as Poland. It emphasizes the evolutionary nature of the ICA, the strong commitment of both partners to finding mutually advantageous working relationships, and the reciprocal efforts to overcome problems which could have undermined the joint undertaking. We hope that it offers useful information and insights to businessmen and policymakers—in the US, in Poland, and in other countries—and to academic specialists interested in the role of multinationals in East-West economic relations.

² Summary results and interpretation of a US survey on East-West IC can be found in Paul Marer and Joseph C. Miller, "US Participation in East-West Industrial Cooperation Agreements," *Journal of International Business Studies* (Fall-Winter, 1977) pp. 17-29.

II. WHO ARE THE PARTNERS?

A. International Harvester

IH is the twenty-seventh largest US industrial corporation and the thirteenth largest US industrial exporter, with manufacturing operations in 18 nations and markets in 160 countries. It is a multi-branch corporation: trucks account for 48 percent, agricultural machinery for 35 percent, construction and industrial equipment for 13 percent, and other products for 4 percent of sales. Its giant size notwithstanding, IH is not the dominant firm in any of its major product lines except in the heavy-duty truck market and, in fiscal 1979, the medium-duty truck market. For example, in the construction equipment branch, Caterpillar has 50 percent of the Western world's market, IH approximately 6 percent. Moreover, the size of IH's capital investment in recent years has been substantially smaller, in absolute as well as in relative terms, than that of its major competitors—General Motors in trucks, John Deere in farm machinery, and Caterpillar in construction equipment. To maintain and possibly to strengthen its competitive position, IH has initiated a capital expansion program which during 1980–84 will more than double its \$1 billion capital outlays of the preceding five-year period. For quite some time, IH's profit margins and returns on capital have lagged behind those of its major competitors. Industry observers have attributed this lag to overstaffing, excessive production costs, and lack of clear corporate direction and control. In an attempt to deal with these problems, in 1971 IH initiated a five-year reorganization program, establishing a new management team, initiating a new marketing thrust, and implementing stringent cost-cutting policies.³ A key aspect of the reorganization was a change in 1977 from a geographical structure to one based on five product groups—trucks, agricultural machinery, construction equipment, turbo machinery and components—each worldwide in scope.

This study focuses on the Pay Line Group, IH's worldwide product group for construction and industrial equipment, which implements the ICA with BUMAR. Were it a separate company, Pay Line would rank as the 281st largest US industrial corporation, with 1979 sales of \$1 billion. It is one of five manufacturers of construction machinery in the US and less than a dozen worldwide whose products have found global acceptance, based on quality, distribution, service, and sourcing capabilities. In addition to manufacturing facilities in Melrose Park and Libertyville, Illinois, Pay Line has large wholly-owned manufacturing subsidiaries in Canada, Great Britain, Germany, and France, and smaller ones in Mexico, New Zealand, and the Philippines and nearly 400 distributors in 110 countries. It is also engaged in a joint venture with Komatsu in Japan to supply about 40% of the Japanese market for rubber-tired loaders. The joint venture is also successfully penetrating export markets in other Pacific countries.

³ In 1980, IH may report a net loss, due to the longest strike ever held by the United Auto Workers against a major US firm, from November 1, 1979 until April 20, 1980. The major issue of contention was management's attempt to gain union work rule concessions in line with the union's contracts with IH's major competitors, in the interest of the long-run competitive position and profitability of IH.

During the last five years Pay Line has undergone a worldwide re-organization aimed at better utilization of facilities and standardization of products. Having made steady progress in those areas, top priority is now shifting to deeper penetration of foreign markets and expansion of its product lines.

B. BUMAR

Poland is the sixth largest exporter of construction machinery in the world, although it began its export thrust only about 10 years ago. Poland exports construction machinery to 50 countries and has trade and service stations in 29 countries.

Legally, IH's cooperation partner is BUMAR FTO, even though that firm is purely a commercial, not a manufacturing enterprise. BUMAR FTO is Poland's exclusive exporter and importer of construction machinery. It is subordinated to the BUMAR Union of Construction Machinery Industry, which runs several plant complexes throughout Poland employing more than 51,000 workers and producing 80 percent of the heavy-duty construction machinery manufactured in Poland. BUMAR Union is one of 16 industry associations reporting directly to the Ministry of Machine Industry. Bodies subordinate to that Ministry handle 80 percent of Poland's ICAs with Western firms. BUMAR Union's production program parallels that of the Pay Line Group and includes general-purpose excavators, wheeled loaders, crawler tractors, heavy and self-propelled light cranes, rollers, forklifts, conveyors, and machinery and equipment for the minerals and building-materials industries.

The key manufacturing enterprise implementing the IH-BUMAR ICA in Poland is Huta Stalowa Wola (HSW) a huge industrial combine employing more than 25,000 workers in several plants. HSW is one of Poland's largest and most important heavy machine-building complexes whose operations are highly vertically integrated. HSW was subordinated to BUMAR Union until July 1979, when HSW and its satellite plants became directly subordinated to the Ministry of Machine Industry.

HSW was hurriedly established in 1938 in "safe" central Poland to produce armaments with which Poland intended to defend itself against Nazi aggression. A complementary purpose was to industrialize one of that country's poorest and least developed regions. In interviewing the top executives of HSW in Poland, we noted their immense pride in that large and growing firm as a provider of jobs and many other perquisites of industrialization to the poor people in that region. It was our impression, moreover, that the managers running HSW did not view themselves as mere functionaries carrying out orders received from above, but as enterprising—even entrepreneurial—executives of a large, important, and internationally successful manufacturing operation capable of initiating, planning, and implementing major product development and production decisions.

III. THE ROLE OF INDUSTRIAL COOPERATION IN THE BUSINESS STRATEGIES OF THE PARTNERS

A. International Harvester

IH's participation in several ICAs in Eastern Europe reflects its new strategy for penetrating foreign markets more deeply and expanding

its sourcing capabilities. In addition to the IH-BUMAR coproduction agreement in the construction equipment sector, IH's Truck Group signed an ICA with a Hungarian enterprise in 1976, followed by the Agricultural Equipment Group in 1977; both ICA's are currently active. In 1975 IH signed an umbrella agreement for Scientific and Technical Cooperation with the State Committee of the Council of Ministers of the USSR. It has also held discussions throughout Eastern Europe exploring cooperation prospects in various sectors. IH's strategy is to promote ICA's in each of its major production lines, to work closely with several East European partners, and to link its East European ventures with its operations in Western Europe.

B. BUMAR

The strategic role of ICAs with Western partners is also evident in the case of the Polish partner. During the 1970's, BUMAR FTO was implementing six major ICA's with Western firms (in addition to a score of less complex licensing agreements), including:

Clark Equipment Co. in the US to coproduce at HSW drive axles for wheeled construction machines and mobile cranes.

Menck, the West German subsidiary of Koehring, US, to coproduce hydraulic excavators at the Warynski Construction Works.

Coles Cranes in the UK to coproduce mobile cranes at HSW.⁴

Stetter in the Federal Republic of Germany to coproduce concrete mixers and related equipment.

Kockums in Sweden to coproduce off-highway dumpers at Fadroma.

IH to coproduce construction machinery at HSW.

The fact that HSW is the main producing unit in 4 out of the 6 complex ICA's illustrates HSW's key role in this sector.

The strategy of entering into ICA's with Western partners is based in large measure on BUMAR's desire to become a large exporter of modern construction machinery. The production and export data in table 1 reveal the success of this strategy. Not shown in table 1 are the various ICA's HSW has had with partners in the CMEA countries, principally the USSR, some of which had been signed during the 1960's.

TABLE 1.—BUMAR UNION'S PRODUCTION AND EXPORT OF SELECTED MACHINERY IN 1978

Product group	Production (units)	Export (units)	Percent exported
Excavators (ICA with Menck).....	3,730	2,173	58
Loaders (ICA's with Kockums and IH).....	2,190	1,796	82
Cranes (ICA's with Jones, Coles, and Clark).....	1,475	736	50
Concrete mixers and bodyworks (ICA with Stetter).....	1,950	1,247	64
Crawler tractors (ICA with IH).....	586	540	92

Source: Ministry of Machine Industry: Poland 1979 (MMI publication), p. 16. The ICA's shown in parentheses and the "percent exported" column were added by the authors.

Unfortunately, we have no information on the destination of the exports of specific products sold to the West for convertible currency or to the Soviet Union, East Europe, and the People's Republic of China

⁴For a detailed case study of the Coles-HSW cooperation and a perspective on the UK's involvement in ICA with Poland, see Stanley J. Paliwoda, *Industrial Cooperation as Corporate International Trade and Investment Strategy in Eastern Europe* (Unpublished Ph. D. dissertation, Cranfield Institute of Technology, 1980).

(PRC) under bilateral agreements, which in some cases may include partial or full payment in convertible currency. In 1978, the share of the Soviet Union's purchases of BUMAR products amounted to 40%, although other CMEA countries are also major customers.⁵ Another statistic reveals that members of the Council for Mutual Economic Assistance (CMEA) were expected to buy 75% of Poland's exports of construction machinery during 1976-80.⁶ Furthermore, in recent years Poland has been granted specialization rights in the CMEA for the production of 11 types of loaders, four types of excavators, three types of crawler tractors with dozer equipment, 12 types of self-propelled cranes and 40 other types of building-transport machines and equipment.⁷ Moreover, the CMEA Investment Bank has granted funds to HSW for the development and modernization of its manufacturing facilities to support export commitments resulting from an ICA Poland signed with the USSR.⁸ Thus, the relationship between Poland's IC with Western firms and integration with the Soviet Union and Eastern Europe is very important to this industrial sector.

IV. NEGOTIATIONS, EVOLUTION OF THE AGREEMENTS, MOTIVES

A. Negotiations

The early initiative was taken by BUMAR, whose representatives approached several American construction equipment manufacturers in search of cooperation possibilities.⁹ This reflected Poland's commitment to an extensive modernization program in general and to the expansion of its construction equipment sector in particular. BUMAR's first contact with IH came in 1968. Three years of preliminary discussions and fact-finding trips by both partners set the stage for the final, intensive phase of negotiations in 1972. An important factor in the early negotiations was a strong commitment to the ICA at the highest levels of the respective organizations.¹⁰ Long exploratory discussions were necessary for the partners to become familiar with each other's operations and capabilities and to allow for the gradual development of mutual understanding and trust.

Cooperation under the original 1972 contract was to continue for ten years, with an agreement that the positions would be reviewed after seven years to decide whether to renew the contract for a further term

⁵ Tadeusz Nowakowski. "BUMAR Specialization Construction Equipment." (BUMAR release, no date).

⁶ BUMAR Revue (BUMAR publication, no date), p. 40.

⁷ Nowakowski, op. cit.

⁸ Ministry of Machine Industry: Poland 1978 (MMI publication, no date), p. 27.

⁹ Technically, the initiative was taken by the construction equipment division of Polimex-Cekop, an FTO subordinate to the Ministry of Foreign Trade and Shipping (MFTS). It was not until 1971 that the division became an FTO in its own right, subordinated to BUMAR Union. The move was part of a larger reorganization of foreign trade in Poland, which shifted half of the FTOs from the MFTS to the industrial ministries.

¹⁰ On the US side, Mr. Brooks McCormick, then President and later Chief Executive Officer, played a key role. In 1973 he became the American co-chairman of the Polish-US Economic Council. On the Polish side, the entrepreneurial spirits of two men, Mr. Tadeusz Kaminski and Mr. Sykstus Olesik, were catalytic. They were the chief architects of the majority of BUMAR's present ICAs with Western firms. Affiliated with the construction equipment branch of Polimex-Cekop, they became (after that branch was separated from Polimex-Cekop) the Directors General of Polimex-Cekop and BUMAR FTO, respectively. Once a agreement was signed and implementation begun, the direct involvement of top echelon personnel became less crucial and those of factory (HSW) and division (Pay Line) management more important in the implementation and further expansion of the cooperation.

or to terminate after three more years. In fact, however, the ICA's dynamic nature has led to continuous negotiations to enlarge the initial domain of cooperation. As the partners became more familiar with each other and more confident in each other's capabilities, new cooperation possibilities were found.

B. The Series of Agreements, 1972-79

The most distinctive feature of the IH-BUMAR relationship is that it is based on a network of interlocking and increasingly complex agreements, which include general protocols (nonbinding statements of principles and intent to cooperate) as well as legally binding contracts. The evolution of the key substantive agreements proceeded as follows:

In 1972, a ten-year Cooperation Agreement provided for the transfer of technology for the assembly and manufacture in Poland of five types of crawler dozers ranging from 140 to 310 HP, and various attachments (side booms, rippers, blades, and so forth). The technology package included technical assistance and training as well as information concerning dimensions, metallurgical specifications, tooling and machining techniques, assembly methods, and quality control procedures.

In 1973, an agreement was reached between BUMAR and IH of Great Britain for the supply of skids (semi-knocked down machine units shipped in crates) from Poland to the IH subsidiary in Doncaster in support of a new crawler tractor manufacturing program.

In 1975, three major agreements were signed. One involved the transfer to BUMAR of the technology for 9 models of front-end rubber-tired loaders. The two other agreements involved joint development projects, one for a pipe-laying tractor and the other for tractor dozers and engines. These joint development agreements call for—

IH to design and engineer the new product;

BUMAR to produce prototype units according to the IH design;

IH to test and evaluate the prototypes and issue final approval for production;

BUMAR to tool and manufacture the product;

BUMAR to remain the exclusive source of the product for a specified period; and

IH and BUMAR to share marketing responsibilities.

These joint development programs do not provide for any significant reverse flow of technology from the Polish to the US partner. BUMAR is to continue what it has been doing all along—manufacturing and assembling machines designed and engineered by IH. A key feature, however, is that these machines involve prototype units rather than those already being mass produced by the Western partner. Due to the long lead time required for product development and supported by both partners' successful past cooperation experience, in 1975 the duration of the ICA was extended for 20 years, so that the termination date is 1995.

In 1978, another agreement laid the basis for a joint development project for torque converters (a hydrokinetic drive for heavy construction equipment).

A series of separate agreements signed over the years complements the substantive ICAs listed above. These agreements involve the delineation of markets, trademark rights, documents detailing intents and efforts regarding the balancing of mutual trade, and agreements on coordinated marketing activities. In early 1980, for example, an agreement was near conclusion on cooperative efforts to upgrade the product support systems in Poland. Having been generally successful in transferring the product technology, the cooperation evidently is increasingly focusing on upgrading the service and support systems, which essentially involve preventive maintenance before and after the sale. Improving product support is a prerequisite for Poland to generate more hard-currency earnings.

C. Motives

One of IH's most important motives was gaining access to Polish and other CMEA markets for the sale of machines and components. However, a complementary motive quickly emerged—to use the Polish partner as a competitive source of supply for IH's global production and marketing operations. Of less importance to IH was the sale of technology *per se*, which essentially was a means of achieving its other objectives. In addition, three further motives have become important. One is to gain indirect entry to the markets of those developing countries with which Poland has bilateral clearing arrangements. Another is to share the costs of product development, which is important for IH because of its relatively high debt to equity ratio. A third is to expand the product line, which benefits a firm like IH, whose strategy is to remain competitive along a whole spectrum of product lines rather than to specialize in a few machine types. Strong distributorships are one advantage to a full-line supplier such as IH over small competitors. In Europe alone there are more than 800 producers, but most specialize in only one or two products. In this industry, good servicing facilities are critical, for firms compete not so much on the basis of unique products than on the basis of service and other product support systems.

Among BUMAR's and HSW's motives for cooperation are: to modernize its industry and plants; to gain a competitive edge within the CMEA (especially the Soviet) market by acquiring and successfully absorbing the most advanced world technology; to increase the country's convertible currency earnings potential by improving product quality and by using the marketing arm of the Western partner; to gain a competitive edge in certain developing countries with which Poland has bilateral clearing arrangements; to widen the industry's product assortment; and, indirectly, to upgrade its supplier industries. More recently, a further motive has emerged—to upgrade its long neglected yet increasingly vital servicing and product support systems.

V. IMPLEMENTATION

A. Investment Outlays Required

The ICA has saved both partners substantial investment funds and time, enabling them to undertake productive activities which would have been too expensive without the cooperation. The US partner's

savings are primarily in investment capital in production facilities; the Polish partner's in investment outlays by utilizing its partner's R&D capability and, for the time being, IH's global marketing and service networks.

Nevertheless, both partners had to undertake sizable investments to support the cooperation. BUMAR invested heavily in physical facilities, including new foundries, assembled one of the largest gear shops in Europe, and built satellite plants for the fabrication of components. IH made a substantial investment in personnel, in travel, and in the training of Polish specialists. In 1972 alone, over 20,000 drawings documenting the engineering and manufacturing technology were transferred. BUMAR translated these documents into Polish and converted them into the metric system. This process involved extensive discussions and clarification between specialists from IH and BUMAR. The initial provision of 1,800 man-days of training of Polish personnel at IH proved insufficient; eventually 3,600 man-days were provided. Additionally, a coordinated quality-certification system was set up for each of the approximately 4,500 machinery parts for each model introduced in the cooperation. Also, IH control systems and procedures have been introduced gradually at relevant production sites in Poland.

B. Marketing Arrangements

Marketing is based on a clear delineation among three marketing areas. BUMAR has exclusive rights in the USSR, Poland, the German Democratic Republic, Czechoslovakia, Hungary, Romania, Bulgaria, Albania, Mongolia, and Vietnam. In these countries, BUMAR may sell any product it produces under BUMAR or IH label. IH receives royalty payments on machines produced using IH technology and may sell directly to this market if BUMAR is not able to satisfy market demand.

BUMAR has non-exclusive marketing rights in Pakistan, Egypt, Syria, Libya, Sudan, Iraq, Algeria, India, Yugoslavia, Bangladesh, and the PRC, where BUMAR may sell in one of three ways. If there is a BUMAR distributor in the country, a BUMAR-labeled product may be sold to that distributor, with no commission payable to IH. Alternatively, BUMAR may sell an IH-labeled product directly to an IH distributor, in which case BUMAR pays a commission to the IH distributor to maintain the worldwide marketing organization that BUMAR is utilizing. The third alternative is for BUMAR to sell directly to the Pay Line Group, which then resells to the IH distributor. Neither BUMAR's nor IH's primary market strength lies in this second category of countries. The provision of "non-exclusive" territories seems to be an attempt to enter the market from either side, with each partner doing what it can. Negotiations in 1979 between IH and BUMAR included discussion of closer coordination of marketing efforts in this region.

The rest of the world is IH's exclusive market territory. BUMAR may sell an IH-trademark machine only with IH's permission and only through an IH distributor. Such sales have been made when Poland's bilateral clearing agreements made them possible and when IH faced logistical or other delivery problems. In addition two products of IH design—a small tractor and a pipe-laying tractor—are supplied exclusively from Poland for marketing worldwide.

C. Quality Control

Under the terms of the trademark agreement, before the IH trademark may be attached to a BUMAR-produced machine, it must satisfy a sequence of parts certification requirements established by IH. Testing occurs first at the Polish plants, then at IH's testing facilities in Phoenix, Arizona, where the machines undergo approximately 1000 hours of testing under extremely rigorous conditions, fully comparable to testing procedures for IH machines manufactured in the US. Three BUMAR models have successfully passed IH's strict certification procedures.

BUMAR's strength lies in its experience in the manufacturing process, good engineering design, modern equipment, and top quality measuring and testing instruments. BUMAR's machinists are capable and well-trained. These strengths have enabled BUMAR to absorb much IH technology in a very short time.

We deduce from our discussions in the US and in Poland that quality control problems still exist, but that they have become less severe. Problems have arisen in Poland, for example, in the areas of materials handling, quality control procedures, and in the quality of components obtained from other domestic sources. Workers are negligent at times, a sign of indifference on the part of production managers and workers. Some of these problems appear to stem from an inadequate incentive system and a lack of understanding of the importance of each individual's job within the production process. Scheduling and the coordination of complex activities pose especially difficult problems in Poland. Shortcomings at any point in the production process affect the quality of the final product. To help alleviate these problems, the partners have agreed to have IH station in Poland its own product support manager and manager of manufacturing coordination. BUMAR has demonstrated that quality levels can be achieved, but the maintenance of quality and its necessary further development require continuous efforts.

D. Payment Flows and Pricing Arrangements

The initial license, know-how and technical assistance provision of the ICA called for a front-end payment from BUMAR to IH in four annual installments. In addition, IH receives royalties on every machine produced by BUMAR using IH technology. In return for these so-called REM (research, engineering and manufacturing) fees, BUMAR continuously receives the most current IH technology. Although IH has no *contractual* commitment to buy anything from BUMAR (several protocols, however, state IH's *intention* to do so), one clause stipulates that BUMAR's annual payment of REM fees not exceed one-half the value of IH's purchases from BUMAR. In other words, if IH buys, say, \$1 million worth of components or machines from BUMAR, REM payments cannot exceed \$500,000. This stipulation has never constrained royalty payments to IH, because IH purchases have far exceeded the required amounts.

Prices of IH component sales to BUMAR are fixed at cost plus a negotiated percentage. Because of difficulties in determining production costs in Poland by a method acceptable to a Western partner,

prices of BUMAR-built machines and components purchased by IH are negotiated differently. In the case of complete machines, the partners rely on competitive prices charged for similar products on world markets to determine the general price range. In the case of components, BUMAR is to receive a negotiated "x" percent below IH's standard manufacturing costs. Under contract, IH must supply BUMAR with its internal cost accounting documents. The rationale for IH's paying a negotiated percent less than its production cost is that without this incentive, IH would prefer to rely on the usually less risky in-house production. Moreover, simple comparative advantage considerations suggest that a country which combines world-level production technology with relatively abundant and low-cost engineering and other skilled labor should be able to produce and sell profitably at a price somewhat below what it costs to manufacture in a US plant. Also, BUMAR saves substantial overhead costs which IH must meet to maintain its distributorships, marketing, advertising, and so on.

As far as the payments between IH and BUMAR only, the westward flow of hard-currency has not only been substantially larger than the eastward flow, but it has also been growing relatively. Of course, this fact does not reveal BUMAR's overall position on hard-currency markets or the contribution that its ICA with IH has made to its total hard-currency earnings. For example if the westward flow of payments to IH represented primarily royalty payments or component purchases for sales of complete machines to hard-currency markets, then the ICA would be making a significant direct hard-currency contribution to Poland's balance-of-payments, although BUMAR may have a negative payment balance with IH. To be sure, both BUMAR and IH have expressed dissatisfaction with the volume of BUMAR's hard-currency machinery exports.

It is important to note, however, that the cooperation also contributes indirectly to Poland's ability to generate or save hard-currency. For example, by providing to the USSR and other CMEA members products and components that incorporate world-level technology acquired for hard-currency, Poland improves its bargaining position within the CMEA. In turn, Poland either should get at least partial payment in hard currency or be able to import increased quantities of products, such as crude oil, which Poland otherwise would have to purchase on the world market with hard currency. To be sure, without information on intra-CMEA negotiations and settlements, this benefit to Poland is difficult to quantify. It should be pointed out, further, that sales to certain socialist countries, such as the PRC, we understand are settled fully in convertible currency. Moreover, "internal hard currency exports" occur when a machine is sold to a Polish enterprise which exports construction services, for which Poland usually earns hard currency.

Whatever the net hard-currency contribution of this industry to Poland's overall hard-currency balance-of-payments may be, Poland's worryingly large hard-currency indebtedness has generated strong pressures on both partners to expand Poland's Western exports. Today more than ever the Polish side recognizes that greater success in this endeavor requires increasing attention to product support operations.

E. BUMAR's Integration With IH's European Operations

Great Britain.—The first extension of the original ICA occurred in 1973, when BUMAR FTO agreed to supply heavy construction equipment components for assembly into new powershift bulldozers and crawler tractors in the IH subsidiary in Doncaster, England, thereby extending the line of crawler tractors and dozers then offered by IH of Great Britain. Because the venture was supplementary to IH's Doncaster production program, it did not disturb arrangements with other suppliers. Through this agreement, BUMAR became for several years a source of skids for two models of crawler tractors produced by the IH subsidiary. Initially, this arrangement was satisfactory to all for it allowed the Doncaster subsidiary to widen its product line, BUMAR to gain substantial hard-currency receipts (approximately \$5 million per year), and IH to become, at least potentially, more competitive in Western Europe. Unfortunately, the European market for the particular sizes and models involved in the cooperation failed to develop to expectations, and in fact declined abruptly after 1975. Nevertheless, the initial success of the project clearly established the feasibility of using BUMAR as a source of components for IH's European operations.

West Germany.—IH's West German subsidiary in Heidelberg is primarily an assembler of rubber-tired tractor loaders. It buys its major assemblies (transmissions, axles, and power cranes) and most components from other West European countries, Japan, and the US. Because transport costs make such an arrangement uneconomical, IH has tried to promote an agreement through which BUMAR would supply Payloader components (primarily transmissions and axles) to the German subsidiary, thereby more closely integrating BUMAR into IH's European operations. Contrary to IH's expectations, no such components have been supplied by BUMAR. In fact, by 1979 production of the model had not yet begun in Poland. Delays have plagued a similar arrangement for another model as well. Our understanding is that BUMAR had eagerly acquired the relevant technology from IH, but higher-priority export commitments strained the production capacity of the relevant plants so that BUMAR could not begin new set-up operations. The delay has had adverse consequences for all concerned. IH had planned on using BUMAR as a source of components, and consequently has had to change its long-range strategy. BUMAR has thus lost the opportunity, at least for the time being, to be a supplier to the German subsidiary, which would have provided a hard-currency market. Meanwhile, the German subsidiary is still searching for a viable alternative to the highly impractical importing of components from Japan and the US.

France.—Although so far BUMAR has had no trade relations with the IH subsidiary in France, the possibility of an exchange of components and attachments for excavators was being explored in 1979. The exploratory discussions, although moving slowly, are especially noteworthy for three reasons:

For the first time, IH's French subsidiary would actively participate in the larger cooperative venture.

The exchange would introduce a fully new product line into the cooperation.

IH has shown the initiative, as was the case with the planned project involving the German subsidiary, showing that both partners are actively seeking to strengthen the ICA through creative efforts towards further integration of BUMAR into IH's global operations.

VI. PROBLEMS AND SOLUTIONS

The partners, both strongly committed to the cooperation, have shown considerable flexibility in seeking solutions to the problems which have arisen during the implementation of the ICA. The principal difficulties include:

Lack of clear initial understanding of what technology to transfer.—Under the original 1972 agreement, BUMAR expected to receive a considerable amount of peripheral information relating to technology which IH did not in fact intend to transfer. Essentially, this misunderstanding stemmed from one party's interpreting the technology transfer clauses broadly, and the other narrowly. For example, BUMAR's metallurgical specialists sought knowledge on the composition and quality of steel products to be used as inputs, and its computer specialists expected to receive detailed information about IH's computer support systems. A further problem was that technology is not always documented and may be embodied in the customs and practices of a particular plant. If told to drill a certain type of hole, workers at an IH plant would know how deeply and at what speed and angle to drill it. Workers at a Polish plant could save time and materials by being informed of such practices rather than relying on trial-and-error. Consequently, the problem of transferring and translating much unwritten know-how arose. IH was as accommodating as possible, encouraging the exchange of specialists, provided that the expense was not prohibitively high; in such cases IH found ways to transfer peripheral technology on a cash basis, under separate contracts.

Inadequate production and service infrastructure in Poland.—This problem was encountered mainly in assembly operations and especially in materials handling procedures. Our case study supports the finding, often stated in the literature, that while Poland (and other East European planned economies) have a sound technology base and good theoretical engineering, they have difficulties applying that knowledge on the shop floor. Management information systems, communication facilities, servicing networks and general product support systems tend to be neglected. For example, workers in Poland often keep silent when a component or an operation is not up to standard. Something that may be relatively easy to replace or fix, such as a faulty component or a loose bolt, is left as is, and consequently the machine does not last as long as it should. Thus, a \$150,000 machine may sit idle for months, even if it has not been damaged beyond repair.

Idle machinery is also in part due to the tendency of maintenance and service facilities to be located at the manufacturing plants rather than near the customers, where they are needed. Moreover, IH's maintenance bulletins on repair often do not reach the intended personnel on the shop floor but collect dust on the desks of middle management personnel whose offices are over a mile from the shop floor. Thus, it is not surprising that IH representatives on site in Poland some-

times report problems to the relevant Polish middle management, which is surprised to hear them. Today, increased attention is given to these areas, as suggested by the fact that in early 1980 IH increased from 3 to 9 the number of technical specialists it has stationed in Poland, although part of the expansion is due to the increased activities of the cooperation.

Skepticism about an ICA within the organization.—Initially, both partners exerted much effort to assure their respective constituencies of the ICA's desirability. At first, IH perceived certain reservations about the ICA among its stockholders, lower level management, and employees, particularly in the early 1970s, when U.S. initiatives regarding detente were just beginning. Today, such reservations are no longer considerable. On the other side, BUMAR was hesitant to adopt certain procedures suggested by IH, due perhaps to its own environmental and organizational constraints. For example, when decision-makers in Poland found that an engine produced in Poland had specifications roughly similar to the IH engine, they insisted on installing that engine into the coproduced equipment. IH advised them that many expensive breakdowns would occur because the machinery was to be used mainly for short hauls, and the Polish engine would not meet technical specifications. Initially BUMAR did not accept the advice, built prototypes with its own engine for export, and found out the hard way that the advice should have been heeded. This particular problem has since been corrected.

Recent political uncertainties.—The possible long-term impact of Soviet troops crossing into Afghanistan and President Carter's reaction to that event is a concern because some political uncertainty has been created. Let us, however, note that at a March 1980 workshop on Polish-American industrial cooperation in New York, and again at the sixth plenary meeting of the Polish-U.S. Economic Council in Chicago in May 1980, representatives of both governments reaffirmed that these recent political events would not be allowed to affect adversely the relations between the U.S. and Poland.¹¹ However, the U.S. Administration will monitor more closely the transfer of technology to Eastern Europe because of concern about diversion to the U.S.S.R. There were thus bound to arise delays in the granting of licenses for exports to Eastern Europe, but the delays would result from a huge backlog of work created by changes in licensing procedures rather than from political motivation.

Misunderstanding in Poland concerning IH's buy-back commitment.—As stated in section V-4, no contractual buy-back commitment has been signed. Perhaps because ICAs between BUMAR and other Western firms have often included buy-back provisions, some people in the functional ministries mistakenly believe that IH has such an obligation and has not lived up to it. Others, knowing the terms of the contract, criticize the absence of a contractual buy-back provision. The overriding concern about Poland's balance-of-payments problems has exacerbated these concerns and has put pressure on BUMAR to improve its hard-currency balance. Both partners are now very concerned with the problem, and are taking steps to increase components and

¹¹ Addresses before the Chase World Information Corporation Seminar on Joint Ventures in Poland (New York City, Mar. 5-6, 1980).

parts supplied from Poland. Since 1975, for example, IH has purchased nearly \$7 million worth of components from BUMAR.

VII. CONCLUSIONS

IH and BUMAR have achieved a closely integrated level of cooperation. The network of agreements between them has increased worldwide manufacturing capacity for IH and access to previously unavailable technology and markets for BUMAR. In spite of the difficulties enumerated above, the IH-BUMAR coproduction agreement is considered to be one of the most successful large-scale ventures by an American multinational in Eastern Europe. Using a scale from one to 10, last year an IH executive gave the ICA a 9 rating as far as taking advantage of its potential is concerned, and he rated the bottom line—profitability—as 5. On the Polish side, an executive closely associated with the project since its inception said that in retrospect he would not only do everything the same again, but would do it with even greater enthusiasm. To be sure, the profitability of this ICA is difficult for both sides to quantify because of the many intangible aspects of the cooperation.

What has made this ICA, on balance, successful, in spite of the problems encountered?

One of the most important factors is the strong initial commitment, on both sides and at the highest levels, to the idea of cooperation. In that setting, initiatives were taken and solutions to problems were found by people who are implementing the ICA at the critically important middle-management levels. Without top-level encouragement and backing, problems might have been deferred to "higher ups," and fewer initiatives would have been taken to overcome the difficulties encountered.

The fact that IH has continuously assigned some of its best people to work on the project is also very important. IH's choice for its manufacturing coordinator in Poland is just one example. For this position, IH brought in someone from an affiliate in New Zealand whose technical knowledge of the machinery and of the manufacturing process, entrepreneurial personality and drive, and ability to get along with and motivate people in a foreign environment superbly qualified him to serve with distinction at that difficult post.

Why has IH made a strong, long-term, strategic commitment to IC in Eastern Europe? One reason was the personal interest in Poland of IH's Mr. Brooks McCormick, a descendent of the company's founder, and its President and later Chief Executive until 1978. More objective and generalizable reasons may be found in the nature of the industry's technology and IH's global competitive position. IC tends to be more feasible in industries in which competition is based on process rather than product-technology.¹² Product technology involves the development of new unique products which tend to have few close substitutes, so that the firm's competitive advantage derives primarily from its ownership rights over the proprietary technology embodied in the new product. In contrast, process-technology involves the ability

¹² Josef C. Brada, "Possibilities of East-West Technology Transfer by Means of Industrial Cooperation: A Theoretical Appraisal," in Marer and Tabaczynski, *op. cit.*

to successfully produce and market a product even though many firms have the manufacturing know-how to put on the market similar or close-substitute products. Such is the case in the construction machinery sector. Competitive advantage is then based on the efficiency of organizing and financing complex, large-scale production and marketing networks, which requires the disembodied technologies of the organization and management of production, marketing, and after-sales service.

As for a multinational company's global competitive position, our large sample of US multinationals interested in the USSR and Eastern Europe revealed a tendency (with important exceptions) for those with a relatively small global market share to seek ICAs in this region more aggressively than the industry leaders.¹³ Notably, IH has only about a 6% market share in the West.

Turning to factors important on the Polish side, we cannot stress strongly enough the importance of the entrepreneurial qualities and problem-solving attitudes displayed, first by those who initiated the ICA at BUMAR and then by the key people implementing it at HSW. This is a critically important intangible aspect which bears significantly on the question of whether other Polish enterprises would be able to replicate successfully the experience of IH with BUMAR.

Other supportive factors include the preferred position of heavy industry in general and of the construction machinery sector and the HSW complex in particular in Poland's economic strategy and plan. The strong bargaining position of the principals has enabled the Polish partner to obtain the scarce investment and hard-currency resources needed. Today, given Poland's serious balance-of-payments problems, projects requiring large initial hard-currency outlays may be more difficult to implement, even in high-priority sectors.

Another important factor is that the HSW complex is a highly vertically integrated operation. This enables the Polish partner to avoid or manage more easily domestic supply problems which often constrain Polish enterprises that are less integrated and have less bureaucratic clout.

Another consideration is the importance of the construction equipment sector in general and of HSW in particular as a supplier of machinery and parts in heavy demand in the USSR and in Eastern Europe. On the one hand, this can facilitate cooperation with Western multinationals because it, too, means high priority for the factories and because of the pressure to export technically modern, high quality goods. On the other hand, specialization for the CMEA market and IC with a Western multinational can be competitive in other respects.¹⁴ For example, large export commitments to the CMEA can constrain the ability of a Polish partner to earn hard-currency directly, which in turn limits the acquisition of Western technology needed to become competitive worldwide. A further conflict may be less obvious: export-

¹³ This finding is based on the survey summarized in the article cited in footnote 2.

¹⁴ A more detailed discussion of the issues can be found in Paul Marer, "Western Multinational Corporations in Eastern Europe and CMEA Integration," in Zbigniew Fallenburg and Carl McMillan, *Partners in East-West Economic Relations: The Determinants of Choice* (New York: Pergamon Press, 1980), and in several chapters of Paul Marer and John Michael Montias (eds.), *East European Integration and East-West Trade* (Bloomington: Indiana University Press, 1980).

ing to the CMEA market is easy if an enterprise can supply modern, high-quality products, such as Poland's construction machinery. But selling within the CMEA—or, for that matter, on the domestic markets—requires little product support, such as preventive maintenance and corrective service and repair systems. Consequently, although Poland has the engineering capability to produce construction machinery technically comparable to machinery sold in the West, it still lacks sufficient total capability to penetrate world markets as rapidly as it would like. This is due to Poland's lack of a full range of proven product support systems, available from its competitors, the leading multinational corporations. This shortcoming is one of the Achilles' heels of a centrally planned economic system. BUMAR has now recognized the problem, and as a result, cooperation between IH and BUMAR is turning increasingly toward this area.

Because it is critical for Poland to increase hard-currency earnings, the long-term viability of the IH-BUMAR cooperation may well depend on the outcome of efforts in this area. This requires that IH transfer to BUMAR, already a major competitor, not only production technology but also its marketing and service know-how. In time, this could conceivably lead to a conflict between the partners. However, both IH's and BUMAR's efforts to increase their still modest world market shares leaves ample room for mutually advantageous cooperation.

YUGOSLAVIA

CONTINUITY AND CHANGE IN THE YUGOSLAV ECONOMY IN THE 1970's AND 1980's

By Laura D'Andrea Tyson* and Gabriel Eichler**

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INTRODUCTION ¹

More than three full decades have elapsed since Yugoslavia, unilaterally expelled from the international communist community by Stalin, began to map out its own independent road to socialism. During this period, despite rapid and continuous development and change, the basic elements of the Yugoslav economic and political model have remained fundamentally the same. In the economic sphere, workers' self-management at the enterprise level and a quasimarket system

*University of California, Berkeley.

**Bank of America NT & SA, San Francisco.

¹ This paper draws extensively on a paper by Professor Laura D'Andrea Tyson entitled the Yugoslav Economic System and its Performance in the 1970's, Research Monograph No. 44 of the Institute of International Studies, University of California: Berkeley; and on Bank of America's ongoing research on Eastern Europe, headed by Gabriel Eichler.

guided by varying degrees of state planning at the macroeconomic level have continued to be the institutional forms on which the Yugoslav system rests. In the political sphere, unchallenged control by the Yugoslav League of Communists (LCY), and growing pressures from and sensitivities to the challenges of an ethnically diverse and sometimes antagonistic population, have combined to shape the particular blend of party dominance and pluralism that is characteristic of the Titoist model. Finally, in international economic and political affairs, the policy of nonalignment, born out of the Yugoslav search for viability without bloc membership in a world of superpowers, has remained the hall mark of the Yugoslav model and has allowed Yugoslavia to maintain political and economic relations with both East and West while building an international reputation that seems out of proportion to its size and geographical position.

The basic continuity in the Yugoslav system has not meant an absence of change. Indeed, rapid institutional change, particularly in the economy and to a lesser extent in the political system, has been characteristic of contemporary Yugoslavia. At no time has change been more pronounced than in the decade now drawing to a close. A new constitution and a vast number of new laws have introduced a variety of new institutional forms, all designed to realize the economic and political objectives that have remained fundamental to the system. Yet, a seasoned observer of Yugoslav reality is struck by the fact that despite these changes, major unresolved problems have recurred and have even intensified in recent years.

The apparent paradox between rapid institutional change and the persistence of certain economic and political difficulties is a recurrent theme in the analysis of recent economic developments presented in this paper. The discussion is divided into seven sections. In the first two sections of the paper, the major institutional reforms of the 1970's in the economic sphere are described and some anecdotal evidence about their performance is presented. The third section analyzes economic growth and efficiency during the 1970's and contrasts actual performance with plan projections. The fourth section briefly considers regional development goals and policies, while the fifth section returns to the issue of aggregate economic performance and focuses on the problem of persistent inflation and on Yugoslav policy efforts to maintain macroeconomic stability. The related issue of external economic performance, particularly in the areas of foreign trade and indebtedness, is examined in the sixth section. Finally, the paper ends with an overall assessment of economic developments during the 1970's and a preview of expected economic trends during the next plan period from 1981 to 1985.

I. THE NEW INSTITUTIONAL FRAMEWORK: THEORY

The economic experience of Yugoslavia in the 1970's has paralleled its experience in earlier postwar decades: fairly rapid growth, marred by persistent problems of inflation and unemployment; structural change and modernization reflected in the gradual transfer of the population from traditional peasant agriculture to other sectors of economic activity; and further experimentation with new institutional forms designed to realize the objectives of workers' self-management and market socialism on which the Yugoslav economic system rests.

As in the past, so in the 1970's, both economic goals and feasible policies for their attainment have been shaped by interrepublican or "nationality" controversies. These controversies culminated in the effective paralysis of economic policy making at the federal level at the beginning of the decade and necessitated major constitutional reforms accompanied by a consolidation of the League of Communists and a strengthening of its direct role in the economy. Undeniably, these institutional changes were largely motivated by Tito's desire to lay the groundwork for a political system that would survive him and solve the "succession" problem. The political pressures motivating reforms, however, were reinforced by economic pressures.

The early 1970's witnessed a growing disenchantment with "excessive" dependence on the market forces that had been unleashed by the 1965 economic reform. In the opinion of many political and economic leaders, the market system failed to live up to anticipations: growth over the 1965-70 period was disappointing; inefficiencies in the use of capital and labor remained; and foreign trade bottlenecks persisted. In addition, the market seemed to produce certain consequences that had not been bargained for: a deterioration in the tradeoff between growth and inflation; an apparent increase in inequality both among regions and among individuals and enterprises within a given region; and the perceived concentration of economic power in the hands of financial institutions, the managerial elite, and wholesale, retail, and foreign trade enterprises. These last two tendencies were seen to be odds with the ideological goals of socialism.

The confluence of economic and political pressures in the early 1970's served as an impetus for the new institutional reforms that were gradually introduced over the course of the decade. Paradoxically, perhaps, given the nature of Yugoslavia's economic problems, these reforms produced a noticeable transfer of policy-making authority from the federation to the individual republics and autonomous provinces. Moreover, in many areas where federal competence was maintained, the new procedures required prior consultation with and approval by republican and provincial governments before federal action could be taken.

Perhaps the major institutional innovation accompanying this transfer of authority was the introduction of so-called social compacts as the vehicle for interrepublican agreement. Social compacts are agreements concluded among government organizations (socio-political communities) or between government organizations and other agents in the economy including enterprises, chambers of business, and trade unions. They are best interpreted as statements about policy objectives in certain areas of "general social interest", such as planning, prices, income distribution, international trade, and employment. They are used in lieu of state laws to regulate economic activity in these areas. By their nature, they are not legally binding, but the parties who conclude a compact are obliged to undertake the policy measures required for the realization of its stated policy objectives. The only sanctions for failing to do so, however, are "moral and political ones".²

² Gerskovic (1976). *Ekonomaska Politika*, Nov. 1, 1976, p. 23, argues that many social compacts have been ineffectual because their signatories have failed to adopt the requisite policy tactics. This conclusion probably explains in part the failure of social compacts or "incomes" policies to quell the rate of inflation. (See Section V of this paper).

The system of social compacts has been combined with a system of so-called self-management agreements (SMA's). In contrast to social compacts, SMA's are binding, contractual agreements signed by economic agents for the realization of specific policy objectives. Possible signatories to SMA's include government organizations, enterprises or their constituent divisions (called basic organizations of associated labor (BOALs) and described below), trade unions and chambers of business. The actual composition of signatories varies from agreement to agreement and depends on the nature of the contractual arrangement. The binding character of SMA's stems from the fact that if one or more participants in an SMA fail to meet their contractual obligations, the other participants can propose its dissolution and demand compensation in a "court of associated labor."

By design, social compacts and related SMA's have substituted for the direct coordination of economic policy by government agencies. For example, during the seventies they have been the mechanism for the introduction of price controls and incomes' policies in the economy. They have also been accorded a crucial role in the new planning system. In theory, at least, this system is radically different from the one that preceded it.³ The earlier system was one in which economy-wide plans were formulated by government planning agencies and were indicative in nature, designed to guide enterprise decisions by providing consistent projections of government and sectoral activity. In contrast, the new system requires that plans be drawn up by enterprises and government agencies, that they be "harmonized" by mutual consultation and adjustment, and that they be made legally binding by a set of social compacts and self-management agreements. The new planning process begins with an obligatory exchange of information by all enterprises and government agencies on their prospective plans and on their current economic situation as summarized by a predetermined list of indicators. A period of "harmonization" then follows during which all affected parties seek to realize a set of mutually consistent and acceptable plans. In theory, harmonization is simultaneously carried out at several different levels. Enterprise plans are harmonized by enterprise-to-enterprise negotiations, first in the republican "associations," institutions representing all enterprises in a given sector or industry, and second in the republican Economic Chambers, consisting of representatives from each association and designed to provide for the exchange of information between various sectors of production.⁴ Government plans, in turn, are harmonized by communication among various levels of government, as for example, between republican government organizations and between socio-political organizations within republics.⁵

Furthermore, these government or "social plans" are communicated to the Economic Chambers where there is an attempt to harmonize

³ This discussion draws on the exposition of the new planning system described in the new IBRD study by Schrenk et al. (1979).

⁴ All enterprises are mandatory members of an "Association" of a particular industry organized at the Republic and/or Federal level. The "Associations" in turn form "Economic Chambers". Both institutions are viewed as part of the self-management structure of the economy, and the government is neither a member of them nor involved in any direct way in their proceedings. Both institutions are also based on the principle of consensus, rather than majority rule—no majority decision is binding for dissenting members.

⁵ The socio-political organizations include the League of Communists, the Socialist Alliance, the Trade Unions, the Youth Federation, and the Association of Veterans.

them with developing sectoral and enterprise plans. Acceptance of these negotiated plans is then codified in related social compacts and self-management agreements that bind their signatories to take actions consistent with their plans. The social compacts set out and coordinate government policy efforts to assure that the realization of the targets agreed to by enterprises in the related self-management agreements are realized. For example, some of the social compacts for the 1976-80 plan specified preferential credit, tax, and import policies to be introduced by various government agencies to promote the realization of growth and investment targets in so-called priority sectors identified for their special importance in the development of the economy.⁶

The institutional reforms of social compacts and self-management agreements and the new system of planning have reorganized the machinery for economic decision making at the government level. Related reforms have modified the machinery for decision making within the enterprise. The overriding goal of this second batch of reforms seems to be the greater realization of self-management rights by workers and the corresponding moderation of "excessive" control by managerial forces. The 1976 Law on Associated Labor (LAL), which has been called a mini Constitution for Yugoslavia, describes both the intra-enterprise and inter-enterprise structures that have been introduced in pursuit of this goal.

Each enterprise is now composed of so-called basic organizations of associated labor (BOALs). By law, a BOAL can be established for any group of workers whose work results can be evaluated independently of the results of other workers. Relationships among BOALs within an enterprise are formulated by voluntary intra-enterprise SMAs. Thus, the rules of enterprise behavior are set down by bargaining among BOALs, each of which has its own workers' council, its own assets, and its own income which it distributes as it sees fit. The SMAs within the firm regulate the distribution of its earnings, provide for joint capital investment, collective consumption and other matters of common interest, and lay out the responsibilities of the various self-management bodies. Associations of BOALs can freely delegate certain of their powers to central administrative and self-management bodies of the enterprise, but decisions involving the distribution of personal incomes, investment and collective consumption are subject to ratification by individual BOALs. At the same time, these decisions must conform to the relevant social compacts in force.

The independence of BOALs in the formation of enterprise policy is designed to weaken central administrative control thereby permitting workers to exercise their self-management rights on the basis of equality. Undeniably, this model of enterprise organization carries with it potential threats to efficiency because of excessive decentralization and resulting stalemate in the decision-making process. To counter these threats, the socio-political organizations within the enterprise, especially the trade unions and the party, are responsible for

⁶ For an identification of priority and non-priority sectors in the 1976-80 plan, see Section III of this paper. The Law on Social Planning stipulates that when consensus planning among participants proves impossible for priority sectors, the social-political communities can introduce appropriate measures to see to it that desired objectives are achieved. There is no similar provision for non-priority activities for which consensus planning is encouraged but not mandatory.

developing and enforcing resolutions to intra-enterprise conflicts that cannot be resolved by regular procedures.

The role accorded to the party in fostering enterprise decisions reflects a general characteristic of the reforms of the 1970s. Overall, these reforms decentralized decision-making power: within the government, they decentralized policy-making authority from the federal to the republican and provincial levels; and within enterprises, they decentralized authority from central management institutions to BOALs. Concurrently, an important centralizing tendency, somewhat incongruous with these decentralizing trends, was evident—namely, the consolidation of the LCY and the broadening of its direct policy role in many areas of economic activity. In the new institutional system, the LCY was restored as the final authority over and above all other decision makers, and the method chosen for its enhanced role was its direct participation in the institutions of the state and of self-management, down to the BOALs, the lowest level of enterprise organization. Indeed, indicative of the party's new formal authority, the 1974 Constitution broke all precedents by providing for the LCY's direct representation in government bodies—the collective State Presidency and the communal, republican, and Federal assemblies.

II. THE NEW INSTITUTIONAL FRAMEWORK: REALITY

1. *Self-Management Agreements and Social Compacts*

Although appealing in theory, particularly when viewed against the professed goals of self-management, the institutional system introduced in the 1970s ran into substantial difficulties in practice for a variety of reasons. Consider, first, the use of social compacts to formulate and implement government economic policy. Because of deep and unresolved conflicts of interests among the republics and provinces, such compacts usually require a lengthy period of negotiation. By the time they have been completed, the moment for action may be long overdue or, in some cases, an altogether different problem requiring precisely the opposite government policy may have arisen. Thus, for example, action on the 1976–80 plan was delayed for more than a year because of failure to reach agreement on the 15 social compacts proposed for priority sector development.⁷ More recently, in 1979 the government acted extremely slowly to introduce restrictive macro measures to cool down the economy although it had been clear for at least six months that such measures were warranted.

A second problem with the system of social compacts for setting economic policy is that in practice they allow for a great deal of discretion by individual republics, provinces, and communes, with a resulting lack of coordination in many instances. Many social compacts are formal and general, expressing commitment to a desired goal without specifying policies for its realization. For example, a social compact on personal incomes may call for enterprises to link their pay rates more closely to economic performance, but may fail to introduce measures to achieve this objective.

⁷ By the middle of 1977, agreement had been reached on only three out of the fifteen proposed social compacts.

Self-management agreements, like social compacts, have encountered practical difficulties that have limited their utility in coordinating and controlling economic activity. Take first the role of enterprise negotiation in the area of investment decision making. Here, at least, economic theory provides a rationale. In the absence of information about future prices and costs, the market mechanism alone does not guarantee optimal decision making, because the individual enterprise does not have access to the data required to make the most profitable decision. Without such information, individual investment decisions are not necessarily coordinated and can produce unwanted aggregate effects, such as the duplication of facilities and excess capacity on the one hand or bottlenecks in certain sectors on the other. Such effects may be avoided if enterprises exchange information about their investment plans prior to undertaking them. Indeed, the exchange of such information is one of the theoretical justifications for indicative planning techniques, designed to improve investment decisions by eliminating or reducing market uncertainties (uncertainties about the future behavior of market participants, including the government) to some extent. Seen in this light, the exchange of information about investment plans by individual firms within the associations and chambers can be viewed as a kind of indicative planning that is itself part of the new planning process.

The negotiation of self-management agreements for investment purposes, however, is designed to go beyond this purely indicative role to solve some of the problems of capital mobility and allocation that continued to plague the Yugoslav economy even after the 1965 Economic Reform. One of the purposes of this reform was the "deetatization" of investment decisions to be realized by the transfer of investable funds from state organizations to banks and enterprises. With the state largely out of the investment picture (government funds financed less than one-fifth of fixed capital investment between 1965 and 1970), it was hoped that investment resources would be guided to their most profitable uses by the self-interested activity of their bank and enterprise users. Expectations on this score were disappointed, however. Although it is impossible to obtain quantitative measures of capital misallocation, the presumption is strong that capital distribution remained suboptimal for a number of reasons, most of which are discussed in Section II of this paper.

Dissatisfaction with the capital allocation process and concern over "excessive" bank influence in enterprise investment decisions were major motivations behind the institutional reforms of the 1970s. Self-management agreements, encouraging direct contractual arrangements among enterprises for the "pooling" of resources on investment projects, were designed to cope with these problems. Such agreements, which allow for contractual business deals ranging from outright mergers to temporary cooperation on specific investment projects, encourage the distribution of investable resources between surplus and deficit enterprises without the intermediation of a banking institution. From a theoretical point of view, these special forms of contractual cooperation among enterprises can be viewed as a mechanism to stimulate capital mobility in a system where alternative mechanisms, such as direct, private equity or bond ownership on the one hand, and state ownership and planned allocation of capital on the other, are ruled

out by ideological and political conditions. Bank allocation of investable resources, itself an alternative mechanism for the distribution of capital, had also become ideologically and politically suspect by the early 1970s, since it was deemed to be inconsistent with the exercise of enterprise self-management rights in investment decision making.* Direct contractual agreements among enterprises seemed to provide a means whereby these rights could be exercised, while at the same time capital could move from enterprise to enterprise.

Although self-management agreements of the kinds discussed here can serve to enhance capital mobility in a self-managed economy, they will not solve all of the problems of capital allocation in such a system. From an economy-wide point of view, optimality of capital use requires that all investment projects be evaluated using the same measure of aggregate capital scarcity. Internal or self-financing, however, in no way guarantees that the return to capital will be equalized across investment projects, since individual investors may employ widely differing profitability and return standards in deciding on potential investment projects. One might be tempted to argue that over time enterprises will seek out the most profitable uses for their investable resources, and this will promote an efficient use of capital resources in the long run. But this is not necessarily the case, since the imputed cost of capital in each firm depends not on any external indication of capital scarcity, but on an internal evaluation of the tradeoff between income earned and distributed today and income earned at some future point in time as a result of current savings. Since such evaluations are likely to vary among firms depending on the characteristics of their decision makers, it is possible that some firms will undertake investment projects only at very high rates of return while others will undertake projects at much lower rates.

The new system for cooperative pooling of capital also does not eliminate the problems of capital allocation inherent in the rules of collective ownership on which the Yugoslav system rests. As is well known, the Yugoslav authorities have given up a system of state ownership in which the state, as representative of society, disposes of the returns to capital for a system of limited or attenuated collective or group ownership, in which enterprise members can freely dispose of the returns to the capital stock they work with and help create by self-financing only as long as they remain members of the enterprise. By now, the shortcomings of such a collective ownership system are well understood. Since workers share in the returns to enterprise investment only as long as they remain with the enterprise and give up all returns to the enterprise capital they help create upon leaving the enterprise, there is a substantial disincentive for individual workers to invest in their firm, especially if they are planning to leave in the near future. As a result of the limitation on the property rights of individual workers in collective enterprise capital, a high return on enterprise investment is required to make workers indifferent between such investment and investment in privately-owned assets. The resulting differential between the required return on private assets and the

* Bank discretionary influence over the access to investment funds was deemed to be inconsistent with self-management because decisions over the use of surplus product rested with autonomous bank management rather than with those who actually produced it—the workers of self-managed firms.

required return on collective assets implies a misallocation of investment resources between private and collective uses, with a relative "underinvestment" in collective assets. Because workers prefer privately-owned assets to collectively-owned ones, they are likely to distribute the bulk of enterprise income in personal income payments instead of retaining it to finance collective enterprise investment. Thus, the rates of enterprise savings and self-financed investment are likely to be low, and collective investment is likely to be financed through external sources when available. (For more on enterprise savings rates, see Section III of this paper.)

In recent years, discussions on various forms of cooperation among enterprises have focused on the need for the pooling of investment resources along vertical lines—in particular, between foreign and domestic trade organizations and productive enterprises on the one hand and between manufacturing enterprises and producers of raw materials on the other. This emphasis reflects a perceived need to channel investment funds to basic and materials industries in line with the priority development strategy of the 1976–80 plan (see Section III). To date, however, many self-management agreements have developed along horizontal rather than vertical lines, and there is some concern that this tendency will lead to the monopolization of certain markets along product and territorial lines.⁹ An agreement among household appliance producers in Serbia for "specialization in production and harmonization of development" is a possible case in point.¹⁰ The agreement attempts to eliminate factors causing unprofitability among group members—including low-capacity utilization, small production runs resulting from broad output assortment, and duplication of production facilities—by specifying the quantities and assortment of goods to be produced and marketed by each firm. The spirit of the agreement is akin to the spirit of "organized free trade", a concept recently espoused by the French, and the implications of such a market-sharing and development program for oligopolistic market behavior are obvious. It is therefore ironic that this group of producers failed to reach an agreement on their own in 1974 and again in 1975. Only under significant government and party pressure was an agreement finally achieved in 1976. A similar scenario applies to a recent SMA concluded among certain manufacturers of metal products in Belgrade. According to press reports, the agreement was realized only under the "organized activity and initiative" of the LCY and other socio-political communities.¹¹ In both of these cases external pressure from government and party authorities appears to have been the essential ingredient in the formation of what are allegedly "consensual" self-management agreements.¹² Apparently, these authorities have also frequently been instrumental in self-management agreements leading to the merger or consolidation of losing or unprofitable enterprises with

⁹ *Ekonomaska Politika*, January 31, 1977 contains two articles (p. 6 and p. 11) critical of monopolistic tendencies in recent self-management agreements.

¹⁰ For a full discussion of the Serbian agreement and the history of its realization, see *Ekonomaska Politika*, May 14, 1977, p. 19 and December 13, 1976, p. 14.

¹¹ *Ekonomaska Politika*, February 14, 1977, p. 14.

¹² Apparently, there has been considerable enterprise resentment of government pressures to establish pooling or cooperative arrangements. Perhaps this resentment and the underlying unwillingness of enterprises to cooperate in certain market circumstances will limit the actual impact of "voluntary" agreements on market behavior. For a discussion of enterprise resentment of government pressures, see *Ekonomaska Politika*, May 30, 1977, pp. 23–24.

profitable ones. Pressures is brought to bear on stronger firms to merge with weaker ones, thereby precluding the politically dangerous and ideologically difficult option of bankruptcy.¹³

Apparently, at this juncture concentration by merger or other contractual means continues to receive official support because of the widespread view that large size is required for efficiency and international competitiveness. Although detailed sectoral figures are unavailable, aggregate figures reported by *Ekonomika Politika* (November 1978) indicate that concentration is substantial and has increased noticeably in recent years. For example, the share of the largest 130 industrial enterprises (in manufacturing and mining) in total revenues increased from 45.1 percent in 1970 to 70.1 percent in 1977; during the same years their share in total employment increased from 33.7 percent to 48.3 percent. Similar results apply to the other major sectors of the economy.

So far the discussion has focused on the problems of using self-management agreements as a mechanism for the channeling of investment resources to their most profitable use. As noted earlier, a second purpose behind such agreements is the development of enterprise strategies to support general policy on social objectives. Here, too, the operation of the system has encountered numerous obstacles. Social compacts and associated self-management agreements on the distribution of enterprise income illustrate this point. In the last few years, social compacts on distribution have adopted general principles relating the rate of growth of personal incomes to the rate of growth of labor productivity and the rate of growth of enterprise value-added. In practice, many self-management agreements on income distribution at the enterprise level have either been in breach of the requirements prescribed by social compact or, if consistent with such requirements, simply disregarded in practice. Thus, for example, a recent article in a Yugoslav newspaper reported that the distribution of income in 80 percent of all enterprises in Croatia violated the guidelines set down by the relevant social compact.¹⁴ Numerous complaints by government and party officials, including Tito himself, about the irresponsible behavior of enterprises suggest that violation of these guidelines has been the rule rather than the exception in many enterprises.¹⁵

The problems encountered by self-management agreements regulating income distribution are illustrative of the general problems encountered by self-management agreements as a means to achieve economic policy objectives. The new Yugoslav system is based on the principle of consensus, and self-management agreements to support

¹³ Granick (1975, pp. 428-429) cites several examples of the consolidation of weaker and stronger firms at the party's or government's request. Wiles (1977, p. 349) also gives some examples. As Wiles argues "the means of social pressure must be strong indeed to cause a group of working men to dilute in this way their claim to the value added of a profitable concern."

¹⁴ See *Vjesnik*, June 1, 1977, p. 20 cited in *ABSEES*, September 1977. A similar but more recent article in *Privredni vjesnik*, Oct. 23, 1978, estimated that 50 percent of all surveyed enterprises in Croatia violated self-management agreements on income distribution during the first half of 1978. See *ABSEES*, January 1979.

¹⁵ As Sirc (1979, p. 139) notes, "self-management agreements on enterprise income distribution are so complicated that the choice becomes either to produce the agreements too late or produce them in such a hurry that they are not of much practical value (*Ekonomika Politika*, Feb. 9, 1976). Either way, the agreements are widely disregarded in any case do not contain clear-cut criteria but are formal and generalized (*Ekonomika Politika*, Dec. 20, 1976; April 8, 1977)."

objectives laid down in social compacts are meant to reflect enterprise consensus in the pursuit of such objectives. But there is no reason to anticipate a coincidence of interests between enterprise participants and state or party participants. Enterprise interests are *group* interests, reflecting the goals of the workers and managers who formulate enterprise policy. And group interests need not coincide with, and indeed may conflict with, wider *social* interests. In fact, many social policy objectives implicitly designate some enterprises as “winners” in some economic sense and others as “losers”. In such cases, it is unrealistic to imagine the potential “losers” agreeing to support “socially desirable policies” in a consensual way.

2. *Intra-Enterprise Reforms*

At this point, most of the evidence on the impact of the divisionalization of the Yugoslav firm into BOALs is too rudimentary to draw any firm conclusions. Nonetheless, some tentative conclusions based on scattered evidence can be suggested. First, evidence presented by Sacks (forthcoming) supports the view that the use of intra-enterprise transfer prices to allocate enterprise resources and incomes among BOALs has made a positive contribution to enterprise efficiency in some cases. Nonetheless, transfer prices are generally only as good as the market prices that serve as a starting point for negotiations among BOALs, and this gives reason for caution in the Yugoslav case where many markets are far from perfect and where the pressures for negotiation among producers may reduce market competition to an even greater degree.

A second observation on the effects of the divisionalization reform made by some Yugoslav observers is that in some enterprises too much attention has been placed on internal enterprise relations, with consequent inattention to issues of production and factor utilization.¹⁶ Third, in some enterprises, decentralizing trends have apparently gone too far, with individual BOALs constituting themselves as small enterprises complete with their own administrative, clerical, and technical staffs. This has increased overhead costs for the individual BOALs and for the enterprise as well, thereby reversing the expected economies of information specialization suggested in the theoretical literature on divisionalization. Moreover, in some cases, the apparent unwillingness of individual BOALs to adopt production plans consistent with the needs of other BOALs in the enterprise or the inability of BOALs to agree on transfer prices has caused delays and bottlenecks in production (Sacks, forthcoming; Comisso, 1978). Fourth, the weakening of the organizational hierarchy of the firm as a consequence of decentralization may have tended to aggravate the problems of responsibility and risk that have been characteristic of the self-management system in the Yugoslav context.

The problem of responsibility has developed because in practice it is difficult to ascertain responsibility in the self-managed firm and to devise a penalty-reward system for workers that is both ideologically

¹⁶ One Yugoslav critic argued that “there exists a danger that the system is spending too much energy on its internal relations at the expense of decreasing its output, that it is overly concerned with itself and its maintenance at the expense of its development”. Jurkovic (1977) cited in Comisso (1978).

ound and politically feasible. In theory, of course, workers participate in the consequences of their decisions through their personal incomes, which depend to a considerable degree on enterprise success or failure. Legal limits are set on this participation, however, since if personal incomes fall below a certain minimum for reasons other than mismanagement or gross inefficiency, an inter-enterprise solidarity (insurance) fund pays the difference. In practice, of course, the problem with this system is to determine when "mismanagement and gross inefficiency" are the cause of enterprise results. Judging from experience the answer to this question appears to be "rarely". The law also requires that incomes paid to workers in enterprises that realize losses for a specified period of time be reduced to fixed minimum levels. Logically, this penalty should be applied until the enterprise stops making losses. In practice, it has been applied, inconsistently and with a delay, only until the enterprise succeeds in covering its losses through bank credits or with state assistance. As a consequence, the minimum income penalty has not worked to solve the responsibility dilemma in the Yugoslav firm. Nor has this dilemma been solved by making individual worker responsibility extend to the worker's job itself. According to law, with the exception of cases of criminal or severe personal misconduct, a worker cannot be laid off, and if the worker's job is eliminated for economic reasons, the enterprise is required to find "equivalent substitute employment" for the worker. Thus, self-management rights have explicitly been extended to rights over a particular job or its equivalent.

At the same time that it effectively rules out layoffs, the law explicitly states that "workers are 'responsible' for the rational and efficient management of the 'social' resources at their disposal" and that they shall "bear material and other consequences" if they fail to act accordingly for reasons for which they or their elected management organizations are responsible. But as the discussion here indicates, these principles are impossible to realize in practice because there are no effective sanctions for bad decisions by workers. The point to be made here is that the problems of responsibility discussed in this section have not been solved, and indeed may have been aggravated, by the decentralizing reforms the purpose of which is to strengthen self-management at the expense of enterprise hierarchy.

3. The Role of the Party in the Reformed System

A recentralized and strengthened LCY spearheaded the drive to implement the economic and institutional reforms of the 1970's. But, having led the way to these reforms, the party has been unable to contain the fragmentation of interests they have created. In short, the party has not been able to serve as the kind of "institutional glue" it was intended to be.

In the new system of bargaining, individual participants, be they state participants in a social compact, enterprise participants in a self-management agreement, or BOALs participating in the formulation of enterprise strategy, must negotiate consensual agreements outlining the tasks and responsibilities of each of them. Consensus rather than majority rule prevails. The LCY has been able to encourage or

compel participants to sit down at the bargaining table but has been unable to guarantee that agreements will be reached. As the examples provided earlier illustrate, when negotiations fail to produce a consensus the LCY has sometimes tried to dictate the terms of agreement, but in such cases agreement has been illusory and unenforceable in practice. This is one of the reasons why Tito himself has observed that in many cases what is laid down in self-management agreements and compacts is never carried through (Sire, 1979b). Economic problems at both the macro and micro level have made the search for consensus among participants, some destined to be losers, even more difficult. Potential losers have been able to press their cases at the republican and local levels and to block or otherwise interfere with economic measures that serve broader social interests at their expense. As in the past, republican and local officials in both party and state organizations frequently seem to lack sufficient authority or will to combat narrow, particular interests for the common good.

III. ECONOMIC PERFORMANCE AND DEVELOPMENT: THE DECADE OF THE 1970's

1. *Aggregate Growth Performance*^{10a}

Because Yugoslavia is properly categorized as a middle income country undergoing fairly rapid growth and structural change and because the Yugoslav leaders are dedicated to the maintenance of rapid growth rates of output and employment, the place to begin a study of recent economic performance in Yugoslavia is an examination of growth rates. The data required for such an examination are presented in Table 3.1, which contains actual and target growth rates for various types of expenditures and output over the 1970-78 period. The data reveal that between 1970 and 1977, total social product, defined according to the material product approach used by the Yugoslavs, grew at an average annual rate of about 6.2 percent, somewhat below the growth rates of 7.0-7.5 percent targeted in the 1971-75 and 1976-80 plans. Actual growth performance during this period was approximately equal to the 6.0 percent growth rate realized over the 1952-71 period but somewhat below the 6.8 percent rate achieved in the decade of the 1960s. A growth rate of the magnitude reached during the 1970-77 period, however, places Yugoslavia near the top of the range of middle-income, Mediterranean countries with which it can reasonably be compared, as the data in Table 3.2 suggest. Indeed, compared to this group, Yugoslavia actually performed somewhat better during recent years than it did in the sixties. The slowdown in the growth rate during the 1970s was smaller in Yugoslavia than in the other middle income countries with the exception of Turkey, and

^{10a} This paper relies on official Yugoslav data, reported either in Yugoslav sources or in western sources. Although these data may suffer from some technical weaknesses as a result of the methods by which they are collected and calculated (see for example Moore, 1977), they are the data used by Yugoslav policy makers. In addition, in the opinion of the authors, the data do not suffer from errors or biases introduced by official manipulation of statistical series to achieve desired effects or camouflage undesired ones. Changes in data series and definitions do occur, but they tend to be a function of changes in the structure of the economic system and resulting changes in accounting terminology and definitions. Other discussions of data interpretation difficulties appear throughout this paper.

during the 1972-77 period, Yugoslavia had the second highest growth rate of the group. Thus, despite the growth retardation that began after the 1965 economic reform, Yugoslavia has managed to maintain a rapid growth rate relative to countries of similar development level. This suggests that over the longer run the slowdown of Yugoslav growth may be less a function of its institutional system and more a function of general developmental and external forces depressing growth rates in the middle income group.

TABLE 3.1—ACTUAL AND TARGET GROWTH RATES 1971-80

	Actual average annual growth rate 1971-75	Plan targets 1971-75	Plan targets 1976-80	Actual average annual growth rate		
				1976-77	1978	¹ 1979
Social product.....	6.3	7.5	7.0	6.0	6.6	7.1
Agriculture.....	² 4.1	3.0-3.5	² 4.0	6.1	-5.1	6.1
Industry.....	8.1	8.0	8.0	6.4	8.6	7.9
Private consumption.....	5.3	6.5	6.0	5.7	7.0	5.5
Collective consumption....	7.1	7.5	7.0	8.5	6.3	5.9
Gross investment in fixed assets.....	7.1	7.5-8.0	8.0	8.9	11.2	9.2

¹ Basis 1970 with average of agriculture for 1969-70.

² Basis 1975 with average of agriculture for 1974-75.

³ Preliminary.

Source: Yugoslav estimates of actual growth for 1971-75 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. 1976-78 growth rates are calculated from data provided in Communication No. 333 of the Federal Statistical Office entitled "Basic Indicators of Socio-Economic Developments in 1978" December 1978. Data for 1978 and 1979 are from OECD, 1980.

TABLE 3.2.—COMPARATIVE GROWTH RATES IN MIDDLE INCOME COUNTRIES, 1960-77

	Growth rate of gross domestic product (constant prices)		
	1960-1970	1970-1976	1972-1977
Yugoslavia.....	6.8	6.3	5.7
Greece.....	6.9	5.2	3.8
Spain.....	7.3	5.4	3.7
Portugal.....	6.3	5.2	3.8
Turkey.....	6.0	7.2	7.2
Israel.....	8.5	5.4	NA

Source: 1960-70 and 1970-76 from IBRD, "World Development Report," 1978; 1972-77 from OECD, Yugoslavia, "Annual Economic Survey," 1979.

Within total social product in Yugoslavia, individual sectors have differed widely in their growth performance. Growth has been most rapid in industry, where actual rates have averaged around 7.4 percent, close to the target of 8 percent set during the 1970s. Industrial growth of this magnitude and the growth of industrial employment it has fostered are not significantly different from industrial growth rates realized in the middle income group. Even more striking is the fact that Yugoslavia's industrial growth rate over the 1971-77 period was more than twice the average industrial growth rate achieved in the advanced industrial countries and was greater than the industrial growth rates realized in the more advanced countries of the Eastern bloc, with the exception of Poland. Overall, the growth data support the general view that the economic problem in Yugoslavia has not been one of maintaining rapid growth but one of employing

capital and labor resources as efficiently as possible and controlling growth-related inflationary and balance-of-payments pressures.

In keeping with past trends, growth rates in agriculture have been much lower than those in industry during the seventies. Total output increased by 3.5 percent during the 1971-75 period, a performance that was in line with the annual rate of growth of 3.1 percent realized during the 1953-71 period. The 1976-80 plan targets agricultural growth at 4.1 percent, an optimistic rate by historical standards and one that reflects agriculture's designation as a priority development sector during the current period. Initially, in 1976 and 1977, agricultural expansion exceeded this target, achieving an average rate of 6.1 percent in 1976 and 1977. Poor weather conditions in 1978 nearly wiped out these earlier gains and agricultural production declined by over 5 percent, but in 1979 the actual growth rate of 6.1 percent again exceeded the plan.

Within the agricultural sector, output has continued to grow more quickly in the social sector than in the private sector. Between 1973 and 1978, total real value-added in private agriculture increased by only 1.1 percent a year. During the same period, however, the private agricultural labor force declined by an estimated 5.6 percent a year, so that labor productivity in private agriculture increased by nearly 6.6 percent a year. Nonetheless, value-added per worker in private agriculture remains only about 20 to 25 percent of what it is in social agriculture, and dualism remains characteristic of overall agricultural development.

2. Growth of Individual Components of Demand

Rapid aggregate growth rates have produced significant increases in both personal and collective consumption. Total personal consumption increased during the first three years of the 1976-80 plan period by about 6 percent per annum in real terms. An important factor in the rapid increase in personal consumption has been rapid growth in social sector employment accompanied by rapid real increases in social sector earnings per worker. Between 1973 and 1978, earnings of workers in the social sector increased by just over 3 percent a year in real terms, while social sector employment increased by about 4.6 percent a year. In addition, real earnings per active worker in the private agricultural sector also rose rapidly during the period by approximately 6 percent per year. As a consequence, there was some reduction in income disparities between private agricultural and the modern social sector.

The emphasis on rapid investment and structural change inherent in the 1976-80 plan targets is reflected in the very rapid growth of investment and its increasing share in gross domestic product during the 1976-78 period. As the data in Tables 3.1 and 3.4 indicate, real investment grew at more than 9.0 percent per annum between 1976 and 1978, and the share of investment in fixed assets in gross domestic product increased from a 1971-75 average of 27.7 percent to a 1976-78 average of 30.5 percent. Investment grew most rapidly in the industrial sector, and within that sector there was a large increase in the share of energy-related projects, up from an average of about 20 percent of total industrial investment in the early 1970s to an average

of about 31 percent in the 1975-77 period. The increasing share of energy projects in total investment was in accordance with the sectoral priorities of the 1976-80 plan to which we now turn.

3. Sectoral Growth Performance

Yugoslavia's 1976-80 plan identified certain sectors of the economy as priority sectors, targeted to grow more rapidly than the rest of the economy and to receive preferential access to investment funds. Within industry, four industrial branches—basic chemicals, electrical power, ferrous metallurgy and nonferrous metallurgy—were to grow over 10 percent per year, while shipbuilding, nonmetallic minerals, and coal production were to grow at least 9 percent per year. In contrast, the low priority industrial branches producing consumer goods were expected to grow 4 to 6 percent a year.

The underlying strategy behind the choice of priority sectors in the 1976-80 plan was one of import substitution. During the 1966-72 period, all sectors of the Yugoslav economy increased their dependence on imports, especially imports of intermediate goods. A recent study by the World Bank (Schrenk et al., 1979) demonstrates that the industrial branches given priority in the 1976-80 plan are the same sectors in which output tended to lag relative to the 1966-72 average precisely as a result of growing import dependence.

If we examine the seven priority industrial branches of the 1976-80 plan in greater detail, several important characteristics stand out. First, net profitability rates, defined as the ratio between allocations to enterprise funds (a measure of retained enterprise profits) and the value of enterprise assets, are lower than the industrial average in all of the priority sectors except chemicals. With the exception of nonferrous metals and electrical power, there is no systematic evidence suggesting that these low profitability rates are due to artificially low prices. Therefore, they may indicate real differences in economic profitability across sectors, and such differences suggest that the planned allocation of resources to the priority sectors may have been at odds with market indicators. Second, with the exception of shipbuilding, these sectors are all more capital intensive than the average for all industry, where capital intensity is measured by both the capital-output and capital-labor ratio. Indeed, three of the five most capital-intensive sectors in the economy—electrical power, coal and ferrous metals, as measured by the capital-output ratio, and electrical power, nonferrous metals and ferrous metals as measured by the capital-labor ratio—are among the priority sectors. Third, all of the capital-intensive priority sectors with the exception of nonmetallic minerals pay per worker incomes that are in excess of average per worker incomes in the industrial sector. And, finally, four of the priority sectors—ferrous metals, nonferrous metals, shipbuilding and chemicals—are more import intensive than the industrial average, where import intensity is measured by the total import content of domestic production using input-output data.

Taken together, these characteristics suggest reason for some skepticism about the 1976-80 plan priorities. Because of real structural changes in the world energy market and the growing energy depend-

ence of Yugoslavia's industrial production (see Hoffman, 1979), emphasis on electrical energy and coal may be warranted. In addition, emphasis on the production of certain nonferrous metals previously discouraged by price controls may also be consistent with market indicators.¹⁷ On the other hand, the capital-intensity and import-intensity characteristics of the priority sectors suggest that the import substitution strategy will not only make more use of capital, Yugoslavia's relatively scarce factor of production, than of labor, its relatively abundant one, but may also be self-defeating at least in the medium run since it will promote sectors that are heavily dependent on imports.

Despite these considerations, the Yugoslav policy makers opted to pursue an import-substitution strategy to confront their balance of payments difficulties and eschewed an export promotion policy as a possible alternative during the 1976-80 period. The argument offered in support of their decision was similar to the argument in support of the import-substitution priorities of the 1971-75 plan—namely, that export possibilities for Yugoslavia are limited by the high-technology competition of the more developed countries and by the low-wage competition of the less developed countries. Recessionary conditions in Western Europe throughout much of the 1970s and the consequent slowdown in the demand for Yugoslav exports reinforced this view. Thus, changing international conditions in the form of changing relative prices in favor of energy and raw material inputs and a greater degree of uncertainty in export demand combined to strengthen the Yugoslav bias towards an import-substitution strategy. As the evidence provided here and in the section on foreign trade (Section VI) indicates, this may prove to be an unfortunate choice, at least in the short to medium run, since it has failed to improve Yugoslavia's balance of trade situation while simultaneously aggravating other developmental problems, such as the rapid absorption of underemployed labor resources into industry.

At this point in time only a preliminary assessment of the extent to which the sectoral priorities of the 1976-80 plan have been realized can be made. The data for such an assessment are contained in Table 3.3. The data show that the growth rates of the priority sectors were below target through the end of 1978, and that the deviations between actual and target growth rates were larger in the priority sectors than in industry as a whole. Particularly weak performance relative to plan occurred in nonferrous metals and shipbuilding. In addition, the data indicate that some of the nonpriority sectors, such as metal products, electrical machinery and rubber, have grown more rapidly than planned and are among the fastest-growing sectors of the economy. Thus, the available evidence suggests that the structural transformation of the economy does not appear to be occurring as rapidly as planned. It is, however, premature to conclude that the re-orientation will not occur in the future if, as planned, there is a major allocation of investment to priority sector projects, and if that investment changes the composition of output in the future. Unfortunately, Yugoslav investment data currently available do not allow a precise

¹⁷ The relative underpricing of nonferrous metals during much of the post 1965 reform period was particularly inopportune from a balance of payments perspective because Yugoslavia is the largest producer of nonferrous metals in Europe and has the richest resource endowment both in relation to its area and inhabitants (IBRD, 1976).

evaluation of the extent to which the actual sectoral composition of investment has followed the plan, but some tentative conclusions can be suggested. First, as mentioned earlier, there has been a sharp increase in energy's share in total investment to 31 percent, although this remains below the targeted share of 42 percent. Second, figures through the end of 1978 indicate that the actual investment shares of electrical energy, coal, ferrous metals, and nonferrous metals in total investment matched planned investment shares (Prica, 1978, p. 420). On the other hand, investment has greatly exceeded target in some sectors, such as oil and gas refining and has fallen below target in others such as basic chemicals. According to a recent OECD assessment, investment has lagged behind in extraction projects and basic materials projects, but has exceeded targets in projects involving intermediate and final processing stages, thus aggravating the mismatch between the domestic demand for and supply of raw materials with consequent pressure on the balance of payments (OECD, 1979, p. 12). Overall, however, despite divergences from plan targets of the types mentioned here, the available evidence suggests that the structure of investment has been oriented towards the priority sectors during the 1976-80 period.

TABLE 3.3.—ACTUAL AND PLANNED GROWTH RATES FOR SELECTED INDUSTRIAL SECTORS, 1976-80

	Planned growth rates, 1976-80	Actual growth rates, 1976-78
Priority sectors:		
Electrical energy.....	10.0	11.3
Coal.....	9.5	5.9
Ferrous metals.....	11.0	9.1
Nonferrous metals.....	11.0	5.7
Shipbuilding.....	9.0	-1.9
Chemicals.....	14.0	10.3
Nonmetallic minerals.....	9.9	6.7
Industrial Average.....	8.0	7.1
Nonpriority sectors:		
Metal products.....	8.5	10.0
Electrical machinery.....	9.0	11.3
Paper.....	6.9	9.0
Rubber.....	4.0	13.0

¹ Metal machinery and transport equipment.

Sources: Actual growth rates calculated from data on industrial production in "Statistical Yearbook of Yugoslavia," 1978 and Federal Statistical Office document No. 333, "Basic Indicators of Socio-economic Developments in 1978."

4. Growth and Efficiency in Resource Use: Capital

During the 1970s, the Yugoslavs continued to rely on high investment rates to provide the impetus for rapid economic growth. The continuation of this investment-oriented strategy fostered the investment effort suggested by the figures in Table 3.4. As the data indicate, the average investment rate has tended to increase during the second half of the current decade, and the gradual decline in the investment rate that began, at least partly by intent, during the 1965-69 period has been reversed. By the late 1970s, Yugoslavia had one of the highest investment rates in the world by the standards of both planned and market economies. Moreover, the actual investment effort of about 30 percent of gross domestic product was in line with the investment effort of 29.2 percent projected by the IBRD (Schrenk et al., 1979) as required by the 1976-80 plan.

TABLE 3.4.—INVESTMENT RATES

	1966-70	1971-75	1976	1977	1978
Investment in gross fixed assets:					
As a percent of gross domestic product ¹	28.5	27.7	29.5	30.4	31.7
As a percent of gross domestic product ²	26.6	26.1	30.1	32.1	NA
Realized investment: ³ As a percent of gross social product.....	30.3	30.2	35.0	36.5	38.9

¹ Constant prices, 1972 equals 100; calculations from OECD data; 1966-70 figures are measured in constant 1966 prices. 1976-77 figures are provisional; 1978 figure is an estimate.

² Current prices; calculations from data in OECD (1979). Comparable 1977 figures for the middle income countries are Greece (23), Portugal (20.4), Spain (21.5), Turkey (25.8), Israel (28.0).

³ Realized investment in fixed assets during year, regardless of when payments were made; calculations from data in "Statistical Pocketbook of Yugoslavia," 1979.

⁴ Estimate.

To finance desired additions to the capital stock, the Yugoslavs have tried to mobilize a high rate of domestic savings. As in the past, a major stumbling block to the mobilization of domestic savings has been within the enterprise sector, as a consequence of a perceived tendency on the part of firms to distribute large shares of their net income to workers, leaving insufficient retained earnings to finance investment. Existing empirical studies (Tyson, 1977b) support the view that the savings rate out of enterprise income tends to fall in many enterprises in the absence of government regulation of enterprise distribution decisions. The evidence is particularly convincing for the 1966-71 period, when enterprises had substantial control over the distribution of their income, and when the share of enterprise after-tax income retained as gross savings in various funds (including depreciation) declined from about 28 percent to about 22 percent.¹⁰ These findings are consistent with the theoretical proposition that the combination of self-management and collective ownership in Yugoslavia provides an incentive for workers to distribute enterprise income as wages and to rely on external sources of finance for collective investment (see the discussion in Tyson, 1977a). Evidence on the behavior of some firms and sectors, however, appears to contradict this proposition. Savings rates, measured in a variety of ways, appear to vary dramatically across sectors and firms. For example, Tyson (1977b) found that gross savings as a percentage of gross-value added (value added plus depreciation) ranged from a high of 50 percent in some sectors to a low of zero in others. Similarly, a recent Yugoslav study (Vekic, 1979) found that in 1977, 15 percent of all enterprises had a savings rate of zero, while 8 percent had a savings rate of more than 20 percent, where the savings rate is measured as net savings (exclusive of depreciation) as a percentage of net enterprise income (net value-added minus contractual and legal or taxation obligations).

Unfortunately, a consistent data series does not exist to determine whether enterprise savings rates have tended to increase or decrease during the 1970s. Aggregate and sectoral data, however, suggest that savings rates tended to increase during the 1971-75 period relative to the 1966-70 period and then tended to decline after 1975. For example, the IBRD (Schrenk et al., 1979, p. 151) calculations show an increase in

¹⁰ These figures are calculated by the IBRD (Schrenk, et al., 1979) and measure the savings rate as depreciation plus allocations to business funds as a percentage of enterprise disposable net income. Disposable net income is measured as the total of depreciation, allocations to funds, and net income paid to workers.

gross savings rate from 24 percent between 1966 and 1970 to 26 percent between 1971 and 1975. Available evidence suggests that this tendency was reversed in 1975. For example, net savings as a percentage of net enterprise income fell from an average of 23.9 percent between 1971 and 1973 to 18.1 percent between 1975 and 1977 (Vekic, 1979). Undoubtedly, the apparent squeeze on enterprise savings during the post-1975 period was due to the rapid increase in worker incomes in excess of labor productivity increases. As we shall see, the results of this development, combined with rapid growth in investment, were a heating up of inflationary pressures and a deteriorating balance of payments performance towards the end of the decade.

In addition to mobilizing the savings required for financing planned investment, the Yugoslav authorities have had to confront the problem of encouraging the efficient distribution of investment and capital among competing uses. The presumption, supported by existing empirical work, is that there has been and continues to be a misallocation of capital among sectors of production, enterprises, and regions. On an aggregate level, the apparent concentration of investment in capital-intensive projects appears to be inconsistent with relative factor scarcities. Because of this concentration, additions to the capital stock have had smaller effects on output and employment than might otherwise have been the case.

At this point, evidence on trends in aggregate capital intensity during the current plan period is scattered and incomplete. *A priori*, given the sectoral priorities of the 1976-80 plan, with their emphasis on the most capital-intensive sectors in the economy, one would expect indicators of aggregate capital intensity to increase. On an aggregate basis, the elasticity of output with respect to real investment has dropped from an average of .89 during the 1971-75 period to an average of .68 during the 1976-78 period, and the elasticity of employment with respect to real investment has dropped from an average of .61 during the 1971-75 period to an average of about .45 between 1976 and 1978. (Employment elasticity estimates are simply ratios between the rate of growth of social sector employment and the rate of growth of real investment.* Similarly, output elasticity estimates are ratios between the rate of growth of real social sector output and the rate of growth of real investment.) These findings are consistent with *a priori* expectations, but more evidence is required before a final evaluation can be made.

Several factors act to bias factor proportions in favor of capital in Yugoslavia including, during the most recent period, the planners' decision to foster capital-intensive sectors. Low nominal and real interest rates have had this effect, and the combination of accelerating inflation and constant or falling nominal interest rates in 1977 and 1978 has intensified this tendency. A fiscal system which continues to tax enterprise labor usage heavily and which fails to tax enterprise returns to capital to the same degree produces a similar effect. Finally, enterprise decision-making rules themselves tend to encourage capital-intensive production techniques. In a self-managed system, if excess profits or returns to capital remain with the firm after payment of charges for the use of capital services, these returns are likely to be distributed as worker incomes. In this case, the wage/rental ratio

implied by the relationship between distributed labor incomes and capital charges tends to bias the firm in favor of capital-using and labor-saving production.

In addition to sectoral misallocations of capital in favor of capital-intensive projects, Yugoslavia also suffers from misallocations of capital among competing enterprises and regions. As in the past so in the 1970's, interregional optimality in capital usage has been precluded by significant regional barriers to capital mobility that continue to encourage banks, enterprises, and republican and communal state organizations to keep capital resources within their own boundaries. The phenomenon of "political factories" and the duplication of investment efforts among republics persist, despite efforts to rationalize regional investment decisions through the social planning mechanism. As noted in the introduction, this mechanism can operate successfully only if there is underlying consensus among regions, and this has frequently not been the case in investment decision making. Thus, the Yugoslav press still contains anecdotes about or allusions to "the creation of small protected markets" and the use of regional labor and capital resources in the construction of new plants and equipment even when extra-regional resources are cheaper.¹⁹ The structure of the banking system, even after the modifications introduced in the 1976 credit and banking reforms, tends to mirror underlying barriers to regional capital mobility. Banks continue to be cooperatively organized and contributors to founders' funds continue to establish bank policy by voting on issues within the bank assembly. Bank contributors tend to remain localized in one region, and their outlook on credit policy and investment allocation continues to be regional in nature.

A final point to be made about regional distortions in the capital allocation process concerns existing and persistent regional differences in the efficiency of investment and capital resources. Existing empirical work by Turcic (1978), the IBRD (1976, 1979), and others supports the view that these differences are substantial. Thus gross profitability rates in the less developed regions (LDRs) are only about 60 percent (Kosovo) to 90 percent (Macedonia) of the Yugoslav average (1974 figures), and the marginal output-capital ratios in these regions are only about 62 percent of the Yugoslav average (1953-1972 average). Of course, these differences in the efficiency of capital use are partly explained by regional differences in the sectoral composition of investment and output and by regional differences in the skill characteristics of employment. Even after allowing for these factors, however, one still finds significant "pure" regional differences in the efficiency of capital use. (See, for example, the calculations by Turcic, 1978.) These regional differences suggest that aggregate capital efficiency could be improved by a substantial reallocation of investable funds in favor of the more developed republics (MDRs) at least in the short run. As a consequence of long-run economic and political considerations, however, such a reallocation is not a realistic policy option in Yugoslavia, and as Section IV indicates, government policy has been instrumental in directing an important share of investment resources from the MDRs to the LDRs, with concomitant costs in the overall efficiency of capital use.

¹⁹ See Antic, *Radio Free Europe, RAD Background Report* (June 22, 1978); J. Gruble in *Privredni Vjesnik*, 9/21/78, pp. 4-5; and S. Zvizdic in *Privredni Vjesnik*, 11/4/78.

A final factor affecting capital allocation in Yugoslavia is the set of rules guiding bank lending decisions. Despite policy objectives to the contrary, during the 1970s, the banks have remained the single most important source of investment finance. Between 1971 and 1976, banks supplied about 43 percent of the finance for investment in fixed assets (Vojnic, 1978, p. 431), while enterprises supplied an average of about 32 percent. Because interest rates have remained low—and indeed have become even lower in recent years²⁰—relative to estimated returns to capital and the inflation rate, the banks have had to develop non-price rationing rules to allocate funds among competing users. Although some banks have begun to use sophisticated project analysis rules as rationing devices, many credit decisions are still based on simple rules of thumb²¹ and are still influenced by the cooperative nature of the banking system that allows major borrowers to have a say in bank decisions.

Although outside observers might reasonably conclude that the Yugoslav banking system has been weakened and its efficient operation distorted by “excessive” borrower or customer control over bank lending policies, the pervasive opinion in Yugoslavia in recent years has been the opposite—namely, that banks have had too much influence on and independence from the enterprises they serve. Indeed, during the debates leading up to new laws reforming the banking system, discussion focused on the need to devise an institutional framework that would give enterprises greater influence in the managing organization of banks and on the need to increase the self-financing of investment, thereby reducing enterprise dependence on external funds. The first of these objectives is reflected in the Law on the Credit and Banking System adopted in 1976 and put into operation in 1978. The basic purpose of the legislation is to reduce the autonomy of the banks by requiring them to lay out annual and five-year plans that are coordinated with the plans of their borrowing members and with the overall social plans. This process is to broaden the designation of funds for specific purposes and projects, leaving the banks with only limited investment resources over which they can exercise discretionary control during a plan period. Since social compacts and self-management agreements among enterprises, banks, and government organizations are obligatory for priority sectors, it follows that in the new system the bulk of investment funds in the banks will be set aside for such sectors, thereby enhancing the prospects for the fulfillment of their investment plans. Although it is too early to assess the effects of the new legislation on the workings of investment allocation within the banking system, it seems clear that it does not eliminate the fundamental weakness of the system—namely, the use of a variety of possibly inconsistent and not necessarily optimal non-price criteria to allocate investment funds. In the absence of market clearing interest rates, credit allocation decisions will be only as good as the explicit or implicit plan priorities on which they are based, and if relative factor

²⁰ IBRD estimates (interview) indicate that long-term interest rates fell from a high of about 10.1 percent in 1976 to 9.1 percent in 1977 and 8.7 percent by the third quarter of 1978. This decline reflects a policy decision to reduce inflationary pressures by reducing the cost of capital.

²¹ Such rules as the self-financing ratio of the borrowing enterprise, the pay-back period, and the ability of the borrower to negotiate foreign financing, have been important rationing rules.

scarcities and correct relative prices are not used in the development of these priorities, misallocations of investment resources by banks will continue.

5. Growth and Efficiency in Resource Use: Labor

One of the persistent problems plaguing the Yugoslav development process has been that of absorbing the available labor supply. This problem first became particularly acute during the post-reform plan period 1966-70, when social sector employment increased by only .7 percent a year partly because of the new emphasis on efficiency that accompanied the economic reform and partly because of the prolonged recession that followed its introduction. By chance, the low growth rate of domestic employment opportunities coincided with an unusually large increase in the labor force due to the postwar baby boom. The resulting imbalance between demand and supply was undoubtedly one of the factors behind the dramatic increase in the number of jobseekers and the huge migration of Yugoslav workers to jobs in Western Europe.

During the 1970's, the growth of jobs at home picked up considerably relative to what it was during the 1966-70 period and has returned to its pre-reform level. Employment in the social sector of the economy increased at an average rate of about 4.3 percent between 1971 and 1978, and annual deviations from this average rate were quite small. Moreover, between 1975 and 1978, growth in employment in the social sector was particularly pronounced in the less developed regions where the employment problem was most pressing.

The rapid increase in employment during the 1970's was accompanied by disappointing performance in labor productivity. During the 1971-75 period, labor productivity in the social sector increased only 2.4 percent a year and labor productivity in the industrial sector increased only 3.9 percent a year. The plan target for this period was an overall labor productivity increase of 5.0 percent a year in the social sector. The 1976-80 plan target for labor productivity was scaled down to a rate of 4.0 percent a year, reflecting concern over the need to create social sector jobs at a planned rate of 3.5 percent a year. As events developed, the growth of social sector jobs was about 4.2 percent during the 1976-78 period, in excess of the plan target, and social sector labor productivity grew at about 2.0-2.3 percent, well below plan target. A somewhat faster growth of labor productivity in industry of about 3.4 percent was realized during the same period, but this was still low relative to the plan target and relative to the average growth rate of about 5.5 percent in industrial productivity realized in the 1960's.

The rapid growth in domestic employment opportunities during the 1970's was particularly critical because of the large net return of migrant workers occasioned by the recessionary conditions in Western Europe after 1973-74. During the 1965-73 period, external migration absorbed about 60 percent of the total increase in the Yugoslav labor supply (Schrenk et al., 1979), and the number of workers temporarily employed abroad climbed sharply from an estimated 275,000 in 1966 to more than one million by 1973. By 1978, however, as a consequence of a net return of labor, the number of workers abroad had fallen to

an estimated 800,000. Estimates suggest a continued net inflow of about 50,000 workers per year through the end of the decade.

The magnitude of the employment problem facing the Yugoslavs in coming years is suggested by the fact that despite rapid employment growth in the 1970's, the number of jobseekers has more than doubled from 290,000 in 1971 to an estimated 738,000 in 1978. In addition, an estimated 20 to 30 percent of the active population in the agricultural sector (400,000–600,000 workers) is unemployed or underemployed, and this situation has probably been aggravated in recent years by the fact that nearly two-thirds of the returning migrants have gone back to this sector (Kosinski, 1978). The significance of the private agricultural sector in the Yugoslav unemployment problem is suggested by the fact that during the 1970's the number of workers leaving this sector for jobs elsewhere has been twice as large as the natural increase in the labor force. Workers in agriculture are interested in moving from private farms where average incomes per worker are estimated to be about one half of the earnings in the social sector to higher wage positions within the domestic economy.

Underemployed workers in agriculture who are seeking employment in the social sector frequently officially register as jobseekers. Thus, the number of jobseekers includes both workers who are without jobs altogether and workers who wish to change jobs and thus overestimates the magnitude of the unemployment problem in the short run. Even allowing for this overestimation, however, the problem remains severe. This is suggested not only by sharp increases in the number of jobseekers but also by changes in their characteristics. For example, the share of jobseekers under 24 years of age was 48 percent in 1977 compared to only 37 percent in 1970, and the share of jobseekers looking for employment for the first time—a better measure of workers who are unemployed than total jobseekers—rose from 33 percent in 1965 to 60 percent in 1976. By the mid-1970's, young, educated, and never before employed workers constituted the largest single category of jobseekers.

The Yugoslavs have recently devised a series of new measures and policy initiatives to create additional jobs in the social sector and to encourage the growth of additional jobs in the private non-agricultural sector. The new system of social compacts and SMAs calls for annual agreements on employment targets in the social sector, and anecdotal evidence indicates that these agreements have been used as a mechanism to compel firms to hire additional workers. This seems to have been particularly important in 1975–76, when rapid increases in social sector employment occurred despite stagnation in social sector output. A second policy initiative, overcoming an earlier ideological apprehension, has focused on ways to stimulate private non-agricultural employment. By the mid-1970s, about 4 percent of the total labor force was employed in the private non-agricultural sector, mostly in small 1–2 person, owner-operator establishments, predominantly in services, handicrafts, and construction. During the 1972–78 period, employment in this sector grew at about 2.5 percent a year, a rate which, although reasonably high, was somewhat below the rate of 4.5 percent observed in the 1960–72 period (OECD, 1979, pp. 15–16) and below the plan target rate of 5.1 percent. Despite continued growth, the private non-

agricultural sector has remained a small outlet for new job creation for a variety of reasons, including such policy-related reasons as the absence of fringe benefits and job security and difficulties in access to credit and foreign-exchange within the sector. If anything, policy measures have tended to discriminate against the private sector, particularly in the area of taxation, and this, combined with the fact that private-sector jobs have had lower incomes and less job security than social-sector jobs, has tended to discourage a large expansion of private-sector activities.

Recently, however, a new more encouraging attitude to private-sector employment opportunities has characterized Yugoslav economic policy. Tito himself has spoken of the need to "continually seek new openings for employment, including openings in the sector of the self-employed" (Tito, April 1979) and has condemned "sectarian views" that private work is a constant danger to socialism. New policy measures adopted in Social Compacts on the development of the private sector are designed to meet this need by providing better access to housing, foreign exchange, and credit, and a reduced tax burden. So far, there is little evidence on the effectiveness of such measures, but clearly their thrust is in the correct direction. Unfortunately, however, the maximum limit of five salaried workers per private establishment has been maintained. This, combined with the high costs of labor due to the heavy imposition of taxes and other charges on wages, whether paid in the private or social sector, will continue to constrain the number of jobs and kinds of activities that the private sector can provide.

Despite new policy initiatives to increase employment opportunities in Yugoslavia, there is little prospect that the unemployment and underemployment problem will disappear by 1985, the end of the next five year plan period. Instead, the IBRD predicts that with a return of 250,000 migrant workers over the 1975-85 period and with the projected natural increase in the labor force, the number of unemployed workers will only decline by about 140,000 and, as a consequence, there will be little opportunity for the continued outflow of labor from agriculture in all the less developed regions, especially Kosovo and Bosnia-Herzegovina (Schrenk et al, 1979, p. 279). These developments will, of course, pose a significant barrier to Yugoslavia's continuing efforts to redress regional income inequalities, since these are largely the consequence of substantial differentials between industrial and agricultural incomes and the fact that the share of private agriculture in total employment is much higher in the less developed regions than in the more developed ones (69 percent in Kosovo compared to only 33 percent in Slovenia in 1971, the last census year).

Some policy measures have actually tended to aggravate problems of labor absorption in Yugoslavia. In particular, the taxation system has artificially inflated the costs of labor. Estimates by the International Labor Organization indicate that by the 1970s, various taxes and charges levied on labor incomes plus increments to incomes from profit-sharing arrangements amounted to 65 percent of total labor costs. Moreover, these additional labor costs were a higher percentage of total labor costs than anywhere else in Europe (M. Rasevic et al, 1978). Higher labor costs, of course, have simply aggravated the tendency towards capital intensity which already exists in the system, and al-

though the Yugoslavs have recently tried to ameliorate the situation by adding a tax on enterprise income to existing taxes and charges on labor, labor costs are still artificially inflated by the Yugoslav fiscal system.

On the other hand, even if policy improvements were introduced to encourage more rapid employment growth, a market-oriented development process like the Yugoslav one would tend to be less successful than a plan-oriented development process in preventing open or observable unemployment at least in the short run. In other words, one should not expect Yugoslavia to achieve the "apparent full employment characteristics" achieved by other East European countries, precisely because there is nothing in the market mechanism to guarantee full employment as central planners can do simply by forcibly regulating wage and employment decisions even at the expense of enterprise profitability.

A more appropriate point of comparison from which to evaluate Yugoslavia's employment performance is the employment performance of other market economies at similar levels of development. Significantly, when viewed from this vantage point, Yugoslav performance is about what one might expect. For example, the IBRD finds that the employment elasticity of industrial social sector output in Yugoslavia has been around .7, a figure that compares favorably with that of other developing and middle-income market economies. On the other hand, since Yugoslavia's gross investment rate has tended to be substantially above those realized in the other middle-income countries—an average of nearly 30 percent in Yugoslavia in the 1970s compared to averages of around 22 to 25 percent in Greece, Spain, and Turkey (IBRD, *World Development Report*, 1978)—the evidence supports the view that Yugoslavia's investment efforts have focused on capital-intensive projects and have thus been less effective in job creation than smaller investment efforts elsewhere. A similar conclusion based on a comparison of existing international evidence on investment and employment performance in developing countries has been suggested by Vanek (1978). And data presented by the IBRD indicate that the capital-intensive bias in Yugoslav development has produced an incremental capital-output ratio that is anywhere from 25 to 50 percent higher than the incremental capital-output ratio of the other middle-income countries in Table 3.3. (Schrenk et al, 1979, p. 171: 1968–1973 average figures.)

IV. REGIONAL DEVELOPMENT PROBLEMS

Disparities in the level of economic development among the six republics and two autonomous provinces (hereafter called regions) continue to be a major unresolved economic problem in Yugoslavia. These disparities have not declined, and in some cases have even increased, during the postwar period despite persistent policy efforts and despite rapid growth in the less developed areas. The extent of differences in development levels and growth rates among regions is suggested by the figures in Table 4.1. These figures show that differentials in per capita incomes persisted or even increased over the 1952–78 period, even though during some periods, such as the 1971–75 plan period, growth rates in the less developed regions exceeded those in the more developed

ones. More rapid growth in output has been more than offset by more rapid growth of population in the less developed regions, preventing any noticeable equalization of regional per capita incomes.

TABLE 4.1.—REGIONAL DIFFERENCES IN SOCIAL PRODUCT PER CAPITA AND GROWTH RATES

	1952	1960	1970	1977
Per capita income levels:¹				
Less developed regions:				
Bosnia-Herzegovina.....	81	77	67	67
Montenegro.....	56	57	78	72
Macedonia.....	68	59	64	65
Kosovo.....	46	35	34	30
More developed regions:				
Croatia.....	115	120	125	127
Slovenia.....	203	192	193	196
Serbia Proper.....	92	95	97	97
Vojvodina.....	88	106	110	121
	Growth rate of social product		Growth rate of social product per capita	
Less developed regions:				
Bosnia-Herzegovina.....	6.1		4.4	
Montenegro.....	6.2		4.7	
Macedonia.....	6.9		5.2	
Kosovo.....	6.3		3.7	
More developed regions:				
Croatia.....	6.5		5.8	
Slovenia.....	6.9		6.0	
Serbia Proper.....	6.2		5.1	
Vojvodina.....	6.2		5.5	

¹ Current prices, Yugoslav average = 100. 1977 figures are preliminary.

Source: Social product per capita, "Statisticki Godisnjak" (various issues). Growth rates, Grljčkov (1979).

Differences in the dynamics of population growth across regions have also contributed to the severity of a second regional development problem—the containment of unemployment to socially and politically sustainable levels and the gradual absorption of unemployed and underemployed labor in private agriculture into social sector jobs. Differences in the number of job vacancies among regions have failed to offset differences in the regional availability of unemployed workers. Thus, for example, in 1977 jobseekers per vacancy in the social sector ranged from lows of 1.4 in Slovenia and 6.2 Croatia to higher of 22.3 in Macedonia and 32.5 in Kosovo (Knezevic, 1977). Although unemployment rates and jobseekers per vacancy have increased sharply throughout Yugoslavia during the 1970s, their rise has been more precipitous and their levels higher in the less developed regions. In addition, these indicators of labor surplus understate the magnitude of the employment problem in the less developed regions because they do not fully account for the existence of underemployed workers in private agriculture, a sector which accounts for a much larger portion of the active population in the less developed regions.

Available evidence from the 1976–80 plan and recent policy initiatives suggest that the basic principle of regional development strategy in the coming years will be the traditional one of transferring investment funds from the more developed regions to the less developed ones. Although the less developed areas have made an impressive savings and investment effort to finance their own growth plans, the volume of investment funds from intra-regional sources has not been sufficient to

cover the inter-regional development gap. Thus, in the 1970s, the share of investment in gross output has been about 38 percent in the less developed regions compared to about 27 percent in the more developed ones. Of the total investment effort in the less developed regions, about one quarter has been financed from extra-regional sources, although the overall significance of such sources has varied dramatically among the less developed regions, accounting for a full 70 percent of total investment finance in Kosovo.

The effectiveness of regional development policies focusing on the provision of investment funds at concessionary terms has been hampered by failure to encourage the optimal allocation of these funds among competing projects. For a variety of reasons, including the strategy of complementarity in Yugoslav regional development planning, whereby the less developed regions have been assigned the role of supplying the more developed regions with raw materials and semi-finished products, investment funds have been concentrated in large, capital-intensive projects that have high capital-output and capital-labor ratios. A bias towards capital intensity has also been encouraged by the subsidized rates at which investable resources are made available and by the need to devote a substantial share of investable resources to capital-intensive infrastructural projects.

Relatively high personal incomes paid to workers in social sector jobs and additional labor costs from various taxes and charges have also encouraged capital-intensive projects by making relatively abundant labor a relatively expensive input in the less developed regions. Interregional differentials in gross personal incomes paid to workers in the social sector are much smaller than overall interregional differentials in gross income per capita. Gross personal incomes of workers in the social sector in the less developed regions are about 89 percent of the Yugoslav average while gross income per capita in these regions is only about 63 percent of the Yugoslav average. Apparently, workers in the social sector have been able to earn incomes roughly comparable to those earned elsewhere in Yugoslavia, despite the fact that their productivity is lower than the Yugoslav average, and despite the fact that there are large reserves of unemployed or underemployed workers whose earnings and productivity are substantially lower. Several factors have worked to equalize incomes paid in the social sector across regions, including social compacts on enterprise income distribution explicitly designed to achieve this objective, and enterprise efforts to match income levels achieved in other regions by increasing the share of personal incomes and reducing the share of savings in enterprise income. Concessionary charges for capital use also play a role in the determination of social sector incomes in the less developed regions, since firms can effectively distribute some of the returns to capital to their workers as personal incomes.

As it turns out, many of the heavy industries that have played a crucial role in the development process in the less developed regions have been designated as priority industries in the current plan period, and preferred access to credit and foreign exchange for the development of these industries may provide an additional boost to the less developed areas in the future. For example, since about 50 percent of Yugoslavia's coal reserves and 30 percent of its total power potential

lie in Kosovo, preferential treatment of the coal and energy sectors may serve as an important stimulus to development there. It is hoped that the pooling of resources by manufacturing enterprises for investment in the development of raw material and energy sources will also serve as a mechanism to stimulate the interregional flow of capital from enterprises in the more developed regions to enterprises in the less developed ones. So far, interregional flows of capital outside of government channels have been relatively small. Under the new planning system, however, enterprises using energy and raw material inputs are expected to negotiate self-management agreements with their suppliers for the joint financing of investment projects to expand their capacity, and such agreements could serve to increase capital flows to the less developed regions (Hoffman, 1979).

Past evidence suggests, however, that the continued inflow of capital, even in increased amounts, to the less developed regions will not eliminate regional disparities at least over any reasonable time horizon. Indeed, given the tremendous volume of investment in these regions—amounting to investment rates in gross material product of nearly 50 percent in Montenegro and Kosovo in some years—it is possible and quite likely that there are some effective absorptive capacity constraints, such as constraints on the availability of skilled workers and managerial staff, that impede the utilization of newly-created capital to its most efficient advantage. In addition, even overlooking such constraints, the inflow of capital will not solve the regional unemployment and underemployment problems that underlie regional income disparities unless its distribution among competing projects is based on estimates of the opportunity costs of capital and labor that reflect the relative abundance of labor. Finally, capital inflow does not work as an effective regional development strategy in isolation. Technical assistance transfers and programs to develop skilled labor and managerial talent are also required to provide the complementary inputs essential to the efficient use of capital in the less developed regions. Overall, it seems that one of the fundamental lessons learned from the disappointing experience of economic development efforts throughout the world also applies to the Yugoslav regional development problem: an effective development strategy requires policies stressing the utilization of human resources; policies that rely mainly on the exploitation of natural resources and/or capital-intensive industrialization will not succeed in reducing income or developmental differences over reasonably long periods of time (Adelman-Morris, 1973).

V. MACROECONOMIC PERFORMANCE

Perhaps the most talked about and debated aspect of economic performance in Yugoslavia is the inflation that has persisted with varying degrees of intensity since the early 1960's. As the data in Table 5.1 indicate, inflation in industrial producer prices (wholesale prices), retail prices, and nominal personal incomes has been substantial throughout the 1970s, particularly between 1973 and 1975, and again in 1978 through 1980, after a brief but dramatic deceleration in 1976 and 1977.

Before going on to discuss the causes of and possible cures for the

Yugoslav inflation, it is important to examine it from a comparative perspective. When compared to inflation rates in the developed countries of the OECD, Yugoslavia's inflation rate during the 1970's has been quite high as the data in Table 5.2 reveal. Yugoslavia's performance is even more striking when viewed from the perspective of price stability in Eastern Europe, although even in this area, price controls have been incapable of containing open inflationary pressures in Poland and Hungary as a result of changed economic circumstances. (See Brown-Tardos and Fallenbuchl). Perhaps the most reasonable standard of comparison for Yugoslavia, however, is the group of middle-income countries. Yugoslavia's inflation rate in the 1970s has been virtually indistinguishable from the inflation rates in Portugal and Turkey, the two countries in this group which are most similar to Yugoslavia in terms of general development characteristics.

TABLE 5.1.—INDICATORS OF MACROECONOMIC PERFORMANCE, 1971-79

	[Annual rate of growth (percent)]								
	1971	1972	1973	1974	1975	1976	1977	1978	1979 ¹
Nonagricultural production:.....	9.4	5.7	4.1	9.1	7.1	2.2	8.7	9.0	7.0
Industrial production:.....	10.3	8.1	5.8	10.9	5.4	3.4	9.5	8.5	8.0
Agricultural production.....	6.9	-1.6	7.1	6.1	-2.5	5.0	3.0	-3.0	2.0
Money supply.....	14.9	42.3	36.7	28.1	32.0	52.0	21.0	22.0	25.0
Industrial producer prices.....	14.8	9.7	13.2	29.9	22.0	6.4	9.4	8.2	13.0
Agricultural producer prices.....	25.0	24.0	24.2	14.3	13.6	14.4	12.0	11.8	27.0
Cost of living:.....	15.7	16.9	20.3	20.5	24.0	11.6	15.4	14.2	28.0
Nominal incomes in social sector industry.....	22.0	16.6	16.0	27.6	23.6	15.5	18.8	21.0	NA

¹ Preliminary estimates.

Source: "Growth rates calculated from data in a variety of sources including: OECD, Annual Survey of Yugoslavia, 1979; "Indeks;" National Bank of Yugoslavia Quarterly Bulletin; IMF, "International Financial Statistics."

TABLE 5.2.—COMPARATIVE INFLATION RATES

	[Percent annual average]	
	Retail prices, 1971-77	Retail prices, 1971-77
Developed OECD countries:		
Italy.....	13.6	
France.....	9.2	
Germany.....	5.5	
Switzerland.....	5.9	
Great Britain.....	14.0	
Sweden.....	8.4	
Japan.....	11.2	
United States.....	6.7	
Average.....	10.0	
Middle income countries:		
Spain.....		14.9
Portugal.....		17.5
Turkey.....		18.6
Greece.....		13.8
Yugoslavia.....		18.1
Eastern European countries:		
Bulgaria.....		.5
Czechoslovakia.....		.2
German Democratic Republic.....		.0
Hungary.....		3.3
Poland.....		3.2
Romania.....		.6

¹ 1972-78.

Source: For developed OECD countries, Yugoslavia and Eastern European Countries, Mencinger (1978). For middle income countries, author's calculations from data in OECD, "Main Economic Indicators."

Policy efforts to control inflationary pressures in Yugoslavia during the 1970's attest to an apparent short-run tradeoff between real growth and price stability. Such a tradeoff has been a feature of the Yugo-

slav system since the late 1950's, when the first cycle of rapid growth and rapid inflation followed by a policy-induced slowdown began. Since then, Yugoslav economic performance at the macro level has been characterized by stop-go fluctuations, reminiscent of the British fluctuations, after which they are named. (See Section VI for more on stop-go policies and their relationship to balance of payments constraints). These fluctuations have varied in both duration and intensity (see, for example, Horvat, 1971), but they have all followed the same basic pattern: a period of rapid growth accompanied by accelerating inflation and a growing balance of payments deficit, followed by a slowdown in growth and a deceleration of inflation induced by a variety of policy measures, such as the price controls, investment controls, and foreign exchange controls discussed later in this section and in the section on foreign trade.

Both foreign and domestic factors have played a role in the evolution of the tradeoff between output growth and price stability in Yugoslavia. In the 1970s, foreign factors were more important than they were earlier, as a consequence of worldwide inflationary pressure in the 1972-1974 period and more recently in 1979. In both of these periods, the rapid growth of Yugoslavia's import and export prices, fueled largely by the pressure of rising world prices of raw materials and energy, produced significant increases in the prices of tradeable goods in Yugoslavia. Of course, price increases in the tradeable goods sectors need not produce an increase in the aggregate rate of inflation, provided prices in other sectors either fall or fail to increase as fast as they would otherwise. However, with the kind of wage and price rigidities that characterize Yugoslavia and other market systems, and with the expansionary domestic demand conditions present when foreign inflationary pressures hit in 1972-74 and again in 1979, this condition was not satisfied in either period. Consequently, foreign price increases produced a perceptible increase in the domestic inflation rate in both periods. A recent empirical study suggests that fully one fourth of the Yugoslav inflation rate of 29 percent in industrial producer prices in 1974 was the consequence of rising import prices (Tyson-Neuberger, 1979). A recent estimate by a major Yugoslav bank posits a similar conclusion for 1979—namely, that 25 percent of the inflation rate of about 20 percent realized during the first six months of 1979 was attributable to increases in the world prices of Yugoslav imports and exports (*Jugobanka Economic News*, October, 1979).

Even in the absence of foreign inflationary pressures, however, the Yugoslav inflation rate has remained substantial. There are two main schools of thought about the domestic causes of the Yugoslav inflation. According to the theory that has motivated government stabilization efforts to cool inflation by slowing or reducing demand, inflation is primarily the consequences of excess demand generated by "over-investment" and fed by an expansionary monetary policy. This theory certainly dominated policy discussions during the 1977-79 buildup of inflationary pressures that accompanied the 1976-80 social plan. A second theory, which became popular among Western economists and some Yugoslav economists in recent years, focuses on inflationary increases in worker incomes as the primary source of domestic inflation.

By now, after nearly a decade of inflation to some degree in most of the market systems of the world, economic orthodoxy is of the view that a strict distinction between demand and wage-push causes of inflation is futile and meaningless. All inflations have both demand components, at the very least in the sense that they are accompanied by sustained increases in the money supply, and wage or supply side components, at the very least in the sense that expectations, cost-of-living adjustments and rigidities in the wage-setting process can sustain a wage-price spiral in the short run and can impart an inflationary bias to the economy. These conclusions apply to most market systems, and existing research (see, for example, Tyson 1977b) indicates that they apply to Yugoslavia as well.

Empirical evidence on the Yugoslav inflation indicates that prices are responsive to both demand and cost conditions,²² although the impact of the latter is quantitatively more important. The evidence is consistent with the view that the majority of industrial commodities in Yugoslavia have "administered prices," or prices set on the basis of some markup over production costs, the size of which is influenced by the state of aggregate demand. Some commodities, in contrast, are more appropriately viewed as having "auction" prices set on the basis of supply and demand. Important among such commodities are some agricultural goods whose prices fluctuate largely in response to harvest conditions within the limits set by price controls, and major tradeable goods, such as raw materials, whose prices are heavily influenced by world market developments.

The distinction between administered and auction prices may seem surprising to someone accustomed to thinking of Yugoslavia in terms of a system of price controls, but the operation of such controls is consistent with this distinction. Under the system of price controls that has characterized the 1970s, annual social compacts among the republics and provinces establish the broad lines of price policy for the year including the aggregate tolerable price increase. As recent evidence from 1978 and 1979 indicates, however, the maximum price increase is not a binding policy target, and the actual rate of inflation can exceed the planned rate by a substantial margin. Price changes at the sectoral level are determined by self-management agreements among producers, formulated—in theory at least—in communication with interested consumers. These price increases are then subject to some review procedure at the federal or regional level. Although the review process differs among different categories of industrial products, cost increases or "market forces" are considered acceptable reasons for price increases for most commodities, making an "administered price" interpretation consistent with the system of price controls.

The apparent cost-markup or administered nature of many prices, combined with rapid increases in real earnings of workers in excess of labor productivity increases, has imparted a significant inflationary bias to the Yugoslav economy. Because worker earnings and hence production costs fail to adjust rapidly or completely to slackening labor and product demand, slowdowns in economic activity do not

²² See, for example, the following references for empirical work on the Yugoslav inflation: R. Popov (1972); S. Popov (1978); J. Mencinger (1974), and Tyson (1977b).

reduce cost pressures or prices to any noticeable extent, at least in the short run. In fact, Horvat (1974) and Mencinger (1974) have argued that these pressures are actually greater during an economic slowdown when labor productivity increases fail to offset the cost effects of continued nominal earnings' increases. If the existing empirical evidence is correct, the policy implication for the control of the Yugoslav inflation is clear: the government must combine aggregate stabilization policies with an effective incomes' policy to restrain the growth of nominal earnings. Because of the relative insensitivity of both prices and earnings to demand conditions, any attempt to reduce inflationary pressures by stabilization policies alone will lead to a slowdown in the economy without the desired moderation in the inflation rate.

This conclusion, however, does not deny a role to greater control of money and credit market conditions in the struggle against inflation. As the data in Table 5.1 indicate, money supply increases have averaged over 30 percent a year during the 1970s, and increases topping 50 percent have occurred periodically as in 1976 and again in the first half of 1979. Because of the apparent sensitivity of aggregate demand, particularly investment,²³ to money market conditions, increases in the rate of growth of the money supply stimulate product and labor markets, thereby generating inflationary forces on some of them. It is incorrect to deduce from this evidence, however, that the large money supply increases of the 1970s caused the Yugoslav inflation, because such an explanation misses the significance of the inflationary pressures introduced into the economy by the mechanisms of price and wage formation. Moreover, such an explanation misses the possibility that money supply formation is largely an endogenous variable in the Yugoslav system—the consequence of validating price pressures arising on the supply side of the market from increases in earnings and production costs.

Arguments supporting the view that the money supply is a validating rather than a causal factor in the Yugoslav inflation generally refer to recurrent illiquidity crises or spiralling losses and potential bankruptcies as the factors that force the hands of the monetary authorities.²⁴ According to these arguments, enterprises continue to mark up earnings and prices or to undertake production and investment programs with scant regard to tightening product market conditions caused by a monetary contraction. When they find themselves unable to sell their output at prevailing prices or to cover their investment and wage bill commitments they do not reduce prices, lay off workers or cut back their spending plans. Instead, they finance their expenditures by bank credit when available and by defaulting on outstanding business debt or incurring a business loss when necessary. As more and more firms register substantial losses or default on payment commitments, the monetary authorities are forced to revert to an expansionary policy to counter the threat of multiple bankruptcies. This scenario has some applicability to the liquidity crisis of the early 1970s when about one third of the enterprise sector was in default. After the

²³ For empirical evidence on the sensitivity of investment expenditures to various indicators of money market conditions, see Mencinger (1975).

²⁴ For an example of arguments along this line see Dimitrijevic (1975) and Tyson (April 1977).

introduction of new illiquidity measures in the 1972-74 period, however, the proportions of the illiquidity phenomenon declined, and the pressure on the monetary authorities to validate wage, price and expenditure decisions subsided. More recent evidence from 1976 suggests that enterprise losses have replaced enterprise defaults as a source of pressure for a switch to an expansionary monetary policy. Whether losses or actual defaults are at issue, however, the general argument about the validating role of monetary policy in the Yugoslav inflationary process is the same: given the "soft" budget constraints of many Yugoslav firms, particularly those that run losses year after year, the monetary authorities are frequently forced to validate micro wage, price and investment decisions despite their adverse macro implications.

Overall, existing empirical evidence is consistent with the view that enterprise wage and price formation has imparted a significant inflationary bias to the economy that must be combatted with an effective incomes' policy. The Yugoslav leaders are aware of the need for such a policy, both as a means to control inflation and as a means to achieve target savings rates. Indeed, a variety of "incomes' policies" were in operation throughout the 1970s. These policies took the form of annual social compacts and self-management agreements to establish acceptable criteria for enterprise earnings' and income distribution decisions. The general consensus seems to be that only some of these agreements succeeded in moderating wage and price increases and only for limited periods of time. For example, incomes' agreements appeared to moderate wage inflation in 1972 and 1973 when their effects were bolstered by a wage freeze (December 1972-June 1973) and again in 1976 and 1977 when their effects were bolstered by strict price control measures. In other years incomes' agreements apparently functioned more like voluntary wage guideposts than mandatory wage controls. A possibly more effective incomes' policy has been introduced for 1980. This policy sets a ceiling for the rate of growth of wages equal to the rate of growth of net enterprise income per worker reduced by a specified amount that varies across sectors. It is too early to judge the impact of this policy.

As far as aggregate stabilization measures are concerned, both monetary and fiscal policy suffer from some important institutional weaknesses. Because of barriers to regional capital mobility and the absence of market clearing interest rates, the National Bank of Yugoslavia (NBY) has played a major role in the selective allocation of credits. Throughout the 1970s the NBY established both the quantity of central bank credits and the purposes for which they were to 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 NBY was unable to reduce its discount credits to business banks to offset the unexpected monetary 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 central bank when it first established its annual credit policy.

A second factor impeding monetary control in Yugoslavia has been the substantial impact of foreign exchange flows on domestic money

supply creation. The net impact of such flows on the domestic money stock has been substantial in several years, and available evidence indicates that the Yugoslavs have been unable to sterilize this impact by offsetting adjustments in domestic credit creation. (See, for example, Tyson-Neuberger, 1978.) Thus, for example, in 1976 the monetary authorities expected foreign exchange transactions to exert a contractionary influence on the stock of reserve money. An unexpected balance of payments surplus and a sharp increase in foreign borrowing generated the opposite effect, as a result of which there was a sharp increase in monetary reserves. This large increase was not offset by downward adjustments in domestic credit transactions, many of which could not be reduced given the selective credit commitments of the NBY. As a result, there was an actual increase in the money supply of around 52 percent, far in excess of the planned increase of 18 percent.

Fiscal policy like monetary policy has been an ineffective countercyclical tool in Yugoslavia for institutional reasons. Because of political limitations on the scope of federal expenditure and taxation policy, because of the difficulties of coordinating republican and communal expenditure and taxation policies to achieve a desired macro effect, and because a large share of total tax revenue—about 45 percent of total receipts in the 1971–75 period and more recently up to about 60 percent (Schrenk et al., 1979, p. 122)—is automatically siphoned off by semi-autonomous extra-budgetary units, 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 has focused on the aggregate size and composition of taxes and expenditures rather than on their countercyclical effects. The major fiscal goal of the 1970s was to keep the growth of taxes and public expenditure below the growth of social product, while maintaining balance in individual budgets. Significantly, even this goal was not achieved, and the share of budgetary and extra-budgetary receipts in total social product remained relatively unchanged between 1966 and the end of 1978.

In the absence of effective countercyclical monetary and fiscal policies, the government has resorted to selective ad hoc controls on various categories of expenditures, especially business investment, to control aggregate demand. Such controls have included prior deposit of funds and prior guarantees of finance before an investment project can be initiated and more recently prior approval of new projects by the competent republican and/or communal chambers of the economy. Investment and other expenditure controls have been reinforced by periodic price and credit freezes. Neither temporary freezes of this variety nor selective restraints on investment expenditure with their damaging side-effects on real output and capacity growth will solve the inflation problem. What is required is a more effective set of monetary and fiscal policy measures combined with an enforceable incomes’ policy.

The recent buildup of inflationary pressures in 1979 and the introduction of a series of stabilization measures in the second half of that year indicate that the underlying causes of inflation in Yugoslavia remain in force and that the usual reliance on monetary restrictions

and on ad hoc credit and price controls remains the traditional policy response. Unfortunately, there is no indication that the institutional modifications of the 1970s have enabled the Yugoslavs to solve the central problem of economic management: how to find a compromise between growth, price stability and balance of payments goals.

VI. THE EXTERNAL SECTOR

1. Its Importance in the Economy

It has been evident throughout this paper that the external sector plays a significant role in the economy of Yugoslavia. Its significance may be expressed in several ways. The simplest, albeit least sophisticated illustration, is the fact that the external sector takes a prominent part in almost every major economic policy decision by the Yugoslav authorities. It enters considerations of either stimuli or constraints to growth. In the same vein, the balance of payments and debt situation is both a significant cause and an effect of changes in economic policies. The periods of growth of the Yugoslav economy have indicated its extensive reliance on foreign savings, followed by austerity measures forced by high growth of debt and the balance of payments constraint. However, since government policies may reflect only the government's perception of reality, it is appropriate to quantify the role of the external sector in the economy.

The most frequently used indicator of "openness" of an economy is the ratio of the sum of exports and imports of goods and services to GDP.²⁵ Based on OECD statistics (*Annual Surveys*) in 1978 exports and imports of goods equaled about 33% of GDP (46% in 1977). According to this measure, in the 1975-78 period, two-thirds to three-quarters of the OECD countries had a higher ratio than Yugoslavia. Trade plays a larger role in the Yugoslavia economy than in the economies of the other developing countries of southern Europe. Excluding the very large economies, which by their nature tend to be more self-sufficient, and OPEC countries in most of which oil accounts for most of the economy, Yugoslavia is more trade oriented than most countries in Latin America, but less than the rapidly growing countries of Far East Asia, and less than most small developed countries of Europe.

While these calculations illustrate the importance of foreign trade in the economy, they do not distinguish between "openness" and the "dependence" of economic growth on foreign trade. The relationship between the growth of GDP and the growth of imports and exports has changed in the last two decades. The ratio between the growth of real exports and the growth of social product has declined significantly, from 1.22 in 1958-68, to .7 in the 1968-79 period, indicating that Yugoslav growth became less export oriented. In the same periods, the ratio of real import growth to the growth of social product has declined only slightly, from 1.17 to 1.13 to a large extent due to

²⁵ The term is not meant to imply a degree of willingness of authorities to permit international flows, which may be misleading in this context, but the potential influence of international developments on the domestic economy.

poor export performance. Being above unity, this ratio reflects a high degree of reliance of economic growth on imports. At this point it may be illustrative to present the sectors of Yugoslav industry which have had a large import component. Since the balance of payments has been perceived as a constraint by policy makers, excessive imports in unnecessary sectors of the economy could be expected to be targets of import restricting or substitution policies. Since import substitution has been a declared aim and priority of the Yugoslav development program throughout the period, one could surmise that where production has a high import content, the country is dependent on foreign trade. In 1972, import content in eleven sectors of twenty-eight of the Yugoslav economy exceeded (an arbitrarily selected) 25%. The import content of five sectors, including petroleum, non-ferrous metallurgy, shipbuilding, chemicals, and rubber and rubber products, all important in the economy, exceeded 35% (Schrenk et al., 1979) between 1968 and 1972, and 18 of the 19 industry branches became more dependent on imports. Similarly, imports have accounted for a large part of available domestic supply of petroleum (34%), metal products (27%), chemicals (26%), ferrous metallurgy (23%), rubber (20%), and coal (20%). Some of these sectors are precisely those assigned priority in development (see Section III).

In this regard, it is also important to note the role of foreign trade in the creation of employment opportunities. In 1972, direct and indirect employment generated by exports amounted to 1.1 million man-years, equivalent to 14% of the estimated total resident active labor force of about 8 million. In industrial exports, the figure reached 40% of employment in socialized industry.²⁶

2. Balance of Payments: An Overview

The most comprehensive approach to the analysis of the external component of an economy is an examination of the balance of payments, conventionally divided into an account of current transactions in goods and services, an account of financial (unrequited) transfers, an account of the flows of capital, and changes in foreign exchange reserves and position with the IMF. In Yugoslavia's case, all account categories are very important and therefore each will receive appropriate attention in the following discussion. A full balance of payments table and a discussion of data appears in Appendix A. Sharing the experiences of most rapidly developing countries, Yugoslavia has chronically recorded an annual deficit in the trade of goods (averaging \$3.7 billion in the last 5 years). This deficit has been partially, and in some years, fully paid for by a similarly chronic surplus in the exchange of services. The most significant items in this category of earnings have been transportation, remittances from Yugoslav workers abroad, and tourism. The resulting current account deficit has been

²⁶ One other measure of its importance, a measure at times observed especially in developing countries, is the percentage of government revenues derived from tariff, and other trade related duties. Although about one-half of federal government budget is derived from this source, using this fact as an indicator of importance of foreign trade would be misleading. The federal government's direct participation in the Yugoslav economy is much smaller than that of most developing countries and these funds thus only marginally determine the level of investment.

primarily financed by an inflow of capital, almost exclusively by loans and credits from foreign institutions. Yugoslavia has thus accumulated a relatively large debt estimated over \$15 billion by the end of 1979, and consequently increasing debt service requirements. Hence Yugoslavia's growth depends on performance in all categories of balance of payments, both internal and external perceptions, and developments in both real and financial sectors.

An examination of developments in the 1960's and 1970's in the balance of payments reveals five distinctive features: in the composition of the current account, an increasing role of services in both inflows and outflows of foreign exchange, and conversely, a reduction in the share of merchandise export earnings and import expenditures; rapid growth of foreign trade and current account deficits; rapid growth of exports and imports; and changes in the institutional framework of the balance of payments in conformity with the self-management trend established in the 1974 reforms.

The changing composition of the current account is illustrated in Table 6-1. Compared to 72 percent in 1962, at the end of the 1970's exports of merchandise accounted for only one half of foreign exchange inflows. The changing share is primarily due to a reduction in the growth of merchandise exports, and a concurrent increase in remittances of Yugoslav workers abroad and earnings from tourism. In foreign exchange expenditures, the changes are less spectacular, but discernible, primarily as a result of the growth of Yugoslav tourism financed by workers' remittances. Payments of interest on foreign loans have so far kept pace with other expenditures but a drastic increase is to be anticipated in future years.

TABLE 6.1.—STRUCTURE OF CURRENT ACCOUNT 1962-78

[Percentages 3-yr averages]

	1962	1966	1970	1975	1978 ¹
Inflows:					
Merchandise exports.....	72	68	56	51	50
Nonfactor services.....	20	25	28	29	25
Workers' remittances.....		3	15	16	21
Other factor services ²	8	4	2	4	4
Outflows:					
Merchandise imports.....	90	86	85	84	80
Nonfactor services.....	8	10	11	12	16
Interest payments.....	2	4	4	4	4
Merchandise exports/imports.....	72	78	60	56	56

¹ Average 1977-78.² Including transfers and interest.

Source: For 1962-70 Schrenk et al. 1979; 1975-78 derived from the National Bank of Yugoslavia data.

Unsatisfactory export performance, combined with continued buoyant imports, has caused a rapid deterioration in the imbalance in the exchange of goods and services. As a consequence, the deficit as a percentage of GDP doubled from an average level of 3.2% for the 1968-73 period to an average level of 6.3% during the 1974-78 period (derived from OECD 1979, Table B). The rapidly growing reliance on external saving was facilitated by the growth of international liquidity and by the expansion of international lending by international

organizations, government institutions, and commercial banks. Extensive borrowing by Yugoslavia and its increasing rate of growth is reflected in its foreign indebtedness: its \$1.2 billion debt in 1965 doubled in 1970, by 1975 reached \$6.6 billion, and more than doubled again by 1979.

Historical experience shows that Yugoslav economic performance follows a distinct "stop-go" pattern. Dictated by political realities, the declared and pursued priority aim of overall policy is economic growth of the highest attainable level, employing monetary and credit policy that, given Yugoslavia's level of development, structure, and system, permits and stimulates high inflationary ("pent up") investment and consumption demand. Because the primary source of growth is not exports, and the country does not possess a major foreign exchange earning commodity (like oil), domestic demand reduces export growth and stimulates import growth, which together result in a foreign trade and current account deficit.

High growth policies thus can continue as long as external sources of finance are available in sufficient volume and at (to Yugoslavia) acceptable conditions. When the growth of borrowing is not sustainable either due to external economic and financial conditions, or due to technical, banking or domestic political conditions, the country hits a balance of payments constraint.²⁷ Foreign exchange reserves are drawn down to an unsustainable level. Typically, federal authorities refrain from introducing substantive contractionary measures until forced by this circumstance. The delay in intervention then necessitates drastic contractionary "stabilization" measures such as price, credit and import controls—emergency measures such as currently stipulated by Section IX, Articles 177–182, of the Law on Foreign Exchange Operations and Foreign Credit Relations. When these measures are introduced, the economy enters the "stop" mode. Economic growth is drastically reduced, frequently overshooting original intentions, for a period not longer than dictated by external circumstances (see also Section VI.5), after which, without sufficient consolidation, reflationary policies quickly return the economy to a high, unsustainable rate of growth—the "go" mode. One of the main weaknesses of this pattern is the high costs to the economy from the disruptions and chaos in production that accompany the sudden transitions. In addition to the structural weakness of the economy, the sharp policy reversals reveal: the absence of aggregate economic policy instruments enabling smooth transitions within the scope determined by the current economic potential; overly optimistic economic planning, especially in the relation between the foreign trade sector and domestic growth potential; and the diminution of federal authority in the evolution of the self-management system, combined with the absence of an automatic equilibrating mechanism.

²⁷ Several Yugoslav authors, including Horvat and Pertot, have recognized the existence of balance of payments constraints on growth. It is frequently related to the depletion of foreign exchange reserves (e.g. Horvat, 1974). However, in an economy dependent on foreign savings, reserves are essentially borrowed funds designated to facilitate current transactions, prevent short-term technical difficulties in trading, and enable exchange rate adjustments. In this scenario, the depletion of reserves is only an indication that foreign borrowing limits have been reached either due to the failure of domestic borrowers in their approach to foreign sources of funds, or due to a true short-term foreign liquidity constraint.

In 1977, the institutional framework of balance of payments policy was adjusted to conform with the trends established in the 1974 reform of the socio-economic system. Rights and responsibilities of BOALs now include planning external economic relations and earning and spending foreign exchange. Based on the previous year's results, BOALs prepare plans for export earnings and expected foreign exchange outlays. These plans are then submitted to the newly-formed Communities of Interest for Foreign Economic Relations (CIFER) in each republic and autonomous province, membership in which is compulsory for all BOALs whose business is in any manner affected by foreign exchange. In this manner, each republic formulates and accounts for its own balance of payments. Workers' remittances are allocated to each republic according to the number of its residents employed abroad. Upon completion, the CIFERs of the republics submit their balance of payments projections to the CIFER of the Federation, which coordinates their activities and articulates their interest in the formulation of the federal balance of payments strategy. On the federal level, the Federal CIFER, the Federal Secretariat for Foreign Trade, and the NBY propose the aggregate plan to the National Assembly with all details of earnings, expenditures, and resulting indebtedness.

Since invariably such a plan is an aggregation of wishful thinking and hopes on each institutional level, a reverse process begins, infusing more realistic possibilities into the plan. The target for the balance of payments deficit on the federal level is reduced, and the republics are encouraged to reach a new social compact with lower limits. Each individual republic is then required to reduce its own targeted deficits further transmitted to the enterprises. The process continues until final targets are universally accepted. The plan targets are indicative, without force of law.

CIFERs thus become a "meeting point of pluralism of interest," where all social and individual pressures are to be resolved. Their authority and responsibility include review and approval of import applications (within the reduced overall import plan); approval of foreign borrowing applications; establishment of export prerequisites for allocation of foreign exchange for imports; implementation of the republics' balance of payments targets; supervision and promotion of self-management agreements between users and earners of foreign exchange and between BOALs earning foreign exchange and subcontracting BOALs; and (since 1978) administration of federal and provincial export promotion activities funded by tariff revenues, previously administered by the federal government. The CIFERs of the republics thus have an extensive role, and through them the republics are empowered by law to regulate economic activity to achieve their balance of payments targets, presumably synchronized with Federal economic policies.

The mechanism is clearly cumbersome, and a further potential hinderance to the mobility of capital and foreign exchange. Concluding long-term agreements is difficult in a situation in which the precise contribution of each BOAL to exports is hard to determine, economic policies are erratic and unpredictable, and the planning process itself is not yet refined. While some of these problems may be resolved

with more experience with the operation of the new system, others seem to be long-term.

3. Merchandise Trade Performance

The most notable feature of Yugoslav foreign trade—sizable annual fluctuations in export and import growth—is clearly related to the stop-go pattern of economic activity. After a contraction in 1972, economic activity accelerated in the middle of 1973 and continued to grow rapidly through late 1975 when foreign savings were no longer available in sufficient amounts to cover high current accounts deficits, reserves were drawn down to less than \$1 billion, and consequently, federal authorities introduced “stabilization” measures. Contraction in 1972 was accompanied by a high rate of growth of exports, reduced slightly in 1973, while the 1972 reduction in imports was followed in 1973 by a large increase. With the economy at full swing, in 1974 and 1975, exports stagnated, while buoyant imports continued. The OPEC price hike altered the pattern in imports in this period, and no real growth of imports occurred in 1975. Stabilization in 1976 was met with success, as a radical jump in export growth was combined with a 7% reduction in imports. As a result, the unexpected current account surplus concurrent with a steady stream of foreign borrowing raised foreign exchange reserves to unprecedented heights, and economic policies were again relaxed.

The experience with the stop-go pattern has given rise to producer expectations, which in conjunction with ad hoc import restrictions, render the annual record of import growth rates more volatile than can be explained merely by policies. As current account deficits accumulate, enterprises anticipate imminent limitations on imports and increase imports of stocks, which further exacerbate the trade deficit. In reaction, import restrictions are imposed, imports are reduced, and stocks are depleted. As the current account situation “improves,” restrictions are relaxed and the economy returns to its rapid growth path, and the need to replenish depleted stocks is added to the normal level of imports. The resulting fluctuations of imports are certainly not helpful in planning and production. Indeed, as Table 6.2 illustrates, there is little relationship between the annual plan and the actual growth of imports.

The 1976 contraction was followed by a period of brisk growth. Some of the earlier introduced stabilization measures and changes remained in effect, and a few minor new policies were introduced in the 1977-78 period. In 1978, a small downturn was recorded, and the volume of foreign trade remained unchanged. Nevertheless, by mid-1979 the economy had again become unacceptably unstable, with inflation exceeding 20% and an unprecedented current account deficit. Again, all expectations were based on the historical pattern and a symptomatic drastic downturn was thought imminent. And in fact, a partial downturn was implied in the country's annual plan. However, in this iteration, the measures were slow to come, and those that were introduced, were subsequently relaxed. A price freeze was introduced in August and rescinded two months later. Similarly, personal credit restrictions were introduced and relaxed within a few months. The NBY stuck to

its target of 18% money supply growth, intending to accommodate a 6 percent real growth rate and a 12 percent aggregate price inflation. However, a high rate of capital investment continued uninterrupted, at a rate exceeding 1978 performance by 20-30%, and enterprises found it again necessary to replenish inventories drawn down in the previous year. The rapidly growing current account deficit, exacerbated by reduced tourist earnings (due to the Montenegro earthquake) and reduced agricultural export earnings, was financed by external funds committed from the previous year, and by a drastic reduction in reserves. Subsequently, signs of downturn were again evident towards the end of the year.

The underlying cause of the delay in the introduction of contractionary policies was the introduction of the new system of management. In the transition, the federal authorities were no longer perceived to have the authority or instruments to enforce stabilization measures, while the republics' CIFERs and enterprises had not yet developed the necessary institutions and communication links. Unprecedented, the process of concluding self-management agreements between earners, subcontractors, and spenders of foreign exchange was tedious. Without well established links, the CIFERs promotional and suasive role remained ineffective, the CIFERs disciplining ability in a nascent stage. The need for consensus delayed the conclusion of the planning process and the investment and balance of payments plan were exceeded by the time the final targets were agreed upon in social compacts by federal and republic authorities. Targets thus were subject to continuous revision. The original current account deficit target of \$1 billion was exceeded by late spring and the Federal Executive Council proposed a new—and in the view of Slovenia, Croatia, Bosnia-Herzegovina and Macedonia an unacceptably small—deficit of \$2 billion. By late summer only the threat of strict federal emergency measures on imports encouraged a more conservative issuance of import licenses by CIFERs, and finally consensus on a \$2.6 billion current account deficit (and an appropriate level of external borrowing). The regional breakdown and the breakdown by commodity categories (raw and intermediate materials, equipment, and consumer goods) still remained to be worked out.²⁸ During the period all indicators were heading for a \$6.3 billion trade deficit and a current account deficit exceeding \$3.6 billion which, in spite of the social compact, ended up to be the final result.

By the end of 1979, however, the signs of tightening were clear, and a balance of payments deficit of \$2 billion for 1980 was set. The new contractionary tendencies can even be viewed as a success to the extent that tightening occurred within the context to the new self-management mechanism without resort by federal authorities to the full complex of measures stipulated in the Emergency section of the foreign exchange law. Yet, the ultimate credit for policy success probably goes to the NBY's heroic adherence (in view of extreme political pressure) to tight monetary policy (relaxed only towards the end of the year) and to the external borrowing constraint.

²⁸ *Business Eastern Europe*, Nov. 9, 1979. The limits by commodity categories are clearly hard to enforce and apparently will be abandoned in 1980.

The cause of the stop-go pattern and the balance of payments constraint rests with long-term trends in exports and imports, and their relation with economic growth. These, therefore, warrant further examination. Consider first imports. The average annual growth of real imports in 1958-68 amounted to 8.4%. It accelerated in the post-reform period to an annual rate of 11.5% until 1974. In 1974-76, imports were reduced by 10%, and from 1976 to 1979 average annual growth again rose to 7.2%. Annual fluctuations in growth illustrated in Table 6.2 are very large.

TABLE 6.2.—YUGOSLAVIA: FOREIGN TRADE IN THE 1970'S

	1972	1973	1974	1975	1976	1977	1978	¹ 1979	¹ 1971-75	¹ 1976-79	¹ 1969-79
1 Exports: Value (millions).....	\$2,237	\$2,853	\$3,805	\$4,072	\$4,878	\$5,254	\$5,671	\$6,491	\$2,956	\$5,573	\$3,657
1A In convertible currencies.....	\$1,381	\$1,895	\$2,382	\$2,555	\$3,191	\$3,603	\$3,768	\$4,463	\$1,854	\$3,756	\$2,289
2 Percent real growth (plan in parentheses).....	17	7	1	-2	15(6.0)	-4(6.5)	-1(6.0)	0(5.0)	5.2(11-13)	2.2(6.2)	4.5(NA)
2A Elasticity (with respect to soc. product.).....									0.88	0.34	0.70
3 Prices (unit values, percent change).....	6	19	32	9	4	13	9	15	13.7	10.3	11.1
4 Share in OECD imports (percent) ⁴	0.493	0.477	0.364	0.313	0.351	0.340	0.338	0.336	0.41	0.34	
5 Imports: Value (millions).....	\$3,233	\$4,511	\$7,542	\$, 697	\$7,367	\$9,634	\$9,988	\$12,862	\$5,247	\$9,963	\$6,463
5A In convertible currencies.....	\$2,348	\$3,350	\$5,812	\$6,145	\$5,671	\$7,445	\$7,943	\$10,179	\$3,997	\$7,810	\$4,892
6 Percent real growth (plan in parentheses).....	-6	17	14	-3	-7(3.0)	15(8.0)	-1(0)	8(2.0)	5.8	3.4(3.6)	7.2
6A Elasticity (with respect to soc. product.).....									0.98	0.53	1.13
7 Prices (unit values, percent change).....	6	20	46	5	3	14	5	19	15.1	9.8	11.6
8 Share in OECD exports (percent) ⁴	0.753	0.789	0.902	0.851	0.660	0.787	0.759	0.804	0.84	0.75	
9 Trade balance (millions).....	-\$996	-\$1,658	-\$3,737	-\$3,625	-\$2,489	-\$4,380	-\$4,317	-\$6,371	-\$2,291	-\$4,389	-\$2,806
9A In convertible currencies.....	-\$967	-\$1,455	-\$3,430	-\$3,590	-\$2,480	-\$3,842	-\$4,175	-\$5,716	-\$2,143	-\$4,053	-\$2,603
9B In bilateral accounts.....	-\$29	-\$203	-\$307	-\$35	-\$9	-\$538	-\$142	-\$655	-\$148	-\$336	\$203
10 Import coverage by exports (row 1:row 5).....	69.2	63.2	50.6	52.9	66.2	54.6	56.7	50.5	56.3	55.9	56.6
11 Terms of trade (1968 = 100) ⁶	1.02	1.01	0.91	0.95	0.96	0.95	0.99	0.96	0.94	1.01	0.96
12 Current account balance (millions).....	+\$419	+\$485	-\$1,183	-\$1,032	+\$150	-\$1,582	-\$1,256	-\$3,700	-\$334	-\$1,470	-\$724
13 Social product, real growth (percent, 1972 prices).....	4.4	4.9	8.5	3.7	3.8	8.1	6.9	7	5.2	6.4	6.4

¹ Annual average.² Preliminary or projection³ 1976-80 plan.⁴ In 1970 and 1971, the figures were 0.416 and 0.414, respectively.⁵ In 1970 and 1971, the figures were 0.859 and 0.883, respectively.⁶ Ratio of export and import price indexes. For 1971-75, 1970 = 100; 1976-79, 1975 = 100.

Source: Rows 1, 1A, 5, 5A, 9, 9A, 9B; derived from National Bank of Yugoslavia, Quarterly Bulletin July 1979; 1979 data from Inčeks, February 1980, Rows 2, 8, 6, 7, 10, 11; derived from Statisticki Godisnjak Jugoslavije, various issues, tables 121-1, 121-2, 121-3. Rows 4, 8; derived from OECD "Overall Trade by Countries", serie, A, various issues Yugoslavia compared to OECD total.

Various long-term and temporary import controls bias any conclusions about the underlying long term trends of imports in the Yugoslav economy. Conclusions made on the basis of 3-4 year developments are particularly subject to doubt. Nevertheless, some conclusions can be made about longer term trends. Although the long-term average growth rate of imports declined from 8.4% in 1958-68 to 7.2% in 1968-79, it still remains almost 1 percentage point above the growth of social product. Hence, the development program has not prevented the increasing dependence of the economy on imports; the elasticity of imports with respect to social product is nearly identical (1.13-1.17) in the two periods.²⁹

The increased dependence of Yugoslav economic growth on imports was the subject of an empirical study by the World Bank (1979). Using the "sources of growth decomposition technique" focusing on imports by sectors, the study found that during the post-1966 reform period imports were 26% higher (if agriculture is ignored) than they would have been if there had been balanced growth.³⁰ Demand expansion made a positive contribution to the higher than proportional growth in imports. In most sectors, however, the principal factor underlying the growth in import dependence was the direct substitution of imports for domestic inputs, hence increasing sectoral import coefficients. The principal increase in import dependence was in intermediate goods. In aggregate, 80% of the disproportionate increase of imports is accounted for by this factor alone.

The importance of intermediate goods and raw materials is also reflected in the changing composition of trade by commodities, presented in Table 6.3 below. These commodities accounted for 38% of all imports at the beginning of the 1960's, while in the second half of the 1970's the figure reached 43%. In a slightly different categorization "by use of product," imports of goods for reproduction, (including crude materials, semifinished products, fuels, and manufactured products for reproduction) exceeded on the average 63% of total imports in 1976-79. (*SFRY Statistics of Foreign Trade*, Table 1-13; and *Indeks* 2/80, p. 32). Without doubt, the rapid rise in the price of oil partly explains these developments. Oil expenditures rose from less than 5% of total imports in 1973 to over 9% in 1974, to 10.5% in 1978, and 13.2% in 1979. The rise was certainly significant, but by international standards, the country's relative oil imports are not high. In 1974, the unit value of oil imports increased 3.5 times from the previous year. However, in the 1974-78 period, unit values of oil imports rose on average only 2.5% per annum, until 1979 when a 41.5% increase was registered. (Derived from *Statisticki Godisnjak* Table 121-5; and *Indeks* 2/80, p. 37.) The growth of prices does not fully explain the rapid growth of expenditures on oil. Indeed, after a decline in 1974, oil imports rose from 7.4 million tons to 11.8 million tons in 1979, yielding an average growth rate of 10% per annum, and a high (1.72) elasticity of oil imports with respect to social product.³¹

²⁹ This is not a precise empirical estimate of the elasticity of demand for imports with respect to total demand, derived from multiple regression analysis, but a simple ratio of average annual real growth rates of the two variables. Since these are derived from data from a relatively long period, their explanatory power (with all necessary caveats) is assumed not to be small.

³⁰ By balanced growth is meant an equiproportional rise in final demand, exports, imports, and intermediate demand. The sources of growth decomposition technique analyzes deviations of growth rates of individual demand components, and/or individual sectors from growth rates implied by balanced growth. See Schrenk et al., 1979, p. 196.

³¹ In the same 1974-79 period, domestic production rose from 3.46 million tons to 4.14 million tons; yielding an elasticity of 1.38 of oil consumption with respect to aggregate demand. Again, note that this figure is only a proxy and not a precise empirical estimate.

TABLE 6.3.—FOREIGN TRADE BY REGIONS AND BY COMMODITY CATEGORIES

[Dollar amounts in millions]

	Exports					Imports				
	Total	OECD countries		Centrally planned economies	Other	Total	OECD countries		Centrally planned economies	Other
		Total	Europe				Total	Europe		
VALUES—(dollar amounts in millions):										
1961-63 averages:										
Agriculture products	\$207	\$159	\$148	\$37	\$11	\$163	\$114	\$13	\$19	\$30
Crude materials ^a	99	69	65	21	8	141	61	31	6	75
Mineral fuels ^b	13	8	8	1	4	45	12	3	27	7
Manufactures ^c	365	127	96	126	112	602	438	379	149	15
of which:										
Goods classified by material ^d	151	71	53	45	36	177	112	98	55	11
Machinery and transport equipment ^e	135	15	14	55	66	310	250	213	58	2
Total	673	364	317	185	134	951	625	425	200	127
1975-77 averages:										
Agricultural products ¹	577	410	335	131	37	685	208	138	141	335
Crude materials ²	407	230	227	90	88	491	279	151	297	214
Mineral fuels ³	78	61	60	15	2	1,107	64	50	528	915
Manufactures ⁴	3,679	1,168	897	1,795	716	5,650	4,181	3,670	1,322	147
of which:										
Goods classified by material ⁵	1,241	465	335	592	184	1,625	972	885	545	108
Machinery and transport equipment ⁶	1,398	209	285	666	424	2,834	2,276	1,930	534	24
Total	4,742	1,968	1,518	2,030	843	8,233	4,732	4,009	2,289	1,212

SHARES—(percent):

1961-63 averages:

Agricultural products ¹	30	44	47	20	8	17	18	3	10	24
Crude materials ²	15	19	21	11	6	15	10	7	3	59
Mineral fuels ³	0	2	3	1	3	5	2	1	13	5
Manufactures ⁴	53	35	30	68	83	63	70	89	75	12
of which:										
Goods classified by material ⁵	22	20	17	24	27	19	18	23	27	8
Machinery and transport equipment ⁶	20	4	4	30	49	33	40	50	29	2
Total	100	100	100	100	100	100	100	100	100	100

1975-77 averages:

Agricultural products ¹	12	22	22	6	4	8	4	4	6	28
Crude materials ²	9	12	15	4	10	10	6	4	13	18
Mineral fuels ³	2	3	39	1	0	13	1	1	23	43
Manufactures ⁴	78	63	59	88	85	69	88	92	58	12
of which:										
Goods classified by material ⁵	26	25	22	29	22	20	21	22	24	9
Machinery and transport equipment ⁶	30	17	19	33	50	34	48	48	23	2
Total	100	100	100	100	100	100	100	100	100	100

¹ SITC, 0+1+4.

² SITC, 2.

³ SITC, 3.

⁴ SITC, 5 to 9.

⁵ SITC, 6.

⁶ SITC, 7.

⁷ SITC, 0 to 9.

Source: OECD trade by commodities, series 3. (OECD 1979).

The desire to reduce the growth rate of oil imports to 7.5% is evident in the social compact on consumption and production of oil and natural gas according to which, 13.9 million tons will be imported in 1980, and 20 million tons in 1985, for a total consumption in that year of 26 million tons.³² The development of the petrochemical industry is primarily responsible for the rapid growth, and illustrates a problem in the pattern of industrialization followed by Yugoslavia.³³

Concurrently with an increased dependence on raw material and intermediate products, the industrialization strategy based on high levels of investment is manifested in the rising share of capital goods in total imports. In the period 1968–77, Yugoslavia imported 40–45% of its machinery, with minor annual fluctuations. In the same period, imported machinery steadily accounted for 17% of gross fixed capital investment, and about 24% of investment in productive activities. (Derived from OECD 1979, Table D).

The high share of imported capital goods in total value of machinery employed may be partially explained by rising prices and tariffs. According to Yugoslav statistics, the rise in import prices of machinery averaged 11.8%, 2 percentage points above the rise in domestic prices of means of production, and the ratio of real growth of capital good imports to real growth of fixed investment declined from 2.1 in the first half of the 1970's to .5 in 1976–78, suggesting a reduced reliance on imports in this category. However, such conclusions should be accepted *cum grano salis* due to the inherent weakness of price index statistics for so heterogeneous a set of commodities as capital goods and technology.

Oil is imported primarily from two sources—Iraq and the USSR. By 1978, the USSR had become the bigger source, covering almost one half of Yugoslavia's oil import requirements.³⁴ The growth of oil imports from the USSR (from 2 to 5 million tons in 1974–78) is one of the explanations for the fact that the USSR has become Yugoslavia's dominant single trading partner, and, consequently, for the relative increase in the importance of the centrally planned economies in total Yugoslav trade. Oil accounted for almost 40% of imports from the USSR in 1978, compared to 25% in 1974, and much less before. This concentration of oil dependence is a source of concern in Yugoslavia, but no evident steps have been taken to alter the situation. In view of the declining growth of Soviet oil production and export prospects, as well as the eruption of hostilities between Iraq and Iran, the absence of alternative sources of supply may seriously endanger the fulfillment of the aforementioned social compact on oil consumption and imports.

The USSR accounts for one half of Yugoslav imports from and for nearly 60% of Yugoslav exports to the centrally planned economies.

³² Official Gazette No. 49, Oct. 3, 1979.

³³ The changing composition of imports toward fuels, intermediate goods, and machinery is also explained in part by the expansion of uncompetitive import-substituting industries which have been stimulated without sufficient attention to the domestic mineral resource base and which are unable to exploit economies of scale given small local markets. The example of the petrochemical industry is especially pertinent in that crude oil refining capacity substantially exceeds the country's requirements and export potential (*Petroleum Economist*, November 1978, p. 482).

³⁴ Unit prices for Iraq's oil were higher than the USSR's but in 1978, Soviet oil was imported at \$105 per ton, compared to less than \$100 for Iraq's oil. In 1979, the cost of Iraq's oil probably exceeded that of the USSR. The difference may well be explained by quality and transport costs. Data from *Statistički Godišnjak*, Table 121–15. Imports of oil are subject to frequently revised total and country-of-origin quotas.

The tendency to balance trade with the USSR and other "clearing" countries necessitated the growth of exports to match the growth of imports from the CPE area. This reinforced the natural tendency of Yugoslav exporters to turn East when demand conditions in the OECD markets became unfavorable. As Table 6.3 indicates, Yugoslav exports to CPEs and to the OECD area are nearly identical; however, imports from the OECD area are twice larger than from the CPEs. The position of developing countries has not changed, accounting for 15% of imports and 20% of exports. An imbalance between exports and imports is recorded in all geographic areas, and in all areas the coverage of import expenditures by export receipts has been reduced compared to the 1960s (36% in the OECD area, 76% in CPEs, and 60% in other countries in 1978).³⁵ In the composition of trade with individual areas it is interesting to note the increasing tendency to import capital goods from the developed countries and fuels and other raw materials from the CPEs and developing countries.

On the export side, most notable is the change easily identified with the industrial development of the country: between 1961 and 1977, exports of machinery rose from 20% to nearly 30%, and exports of all manufactures from 53% to 78% of total exports, while trade in agricultural products was reduced. In this respect Yugoslavia exceeds all of the comparable Southern European countries.

The increasing share of manufactures in total exports has affected all geographic areas. Yugoslavia has a surplus in trade of machinery and manufactured goods with CPEs and developing countries, and the increase in the proportion of exports of machinery and other manufactured goods to the OECD is also significant. The surplus with the East is the result of more favorable market possibilities for Yugoslav manufactured exports in Eastern Europe, due to weaker competition and the relative absence of marketing difficulties. Openness to the industrialized countries has put Yugoslavia far ahead of its CPE trading partners, in the design, quality, and selection of many processed goods, thus explaining exports of manufactures to CPEs in exchange for raw materials and fuels. On the other hand, the neglect of raw material development and the relatively severe competition in the manufactured goods sector in Western markets (at least partially due to the plethora of producers around the world using identical technology imported from OECD countries) explain Yugoslavia's composition of trade with the OECD area.

Finally, while most of Yugoslav trade is conducted in convertible currencies, there are countries, notably the USSR and other East European countries, with which Yugoslavia has had bilateral payment agreements in the past. The number of these countries has been consistently reduced, with essentially only five remaining in 1979.³⁶ The share of exports sold on a clearing basis has thus remained relatively unchanged at about one third, despite the increase in exports to Eastern Europe and developing countries. Table 6.2, presenting the com-

³⁵ Preliminary, derived from *Indeksi*, 2/80, p. 32; not directly comparable to data in Table 6.3.

³⁶ The USSR, East Germany, Czechoslovakia, Mongolia, and Albania. The accounts are denominated in U.S. dollars. Trade with Vietnam was changed to convertible currencies in 1979, with Brazil in 1978, and with several East European countries in 1976. Certain settlements with other countries until recently took place through special accounts. See IMF: *Annual Report on Exchange Restrictions*, for details.

position of trade by currency areas, reveals that whereas trade with the non-convertible areas has been relatively balanced until recent years, it is in trade with the convertible currency area where the large Yugoslav trade deficit has developed.

Concentrating now on exports, the deteriorating performance in the 1970s is characterized by: the fall in real growth by almost one half from the previous decade and virtual stagnation after 1973; by the loss of world market share; by a reduced coverage of import expenditures by export earnings; and by growing trade deficits. By all of these indicators, Yugoslav performance in the second half of the decade further deteriorated. The five-year plan growth rates were entirely missed. The 1971-75 plan called for an 11-13% growth in real exports of goods and services, reduced to 8% in 1976-80, later revised to 6.2%. In fact, although the value of Yugoslav exports grew at a rate of 16% annually between 1968 and 1979, the real rate of growth of exports was less than 5%. Most of this real growth took place at the turn of the decade; since 1973, export volume has grown at an annual rate of only 1.4%, and since 1976 it has actually declined.

Between 1968 and 1977, the Yugoslav share of world exports has declined, as the annual growth of world export volume of 6.9% (UN data) exceeded the Yugoslav average by 1.2 percentage points; between 1973 and 1977, the difference was even higher, amounting to 2.2 percentage points.

Several domestic (structural and systemic) and external factors have been identified by both Yugoslav and foreign observers to explain the weakness of Yugoslav export performance. Increasing protectionist trends in the EEC countries have been identified as one of the important causes. Protection tends to be concentrated on traditional products, such as food, clothing, textiles, and shoes, which also represent a significant portion of Yugoslavia's exports. While in some particular instances, such as certain meat exports, protectionism has interfered with Yugoslavia's exports, from the perspective of overall Yugoslav export performance the significance of this factor has frequently been overstated.

The expansion of the EEC and its increased exclusiveness in trading has clearly affected Yugoslav trade with this group of traditional partners. Overall Yugoslav-EEC trade relations have been governed by a "non-preferential" trade agreement, which the Yugoslavs have found discriminatory. The policy of non-alignment has prevented the country from signing a "preferential" trade agreement. The post-Afghanistan political atmosphere in Europe has provided the necessary stimulus for a breakthrough after two years of negotiations for a new cooperation agreement, (the previous one expired in 1978), a large part of which deals with commerce. Compared to the previous agreement, the current one is much more favorable to the Yugoslavs.³⁷

The decline in real export growth is also associated with the trend of declining economic growth in the world, particularly among OECD and CMEA countries, and with cyclical developments, such as a slump

³⁷ At the time of this writing, the accord has only been initialed. It provides for the access to the EEC for 70% of Yugoslavia's industrial products. The remainder, including non-ferrous metals and textiles covered by special arrangements, will be subject to tariff ceilings, which allow substantial increases in Yugoslav exports. Agricultural exports will also benefit, especially since the baby beef quota was increased from 13,000 to 35,000 tons. See *Financial Times*, Feb. 26, 1980.

in the demand for ships, petrochemicals, etc. However, over the longer run, these arguments fail to explain the decline in shares of Yugoslav exports in the markets of most of its major trading partners, and the decline in export growth relative to world exports, unless the composition of Yugoslav exports significantly differs from that of all other regions of the world. While the composition of Yugoslav trade was a cause of its fluctuating performance in brief periods, the comparative data refutes this argument in longer periods. In addition to the above mentioned decline in the Yugoslav share of world exports, data in Table 3.2 reveal the declining share of Yugoslav exports in total OECD imports. While the sudden decline in 1974 is explained by the rise in the share of OPEC countries, in the subsequent years many of the world's regions at least partially regained their earlier positions, while Yugoslavia did not.

It has become increasingly evident in Yugoslavia and abroad that while external factors are important causes of declining export growth, the primary causes are to be found in the Yugoslav economy itself. Not long ago, in a speech to the 11th Congress of the LCY, the late President Tito argued that internal reasons are of overriding importance. According to Tito:

We could be considerably more competitive abroad even on the basis of our present labour productivity if relationships in our economy were better balanced. Many difficulties in our foreign trade, particularly in exports, arise because due to the inflation, our production costs keep rising, because some of our capacities have not been fully utilized, because our economy is overburdened with taxation, because our general and collective consumption is far too high. Exaggerated investment ambitions likewise affect the prices and the balance of payments. (Tito, 1978.)

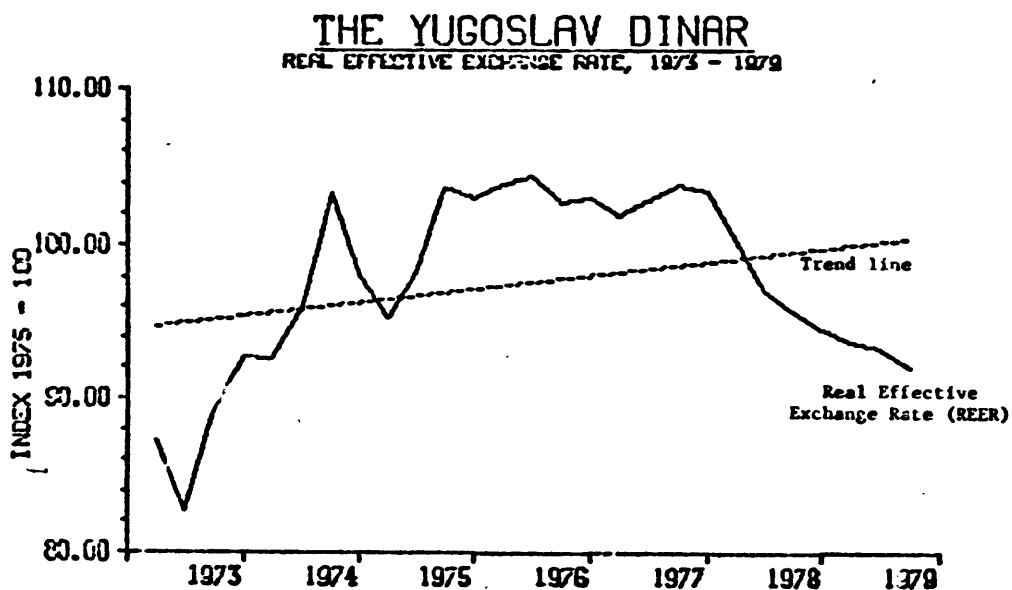
The systemic, structural and policy characteristics of the Yugoslav economy that have combined to reduce Yugoslavia's competitiveness have been discussed earlier in this paper (Sections II, III, and V), including:

- (1) The capital allocation process that has failed to direct capital to its most efficient uses among competing enterprises, regions and sectors;
- (2) The underlying import-substitution strategy that has encouraged capital-intensive, high-wage sectors that do not fully exploit Yugoslavia's potential comparative advantage in labor-intensive sectors;
- (3) The development of regional enterprises—partly in response to regional aspirations for nearly complete ranges of industry—which are too small to exploit fully potential economies of scale;
- (4) The failure to price capital services at equilibrium levels with the result that worker incomes have been artificially inflated by returns to capital; and as a consequence the excessive distribution of enterprise income to personal incomes in some enterprises;
- (5) Inflationary pressures that have developed in response to low interest rates, pent-up investment demand, and validating money supply increases; and
- (6) Increases in real worker incomes in excess of productivity increases that have maintained or raised already high labor costs.

Without exchange rate adjustments to offset the lack of competitiveness deriving from these characteristics, a high growth rate strategy would stimulate domestic and foreign producers to sell within Yugoslavia—i.e., would encourage imports and discourage exports (since growth is not export oriented). That, indeed, has been Yugoslavia's experience.

Between 1973, when it was unpegged from the U.S. dollar, and 1979, the Dinar depreciated with respect to the dollar an average of 1.7% annually, manifesting adherence to a policy of approximate parity between the two currencies. As a consequence of the policy, changes in the effective exchange rate were determined by fluctuations in exchange rates among convertible currencies on world currency markets. While this implies an effective depreciation of the Dinar with respect to the currencies of its main trading partners, it is necessary to examine whether the depreciation offset differential inflation rates. To that purpose, the effective exchange rate of the Dinar was regressed with respect to the trade weighted wholesale price indices of Yugoslavia's main trading partners. The results of this test, presented in Chart 6.1, reveal that between 1973 and 1979, instead of offsetting differential inflation rates, the real effective rate of the Dinar actually appreciated. In the chart, perfectly horizontal REER and trend lines would indicate a complete offset of differential inflation rates by the exchange rate. The positive slope reflects instead a real appreciation of the Dinar. The decline in the REER in 1978 and 1979 will probably continue in 1980, according to the NBY. (Since this paper was written, the Dinar was devalued with respect to the U.S. dollar by 30 percent in June 1980.)

CHART 6.1



Source: Bank of America.

Note:

REER =

$$\frac{\text{TWER (1975=100)}}{\text{TWWPI (1975=100)}}$$

Real effective exchange rate (REER) in this chart is the ratio of the quarterly index (1975=100) of the trade weighted exchange rate (TWER) of the dinar (expressed in terms of a basket of currencies equivalent to 1 dinar) in the numerator, and the quarterly index of the trade weighted wholesale price indices of Yugoslavia's major convertible currency trading partners, relative to the Yugoslav producer price index, in the denominator.

One of the declared aims of the 1966 reform was full convertibility of the Dinar. While for limited tourist purposes²⁰ this has been partially achieved, the movement towards full convertibility was arrested early in the 1970s. According to the current law, the exchange rate of the Dinar is to be determined in the market "in conformity with established (by the SFRY Assembly) exchange rate policy . . . The Federal Executive Council shall determine the exchange rate of the Dinar . . . (and) the National Banks shall implement the policy." (The Law on Foreign Exchange Operations and Foreign Credit Relations, Articles 46 and 48). The foreign exchange dealing (both spot and forward) takes place at "interbank meetings" of authorized banks, including the National Bank of Yugoslavia. The NBY determines the intervention points at which it will buy or sell foreign exchange.

Positing an overvalued Dinar in this system gives the impression that the central bank has an unlimited source of foreign exchange which it sells in the inter-bank meeting. In fact, the value of the Dinar is essentially determined outside the Meeting by supply and demand forces on the market. The overvalued Dinar is a result of regulation on the demand side—by import licensing, tariffs, trade deficit limits, and in general, by limited access of citizens to foreign currency. On the supply side, the value is distorted (from the perspective of merchandise trade) by inflows and deposits of workers' remittances, other invisibles and borrowing. The value of the Dinar is thus a priori excessive, relative to what it would be if all interventions on the demand side of the market were removed.

Under these circumstances, the role of the NBY at the inter-bank meeting is limited to short-term and dynamic finetuning based on differential inflation rates. Even dynamic adjustments, however, have been relatively slow—primarily due to local administrative procedures and delays in gathering the international statistical data on the basis of which adjustments are made—and insufficient, as the results of the aforementioned test revealed. According to the central bank, some improvements in this process are intended in the 1980s.

Hence, in the formulation of balance of payments policies, the exchange rate is best interpreted as an indicator or outcome rather than as an instrument. If the central bank tries to use it as such, in effect it counteracts these policies. Adjustment of the exchange rate would be a meaningful policy instrument only as part of a comprehensive long-term stabilization policy.

In addition to the lack of price competitiveness, the system and structure of the economy create certain commercial biases towards

²⁰ Yugoslav tourists are limited to conversion of 1500 Dinara. Therefore, as in most countries of Eastern Europe there is a black market for foreign currency in Yugoslavia. However, it is much more limited than elsewhere, takes place almost exclusively among relatives and friends, and the rates differ from official rates by only a small, 0-10% margin.

home oriented production, and insufficient incentives to export. First, there is a natural advantage for producers to sell in the domestic economy, where the market can be assured in a quasi-monopoly manner by self-management agreements. Also, the multiplicity of capacity along regional and communal lines has oriented producers towards satisfying the needs of the local market, with exports playing a residual role. According to many Yugoslavs, exporting is a desire of the government, not of the producers.

Second, partly because of the regionalization of productive capacity and the general diversification of the economy, a major export sector has failed to develop. This is clearly reflected in the commodity composition of Yugoslav exports. For instance, in 1978 Yugoslavia exported 57 various products of two-digit SITC category, a relatively wide commodity grouping, only one of which—transport equipment—accounted for more than 10%. Shares of only three other categories (non-ferrous metals, electrical and non-electrical machinery) exceeded 5%, and shares of seventeen products exceeded 1%, with the share of the rest of the products below 1%. Exports to developed countries are slightly more concentrated, but of the 48 exports of products in the two-digit SITC category, none represented more than 10%, and only the share of one category (wood, lumber, and cork) exceeded 5%.

While geographic and commodity diversification of exports provides stability in periods of disruptions and fluctuations in individual markets, the lack of concentration or the "capillary" nature of Yugoslav trade means that Yugoslav exporters are marginal participants in the markets of their major trading partners. As such their relative marketing costs are higher, their relative costs of research and development are higher, they fail to establish a long-term profit and long-term relationship orientation, and to identify, protect and maximize their share of the market, (a conduct identified with multinational corporations). As marginal participants, they are also vulnerable to fluctuations in market conditions.³⁹ In an increasingly competitive market, the costs of the diversification policy probably exceed its benefits.

The validity of the assertion that the Yugoslav economy is not one in which the export sector is an "engine of growth" is evident from data presented in Table 6.2. While national income grew at an average annual rate of 6.2% in the 1973-79 period, the rate of real growth of real exports was 1.4%. In the 1976-79 period, the corresponding figures were 7.2% for national income and -1.7% for exports. Annual data further confirm that changes in the growth of real exports are actually inversely related to changes in economic growth, quite contrary to the "engine of growth" assumption: in 1972 and in 1976, austerity measures reduced economic growth, and real exports registered a significant jump, only to be reduced as the economy began to expand. That these fluctuations are primarily a result of a supply constraint and not of foreign demand conditions is confirmed by data in Table 6.2 on

³⁹ The benefits and costs of "capillary trade" were the subject of empirical research and discussion among Yugoslav economists in the 1950s and early 1960s, including Pertot, Obradovic, and Tanovic. The debate is in Branko Horvat, (1971), p. 122. Apparently, the views in favor of capillary trade orientation were accepted.

shares of Yugoslav trade in the OECD, and by U.N. data. In the contractionary years, the growth of Yugoslav manufactured exports exceeded the world average, while in expansionary years, it lagged behind.

Yugoslav authorities have resorted to traditional export and import management instruments to implement policies in accordance with current import substitution programs, or in response to current developments in the balance of payments. Import limitation is effected primarily through direct commercial policy measures by shifting commodities among categories of import regimes. Until 1978 six, and currently four, categories have been in use, essentially distinguishing goods in accordance with the availability of foreign exchange for their importation: Liberalized goods (LB), for which foreign exchange is allocated; goods imported under special license (DL); goods imported under global foreign exchange quotas (GDK); goods subject to individual quantity or Dinar quotas (RK or DK); and goods subject to ad hoc licensing (D). In the 1966 reforms the intention was to increasingly place goods in the LB category, and in practice this trend was followed until 1974, when the deteriorating balance of payments position encouraged a reversal. In 1975, 54.1% of total import value consisted of goods in the LB category; in 1976, 43.7% rising to 46.3% in 1978. In that year the GDK list, comprising mainly raw materials, other reproduction materials, and most capital equipment, was eliminated, and most of the items (about 150) were allocated to the LB or DK and RK categories, with a special license ("accordance") requirement (the separate DL category no longer exists). The portion of the value of imports in the DK and RK categories (raw materials, manufacturing components, equipment, and consumer goods) was thus raised from 21.5% in 1975 to 40% in 1978, and in the D category (drugs, guns, fuels) from 7.0% to 13.7% in the same period.⁴⁶

In the past, Yugoslav authorities have also relied on a scheme of import deposit requirements, which is still an option provided by law as part of foreign trade emergency measures (Article 179). The measure requires importers to place non-interest-bearing Dinar deposits in a National Bank in the value of a fraction of imports for a specified amount of time. This measure has not been in effect in the second half of the 70s, but a foreign exchange emergency may again encourage its use.

According to the 1976-80 plan some changes were to take place in the tariff system, to increase its effectiveness, as part of the import substitution and structural change program. Compared to 1970, average nominal tariffs have been reduced, and during the 1975-78 period averaged 10%. The categories exceeding this average include clothing and accessories (20%), trucks, planes and ships (15%), machines and electrotechnical equipment (14%), stone, cement, asbestos, ceramics, glass products, rubbers, and miscellaneous goods.

Various traditional and some new export promotion programs were in effect or introduced in this plan period, and should be expected to be maintained in the 1980s. These measures include linking imports

⁴⁶ Sources: IMF: *Annual Report on Exchange Restrictions*, various issues; and SFRY Secretariat for Finance.

by enterprises to their export earning,⁴¹ tax exemptions,⁴² and tariff rebates and preferential credits to exporters. To correspond with the aims of the changes in the socio-economic system, in 1978 the export promotion costs and drawbacks were transferred from the federal budget to the republics' CIFERSs.

Many of these schemes proved partially successful in localized instances. However, the revision of regulations and in some cases complicated administrative procedures frequently precluded the intended benefit. Furthermore, some of the export promotion schemes, including linking import with exports earnings, may encourage BOALs to reorient production in search of short-term benefits. Support for measures of a longer-term nature has visibly increased in economic and political debates within Yugoslavia. The deteriorating balance of payments performance has revealed that policies of concentration on import substitution without a corresponding long-term export orientation have not produced acceptable results. One, albeit small, step to provide long-run export support was taken in 1977 when the Yugoslav Bank of International Economic Cooperation was established to replace the Export Credit and Insurance Fund, which failed to provide sufficient encouragement to exports.⁴³ The Bank's purpose is to find ways and means to encourage the long-term interest of foreign partners in Yugoslav suppliers.

Another scheme designed to provide long-term stimuli is related to foreign direct investment via joint ventures (JVs). The purpose of the JVs, as envisioned by Yugoslav authorities, is to enhance foreign investment in domestic enterprises to achieve greater long-term participation in the international division of labor, procure modern technology, increase exports and the supply of goods in the domestic market, decrease imports, advance work of domestic enterprises, and promote scientific research. ("The Law on Investment of Resources of Foreign Persons . . .", Article 1; and OPIC, 1979.) Since their introduction in 1967, an estimated 177 JVs have been signed, concentrated in metal products, electrical equipment and chemicals, although many of them are no longer thought to be in operation.

In the 1968-73 period, investment in JVs accounted for 7% of total investment in the social sector, and the foreign portion amounted to only about 1% (Schrenk, et al., 1979, and OECD 1974). However, the Yugoslav portion frequently included already existing buildings and capital assets. The laws have been updated relatively frequently, pri-

⁴¹ This has been done by encouraging barter-type transactions; in the new system, agreements are reached within the CIFER framework. In a serbian example, facing a deteriorating trade balance, CIFER delegates accepted policy of cutbacks in foreign exchange expenditures for certain categories of goods and enterprises. For imports of raw materials and equipment, the right to purchase foreign exchange was reduced by 10% for "passive exporters" (enterprises whose import-export ratio exceeded 3.21) and some other enterprises. "Active exporters" (enterprises whose sales exceeded the value of their imports) were reaffirmed in their right to use the full amount of their hard-currency earnings for their own imports. But their freedom to pool these exchange earnings with passive enterprises by intercompany contract was curtailed. (*Business Eastern Europe*, August 24, 1979).

⁴² In 1978, BOALs exporting over 25% of their production were exempted from the business income tax.

⁴³ The Fund's resources were limited and it was not compatible with the new banking system. The Bank is a semi-government institution, authorized to engage in more activities than the Fund, including taking some responsibilities from the NBY and the Federal Secretariat for Foreign Trade. For its legal and financial foundation, and operations, see "The Law on the Yugoslav Bank for International Economic Cooperation and on Joint Financial Organizations".

marily reflecting disappointing results in attracting foreign investors, and the dissatisfaction of the Yugoslav authorities with the direction and results of the existing ventures. On the one hand, it was found that the conditions were not sufficiently attractive to overcome the concerns of potential foreign investors. As a consequence of this and an insufficient promotional campaign, the anticipated growth failed to occur, even though at least one German study showed that the economic interest of foreign investors is not served any worse in Yugoslavia than in other comparable countries. (Tschiderer, 1976). On the other hand, it became evident that the hoped for long-term export orientation of foreign investment failed to materialize and that the primary orientation of the foreign investors was serving the domestic market. Empirical research has supported this notion.⁴⁴

The laws were thus supplemented in 1974 and 1976 to alter these two developments, and some increase in interest in JVs was recorded, including interest from U.S. corporations, which started to compete with Italian and German firms for leadership. By 1978, 24 U.S. companies participated in JVs, with a total estimated foreign investment portion of \$165 million and a total Yugoslav investment of \$414 million. The Yugoslavs do not produce current data on foreign investment in Yugoslavia, but the 28% share of investment supplied by American companies in their JVs is thought to be higher than the average share of foreign investment in JVs.

A single, well publicized contract signed in 1976 between DOW Chemicals and INA for development of the petrochemical industry accounts for over 60% of total American investment, and was hoped to establish a new trend in JVs. However, concern about new changes in the 1978 laws,⁴⁵ and bureaucratic procedures (it takes about 2 years from start of negotiations to registration) have forestalled the early euphoria. The best intentions of the authorities have not been able to produce expected results due to complicated administrative procedures and bureaucracy. According to several Yugoslav businessmen, a JV is not a true partnership, but just a complicated loan.⁴⁶ The total value of foreign direct investment thus remains relatively small, but Yugoslav authorities continue to study the potential for improvement.

4. Trade in Services (Invisibles)

One of the decade's most notable developments is the emergence of export and imports of services as an essential component of Yugoslavia's external relations. Containing the current account within tolerable parameters was possible due only to the unexpectedly rapid growth of invisible earnings, sharply contrasting with the unsatisfactory performance of merchandise export. In dollar terms, invisible earnings increased almost five-fold, from \$1.3 billion in 1980 to over

⁴⁴ For instance, IBRD (Schrenk, et al. 1979), presents a test using Spearman rank correlation coefficients between foreign investment by industry branch and several branch and several branch characteristics, with a conclusion that the coefficients do not support the hypothesis that foreign investment is primarily export-oriented, and that evidence points toward the domestic market being the primary orientation of foreign investors.

⁴⁵ Especially, Article 19 setting limits on profit remittances, and Article 42 preventing agreements that include undue restrictions on re-exports by the Yugoslavs of brand-name products.

⁴⁶ Yugoslav statisticians seem to agree: balance of payments statistics show nil in the item "Foreign Direct Investment".

\$6 billion in 1978, growing in real terms by 9 percent per annum.⁴⁷ Whereas at the beginning of the 1960s they accounted for less than 30 percent of total foreign exchange earnings, by the end of the 1970s they equaled the value of merchandise exports.

Foreign exchange outflows on invisibles have consistently lagged behind inflows. Yet, these expenditures have grown rapidly in the last decade, from \$500 million in 1970 to \$2.7 billion in 1978, and the 11% real rate of increase exceeded that of merchandise imports. From the beginning of the 1960s to the end of the 1970s, invisibles climbed from 10% to 20% of total foreign exchange outflows from Yugoslavia. The growth of invisible expenditures will undoubtedly continue in the 1980s further exacerbating Yugoslavia's balance of payments situation.

An examination of individual categories of foreign currency inflows and outflows is obscured by the imprecise nature of data on invisible flows. The various categories of inflows and outflows are presented in Table 6.4, and in the appendix with the caveat that the precision of the data is limited, primarily due to technical aspects of data collection. Nevertheless, the aggregates are judged to be sufficiently accurate.

TABLE 6.4.—COMPOSITION OF EXPORTS AND IMPORTS OF SERVICES, 1970-79

[Millions of U.S. dollars]

	1970	1974	1975	1976	1977	1978	¹ 1979	² 1980
Exports:								
Tourism.....	275	699	768	802	841	1,050	1,000	1,150
Transportation.....	349	729	886	894	1,051	1,150	1,250	1,315
Other nonfactor services.....	205	463	700	734	708	775	900	1,020
Workers' remittances.....	400	1,511	1,684	1,884	2,097	2,645	3,280	3,490
Interest receipts.....	18	93	62	90	123	155	155	110
Total.....	1,287	3,495	4,100	4,404	4,810	5,775	6,585	7,385
Imports:								
Tourism.....	129	295	440	546	760	1,296	1,680	.....
Transportation.....	148	336	413	466	488	565	1,620	.....
Other nonfactor services.....	89	164	282	369	393	398	560	.....
Interest payments.....	128	285	343	364	381	455	720	.....
Total.....	494	1,080	1,478	1,750	2,022	2,714	3,580	3,720
Balance of services.....	793	2,415	2,622	2,654	2,798	3,061	3,005	3,665

¹ Preliminary.² Official forecast.

Notes: Until 1977, dinar values were converted by the statistical office at \$1=ND 17; in 1978, the rate \$1=ND 18.25 was used. Between 1974 and 1977, the statistical office used 1974 average cross rates among the convertible currencies. In 1978, average 1978 cross rates were used. The change is significant: Using previous cross rates would yield the 1978 value of exports over \$600,000,000 smaller, and imports nearly \$200,000,000 smaller. Workers' remittances were most affected by the change. 1975-77 data is thus inaccurate, but the error term is not available.

Source: National Bank of Yugoslavia, IBRD and OECD.

A significant source of *invisible earnings* are usually categories related to merchandise exports, such as freight transportation and insurance. These amounted to about 15% of invisible earnings in 1978. There is little potential for these earnings to grow at rates not dictated by Yugoslav export performance, that is to say, there are no expectations for Yugoslavia to acquire transportation, insurance or

⁴⁷ Import price index is used as a deflator in this and other invisible earning growth rates.

financial sectors of significance, independent from its merchandise exports.

Perhaps in no other area has the victory of Yugoslav pragmatism over the apprehensions of ideology been as well demonstrated as in the decision to permit the conversion of Adriatic scenery and climate into a substantial source of foreign exchange earnings. Social and private accommodations, catering, and entertainment facilities have, especially in the 1970s, replaced anxieties which the Yugoslav authorities earlier shared with other East European countries—such as contamination of local citizens by foreign ideologies. Improvement of tourist facilities has been a (frequently neglected) target of investment, amounting to 2–3.5% of total gross investment. Earnings from tourism have grown from less than \$300 million in 1970 to over \$1 billion in 1978 and 1979, yielding a real annual rate of growth of 4.5%. Early estimates of 1980 tourist earnings are \$1.7 billion.

In addition to climate and availability of tourist facilities, Yugoslav tourism is a function of developments in competing countries of Southern Europe and North Africa. Earnings are subject to annual fluctuations due to exchange rate and price fluctuations abroad, political violence in competing countries, developments of new vacation package schemes, airfares, and fashions. Yugoslav tourism has also been subject to terrestrial calamities. In 1978, tourist earnings registered a significant increase of about 20%, primarily a result of lower relative prices, but to some extent also due to political violence in Italy and Spain. In 1979, the price difference was neutralized by inflation, reports of violence in neighboring countries subsided, and the Republic of Montenegro was hit by an earthquake. The earthquake not only inflicted serious damages on tourist facilities, but fear also diverted tourists to competing countries. Tourism thus remains an important, growing, but unpredictable, source of foreign exchange earnings.

Yugoslav construction abroad, compelled by advantageous relative prices (especially in Arab countries), became an important source of foreign exchange earnings in the 1970s. For instance, in 1978 Yugoslav construction work in Iraq amounted to \$305 million. Construction fails to appear as a special item in Yugoslav balance of payments statistics, and the proceeds are presumably dispersed in merchandise exports, other services, and workers' remittances.

During the 1970s, workers' and emigrants remittances became the most important category of invisible earnings.⁴⁸ Remittances increased from \$500 million in 1970, to \$1.7 billion in 1974 and to \$2.9 billion in 1978, accounting for one-half of all invisible earnings. This development totally contradicted expectations of most observers, since it seemed inconsistent with the significant reduction in the number of Yugoslav workers abroad from 1.1 million in 1974 to 800,000 (or less) in 1978. There are several explanations for this phenomenon.

This category is partially a misnomer as it primarily represents gross changes in foreign currency deposits of Yugoslav citizens in Yugoslav banks. As such, it is safe to assume that the growth in "workers' remittances" reflects an increase in deposits and does not mean an increase in transfers from abroad. In fact, transfers from the

⁴⁸ In some balance of payments tables, Yugoslavia reports the category of workers' remittances separately from emigrants' remittances, the latter being treated as unrequited transfers.

biggest source, West Germany, actually peaked in 1973 at a value of DM 2.2 billion and in 1978 and 1979 amounted to about DM 1.5 billion. (Deutsche Bundesbank, Table 4A). Furthermore, an estimated 20% of the deposits is acquired by Yugoslavs providing various services to tourists on the Adriatic coast and gross deposits include re-deposits, thus exaggerating the total value by double-counting. Some of the increase represents shifts of deposits of returning workers from banks abroad to domestic banks, further enhanced by an increased aggressiveness of Yugoslav banks in an attempt to tap funds by opening branches in main Yugoslav centers abroad, signing cooperation agreements with foreign banks, increasing the security and liquidity of deposits, and paying relatively high rates of interest.⁴⁹ In addition, remittances have increased to some extent, because the skill and therefore the earnings of remaining workers employed abroad have risen. Finally, the relative values of the currencies of host countries have risen significantly relative to the currency of accounting, the U.S. dollar.

During most of the 1970s, the growth of deposits protected the overall balance of payments position from the impact of high import growth by concealing poor merchandise export performance. By 1978, "remittances" covered almost 30% of the country's imports, or two-thirds of the merchandise trade deficit. In the long run, however, dependence on remittances to finance trade deficits is undesirable because the growth of remittances is probably unsustainable and certainly precarious. The recent growth is unsustainable for two reasons: first, the stock of not-yet-deposited foreign exchange (hoarded in homes or deposited in foreign banks) has been significantly reduced in the recent drive by Yugoslav banks, and even though some (Yugoslav) estimates of the value of these funds are still in billion dollar quantities, the upper limits are defined. Second, deposits from the flow of remittances should decline with the reduction of the Yugoslav labor force employed abroad.

Dependence on remittances is precarious because to the extent they are not converted into Dinars (and the current rate of exchange and conditions do not seem to be conducive to that: the estimated rate of conversion is less than 40%), they are held as foreign currency deposits which essentially represent foreign savings—earned, and after a lag, spent abroad. They are in fact short term debt, highly sensitive to political developments and rumors.⁵⁰ Like other short-term funds, their continued availability depends on the lender-depositor. When withdrawn without conversion, there is nothing in the system that would direct the foreign exchange to its most productive use. The owner retains control over its use, which may or may not be beneficial to the economy.

The precise ultimate usage of the withdrawn unconverted deposits remains somewhat of a mystery. Yugoslav statisticians justifiably dis-

⁴⁹ Currently 7.5% on sight deposits, 9% on one-year maturity, 10% on 2-year maturities, on all currencies; in addition, interest is not subject to Yugoslav taxes and no penalty for early withdrawals is charged, as advance decision on maturity is not required. The rates are identical for all currencies, including the Dinar.

⁵⁰ On several occasions, including January 1980, a large part of the deposits was temporarily withdrawn and redeposited due to rumors associated with President Tito's illness. The precise value of convertible currency deposits is not available, but a reasonable current estimate is \$6.7 billion; in August 1979, short term foreign currency liabilities of Yugoslav banks to domestic clients amounted to nearly 104 billion Dinars (\$5.7 billion) and long term liabilities to 64 billion Dinars (\$3.6 billion). However, these figures presumably include both private and institutional deposits. Data from NBY Quarterly Bulletin, July 1979).

play their confusion; in various balance of payments statistics, withdrawals of deposits appear alternatively as outflows of workers' remittances, "other services", or, as in Table 6.4, probably most appropriately (it being jocularly known locally as "the Yugoslav disease") as tourism. While their precise destination may not be known, data reveal a prodigious growth in foreign exchange outflows related to withdrawals of deposits. Yugoslav expenditures on tourism increased nearly ten-fold between 1970 and 1978; item 6, "other outflows (including workers' remittances)" in the table in the Appendix confirms the rise, implying that net inflows of workers' remittances in fact remained constant at \$1.4-1.5 billion.⁵¹ Given the continuing return of workers from abroad, in the future there will be more users than depositors of convertible currency funds. Hence, it is reasonable to posit that non-converted deposits should be considered as short-term capital flows, and not—as is presently the case—as invisible earnings.

The Yugoslav authorities are well aware of these shortcomings. While recognizing the growth in the net position of the hard currency accounts, only the anticipated conversion into Dinars is, according to the central bank, used in planning (verbal communication). In order to bolster the rate of conversion, various incentives are being introduced. For instance, in 1980, turnover taxes (and consequently prices) for various industrial consumer goods, such as cars and household appliances, were reduced for customers paying with converted foreign exchange.⁵² Encouragement of the private sector is partly designed to direct convertible currencies to investment rather than consumption imports.

The benefits to the economy of continued reported increases in invisible earnings are dubious. Although in the short term they facilitate growth in merchandise imports and thus growth of the economy, dependence on a relatively short term, relatively unpredictable and relatively inflexible source of foreign exchange is clearly undesirable. While Yugoslav authorities are aware of the problem, the fact remains that the growing deposits have had a deceptive effect of creating a false sense of stability as they reduced balance of payments pressures and consequently the stimuli for necessary structural changes and Dinar depreciation. This is especially significant in an economic system in which only clearly visible signs of stress induce appropriate policy response.

The precarious dependence on invisible inflows is demonstrated by the unusual decision of the IMF at the end of 1979 to approve Yugoslavia's request for extension of compensatory facility on the grounds of a shortfall not only in merchandise exports, but also in tourist earnings and workers' remittances.⁵³

⁵¹ Inflows grew from \$1.56 billion in 1973 to over \$3 billion in 1978, while outflows grew from \$150 million to \$1.5 billion in the same period. In the process, outflows related to item 6, as a proportion of total outflows on services rose rapidly from 15% in 1970 to 41% in 1975 and a staggering 57% in 1978.

⁵² These are also products which faced reduced demand as a result of the curtailment of consumer credit as part of overall stabilization policy.

⁵³ IMF Compensatory facility was established to assist countries in overcoming temporary financial difficulties due to unexpected shortfalls in export earnings, primarily those arising from crop failures, fluctuation of world commodity prices, etc. The Yugoslav case is special in that a shortfall in invisible earnings was accepted as a cause for the request. While the decision has its merit in the case of a shortfall in tourist earnings (due to earthquakes), and partially in the case of a shortfall of merchandise exports (due to a partial harvest failure), the shortfall of workers' remittances is more a structural problem than a temporary one.

This section would not be complete without mention of one other item included in the import of services—interest payment on foreign loans. This item has not been too significant (although see note in Table 6.7), but in view of the prodigious growth of foreign indebtedness, in tandem with extremely high rates of interest in the international financial markets in the early 1980s, interest payments may become the biggest category of invisible foreign exchange outflows, rising possibly to \$1.8 billion by 1981. Details are elaborated in section 7 on Debt Service. Suffice it to state here that in addition to all the doubts about the benefits of invisible inflows expressed in the preceding paragraphs, the surplus in invisible earnings may actually disappear in the near future. The economic growth of Yugoslavia will then even more depend on its merchandise export performance and the availability of foreign sources of finance—the subject of the next section.

5. Capital Flows

In theory, the balance of payments is always zero⁵⁴ or, as a corollary, the deficit in the account of current transactions in trade, and unrequited transfers must be covered by a surplus in capital inflows and/or by drawings on reserves. Reserves increase when net capital inflows exceed the current account.

Since Yugoslav development has been dependent on foreign savings, it is important to examine the mechanism and the account of financial flows. Yugoslavia, sharing the experience of most developing countries, has extensively used loan and credit facilities of foreign institutions to facilitate its import requirements and build reserves. The country's persistent current account deficit was almost totally covered by accumulating debt; only a negligible amount was covered by foreign direct investment.⁵⁵ Gross annual borrowing by Yugoslavia has been increasing steadily, from \$1 billion in 1971 to \$4.5–\$5 billion in 1979. Borrowing especially accelerated after 1975, both necessary to replenish official reserves, and from 1977 to cover a high current account deficit and growing debt servicing requirements.

Increased borrowing requirements stimulated Yugoslavia to diversify its sources of funds. Supplier credits fund a large part of its equipment imports, frequently covered by guarantees of (or provided by) official western government export credit institutions. Yugoslavia has received substantial credits from the World Bank and short-term funds from the IMF. In addition to these credits, Yugoslavia has become an extensive borrower in the commercial international financial market. Departing from earlier experience, in the 1970s, over 70% of funds came from commercial sources.

The increasing reliance on commercial sources of funds has its drawbacks in that it makes the country's policies dependent on liquidity and other developments in the external financial market, and on the foreign banks' perception of the country's creditworthiness. This, at times, is influenced by reports on domestic political developments,

⁵⁴ $X_N + X_S + T_N - M_N - M_S = K_{L1t} - K_{L1s} + K_{STN} + \Delta R + E$.

Export of merchandise and services, plus net transfers, minus imports of merchandise and services equals long term capital inflows minus outflows, plus net short term capital flows. Changes in reserves and errors are residual.

⁵⁵ Foreign direct investment in joint ventures is not Yugoslav debt. Yugoslav balance of payments statistics fail to show an amount for foreign direct investment.

and, unlike official sources of funds, banks tend to be more concerned with return on assets and less with international political considerations. Consequently, the availability, terms, and conditions of loans have fluctuated throughout the decade. In 1971, a Yugoslav bank temporarily had technical difficulty in fulfilling its financial obligations to its creditors, arising from somewhat indiscriminate borrowing at the end of the 1960s. Yugoslav creditworthiness was affected until after two years of current account surpluses (accompanied by the highly liquid position of western commercial banks due to petrodollar flows) the country regained the confidence of the western financial community, but western government guarantees were still sought by many potential lenders. The rapid growth of borrowing barely kept up with the large current account deficits in 1974, and towards the end of 1975 foreign exchange reserves were drastically reduced to an unsustainable level. In this period, loans to Yugoslavia by American banks were classified OLEM³⁰ by the US Comptroller of the Currency. Yugoslavia reduced its participation in the commercial market until 1977, when the report of the 1976 current account surplus and the recognition of Yugoslavia's ability to control the economy again regained the confidence of the financial market. The high liquidity of banks and numerous new entrants on the international lending side provided Yugoslavia with relatively easy access to funds, a situation which lasted until the end of the decade and essentially enabled the country to pursue highly unbalanced expansionary policies. As noted earlier, this was a period of transition to a new institutional mechanism, and external borrowing and foreign exchange operations were brought into consonance with the thrust of the reforms.

The country's overall borrowing requirements, indebtedness and guidelines for each individual republic are established as one element in the process of formulating the regional and federal social compacts on balance of payments. Once the guidelines are established, individual borrowing needs remain to be resolved among enterprises within the context of CIFERS, which are ultimately authorized to issue permits for external borrowing. In this process, business banks act only as informal advisors. Borrowing on their own account has been eliminated (with the exception of short term funds) in line with the banking reforms which intended to reduce the controlling ability of banks to that of management of financial issues of enterprises (see Sections II and III.4).

The business banks' purpose is mainly to act as the financial arm of its founding members. The initiative to borrow rests with the enterprises. These inform the authorized banks (about 20 banks are currently authorized to conduct foreign exchange operations) of intention to borrow, documented with details of purpose and amounts. Contracting of debt is then subject to pre-registration with the National Bank of the republic and subsequently the National Bank of Yugoslavia—an automatic process assuming all currently governing

³⁰ OLEM (Other Loans Especially Mentioned) classification indicates serious concern by US authorities about the quality of a loan or borrower. Yugoslavia was dropped from the list in 1977. In 1978 the system of classification was changed.

regulations are satisfied. The role of the NBY as an explicit guarantor and contractor of foreign loans has been drastically reduced.⁵⁷ The central bank no longer implements the overall borrowing policy by affecting the cost of borrowing via Dinar reserve deposit requirements. This mechanism is now only a part of emergency measures.

As one would expect in such cases, the process and result of the evolution of the system have had their beneficial and detrimental effects on the terms, conditions, and access of Yugoslavia to the foreign financial markets. Before the latest changes, the terms and conditions for Yugoslavia tended to be worse than those for many East European and developing countries as a result of its stop-go development strategy, its frequent institutional reorganizations, the large number of Yugoslav banks competing for funds in the market, the predominance of supplier credits, high borrowing needs and growth of debt, and political uncertainty. However, despite these factors the large amount of funds Yugoslavia was able to acquire during the period reflects its relatively good standing. It is too early to judge the results of the latest institutional changes, but some observations on the process may be made. In the process of change, the federal authorities' intervention was reduced. The tedious task of reaching consensus (noted earlier) resulted in delays in concluding social compacts on final guidelines, and when reached, these were frequently revised. Thus, the 1979 guidelines on total borrowing were reached only in the fourth quarter, and during the period the earlier guidelines were overstepped. In fact, that was true for the entire 1976-1980 period. The original plan implied total indebtedness of Yugoslavia at the end of the plan period to be \$11.5 billion—the actual debt will exceed this figure by \$6 billion.

Competition among Yugoslav banks and lack of coordination of their activities—frequently reflected in the higher cost of borrowing—was addressed in the particular Yugoslav manner: acceptable terms, conditions, and strategy for foreign borrowing are now agreed upon at monthly meetings of the Yugoslav Association of Banks. Towards the end of the decade, Yugoslav banks increasingly formed consortia in their approach to the foreign financial community. While the new approach will undoubtedly improve the terms and conditions of borrowing, it also reduced flexibility in the continuously changing financial market. In practice the reaching of a consensus is a long process during which conditions may have changed. With a predetermined view of acceptable terms the flexibility in negotiations is reduced. The quantity of funds committed to Yugoslavia may thus be sacrificed for a marginal improvement in the quality of terms. This may have been the case in 1979, when terms of Yugoslav loans improved, but the country ended the decade with a relative shortage of committed funds. In fact, the situation deteriorated to such an extent that in mid-1980 the NBY returned to the international financial market as a principal borrower.

⁵⁷ Implicitly, the NBY may still be viewed as a guarantor: the laws permit the NBY to sequester Dinar assets of business banks and their founding enterprises in case of default on foreign obligations and extend convertible currencies to repay the foreign lender. Explicit federal guarantees are limited to IBRD and IMF loans and selected official credits.

6. *External Indebtedness*

Sharing the experience of many developing countries, Yugoslavia's extensive participation in the international capital markets in the 1970's, a period characterized by rapidly expanding commercial bank financing of international trade and development, led to a relatively high level of indebtedness. From a little over \$2 billion at the beginning of the decade, the country's debt exceeded \$15 billion at its end, equalling approximately one-quarter of its GDP.

TABLE 6.5.—FOREIGN INDEBTEDNESS OF YUGOSLAVIA

	1965	1970	1974	1975	1976	1977	1978
Total gross debt (millions).....	\$1,243	\$2,350	\$5,360	\$6,584	\$7,928	\$9,540	\$11,833
Medium- and long-term debt.....	1,104	2,147	5,253	6,470	7,828	9,366	11,401
Total of imports of goods on credit..	833	1,527	3,205	4,077	4,800	5,992	7,081
Of which: Equipment.....	(539)	(1,112)	(2,797)	(3,608)	(4,295)	(5,304)	(6,284)
Financial credits and foreign currency time deposits.....	271	620	2,012	2,354	3,000	3,344	4,281
Short-term bank credits.....	139	203	107	114	100	174	432
Structure by currency (percent):							
Convertible currencies.....		90	90	86	87	88	88
Bilateral-clearing currencies.....		10	10	14	13	12	12
Structure by type of guarantee (percent):							
Public or publically guaranteed.....	86	58	42	40	39	34	-----
Private.....	14	42	58	60	61	65	-----
Structure by source (percent): ¹							
Official.....		30	26	25	24	24	-----
Commercial.....		70	74	75	76	76	-----
Credits extended (millions).....	-\$198	-\$492	-\$708	-\$786	-\$916	-\$1,116	-\$1,107

¹ IBRD estimates.

Sources: National Bank of Yugoslavia, IBRD, and other.

The 10% real annual growth of indebtedness (nominal growth deflated by average of export and import price index) in 1969-79 exceeded real growth of the social product, of exports, and of imports. The difference is even more substantial in the last five years when the real debt grew at a rate of 12.5% while real exports virtually stagnated. The current level of debt is 2.3 times annual merchandise exports, growing steadily from a ratio of 1.4 in 1974. The current ratio is similar to that of Greece, lower than that of Turkey (5.5), Ivory Coast (4.1), Peru (3.1), Poland (2.9), and the Philippines (2.4) and higher than that of Spain (0.9), Portugal (1.9), Korea (1.1), and Taiwan (0.4).

The growth and composition of Yugoslav debt is presented in Table 6.5. The reduced role of the central bank and other government agencies in guaranteeing and contracting loans is well illustrated in the table. Over 70% of current debt is considered private. Imports of equipment and other goods on credit constitute about 60% of Yugoslav debt. Supplier credits have been the principal form of financing imports. Due to the inflexibility and costs (frequently concealed in higher prices of goods) of supplier credits, Yugoslavia aimed to increase the proportion of financial credits, which are not tied to any international transaction, are converted by the borrower into Dinars, and used for local cost financing. This goal was facilitated throughout most of the 1970s by the increased independence of Yugoslav busi-

ness banks in an environment of rapid changes in practices in the international capital market. Although financial credits thus commenced playing a more important role in the 1970s, accounting for about 35% of total debt, compared to little over 20% in the 1960s, the ability of Yugoslav banks to contract financial credits has been considered limited. About one-third of financial credits have come from commercial sources, the rest from official sources. In view of the increasing debt, the need for financial credits and "balance of payments loans" is understandable.

The diversification of sources of foreign exchange, and the increased reliance of the country on commercial, as opposed to official, sources of funds is well illustrated in the table. The change is even more notable in comparison with the 1950s and 1960s. Although the proportion of debt to the World Bank is declining, it remains significant both in its value and its positive influence on the commercial market. The World Bank has provided long-term credits for 62 projects, \$2.1 billion of which were outstanding at the end of 1979 IBRD. (direct communication).

Yugoslavia has also been an active user of the International Monetary Fund facilities, including a request for standby facility in 1979. In January 1980, the amount outstanding to the IMF, primarily short-term credits for balance of payments purposes, was \$460 million (IMF Press Release, No. 80/9).

A considerable part of commercial credit is guaranteed by Western government export credit agencies, most of which also extend credits on their own account. The value of the Yugoslav success in receiving credit lines from these institutions stems from the portfolio allocation mechanism by Western commercial banks: loans to Yugoslavia, guaranteed by Western governments tend to be treated as Western government risk, thus allowing further lending to Yugoslavia. Of Yugoslav debt, 40-45% is extended or guaranteed by export credit agencies; total estimated commitments rose from \$4 billion in 1975 to \$6.7 billion in 1978, over one-half of which were provided by the French, U.S., and West German governments.

In general, the relative share of debt to individual countries is thought to be correlated with shares of foreign trade and trade deficit. West Germany is thus thought to be the biggest lender. The U.S. is an exception, which can be explained by U.S. bank financing of transactions involving American multi-national corporations around the world. Exposure of U.S. institutions is presented in Table 6.6. Debt to the U.S.S.R. and Eastern Europe is primarily on the bilateral payments accounts, estimated in Table 6.5. However, some loans are known to have been provided in convertible currencies.⁵⁸ The U.S. dollar, West German mark, and Swiss and French franc are the predominant currencies in which Yugoslav debt has been contracted. The growth of debt is thus to some extent due to the declining value of the dollar.⁵⁹

⁵⁸ For instance, Czechoslovakia and Hungary provided \$30 million each for the construction of the Adria pipeline.

⁵⁹ In 1978, the depreciated dollar caused a \$344 million increase in nominal debt (NBY, *Annual Report 1978*).

TABLE 6.6.—CLAIMS OF U.S. INSTITUTIONS ON YUGOSLAVIA

(Millions of dollars, end of year position)

	1975	1976	1977	1978	1979
Commercial banks ¹	N.A.	1,553	1,150	1,630	2,000
Export-Import Bank ²	909	877	877	901	1,002
Commodity Credit Corporation ³	125	96	73	76	49
Nonbanking business enterprises in the United States ⁴	44	36	32	52	54

¹ Claims by U.S. banks, including their branches and subsidiaries abroad. Source: Joint news release of Comptroller of the Currency, FDIC, and Federal Reserve Board, various.

² Includes loans and guarantees; therefore double counting with part of commercial bank claims may occur, but cannot exceed \$300,000,000 in 1979. Source: Export-Import Bank.

³ Until 1977, virtually all exposure under title 1, Public Law 480. In 1978 and 1979 ½ of exposure under GSM 4 or 5 program. Source: U.S. Department of Agriculture.

⁴ Includes primarily trade receivables. 1979 datum shows mid-year position. Source: U.S. Treasury Department, Treasury Bulletin, January 1980.

In view of the increased importance of capital goods exports, Yugoslav banks have been extending export credit facilities. This activity will probably intensify with the establishment of the Yugoslav Bank of International Cooperation. The term of the credits tends to be relatively advantageous to the borrower. The total amount of credits extended by Yugoslavia rose from \$.5 billion in 1970 to \$1.1 billion in 1978, accordingly reducing the overall Yugoslav debt.

Since causes for Yugoslavia's current account deficit are structural, the need for utilization of external savings will undoubtedly continue. Total borrowing needs and the ultimate indebtedness will depend on the selected growth rate of the economy. However, in addition to financing the current account deficit, borrowing requirements (especially the more difficult to find financial credits) will include financing the above noted export credits extended by Yugoslavia, rebuilding and maintaining Yugoslavia's foreign exchange reserves, and satisfying its debt servicing obligations, which are subjects of the following sections.

7. Debt Service Requirements ⁶⁰

The rapidly growing debt has as its consequence growing annual debt servicing requirements. The increased proportion of bank financing and developments in the maturities and rates of interest in the financial market shape the debt servicing requirements.

Given the decreasing proportion of advantageous World Bank long-term loans, the average maturity of Yugoslav loans is primarily and increasingly dependent on developments in the international financial markets. Length of (publicized) loan maturities in these markets reached a peak of about 9 years in 1973, decreasing to about 5 years in 1975 and 1976, growing back to about 8 years in 1978, and even higher in 1979. Amortization payments begin after a period of grace, which tends to be roughly 2-4 years, depending on the maturity of the loan. Maturities for loans for raw material and intermediate imports tend to be much shorter. Hence the closing years of numerous loans are con-

⁶⁰ By debt servicing is meant amortization of principal, interest, and other payments related to contracting debt.

concentrated in the current period. After a relatively uneventful five years of annual amortization payments of about \$1 billion (according to official statistics),⁶¹ a significant increase is imminent, especially in view of the rapid growth of borrowing since 1976.

It may be instructive to estimate the Yugoslav debt servicing requirements, even though results of such an undertaking must be received with considerable reservation. Table 6.7 presents past and a rough estimate of future Yugoslav debt servicing requirements.

TABLE 6.7.—YUGOSLAVIA: PAST AND FUTURE EXTERNAL DEBT SERVICE

(Billions of dollars rounded)

	1972	1973	1974	1975	1976	1977	1978	Estimated			
								1979	1980	1981	1982
Repayment of principal ¹	0.7	0.9	1.0	1.1	1.0	1.2	1.6	2.0	2.5	3.0	3.5
Interest ².....	.2	.2	.3	.3	.4	.4	.5	1.0	1.5	1.8	1.8
Debt service, medium and long term.....	.9	1.1	1.3	1.4	1.4	1.6	2.1	3.0	4.0	4.8	5.3
Short term loans ³.....	.3	.1	.1	.1	.1	.1	.2	.4	.5	1.2	1.2
Debt service, total.....	1.2	1.2	1.4	1.5	1.5	1.7	2.3	3.5	4.5	6.0	6.5

¹ 1972-78, NBY Quarterly Bulletin. 1979-82 estimated, on the basis of: (1) Drawings on foreign loans and credits, (NBY Quarterly Bulletin, July 1979, for years 1970-78, estimated for 1979 and projected for 1980); (2) average maturities (World Bank: Borrowing in International Capital Markets); (3) average grace periods; and (4) average composition of debt.

² 1972-78 interest payments are derived from balance-of-payments tables. 1979-82 interest projections take into account changes in London interbank offered rates (Libor) for United States dollars, German marks, and Swiss francs, in which the majority of loans take place. Libor dollar rates grew from 8 to 10 percent in 1978 to 14.5 percent at the end of 1979 and about 15 percent in 1980. DM rates in the same period are 3 percent, 8 percent, and 10 percent and Swf rates 1.5, 6 percent and 7 percent. Rates for 1981 were assumed not to change, and in 1982 decrease. Rates to Yugoslavia are on the average over 1 percent above Libor. The interest projections were made on the actual or expected total debt at the end of the previous year, with the following average rates from 1978 to 1982 (rounded): 6 percent, 8 percent, 10 percent, 11 percent, and 10 percent.

³ There is some doubt about the accuracy of official Yugoslav data on interest payments in 1972-78. For instance, the 1978 figure of \$455,000,000 implies an average interest rate of approximately 4.5 percent per annum which is less than 1/2 of prevailing Libor rates for U.S. dollars. At the same time, according to the same tables, Yugoslavia received \$155,000,000 of interest payments, implying a rate of 14 percent per annum, on credits extended.

⁴ Short-term debt service is short debt at the end of previous year. To complete the table, 1980-82 short-term debt figures were selected to a large extent arbitrarily, but reflecting the general increase in short-term borrowing in the international financial market. By mid-1980, short-term debt was reported at \$1.5 billion.

In the face of growing amortization payments, in 1979 the federal authorities encouraged Yugoslav banks to take advantage of the beneficial conditions in the Eurocurrency market and concentrate their activities on improving the maturity structure of Yugoslav debt. Over \$1 billion was refinanced.⁶² One such transaction, in the amount of \$420 million, was the first major illustration of the new Yugoslav strategy to form consortia of Yugoslav banks in approaches to the Eurocurrency market. However, as the table reveals, the large refinancing activity reduced the debt service burden only slightly. The deterioration in the debt service burden is due not only to increased amortization requirements, but also to the increase of interest rates in the Eurocurrency market, since interest payments on a large and increasing part of Yugoslav debt are related to floating interbank rates.

In the next several years, an increasing portion of foreign exchange earnings will be directed to servicing of debt. Between 1974 and 1977,

⁶¹ Foreign Exchange Balance of Payments Financial Transactions, published by Social Accounting Service, in *Statistički Bilten*, and in *NBY Quarterly Bulletin*.

⁶² Refinancing usually means borrowing at better terms and using the funds to pre-pay older outstanding loans. Maturities are thus "stretched out" and interest payments tend to be lower.

less than 20% of total foreign exchange earnings were allocated to debt service payments. By 1978, the share rose to 20.7%, and in 1979 perhaps approached 30%. The increase in debt service in 1980 yields a further growth in the debt service ratio. Concentrating the examination on only convertible currency debt service, and relating this to only convertible currency earnings minus workers' remittances not converted into Dinars, the real debt service burden would actually be even higher.

8. Foreign Exchange Reserves

The level of "permanent" foreign exchange reserves of Yugoslavia is determined by annual resolution issued by the Federal Executive Council. The permanent level is supplemented by reserves used for current transactions. The NBY attempts to keep these "current" reserves at a policy-determined level equivalent to a fraction of value of anticipated foreign exchange expenditures, measured in months (1.5 months, adopted for 1979).

The relative stability in the level of reserves implied by official policy has not been realized in the experience of the last decade. Actually, policy at times appeared to follow developments. This could have been predicted to the extent that reserve position is an endogenous variable in the overall foreign exchange system. The permanent reserve concept gained importance in the middle of the 70s. After a few years of a comfortable reserve position, Yugoslavia reduced its reserves from \$1.3 billion in 1973 to \$812 million in 1975, concurrently with an 85% increase in import expenditures. The value of reserves was reduced to nearly one month of imports, a level generally considered unsatisfactory. In 1976, Yugoslavia continued borrowing at a relatively steady level concurrently with a current account surplus. The large net capital inflows replenished the official reserves, exceeding the policy determined permanent level by a comfortable, or according to some western bank observers, superfluous margin. The high level was sustained until 1979, when official foreign exchange reserves were drastically reduced by \$1 billion to facilitate the unprecedented current account deficit of \$3.7 billion.

The original 1979 resolution on a permanent reserve position of ND 23 billion (\$1.3 billion) and current reserves of value of one and one-half months of foreign payments in convertible currencies, was thus violated; a new resolution reduced the requirement to \$1 billion for 1980 and the NBY policy calls for total official reserves to equal 2 months of imports. The need to replenish reserves is an additional element in the borrowing requirements of Yugoslavia in 1980.

In order to complete the review of the reserve situation, monetary gold and foreign exchange assets of business banks require mention. Yugoslav authorities hold 1.676 million fine troy ounces of gold (IMF, end of 1979 position), at current market value of approximately \$1 billion. Foreign exchange holdings of Yugoslav banks averaged \$800 million in 1979. Lest the significance of these admittedly large holdings be overstated, it is appropriate to note that gold is an unpredictable and not entirely liquid asset, and that Yugoslav banks held convertible currency deposits of domestic clients of nearly \$9 billion, which require substantial liquid reserves.

VII. SOME CONCLUSIONS AND PROSPECTS FOR THE FUTURE

The picture of recent Yugoslav economic performance that emerges from this paper exhibits both positive and negative features. On the positive side, the 1970s have witnessed a continuation of rapid growth and structural change at a pace in excess of that achieved in most middle income and developing countries. Yugoslavia has remained a front-runner in the development race despite shocks in the international economic system that have adversely affected its development prospects. Yugoslavia's growth performance has continued to reflect the LCYs goals of economic modernization, and diversification, combined with a significant increase in the standard of living. These goals have been successfully realized to a large extent. On the negative side, certain economic problems that began to develop in the post-1965 reform period have persisted, or in some cases have intensified, including problems of labor absorption, regional development differentials, cyclical macroeconomic instability, and the balance of payments constraint. By the end of the 1970s, Yugoslav economic performance presented some troubling signs, particularly in the areas of inflation and foreign economic performance. By 1979, the inflation rate was back up at the 20 percent level, the current account deficit was the worst in history, external indebtedness had increased in real terms by about 12.5% a year in the preceding 4 years (1974-79), and the debt service ratio was climbing.

TABLE 7.1.—PRINCIPAL TARGETS OF DEVELOPMENT OF THE YUGOSLAV ECONOMY FOR 1981-85

Growth rates		Growth rates	
1. Social product—whole economy.....	6.0-6.5	8. Standard of living.....	5.5-6.0
2. Social product—social sector.....	6.5-7.0	(a) Personal consumption.....	5.2-5.5
3. Industry.....	7.0-7.5	(b) Social standard.....	about 7.0
4. Agriculture.....	about 3.5	9. Exports of goods and services.....	6.5-7.5
5. Employment.....	about 3.3	10. Imports of goods and services.....	3.5-4.5
6. Productivity.....	3.2-3.7	11. Gross investments in basic assets.....	about 7.0
7. Real incomes.....	about 2.0	(a) Economic.....	about 8.0
		(b) Housing construction.....	7.5-8.0

Source: Institut Ekonomskih Nauka u Beogradu, "Uslovi, Mogucnosti i Pravci Druzveno-ekonomskog Razvoja Jugoslavije od 1980. do 1985. Godine", in Glasnik Privredne Komore Jugoslavije, Jan. 21, 1980.

Given current trends in export performance, import dependence and foreign indebtedness, it is reasonable to predict that the medium-term future will be a period of increasing foreign exchange constraints on domestic economic growth. This view seems to be reflected in preliminary projections for the 1981-85 period, prepared for the Yugoslav Chamber of Economy by the Institute of Economic Sciences in Belgrade. (See Table 7.1.) These projections call for aggregate growth targets of 6% to 6.5%, down from the target growth rates of 7% to 7.5% in the 1976-80 and 1971-75 plans. Even these growth targets may prove to be unachievable since they are based on an implied import growth rate of 3.5% to 4% and export growth rates at 6.5% to 7.5% a year, both of which appear very optimistic in view of the standards of recent economic performance. Yugoslavia's desire for continued high rates of growth with a reversal of the historical relationship between economic growth and foreign trade requires comprehensive structural

and systemic adjustments. The general orientation of these adjustments would be to increase the efficiency and competitiveness of Yugoslav production by bringing labor costs closer to a level consistent with the current stage of development and labor supply conditions, by improving capital mobility, and by introducing conditions for productive investment without tariff protection. Such adjustments cannot be implemented in a short period, and minor palliative adjustments will not produce the necessary long-term alteration of the structure of growth. Therefore, it seems more likely that growth during the next five years will fall short of even the reduced plan targets and will be lower than the growth rate achieved during the last three decades, unless the country is willing and able to obtain foreign loans of sufficient volume, and thereby further increase its indebtedness. In addition to covering a large current account deficit associated with the current structure of growth, borrowing requirements will include financing of infrastructure projects, as well as export credit, reserve, and debt service needs.

The real problem of declining growth rates in Yugoslavia arises from the need to provide additional jobs to absorb the unemployed and underemployed workers in the economy. In the past, the growth of jobs has been linked to rapid expansion, especially in the industrial social sector of the economy and in capital-intensive projects, and fueled by high rates of domestic investment. During the next five years, balance of payments constraints may require a modification of the domestic employment strategy, with more emphasis on the development of small-scale, labor-intensive projects in the social sector and with more emphasis on the private sector itself. Such a re-orientation of growth strategy would be consistent with the continued need to facilitate the integration of returning migrants into the domestic economy and to mobilize their savings for productive purposes. It would also be consistent with the continued need to stimulate private agriculture to realize domestic consumption needs and to provide for a growing net agricultural export surplus. Finally, such a re-orientation appears to be consistent with the need to promote labor-intensive export sectors in which Yugoslavia might have a comparative advantage. In the past, capital-intensive import substitution projects have been overemphasized at the expense of such sectors, with negative implications for the balance of trade.

Because the next five years are likely to be difficult ones given underlying balance of payments constraints, the tasks of medium-term planning and short-to-medium-term demand management are likely to become even more critical. On this score, there is some reason for optimism since Yugoslav policy makers have in the past demonstrated pragmatism, an open-minded attitude, and an ability to influence the direction and speed of economic development, albeit in a stop-go pattern. On the other hand, it appears that the institutional reforms introduced in the 1970s have not made policy making any easier, and indeed may have complicated the formation and timely implementation of difficult policy choices. In the long run, of course, whether the reforms improve economic policy making depends in large part on their implications for the planning process. It is too early to judge whether the new system of planning has actually improved coordination in resource allocation, and the scattered evidence which exists is contradictory.

Apparently, a reorientation of investment funds to priority sectors has occurred in keeping with plan targets, although many sectoral growth targets haven't been realized. In summary, it appears that to date nothing in the new institutional system or in the new role of the LCY guarantees the introduction of effective policies to solve Yugoslavia's recurring economic problems.

As the analysis at the beginning of this paper suggests, conflicting goals and a complicated balancing of oftentimes antagonistic interest groups have interfered with the formulation of consistent economic policies. In many instances, neither the state structure nor the LCY has been able to fashion a coalition in support of necessary measures, or when such a coalition has been established in theory it has disintegrated in practice. The Yugoslav system, like many politicized systems allowing for the expression of divergent economic interests, cannot easily formulate consistent economic policy measures in pursuit of the collective interest, when individual group interests are at stake.

Ironically, the very features of the Yugoslav institutional system that make policy coordination of economic activity so difficult are features that have contributed to the growing degree of stability and legitimacy that have characterized the LCY regime during the 1970s. The existence of a broad range of institutions for the expression of group interests has meant that the Yugoslav system can absorb conflicts of interest without such conflicts becoming a challenge to the current political leadership. The Yugoslav situation in this regard stands in stark contrast to the situation in the regimes of Eastern Europe where the very notion of divergent interests is unacceptable, and where the very expression of group interests is best interpreted as an attack on the political regime.

On balance, given the magnitude of the political and economic constraints confronting the Yugoslav leadership, the assessment of Yugoslav economic performance suggested by the analysis presented in this paper is a positive one. The Yugoslavs have made substantial progress in the modernization of their economy and in the process they have confronted the usual problems of development. Their policy solutions to these problems, though not always successful, have resulted in overall economic performance that has been at least as good as, and in some cases better than, the performance achieved in other middle income countries with market systems. Moreover, economic development has proceeded along with, rather than at the expense of, the system's legitimacy. The contemporary Yugoslav system is a stable one that enjoys widespread if begrudging support. Despite some misgivings about the chaotic and frequently changing features of economic and political institutions, most Yugoslavs support the principles on which their system rests. This support will be important during the coming few years when important economic choices will have to be made in a more constrained set of economic circumstances.

APPENDIX
BALANCE OF PAYMENTS¹
(In millions of dollars)

	1972		1973		1974		1975		1976		1977		* 1978	
	Inflow	Outflow	Inflow	Outflow	Inflow	Outflow	Inflow	Outflow	Inflow	Outflow	Inflow	Outflow	Inflow	Outflow
A. Goods and services	4,221	3,961	5,635	5,364	7,185	8,624	7,785	9,098	8,903	9,093	9,741	11,626	11,086	12,670
1. Exchange of goods (exports—f.o.b.; imports—c.i.f.)	2,237	3,233	2,853	4,511	3,805	7,520	4,072	7,697	4,878	7,367	5,254	9,634	5,671	9,988
2. Freight and insurance of goods	301	11	394	7	550	6	6 ^o	9	725	11	728	18	1,150	565
3. Other transportation	132	182	151	215	189	337	200	411	183	468	343	488		
4. Tourism ²	463	244	631	251	700	56	768	66	807	77	841	97	1,050	120
5. Interest	17	172	49	229	93	291	62	337	90	369	123	381	155	455
6. Other (including workers' remittances)	1,071	119	1,558	151	1,848	414	2,033	578	2,219	810	2,452	1,011	3,070	1,547
Balance in goods and services	+260		+271			-1,439		-1,313		-190		-1,88 ^o		-1,574
B. Transfers (grants)	192	33	248	34	277	21	308	27	385	20	333	30	350	32
Private (emigrants' remittances, pensions, etc.)	192	32	248	33	277	20	308	26	385	28	343	28	350	30
Government		1		1		1		1		1		2		2
Balance on current account (A+B)	+419		+485			-1,183		-1,032		+165		-1,582		-1,256
C. Financial transactions (net changes)	376		380		788		718		751		1,658		1,589	
7. Nonmonetary sectors	278		546		676		821		1,210		1,360		1,591	
Foreign borrowing	943	577	1,343	724	1,539	887	2,026	1,069	2,320	930	2,665	992	3,150	1,826
Foreign lending	63	105	75	131	85	200	90	190	110	210	265	478	289	394
Short-term credits (or transitional items)	3	49	203	220	402	263		216		80		100		128
8. Monetary sector	98			166	112			103		459	298			2
9. Allocation of SDR's	22													
D. Official foreign exchange reserves and IMF position (net changes)		530		620	399		296		991			173		333
Borrowing from IMF (net)	17			75	142		20		187			123		74
Foreign exchange reserves ⁴		547		545	257		276		1,178			50		259
Errors and omissions (net)		287		245		4	18		90		97			

¹ The table presents the full value of transactions with foreign countries regardless of the time of receipts and payments, using the national income accounting approach, rather than the flow of funds approach. Annual differences between the approaches may be significant. While it is possible to arrive at a reasonably precise total value of foreign exchange inflows and outflows, individual categories are subject to estimation and reporting errors and omissions. Traditional difficulties have been encountered in tracing financial gifts and remittances, tourist earnings and expenditures, and with the accuracy of reporting of interest receipts and expenditures (see footnote 4 in table 6.7) and capital flows. See also footnote to table 6.4 on conversion rates.

² Preliminary data.

³ Since 1974, outflows exclude foreign exchange withdrawn from the accounts of citizens, which is recorded in item 6 "other."

⁴ Outflow equals increase; inflow equals decrease.

Source: The National Bank of Yugoslavia.

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SELF-MANAGEMENT IN YUGOSLAVIA

By John H. Moore*

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In the quarter century following the adoption of workers' self-management, Yugoslavia emerged from the world's economic backwaters and rose to a position just short of the less developed West European states. Industrialization was at the heart of this transformation and its history is therefore important in its own right. Perhaps more significantly, that history reveals how workers' self-management operated in practice in Yugoslavia, which frequently was at odds with the theoretical performance of this unique system. Inevitably, the analysis turns to the role played by government. Government intervention caused important modifications in the performance of the self-management system. The economic and political characteristics of Yugoslav self-management in the course of industrialization are important for understanding and interpreting the past performance of self-management and in forecasting future developments in Yugoslavia.

ECONOMY AND STATE IN INDUSTRIALIZATION

At first, industrialization in Yugoslavia resembles industrialization in a number of other countries. For a country at Yugoslavia's initial level of development, the pace of growth was about what might be expected—perhaps not quite as rapid as Japan or Israel, but in the same range—when due allowance is made for measurement errors and methodological differences that inevitably blur international comparisons. The official Yugoslav index appears to overstate annual growth rates by a percentage point or so, at least in comparison with the indexes commonly used to measure growth in noncommunist countries, so comparisons based on the official index could mislead the observer about the relative pace of Yugoslav industrialization. According

*Law and Economic Center, University of Miami. This article is based on my book, *Growth with Self-Management: Yugoslav Industrialization, 1952-1975* (Stanford: Hoover Institution Press, 1980). I am grateful to the Hoover Institution for permission to use the materials from the book.

to sample indexes using conventional methodology, Yugoslav industrialization fits international patterns very well.¹

The pace of output growth, measured by standard index numbers, is only one dimension of industrialization. Growth in output is generally accompanied by changes in its composition. In Yugoslavia, there was substantial change in the structure of output, but, for the level of development at which the economy began, the change in structure was unremarkable. International comparisons of changes in output composition are difficult, but limited comparisons show that although output structure in Yugoslavia changed more than in such mature economies as West Germany and the United States, it shifted more or less to the same degree as Japan's.² Again, following a common pattern, Yugoslavia's industrial growth rate declined from early, higher levels.³

Sources of Growth

Published Yugoslav data are not adequate for sophisticated analyses of the sources of industrial growth.⁴ Much the same sources of growth as in other countries appear to have been responsible for the expansion of industrial output, although their relative importance cannot be determined with available data.

For example, the government's industrialization policy emphasized capital formation. If conceptual problems of measuring capital in a socialist economy and statistical shortcomings in the capital stock data available for Yugoslavia are disregarded, the rate of growth of reproducible capital in Yugoslav industry and mining averaged 9.3 percent per year during the period 1952-71. (The capital stock grew slightly faster in the Yugoslav economy as a whole than in the industrial sector alone.) To put this in perspective, during this same period the Japanese capital stock—for the whole economy—rose at an average annual rate of 9.9 percent.⁵ Denison and Chung attribute about a quarter of Japanese economic growth from 1953 to 1971 to capital growth,⁶ and Denison's estimates for the United States and Western Europe for 1950 to 1962 are, in most cases, in the same general range.⁷ It would be surprising to find the contribution of capital stock growth to Yugoslav industrial growth much outside this range.⁸

Second, from 1952 to 1971, labor employment in industry rose at the rapid average annual rate of 5.4 percent. This largely reflects the shift from the handicraft and agricultural sectors to the industrial sector that was a prominent characteristic of the transformation to a modern-

¹ See John H. Moore, "Industrial Production in Yugoslavia, 1952-75," in U.S., Joint Economic Committee, *East European Economics Post-Helsinki* (Washington, D.C.: Government Printing Office, 1977), pp. 497-501.

² See John H. Moore, *Growth with Self-Management: Yugoslav Industrialization, 1952-1975* (Stanford: Hoover Institution Press, 1980), Ch. 7 and Appendix E.

³ See Moore, "Industrial Production," pp. 496-7.

⁴ The following discussion is organized on lines developed by Edward F. Denison in his work on economic growth. See Denison, *Why Growth Rates Differ* (Washington, D.C.: Brookings Institution, 1969); and Denison and William K. Chung, *How Japan's Economy Grew So Fast* (Washington, D.C.: Brookings Institution, 1976). Denison's work concerns growth of the economy as a whole, of course, and not just the growth of the industrial sector upon which attention is focused in this study.

⁵ Denison and Chung, *Japan's Economy*, p. 33.

⁶ *Ibid.*, p. 46.

⁷ *Ibid.*, pp. 299-317.

⁸ Denison estimates much lower rates of growth for enterprise structures and equipment (the great bulk of the Yugoslav series for industrial capital) for the United States and Western Europe (see Denison, *Why Growth Rates Differ*, p. 139).

ized economy. Because of shortcomings in Yugoslav sources, employment data cannot be adjusted for changes in hours worked, education and training of the industrial labor force, and age-sex composition.

Partly because of these difficulties in refining measurements of capital and labor and partly because the determination of weights for them is fundamentally arbitrary in the Yugoslav system,⁹ reliable estimates of elements contributing to improved factor productivity cannot be made. Discussion of technological change, economies of scale, and improved management and organization therefore must be carried out in qualitative terms. A study by the Yugoslav economist Branko Horvat attributes about 40 percent of industrial growth between 1955 and 1967 to technological change,¹⁰ but his estimates are clearly overstatements and include economies of scale as well as improved technology. His estimates probably also subsume the impact of improved management practices and organization in industry. The importance of scale economies for industrial growth cannot be evaluated quantitatively, but analysis of likely bias in Horvat's estimating procedures leaves little doubt that they were important.¹¹

For Japan, advances in knowledge and economies of scale accounted for about 44 percent of growth in the economy as a whole from 1953 to 1961, and about 47 percent from 1961 to 1971, according to Denison and Chung;¹² a figure in that range would not be surprising for the Yugoslav industrial sector.

The Unique System

Both the industrial growth rate and the sources of that growth thus appear not greatly different from those observed in other countries, after due allowance is made for the focus in Yugoslavia on the industrial sector alone, the initial level of development, and the extent of change in the composition of output. What sets Yugoslav experience apart is the nature of the institutional framework, the only important system of workers' self-management in the world.

The system formally features decentralization of authority and responsibility. Through the system of workers' councils, the workers in principle control its operations—indeed, are legally responsible for maintaining the value of its capital. Through the political process, the workers, again in principle, exercise ultimate control over economic policy, including the formation of economic plans. The plans, though not legally binding on any enterprise or individual, define—in principle—development policy and crucial investment priorities. During the period covered by this study, reforms that formally advanced decentralization occurred. It is perhaps not an exaggeration to say that the decentralization of decisionmaking and its locus in the worker-members of an enterprise have been the major causes of interest in the Yugoslav economic system.¹³

⁹ Because the unique Yugoslav income distribution system renders meaningless the usual use of income shares as weights.

¹⁰ Branko Horvat, "Technički progres u Jugoslaviji," *Ekonomaska analiza* 3 (1969): 29-57.

¹¹ For details, see Moore, *Growth with Self-Management*, pp. 126-32.

¹² Denison and Chung, *Japan's Economy*, p. 48.

¹³ As examples, see Svetozar A. Pejovich, *The Market-Planned Economy of Yugoslavia* (Minneapolis: University of Minnesota Press, 1966); Deborah O. Milenkovitch, *Plan and Market in Yugoslav Economic Thought* (New Haven: Yale University Press, 1971); and Vinod Dubey, *Yugoslavia: Development with Decentralization* (Baltimore: Johns Hopkins University Press, 1975). Of course, decentralization has not been the exclusive object of Western scholars' attention. In particular, much effort has been devoted to analyzing the implications of the system of property rights in the self-management system.

Yet it is easy to overstate the degree of actual decentralization in the Yugoslav economy. Despite de jure decentralization, the central government and the communist party have retained control of the economy, not only through aggregate economic policy, but also through a variety of channels reaching to the enterprises. As in any one-party communist state, the Yugoslav League of Communists is an elite party that maintains full control of the political process;¹⁴ the political turmoil of the late sixties was largely (although not entirely) an interne-cine affair. Given this setting, the political influence of nonparty workers could not have been strong.

Control of developments in the economy was exercised in a variety of ways and can be illustrated by a few examples. The government controlled industrialization policy—which it could not renounce in view of the tenuous position of Yugoslavia between East and West—largely by controlling investment volume and allocation. Before the reforms of the mid-sixties, allocative control was exercised through centralized investment funds; after that time, it appears that the banks took over the role previously played by the funds. Nominally independent, the banks were subject to central influence and control through the presence of government representatives on the banks' governing bodies, through the control of the National Bank over the policies of the commercial banks, and doubtlessly through the government's informal power to influence the selection and dismissal of bank directors. The level of investment was effectively determined by taxation of enterprise income, which set the level of savings. Taxation also served as a means of limiting enterprise autonomy because the actual tax rates often were so high that enterprises had little discretionary income remaining after payment of taxes, obligatory contributions, and mandated payments to various funds.

The depth to which workers' earnings were cut to finance investment in Yugoslavia can be appreciated by a comparison with corresponding U.S. data, although differences in national income accounting methods make precise comparisons impossible and peculiarities in Yugoslav procedures preclude comparisons based on industry alone. In 1965, disposable personal incomes in the United States were 69.1 percent of GNP.¹⁵ For Yugoslavia, something approximating the U.S. concept of gross national product may be obtained by adding gross investment to total consumption funds (including personal and "social" consumption). In 1966, total consumption was 60.8 percent and personal consumption 52.2 percent of this sum.¹⁶ Direct wage payments (personal incomes, in Yugoslav parlance) in industry amounted to just 36.2 percent of national income produced in this sector.¹⁷ Tax constraints on enterprise wage decisions were effective; when constraints were temporarily relaxed after the 1965 reform, wage payments increased sharply.¹⁸

¹⁴ Richard F. Staar, *The Communist Regimes in Eastern Europe*, rev. ed. (Stanford: Hoover Institution Press, 1971), pp. 200–205.

¹⁵ U.S. Bureau of the Census, *Statistical Abstract of the United States, 1974*, 95th ed. (Washington, D.C.: Government Printing Office, 1974), p. 377.

¹⁶ From SZS, *Privredni bilans Jugoslavije 1965–1966* (Belgrade: SZS, 1968), fig. facing p. 10.

¹⁷ SZS, *Statistički godišnjak SFRJ 1970* (Belgrade: SZS, 1970), p. 106.

¹⁸ Between 1965 and 1966, net personal incomes as a percentage of social product in industry rose from 27.9 to 32.7 percent (calculated from SZS, *Statistički godišnjak SFRJ 1968* (Belgrade: SZS, 1968), p. 111). Later in the decade, when central control was reasserted, the percentage declined again.

Even in Japan, with its high rate of capital formation, it is doubtful that net labor incomes occupied such a small share of national product. Although labor earnings in Japan were at the low end of the scale established in the United States and Western Europe, they were not dramatically different from those in other countries.¹⁹ The main difference between Japan and Yugoslavia in financing investment was that in Japan investment was financed nearly equally by corporate retained earnings and voluntary private savings; ²⁰ about three-fourths of Yugoslavia's came from taxation of enterprise income.

Yugoslavia's central government also exercised control over the economy and its enterprises by intervening in the domestic and foreign trade markets. Price and foreign exchange controls played important roles in the execution of industrialization policy. Ostensibly designed to foster development by encouraging production of highly fabricated goods in favored industrial branches, these controls necessarily functioned by conditioning the incentive structures that enterprise management faced. In that respect, they constituted a form of indirect control of the enterprises.

Besides these central controls resulting from conscious government policy, it is important to note a characteristic of self-management that gives the central government a natural lever for controlling enterprises. Yugoslav industrial enterprises typically are large.²¹ In organizations of such size, the extent of actual influence exercised by rank-and-file workers is limited by a host of factors familiar from analysis of bureaucratic behavior, including the cost of information, the probability of affecting decisions in a large group, the costs of monitoring managerial behavior, and free rider problems. The costs of obtaining information about external business conditions and the operations of all parts of the enterprise are much smaller for an enterprise director than for anyone else in the organization. He also enjoys advantages in making positions on enterprise policy credible. The director thus can dominate enterprise decisions, especially those concerning business policy—investment, pricing, and product lines. Possibly as a result of this and possibly because of the more immediate impact on workers, rank-and-file workers apparently exert relatively more influence over decisions regarding working conditions and, to a lesser extent, wage payments than they do over broader business policy decisions.²² Normally, then, the director of any reasonably good sized enterprise, aided by his staff, is the dominant figure in key facets of enterprise decision making.

The director's dominance in these aspects of enterprise policy gives the central authorities an obvious opportunity. Private alternatives to employment in the socialized sector of the one-party state are open to managerial personnel only at substantial opportunity cost. The political authorities are therefore in excellent position to control enterprise directors and, thereby, the activities of the enterprises. The authorities,

¹⁹ Denison and Chung, *Japan's Economy*, p. 30.

²⁰ *Ibid.*, p. 68.

²¹ In 1974, for example, 68 percent of Yugoslav industrial workers were employed in enterprises with 500 or more members (SZS, *Industrijske organizacije 1974*, Statistički bilten, no. 955 (Belgrade: SZS, 1975), p. 35).

²² See Josip Obradovic, *Workers' Participation in Yugoslavia: Theory and Research*, University of South Carolina, Institute of International Studies, Occasional Paper (Columbia: Institute of International Studies, n.d.).

seeking high investment rates, can control the aggregate real wage level to produce the desired level of savings by manipulating tax rates. These rates may be so high that the director's ability to decide on the allocation of net income is closely constrained. If so, there is no need for the central authorities to interfere with relative wages or micro-economic wage policy in general. The very aspects of enterprise decision making in which directors would tend to have most independence are those which the central authorities have the strongest interest in controlling. It would be most surprising if the government failed to avail itself of these opportunities for control; indeed, it would be surprising if this aspect of workers' self-management, of all the unknowns facing the party in 1950, did not receive careful consideration before the decision to adopt this revolutionary economic system.

The Yugoslav economic system is, in fact, thoroughly politicized, a natural occurrence in a communist state with an elite party. The adoption of self-management was motivated in large measure by political considerations, especially the ideological claims that could be made for the system.²³ It is reasonable to believe that economic policy has been more strongly influenced by political factors than in other countries. Certainly the regional policy was undertaken largely because of political considerations. Enterprises are more likely to be the creations of government units, which inevitably retain interest in them, than they are to be formed by groups of private individuals because enterprise founders renounce their rights to the initial capital of the enterprise when it is formed. The politicization of the Yugoslav economy is also exemplified by the important role played by government officials in the execution of bank policy. More examples could be given, but it should be clear that economic policy from the very outset of the self-management period—and even before, when one objective of Yugoslav economic policy was to demonstrate loyalty to Stalin—was dictated to an important degree by political considerations.

Industrialization and the State

The retention of centralized control and politicization of the economy strengthen the view that in Yugoslavia, as in other communist states, industrialization was primarily a creation of the state, not the result of individual choice. It seems clear that investment rates were higher than they would have been if freely chosen by Yugoslav citizens, both from the very low share that wages were of national product and from behavior when controls were briefly relaxed.²⁴ The pattern

²³ See Milovan Djilas, *The Unperfect Society: Beyond the New Class* (New York: Harcourt, Brace & World, 1964), pp. 220–23 for an account for the motivations behind the adoption of self-management.

²⁴ Indeed, were it not for the role played by the government, the high investment rate would appear paradoxical. According to the theory of the self-managed firm, there are disincentives for reinvesting net income in the enterprise. Workers do not have individual claims on enterprise capital, but do have rights in personal savings accounts. As a result, there is a wedge between the interest rate of savings accounts and anticipated returns to investment in the enterprise that implies a higher rate of payout of enterprise net income than would be the case if workers retained claims on enterprise capital (Eirik G. Furubotn and Svetozar A. Pejovich, "Property Rights and the Behavior of the Firm in a Socialist State: The Example of Yugoslavia," *Zeitschrift für Nationalökonomie* 30 [1970]: 431–54). By itself, this does not imply a lower aggregate rate of savings or investment since savings banks could loan their deposits to enterprises for investment; the aggregate investment rate then would depend on the level of voluntary savings and the behavior of socialist banks. The system would tend to be characterized by highly levered enterprise capital structures, and this would depress investment levels if banks behaved like risk-average profit maximizers. It is not clear, however, how socialist banks would behave in such circumstances.

of development was probably different than it would have been in the absence of central control of investment fund allocation, price controls, and foreign exchange intervention.²⁵ Industrial development was also stimulated, perhaps inadvertently, by the state's policy of limiting opportunities in agriculture. Specifically, opportunities in private agriculture were restricted for ideological and political reasons, with the result that rural dwellers found industrial employment relatively more attractive than it would have otherwise been.

These factors support the view that the industrialization policy amounted to a Yugoslav version of forced-draft industrialization. The coercive nature of investment finance is perhaps the dominant feature of Yugoslav industrialization, a feature that distinguishes Yugoslav from Japanese development. In Japan, the savings rate was controlled by individual choices. High capital formation rates resulted from a combination of factors: a high growth rate of output with which to finance savings, falling relative prices of capital goods, and a high and rising rate of private savings, both individual and corporate.²⁶ Indeed, in contrast to the heavy taxation in Yugoslavia that was the prime source of investment finance, in Japan tax rates were kept low.²⁷ Yugoslav policy did not entail the Draconian labor mobilization measures familiar in Stalinist forced-draft industrialization, but rapid mobilization of resources that were believed to be potential contributors to industrial growth was certainly at its core.

There were, naturally, some distinctly Yugoslav characteristics in this version of industrialization. It was implemented under the banner of workers' self-management in the aftermath of the war, and the authorities were able to use the pioneering nature of the new system as well as Yugoslavia's precarious international position and postwar patriotic feelings to justify the sacrifices imposed on the population. Local decision making, even on matters of lesser import than those of real interest to economic policy, provided a safety valve for the pressures generated by forced-draft industrialization.

Furthermore, to a certain extent the tax system masked the real burden of taxation. Personal income taxes were kept low; just as the withholding tax makes tax burdens appear lighter than they actually are, the Yugoslav practice of taxing enterprise income before the wage determination process begins conceals the real tax burden, at least for a while.

But none of these factors is durable. Emotions cool, and people learn to penetrate the tax structure and see the real costs imposed on them. By the end of the first twenty years of self-management, strains that presaged difficulties for the future of industrialization in Yugoslavia began to appear.

²⁵ Although, ironically enough, the policy carried out, in the relative emphasis on the branches of industry, was not much different from that suggested by the plans laid down during the war by the government-in-exile (see Nicholas Mirkovich, ed., *Yugoslav Postwar Reconstruction Papers*, 4 vols., mimeographed [New York: Yugoslavia, Office of Reconstruction and Economic Affairs, 1942-43]).

²⁶ Denison and Chung, *Japan's Economy*, chap. 7.

²⁷ *Ibid.*, p. 75.

FUTURE INDUSTRIAL GROWTH

As early as 1962, signs of slackening in the pace of industrial growth can be perceived. Through the middle part of the sixties, with the economic reforms and the political developments of that period, growth was erratic, and retardation more marked. This was a time of some genuine devolution of authority to the enterprises, of greater discretion for decisions about disposal of net income and other aspects of enterprise operations. By the beginning of the seventies, central authority had been reasserted, and earlier investment levels more or less reattained. Through the middle of the past decade, growth was steadier than during the unsettled reform period, but at a lower pace. But regional development policy was a serious disappointment, and the experience with genuine decentralization indicated that the rate of investment desired by the people was lower than that enforced by the growth-minded government. More serious, perhaps, were the signs of political unrest manifested in recrudescent Croatian nationalism, the revelation of the existence of splinter communist groups, and the growing independence of republic governments. The immediate problem was resolved in the usual communist way, by a purge of dissidents and independently inclined politicians.

These political difficulties underline the fact that communism *per se* has been no more able to unite the peoples of Yugoslavia than any other government. Tito's charisma and the chauvinism inspired by the war helped to prevent the country's disintegration for a period of over thirty years, by Yugoslav standards a long time. But neither is eternal, and political uncertainties cloud any forecast for Yugoslavia.

Economic Factors and Future Industrial Growth

Industrial employment.—The growth rate of industrial employment began to slow in the sixties. Continuation of the downward trend must be expected for demographic and other reasons. The pace of qualitative change in the labor force—the growth rate of human capital—must be expected to slow, on average, in the future. The implications of these facts transcend the obvious point that the growth rate of labor input to industry will be lower than during the period studied here. They further affect the efficacy of continued capital stock growth as a source of maintaining industrial expansion.

The most reliable estimates of Yugoslav population growth rates to the end of the century predict substantially slower growth than that of the quarter century beginning in 1950. During the earlier period, the average annual population growth rate was 1.08 per cent; the U.S. Department of Commerce estimates that the average annual rate of population growth from 1975 to 2000 will fall between a minimum of 0.58 and a maximum of 1.03 per cent. The Commerce Department's so-called medium projection gives an average annual rate of 0.81 per cent, and its estimate based on assuming a constant fertility rate equal to that of 1974 is 0.80 per cent.²⁸ The pool from which

²⁸ U.S. Department of Commerce, *Projections of the Populations of the Communist Countries of Eastern Europe, by Age and Sex: 1975 to 2000* (Washington, D.C.: Government Printing Office, 1976), pp. 28-29.

industrial labor will be drawn in the future seems almost certain to widen more slowly than in the past.

Postwar Yugoslav success in raising schooling levels has diminished the likelihood of increasing the human capital embodied in the slower growing population. According to official Yugoslav data, illiteracy, widespread before the war, was dramatically reduced by the end of the 1970s.²⁹ Years of schooling rose rapidly.³⁰ Opportunities for improved education (especially in the broad sense of the term) still exist in Yugoslavia, and human capital should continue to grow in the future. Whether improvement on a mass scale can continue at the same rate as in the postwar quarter century is conjectural, however. It may be that the rapid gains are now largely exhausted; if so, one of the sources of above-average growth in output is also exhausted.

Industrial sector employment grew faster than the population as a whole during the 30 years after the war, and it could do so again. There are systemic and circumstantial factors, however, suggesting that the slower population growth will be reflected in slower industrial employment growth.

Theoretically, there are disincentives to expansion of membership in a self-managed enterprise even when demand for its product grows.³¹ If so, expansion of industrial employment must in large measure result from the creation of new enterprises. Private incentives to form new enterprises are blunted by the rules governing their formation, in particular the fact that founders do not retain individual rights to the capital that they invest in the enterprise. Government units, then, should be expected to play a disproportionately important role in forming new enterprises. Government authorities will make decisions about forming new enterprises in response to a variety of political motives, differing from those in a capitalist free market system. Hence the enterprises created will not be the same in either line of business or size of operation as privately financed, for-profit firms formed in a capitalist system confronting the same demand conditions.

In short, the relative importance of the government in establishing new enterprises will cause inefficiencies in the number, size, and mix of enterprises. Thus even if government units formed enterprises at a rate that maintained earlier growth rates of industrial employment, the labor involved would be inefficiently employed. Yugoslav history is replete with examples of this problem. To the extent that government intervention offsets private disincentives to employment expansion, the resulting employment growth will be partly illusory because of these inefficiencies.

²⁹ In 1931, the illiteracy rate in the population as a whole was 44.6 percent. By 1971 this figure was reduced to 15.1 percent (see SZS, *Statistički godišnjak FNRJ 1958* [Belgrade: SZS, 1958], p. 80; and *idem*, *Statistički godišnjak SFRJ 1973* [Belgrade: SZS, 1973], p. 84.)

³⁰ In 1953, 35.5 percent of the economically active population had either no schooling (26.6 percent) or had completed less than four years (8.9 percent). In 1971, the corresponding total was 16.8 percent. In 1953, only 3.9 percent of the same group had completed the last seven to eight years of schooling; in 1971, this figure was 13.4 percent. (Data from SZS, *Popis stanovništva 1953* [Belgrade: SZS, 1959], 3: 76-77; and *idem*, *Popis stanovništva 1971* [Belgrade: SZS, 1974], 2: 84.)

³¹ This is a commonplace in the literature about the self-managed enterprise. For a penetrating analysis, see Eirik G. Furubotn, "The Long-Run Analysis of the Labor-Managed Firm: An Alternative Explanation," *American Economic Review* 66 (1976), especially pp. 10-8.

There is a further problem. The agricultural sector is commonly an important source of growth in the labor force in the course of development. In Japan, for example, the agricultural labor force fell by nearly one half between 1953 and 1971; it constituted 35.6 percent of total employment in 1953, but only 14.6 percent in 1971.³² Even so, Denison and Chung argue that in Japan the contribution to growth resulting from the reallocation of labor from inefficiently scaled agricultural operations to other, more efficient, employment was limited by remaining overallocations to the agricultural sector.³³

Industrialization in Yugoslavia coincided with a substantial decline in agricultural employment, but the decline was much less dramatic than in Japan.³⁴ At the beginning of the self-management period, agricultural employment (including fishing and forestry) was relatively more important than it was in Japan at the same time, and occupying over 5 million people, or nearly two-thirds of all economically active persons in 1953.³⁵ In the following eighteen years, there was a net reduction of about 1.3 million in the number of economically active persons employed in agriculture, leaving agriculture with about 45 percent of the economically active population. Between 1953 and 1971 Japanese agricultural employment fell at an average annual rate of about 3.3 percent; for that period the Yugoslav rate was 1.2 percent.³⁶

The slower decline in the Yugoslav agricultural sector may partly reflect slow-dying peasant resistance to change. From an economic point of view, however, the most significant characteristic of the Yugoslav agricultural sector is its structure of property rights. The near catastrophic attempt at collectivizing agriculture during the late forties left the government little choice but to sanction private enterprise in agriculture. Despite the fact that the social sector of agriculture was the beneficiary of the vast bulk of centralized agricultural investment,³⁷ in 1970 more than two-thirds of total farmland was in the private sector.³⁸ But ideology and inheritance customs in the countryside have caused the private holdings to be uneconomically small; private landholdings are limited by law (in the case of farmland) to ten hectares, and the average size in 1970 of private farms was 3.9 hectares, a fact attributed by the World Bank to the tendency of farms to be divided in intergenerational transfers.³⁹

Agricultural productivity is surely lower than it would be with larger-scale operations, and it can hardly be doubted that total output could be higher if there were less employment in agriculture and more in other sectors of the economy. For industry, however, the pertinent fact is that the slow and decelerating movement of labor out of agriculture restricts employment growth.

The policy options available to the government for ameliorating this situation do not cause optimism. The earlier experience with collectivization and internal political problems probably rule out attempts

³² Denison and Chung, *Japan's Economy*, pp. 23, 85.

³³ *Ibid.*, pp. 85-86.

³⁴ See Moore, *Growth with Self-Management*, pp. 23-25, for additional details.

³⁵ *Ibid.*, Table 3, p. 25.

³⁶ Calculated from *Ibid.*, p. 25, and Denison and Chung, *Japan's Economy*, p. 23.

³⁷ According to the World Bank study, "almost all the investment on the peasant farms was from their own savings." (Vinod Dubey, *Yugoslavia*, p. 154.)

³⁸ *Ibid.*

³⁹ *Ibid.*

to achieve scale economies and more rapid decline of agricultural employment by authoritarian fiat. The state can establish more labor-managed agricultural enterprises, but it still must attract peasants to the collectives from their private holdings. That option has been open in industry for many years, and the peasants have not responded. Nor have they moved to existing labor-managed agricultural enterprises. The latter may be more appealing than industrial enterprises to farm-bred peasants, but the difference in ownership rights evidently discourages membership in either. It is easy to suggest that removing or relaxing restrictions on private landholdings would relieve the agricultural problem, but probably incorrect. The peasants have continued to subdivide existing land in private ownership, and it is doubtful that allowing larger plots would result in important changes in tenure.

The path to improvement may well lie in an entirely different direction: relaxing restrictions on private enterprise outside the agricultural sector. At present, private enterprise is closely constrained by rules limiting the number of hired workers that a private enterprise may employ. Among other things, by restricting private opportunities in this way the government has lowered the (opportunity) cost to peasants of remaining on their tiny land holdings. The peasants have demonstrated that to them the value of the alternatives open in agricultural, industrial, and other self-managed enterprises is lower than the value they place on returns open in private agriculture. The solution is to raise the value of the alternatives, and one way to do this is to make the nonagricultural private sector more attractive. That this will happen is, of course, highly unlikely; by permitting individuals to hire any workers at all, the Yugoslavs are already skating on thin ideological ice.

Capital growth.—As the growth rate of industrial employment declines, continuation of the same growth rate of capital implies an eventual reduction in productivity if no technological change occurs and human capital grows no faster than employment.⁴⁰ In a free market economy, this would cause a reduction in the rate of investment and a decline in the rate of growth of output as the growth rate of the capital stock slowed.⁴¹ In a socialist system, there is no automatic mechanism to cause a slowing in the investment rate since the central authorities can, within broad limits, determine the rate. Political groups dissatisfied with the high level of forced savings might create pressure to reduce investment rates. But whether they would do so or would be successful is beyond the scope of economic analysis.

More importantly, in a wide variety of circumstances continuing capital stock growth at a rate in excess of the labor growth rate—assuming, still, that technological change and other factors potentially contributing to increased factor productivity are inactive—will result in a reduction in the output growth rate.⁴² It is not known whether

⁴⁰ Technically, this statement is correct if the industrial sector production function is homothetic and the rate of capital growth exceeds the rate of labor growth, assuming no shifts in the production function such as could arise with technological change. See also Gary S. Becker, *Economic Theory* (New York: Alfred A. Knopf, 1971), pp. 202-4.

⁴¹ *Ibid.*

⁴² Specifically, if the elasticity of substitution between capital and labor is less than unity, unequal rates of growth of factors will result in a reduction in the growth rate of output (see Martin L. Weitzman, "Soviet Postwar Economic Growth and Capital-Labor Substitution," *American Economic Review* 60 [1970]: 679).

the technical conditions that cause this slowing of output growth, given unequal factor growth rates, exist in the Yugoslav industrial sector;⁴³ hence, no firm conclusion can be reached about the slackening pace of growth. The anticipated slowing in the growth rate of industrial labor, however, will have a greater impact quantitatively. The retardation of output growth during the late sixties, when capital was growing substantially more rapidly than labor, is at least superficially consistent with this interpretation.

Other factors.—The conclusion so far is that continuing the earlier performance in creating sheer physical output rests largely on improving factor productivity through technological change, exploitation of scale economies, and raising the growth rate of human capital. These are highly speculative matters, but consideration of them leads to the conclusion that they are unlikely to cause unusually rapid growth.

Countries with backward economies can for a time reap gains from technological advances made earlier by industrialized countries. By adopting production processes, by purchasing or copying capital goods that embody modern technology, and by utilizing management and organizational principles proved efficient elsewhere, countries embarking on industrialization can take advantage of knowledge developed elsewhere to achieve extraordinary output growth.

But this source of growth is necessarily temporary. It is part of a catching-up process. Once a country has caught up, the opportunities for unusual growth stemming from this source no longer exist. Thereafter, technological advance is limited by the general pace of the progress of knowledge worldwide and by the capacities and behavior of the country itself. Yugoslavs are no less intelligent or inventive than any other group, and, with the appropriate incentives, a normal rate of technological progress could be expected. Certainly there has been innovation and invention in the Yugoslav economy, and the importance placed on them by the government is reflected in the fact that individuals may, with restrictions, retain property rights in inventions. But the state retains the right of first purchase, which attenuates incentives to innovate, and, as has been emphasized, the incentives to form new enterprises to exploit inventions are weak. The definition of property rights under workers' self-management seems likely to dampen future indigenous technological development.

The economic system may also retard advances due to adoption of business practices and management methods found effective elsewhere. This source of growth has apparently been important in other places, notably Japan.⁴⁴ It is not unavailable to the Yugoslavs, of course, nor has it been unavailed of; systems analysis, computerization, and the rest of the apparatus of modern business management are much in evidence, even to the casual observer. Yet the application of all of this must take place within the framework of workers' self-management, and the system creates obstacles to the most effective use of modern techniques.

Moreover, the efficiency of the capitalist free market system rests in large measure on its particular incentive system—most importantly, in this context, on the incentives facing an owner who has a claim on

⁴³ That is, it is not known whether the elasticity of substitution is less than 1.0 because the necessary statistical estimates have never been made.

⁴⁴ See Denison and Chung, *Japan's Economy*, pp. 51, 78–83.

the residual income of a firm.⁴⁵ Even in the theoretical self-managed system, these incentives are weakened by the system of property rights; in the actual politicized system of Yugoslavia, they must be weaker still.

Scale economies are another source of unusually rapid growth in output. Like technological change, however, this source will probably not result in further extraordinary gains in output. Future exploitation of scale economies will rest not on the large investments in energy production and metallurgical and other heavy industries that have already been made, but on new opportunities that arise from the development of new industries and adoption of new technology. In this respect, scale economies as a source of rapid growth are linked to and limited by the pace of technological advance.

Here the self-management system, particularly in Yugoslavia, creates special problems. The incentive structure tends to restrict the size of enterprises because of the disincentive to accept new members. This implication of property rights is compounded by the role of government in forming new enterprises; the system in Yugoslavia tends to proliferate smaller enterprises, partly because of the importance of political considerations in decisions to found enterprises.⁴⁶ The Yugoslav regional rivalries that seem an ineradicable feature of the polity intensify this problem. Potential for a one-time surge in output may exist in remedying the uneconomical scale of industrial operations, but would require truly revolutionary change.

Finally, two external factors have been important in Yugoslav industrialization. For many years, Yugoslavia ran a large and persistent deficit in its balance on current account. This deficit and the problem of dealing with it were sources of concern to many Yugoslav economists, but few noticed that it represented an important source of finance for economic development. In effect, Yugoslavia was able to borrow abroad through the importation of capital and other goods. The deficit itself should not have been an object of concern. Reliance on it over long periods of time, however, would be. If foreigners become less willing to underwrite Yugoslav imports, the burden of financing development will rise.

Much more attention has been focused on the second external factor: the phenomenon of the *gastarbeiter*, or foreign workers. Before the reforms of the 1960s, Yugoslavs were effectively cut off from foreign employment. The reforms brought a relaxation of the barriers against foreign employment, and a movement began that reached massive proportions by the mid-seventies. By 1971, almost 600,000 Yugoslavs were working abroad. According to the 1971 census, there were some 4.4 million employees and supervisory personnel in 1971; hence, the *gastarbeiter* represented well over 10 percent of Yugoslavs falling in this category.⁴⁷

The phenomenon of foreign employment had wide-ranging ramifications. There can be no doubt that the experience of living in Western

⁴⁵ For an excellent exposition, see Armen A. Alchian and Harold Demsetz, "Production, Information Costs, and Economic Organization," *American Economic Review* 62 (1972): 777-95.

⁴⁶ See Moore, *Growth with Self-Management*, Chapter 9.

⁴⁷ SZS, *Statistički godišnjak SFRJ 1972* (Belgrade: SZS, 1972), p. 79. The Yugoslavs working abroad were accompanied by almost 90,000 dependents; so the total number of Yugoslavs living outside the country was over 660,000.

Europe has profoundly affected the social and political attitudes of hundreds of thousands of Yugoslavs. The implications of those changes may be the most important effect of *gastarbeiter* emigration.⁴⁸ Economically, there were important consequences. First, the emigration eased domestic unemployment problems.⁴⁹ Second, remittances from workers abroad were an important factor in the Yugoslav balance of payments and contributed to more favorable terms of trade, thereby augmenting the effect of the balance of payments deficit on financing industrialization.

But the economic benefits of foreign employment are even more dubious than those of the balance of payments deficit. Employment security for most of the workers is practically nil; serious economic setbacks in Western Europe almost surely would affect the employment of foreigners first. It is impossible to predict how many Yugoslavs would lose their foreign jobs in the event of a West European recession or to know what proportion would return home. But a substantial return would simultaneously worsen currency problems and exacerbate the persistent domestic unemployment. The future of industry and the economy as a whole is haunted by the specter of the hundreds of thousands of workers now abroad.

CONCLUSION

With the reservations appropriate to forecasting in mind, it seems likely that Yugoslav industrial output will grow at progressively declining rates in the future. Some of the causes—notably demographic—are not amenable to substantial change by government policy actions. Others seemingly leave the leadership with only a Hobson's choice as far as industrial growth is concerned. One alternative is to liberalize the economic system in important, perhaps fundamental ways. The reforms necessary to this course involve strengthening the private sector and private initiatives in general. Liberalizing the laws governing ownership of land, the size of private firms, the right of enterprise founders to capital, and the rights of enterprise members to own productive capital all fall under this rubric. Unfortunately, this amounts to abandoning some of the central tenets of workers' self-management as it has been practiced in Yugoslavia, a truly revolutionary step, not to be expected.

A Draconian repression in the system might produce temporary respite from growth retardation. Eliminating the private sector in agriculture, substituting some form of state-run agricultural organization, and directly channeling more labor to the industrial sector might be undertaken. The history of the collectivization attempt and internal political problems indicate that this is an unlikely course, at least without the active support of an outside power. It would constitute a revolution from above, one that would almost certainly provoke a counter-revolution that would have to be extinguished.

⁴⁸ For a recent discussion, see Dusko Doder, *The Yugoslavs* (New York: Random House, 1978), especially chap. 5.

⁴⁹ Unemployment remained a serious problem throughout the sixties. In 1968, the number of persons seeking employment reached almost 330,000; in 1971, it was about 290,000 (SZS, *Statistički godišnjak SFRJ 1972*, p. 99), or nearly 5 percent of the economically active nonagricultural population (*ibid.*, p. 79). These data are based on registrations at employment bureaus and probably understate the actual levels of unemployment.

If neither of these drastic courses of policy is elected, the future for industrialization seems likely to contain more deceleration of output growth and continued tinkering with the system. Even this unsurprising conclusion must be qualified because of uncertainties about political developments. The jealousies, antagonisms, ethnic differences, and other sources of discord in Yugoslavia will likely continue. No durable stabilization has taken place. Prewar Yugoslavia lasted for twenty years and might have gone on longer except for the intervention of the war. Tito's Yugoslavia has lasted a decade longer than that; how long it will survive him is a question that his surprisingly longevity has made banal, even though it defines the central political issues in Yugoslavia's future. When the government changes, internal and external forces will be thrown into a struggle whose outcome could dramatically change the face of the country.

ROMANIA

ROMANIA'S ECONOMY AT THE END OF THE 1970's: TURNING THE CORNER ON INTENSIVE DEVELOPMENTS

By Marvin R. Jackson*

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*Professor of economics, Arizona State University. The author wishes to acknowledge the financial assistance provided for the research underlying this paper by the National Science Foundation, Grant No. INT-76-21084.

I. INTRODUCTION

This paper follows the author's paper on Romania in the 1977 Joint Economic Committee Papers on East European Economies. Its narrow purpose is an extension of the analysis of Romania's economy through three additional years of rapid growth and development. But the real difference in this paper is its virtual neglect of formal organization and policy announcements, in part because they seem not to have changed in substance. Emphasis is given, instead, to quantitative description and relationships. Romania in the 1970's needs to be explained in two ways. First, how did it manage to grow so rapidly from 1970 to 1978? Second, why has its rate of industrial growth slowed down in 1978 and 1979, and does this represent a temporary pause or a permanent trend? In order to answer these questions, the paper is extended in two dimensions. First, an effort is made to inform the reader about the abundant defects and lacunae of published Romanian statistics. They are reviewed in a concentrated dose at the beginning of the following section and then detailed throughout the paper, when, as happens so often, they fail to explain a critical aspect of Romanian development. Both the poor state of Romania's published statistics and the fact that Romanian economists so rarely expose to foreign eyes solid empirical analysis of their economy are the author's principal excuse for the length of the paper. They are also good reasons for the paper's second extra dimension. One country's special characteristics tend to get lost in its own detail, the more so when the details are of poor quality, as in the Romanian case. A cure for this problem is comparative analysis, especially if the comparison is between two countries having shared the same general development processes.

In this paper, Romania is often compared to Bulgaria. They share many features, past and present. What the present paper does is emphasize, but not always explain their differences. From the comparison, which draws abundantly from the author's companion paper on Bulgaria, both acquire an individual character that goes beyond their too often common fate of being described as the two former agrarian economies that since 1950, under socialist governments, have led Eastern Europe in overall economic growth and industrialization, but which have differed mainly in foreign trade orientation.

To assist the reader who may not wish to read through the whole text, the following summary highlights major points developed in each section of the paper.

II. The measurement of economic change in Romania

A. Following a review of recent changes in the availability of published Romanian statistics, it is suggested that the record, on balance, may have become worse since 1965.

B. Growth indices of value added by sectors differ only slightly between official NMP data and American estimates of Romanian GNP from 1975 to 1978. The net material product (NMP) index shows growth slowing from 1971-75 to 1976-79 because it puts a heavy weight on industry. The GNP index shows growth constant from 1971-75 to 1976-79 because it puts a heavy weight on agriculture.

C. Index number problems in the Romanian NMP index are illustrated by comparing growth for the period, 1950 to 1959, in 1955 prices

with the official indices in 1950 prices. Growth is more rapid with the latter because: (1) industry receives a higher weight; and (2) its index grows faster. Measurement problems are difficult to avoid, in any case, because industry grew over 11 times more than agriculture from 1950 to 1978, while agricultural prices rose nearly five times compared to industry prices.

D. Bulgarian and Romanian growth patterns differ when measured by official NMP indices and GNP indices. In the former, Romanian growth does not fall behind Bulgarian growth from 1950 to 1960 as it does in the latter. The conflict is shown to be the result of Romania's use of early year price weights and is resolved when its growth is measured in 1955 prices, more comparable to Bulgaria's use of 1957 prices.

III. Plans and performance, 1975 to 1980

A. Romania's recent change from measurements in 1963 prices to 1977 prices has complicated the comparison of plans and performance.

B. Even though the original plan was revised upward in 1977, growth obtained by 1979 for most plan indices was below original plan targets. Performance compared to plan has been especially poor in the cases of housing and foreign trade.

C. In 1978 and 1979, gross industrial output grew less than 10 percent for the first time since 1956. In 1979 NMP grew more slowly than it had since 1961. Although Romania's performance was good by the standard of what was happening in other countries, it was poor by past Romanian standards.

D. A slower growth of all sectors has been projected in preliminary plans for 1981-85, suggesting that the outlook of Romanian leaders and planners is for a more or less permanent reduction in growth compared to the 1970's.

IV. Labor resources in industry and agriculture

A. A major difference in the patterns of Romanian and Bulgarian growth is that Bulgaria increased its industrial labor much faster from 1950 to 1960. Bulgaria's advantage was derived from faster industrial capital growth (although total capital grew at similar rates in both countries) and slower growth of capital/labor ratios in industry until 1960. From 1960 to 1970, patterns were more similar in both countries. Then, from 1970 on, Romanian capital and labor in industry grew much faster than in Bulgaria.

B. As a result of very rapid absorption of agricultural labor into the industrial labor force, Romania is on the edge of exhausting its reserves. Growth now depends on moving female labor in agriculture to industry.

C. Growth targets for total employees, female employees and industrial employees for 1980 will not be met. It is uncertain whether this indicates a tightening of labor supplies or a slowdown in new job creation.

V. Consumption standards and incomes policies

A. Romanian consumption standards fell behind those of Bulgaria from 1950 to 1965 and remained at the 1965 comparative level until 1975 before starting to rise. A similar pattern is shown by the growth

rates of real final incomes (disposable incomes) per capita in the two countries. However, Romanian wage earners did relatively better, while Romanian peasants did relatively more poorly.

B. Income for a peasant fully employed in farm work in Romania in 1965 and 1970 was only about 45 percent of average wages. By 1975 it has increased to 60–65 percent and have not increased since. Plans for 1985 suggest no further increases. On a real income basis, the relative improvement has been less.

C. Recent consumer price changes in Romania and Bulgaria have been of virtually the same dimension and the same pattern among products.

VI. Investment and capital resources

A. From 1952 to 1970, total investments and total capital increased only slightly faster in Bulgaria than in Romania, but industrial investments and capital increased about 50 percent more in Bulgaria. Relative positions have been reversed since 1970.

B. The available evidence suggests that up to 1970, Bulgaria may have had a higher rate of net investment (or accumulation) than Romania, as measured in current prices. But most of its higher rate seems to have been higher rates of inventory investment, not fixed capital investments. Calculations of rates of gross investment for both countries result in virtually the same average rates for 1971–75. Romania seems to have had a higher rate in 1976–78 because unfinished investment projects increased very rapidly, reaching in 1978 a figure of 21 percent of that year's flow of new investments in fixed capital.

C. While investment growth through 1979 was only slightly below originally planned rates, in 1979 compared to 1978 investments grew only 5.1 percent, the lowest annual growth since 1957. For reasons that cannot be explained, investments in industry have been significantly below planned levels, while investments in construction have been far above both annual and five-year plan targets.

VII. Foreign trade and capital

A. By three indicators: (1) Ratio of NMP growth to real growth of total trade; (2) share of machinery production exported; and (3) share of imported machinery in total machinery investments, Romania shows far less foreign trade dependency than Bulgaria. Its ratio of trade to NMP in real terms appears to have grown only in 1956–60 and 1966–70. Contrary to plans, the ratios appear not to have grown in the period 1976–79. The share of machinery exports in Romanian machinery production has remained constant at 8 percent since 1965.

B. Although Romania obtains a greater share of total machinery imports from the West than does Bulgaria, imported machinery is a much smaller share of total machinery invested. As a result, the ratios of Western machinery in total machinery stocks probably have been similar in the two countries.

C. Trade targets of the 1976–80 plan have not been met in real terms. Also, contrary to the plan, very large deficits occurred in 1978 and 1979.

D. Since 1975, Romania's CMEA trade has tended to shift from the Soviet Union to other CMEA countries.

E. Romania planned to reduce its deficit with the Developed Market countries and did so in 1976 by reducing machinery imports and diverting exports from CMEA countries. But its deficit increased again after 1976. Romania has succeeded in covering more than half of its machinery imports from DMC's with exports of machinery and consumer manufactures.

F. Romania maintained a large export surplus with the LDC's until 1978. With OPEC it had a large deficit in 1976 but nearly balanced trade in 1977 and 1978. Its 1978 deficit was with non-OPEC countries to whom Romania has extended considerable credits. During the 1970's Romania has succeeded in covering 80-90 percent of its hard goods imports from LDC's with hard good exports. Recently it has shifted food exports from the DMC's to the LDC's.

G. From 1970 to 1975, it is estimated that Romania's overall terms of trade declined by 8 percent. Since 1975 estimates are more hazardous. Probably through 1977, her terms of trade with CMEA declined about 4-6 percent, but were offset by a slightly smaller rise in terms of trade with the DMC's. Terms of trade with the LDC's probably declined slightly by 1977. Part of Romania's position has been defined by very large increases in terms of trade for CTN-2 (fuels, minerals, metals) based on exports of refined petroleum products.

VIII. Industry's performance and problems

A. The slowdown in Romania's industrial growth has been concentrated in chemicals, fuels, and electric power, in that order. Her problems may have had multiple sources.

B. Among the possibly temporary problems were the earthquake and poor harvest of 1977. Then, in 1979 there was the need to find substitutes for disrupted Iranian petroleum imports.

C. Romania's energy consumption grew at only half the rate provided in the 1976-80 plan through 1978. Some of the reduction might have come from conservation measures, but most was probably forced by internal problems; the failures of coal and petroleum production to meet plan targets. By 1978, coal output started to rise rapidly, indicating that initial investment delays may have been solved. Petroleum production still resists great efforts to raise it including offshore drilling in the Black Sea.

D. Although Romanian planners have avoided for a long time problems of overstrained resources, outside pressures may have been too great since 1975.

E. Romania's long term industrial growth rate will soon have to adjust to labor supply constraints already evident in Bulgaria.

IX. Agriculture's role in sustaining economic growth

A. Since 1970, labor productivity in Romanian agriculture has grown faster than in industry, a product of large reductions of labor combined with a moderate growth in investments. Still, the sector has not become self-sustaining in the sense of generating its own sources of investments or incomes high enough to attract adequate qualified labor.

B. But even though planned levels of fertilizer inputs and land improvements failed by large margins, the record of production was reasonably good, not far below targets of the original five-year plan. The

weakest part of Romanian agriculture is its inability to produce sufficient animal food crops.

C. It is estimated that production from the personal plots of co-operative peasants and private farmers provides about a third of Romania's gross agricultural output. Their share of animal production is even higher. The contribution does not seem to have changed since 1965, indicating that with far less investment, output has grown as fast as that from state and collective farms. In part, this is the result of the Romanian government's positive encouragement of these sectors.

II. THE MEASUREMENT OF ECONOMIC CHANGE IN ROMANIA

The purpose of this section is to acquaint the non-specialist with the general quantity and quality of Romanian economic statistics. A comparison is made between official data on net material product (NMP) and estimates of Romanian gross national product (GNP). Some problems of using Romanian data in comparative studies of growth will be explained. The section merely introduces these questions. Many more specific details are covered in the following sections.

A. *The Romanian Statistical Record*

Romania's available official and unofficial statistics provide a far from adequate base for understanding its complex process of economic development.¹ Even its published data are so poorly identified that uninitiated reference to them is likely to be misleading.² Compared to the Bulgarian record, that of Romania is better, generally, in only one aspect. Its annual and five year plans are more accessible and detailed. Also, Romania's five-year planning process has recently provided preliminary FYPs (five-year plans) earlier than other CMEA countries. Two variants of the 1981-85 plan have already been considered. Bulgaria's first edition will probably not appear until early next year. But plans are quite a different matter than performance. Specific problems of comparing plans and performance in Romania's case are discussed in the following section. Besides, understanding economic development requires more than the plan aggregates. For example, knowledge of national product, its origin by sector, and its distribution, in both current and constant prices, is essential for development analysis. Romania provides long time series only for: (a) poorly identified indices, significant usually to one percent, of net material product (NMP) and its main branches in constant prices; and (b) the composition (in percentage) of NMP in current prices. Since 1972, both types of data for the "trade" and "other" sectors have not been published. Unlike Bulgaria, Romania does not publish NMP in current prices except, as discussed below, data for 1977 and 1978 indicated unclearly as prices as of the first of each year, nor NMP sector shares in constant prices.

¹ In this section and most of the paper the focus is on Romanian statistical aggregates expressed in value terms, the so-called "synthetic indicators" in socialist terminology. The author has not attempted to evaluate statistics on production in physical units.

² An example is data on "farm (or agricultural) income per active peasant", which has recently appeared as a plan indicator and as data in semi-official and unofficial sources. The data refer only to income from farming, not to total income of farmers, which includes wage and social income (see discussion on incomes policies).

Possession of these data would permit computation of deflators or price indices (see Tables 7 and 8 of the Bulgarian paper), something Romania apparently wishes to conceal. Bulgaria publishes data on the distribution of NMP in constant prices, shares and indices, and has provided current price data to the United Nations. Romania provides no official indices or values of NMP distributed and has published only average shares for five-year periods (see Table 15, below). Bulgaria publishes details of income and expenditures by family category and annual data on savings deposits. Romania publishes none. Bulgaria publishes foreign trade statistics in constant as well as current prices, and numerous details in a special foreign trade statistical yearbook. Romania has never officially indicated trade in constant prices. Its promising foreign trade yearbooks appeared two years, 1973 and 1974, then disappeared. Bulgaria publishes many series quarterly, Romania does not. The list could be extended, not to cover the common shortcomings of socialist statistics from a western perspective, but just to identify the lacunae in Romanian data compared to CMEA countries with more open statistical records.

It is more troublesome that Romania's available statistical record, combining official, semi-official (the party press) and unofficial (books and periodicals) data, has in many ways become more poor since Professor Montias' thorough analysis of the country's economic development.³ A few new series have appeared in the official yearbooks.⁴ Some had previously appeared in other semi-official and official sources.⁵

Several new series recently emerged in a World Bank study of Romanian economic development.⁶ Otherwise the data in this volume, especially compared to other member country studies by the Bank, are poorly defined and rarely exceed the limits of the Romanian statistical yearbooks. One might have assumed that the data series released would subsequently appear in an enriched official source. It has not yet happened. Disappearances from official sources have been as numerous.⁷ Finally, since about 1974 the amount of data useful for general analysis has declined markedly in Romanian books and periodicals.⁸

³ John Michael Montias, *Economic Development in Communist Romania* (Cambridge, Mass.: The MIT Press, 1967).

⁴ They include: (a) the absolute values of NMP in "comparable 1963 prices" for 1970, 1975 and 1976, as well as NMP for 1977 and 1978 in prices as of the first of each year (sectoral distributions are not given); (b) five-year average values of the percentage shares of "accumulation" and "consumption" in NMP used in current prices up to 1974 and then substituting "comparable prices" in 1975 (it is unclear if comparable prices are the same as for NMP produced); (c) services provided by the socialist sector for 1965, 1970, 1975-78; (d) percentages of budget incomes for employees and peasant families in 1978; (e) monthly average wages in lei.

⁵ Examples include: (a) indices of real final income of persons (total and per capita); (b) current monthly average wages of employees (before taxes until 1977, then after taxes beginning in 1978).

⁶ Andreas C. Tsantis and Roy Pepper (coordinating authors), *Romania, The Industrialization of an Agrarian Economy under Socialist Planning* (Washington, D.C.: The World Bank, 1979). New and significant statistical series released in this volume include: (a) Foreign trade by convertible and non-convertible areas, 1970-75 (convertible turns out to include trade designated in convertible currencies in clearing agreements); (b) some limited and partial balance of payments data; (c) currency in circulation and personal savings balances; (d) bank system resources and other data on investment financing, including depreciation (it is unclear if depreciation is in constant or current prices; the authors use it both ways).

⁷ Data disappearing include: (a) retail trade by urban and rural areas; (b) NMP shares by sectors or origin in constant prices, not published since 1959; (c) details on agriculture, industry, investment and construction, and labor which had appeared in special official statistical collections with data up to 1965.

⁸ Although a few useful data have appeared on (a) income from farm work in values and indices and (b) some years' current values of final income by categories.

B. Recent Western and Official Estimates of Romanian National Product

Table 1 compares the growth of Romanian national product and value-added in industry and agriculture according to official Romanian NMP and estimates of GNP by Thad P. Alton and his associates. Differences in methodology in the two sets of data follow those discussed in papers by Alton and the author (see the Bulgarian paper) elsewhere in this volume and need no repetition here. It should be noted, however, that in the Alton paper in this volume growth rates are calculated by the least squares method and will differ from those in Table 1.

TABLE 1.—ROMANIAN GROWTH INDICATORS OFFICIAL AND ALTON ESTIMATES

	[Average annual growth] ¹		
	1966-70	1971-75	1976-79
National product:			
National data (NMP) ²	7.7	11.3	8.4
Alton associates (GNP).....	5.0	6.7	6.6
			<hr/> 1976-78 <hr/>
Value-added in industry:			
National data ³	12.7	13.2	9.4
Alton associates.....	11.4	9.2	7.6
Value-added in agriculture:			
National data ³	-0.6	5.4	8.6
Alton associates ⁴	-1.1	5.3	8.4

¹ Geometric rate.

² In "comparable 1963 prices" for 1966-70 and 1971-75 and 1977 prices for 1976-79.

³ Significant only to nearest percent.

⁴ Agriculture and forestry.

Sources: Alton data from preliminary communications to the author. National data from various volumes of the Romanian statistical yearbooks and *Scinteia*, Feb. 7, 1980.

A glance at Table 5 of the Bulgarian paper shows that the ratios of GNP growth to NMP growth are very similar for the two countries in 1966-70 and 1971-75, about 60 percent. In 1976-79 there is a sharp deviation. The ratio falls to only 32 percent for Bulgaria, but rises to nearly 80 percent for Romania. Growth rates for agriculture by the two methods are similar for each country. They are also similar for industry for Romania, but not for Bulgaria, as was discussed in that paper. There it was suggested that the GNP index could possibly understate industry's growth for countries like Bulgaria and Romania because machinery is less well represented in physical output data, especially the more rapidly growing categories which are conceptually difficult to measure in physical units.⁹ The hypothesis now seems less likely, given the greater correspondence of Romanian indices.¹⁰

⁹ The special source of measurement problems in both countries is the appearance of so many new products. For example, in Romanian machinery, "new or modernized" products appearing since 1970 counted for 70-75 percent of the volume of output. In 1980, it is planned that new products introduced since 1975 would be 45 percent of gross industrial output. See *Viata Economica* XII:14 (5 April 1974), pp. 8-9.

¹⁰ In 1975, machine building and metalworking was 24.8 percent of Bulgarian gross industrial output and 30.5 percent of Romanian gross industrial output (in 1977 prices). From 1975 to 1978, the branch grew 40 percent in Bulgaria and 48 percent in Romania.

A second noteworthy feature of the Romanian indices is that growth slows down from 1971-75 to 1976-79 in the official indices, but remains constant in the GNP estimates. Table 2 provides the obvious explanation. Sectoral growth rates, except for construction, are virtually identical. In Table 1, in both estimates, industry's growth is reduced and agriculture's growth is increased. What happens to total national product depends on the relative weights given to the sectors. If a greater weight had been given to agriculture in the official indices, as done in the GNP estimates, growth rates would have been lower in both 1971-75 and 1976-79, but a reduction of growth from one period to the next would have been avoided.

TABLE 2.—STRUCTURE OF OFFICIAL AND ALTON ESTIMATES OF ROMANIAN NATIONAL PRODUCT

Sectors	1975 weights		1975-78 growth	
	Official ¹	Alton	Official	Alton
Industry.....	57.5	39.77	131	126.6
Construction.....	9.8	6.19	134	116.0
Agriculture.....	15.7		128	
Agriculture and forestry.....		29.30		127.5
Transportation and communications.....	6.2	7.91	116	113.9
Other material sectors.....	10.8	7.30	132	128.7
Services.....		9.41		108.3
Total.....	100.0	100.0	129.9	123.7

¹ Estimates based on 1977 "current price" shares and growth indices in prices of Jan. 1, 1977.

² (b) Calculated as a residual.

Sources. Same as table 1 and Anuarul Statistic, 1979 pp. 92, 96.

C. Comparative Longrun Growth Indicators

Table 3 attempts to identify basic information about the construction of official Romanian indices of net material product. These indices incorporate at least three different methodologies for assigning the current values of output to sectors. They are designated A, B and C in Table 3.¹¹ Four sets of price weights have also been applied: 1950 prices for 1950-59, 1955 prices for 1959-65, 1963 prices for 1965-75, and 1977 prices since 1975.¹² It is important to understand that changing price weights involved both: (1) changing the relative size or share of each sector; and (2) changing the size or weights of products within each sector. The latter means that each sector's growth for a given period depends on which set of price weights was used. For example, from 1950 to 1959 value-added in industry grew to an index of 318 (1950=100) in 1950 prices, but to an index of 262 (1950=100) in 1955 prices. Changing price weights, hence, influenced the growth of total new material product in two ways: (1) changing sector growth; and (2) changing the weight of sectors.

¹¹ The shift from A to B involved, among other changes, assigning the values of passenger transportation, communications for persons, and tourist services to respective NMP sectors. They formerly were not considered part of material product. The change from B to C in 1975 has not yet been described in the Romanian statistical yearbook.

¹² In the 1978 yearbook growth in 1976 was still measured in 1963 prices while both 1976 and 1977 were still calculated according to methodology B (see Table 3).

TABLE 3.—THE STRUCTURE OF ROMANIAN NMP INDICES FOR INDUSTRY AND AGRICULTURE

	Industry	Agriculture
A. OFFICIAL METHOD		
Sector weights in constant prices:		
1950 (1950 prices).....	44.0	28.0
1959 (1950 prices).....	58.0	19.6
1950 (1955 prices).....	45.7	32.6
1965 (1955 prices).....	59.6	19.3
1965 (1963 prices).....	NA	NA
1970 (1963 prices—A).....	NA	NA
1970 (1963 prices—B).....	NA	NA
1975 (1963 prices—B).....	NA	NA
1975 (1977 prices—C).....	57.5	15.7
1977 (1977 prices—C).....	57.0	16.0
Sector growth in constant prices:		
1950-59 (1950 prices).....	318	168
1950-65 (1955 prices).....	223	101
1965-70 (1963 prices).....	182	97
1971-75 (1963 prices).....	186	130
1975-77 (1977 prices).....	120	123
B. ALTERNATIVE METHOD		
Sector weights in constant prices:		
1950 (1955 prices).....	37.0	39.4
1959 (1955 prices).....	45.7	32.6
Sector growth in constant prices:		
1950-59 (1955 prices).....	262	175

Source: See Table 4.

Generally the effects of changing price weights have been (1) to reduce industry's share and increase agriculture's share, and (2) to reduce industry's growth and to increase agriculture's growth. The Romanian shift from 1950 to 1955 prices illustrates these characteristics. The effects of shifting to 1963 prices and to 1977 prices are less certain because, as the table shows, no data has been found for sector shares in 1963 constant prices in either method A or method B. Also, no other cases of sectoral growth in two sets of prices has been found. However, the certainty that this has happened may be easily illustrated by estimating sector shares in 1975 based on shares in 1959 and growth for total NMP, industry and agriculture from 1959 to 1975. If industry's share had not been reduced, its constant price share in 1975 (in 1963 prices) would have been 79 percent. Agriculture's share would have fallen to only 9.5 percent. At this rate, industry would soon produce all national income and agriculture none.¹³

Another view of what has been applied in Romanian NMP growth is presented in Table 4. Here, data from Table 3 are combined with estimates of total NMP and value-added in industry and agriculture in order to estimate implicit price deflators. First, one should notice that how much real growth is attributed to NMP, industry or agriculture is a matter of selection of price weights. Using 1955 price indices for 1950-59 results in less NMP and industrial growth and more agricultural growth than is shown by the official indices. Second, as a result of using both sets of real indices, alternative price deflators are estimated.

Differences in the two sets of implicit price indices in 1963 and later are entirely accounted for by differences in 1959, a result which follows

¹³ Even more clearly absurd examples result if sector growth from 1950 to 1977 is applied to 1950 shares. By 1977, industry's share in 1977 NMP in constant prices would rise to 103 percent, of course impossible.

having alternative real growth indices for only 1950–59. So far, the author has found no way to estimate price indices between 1963 and 1977.

The effects of changing from 1963 constant prices to 1977 constant prices can be easily estimated. The value of gross industrial output for 1975 is about 2.4 percent higher in 1977 prices than in 1963 prices. The value of gross agricultural output is about 12.1 percent higher in 1977 prices than in 1963 prices.¹⁴

TABLE 4.—ESTIMATES OF ROMANIAN INDICES OF NMP AND IMPLICIT PRICE DEFLATORS
[1950=100]

	1950	1959	1963	1977	1978	1979
A. Official indices of net material product:						
Total	100	242	336	1,229	1,320	1,402
Industry	100	318	537	2,870	3,141	NA
Agriculture	100	168	161	260	270	NA
B. Indices based on 1955 prices from 1950 to 1959:						
Total	100	212	295	1,079	1,159	1,231
Industry	100	262	443	2,368	2,591	NA
Agriculture	100	175	168	271	282	NA
C. Indices of net material product in estimated current prices:						
Total	100	261	365	1,259	1,354	1,458
Industry	100	242	389	1,630	1,780	NA
Agriculture	100	353	390	724	744	NA
D. Implicit deflators based on A:						
Total	100	108	109	102	103	104
Industry	100	76	72	57	57	NA
Agriculture	100	210	242	278	276	NA
E. Implicit deflators based on B:						
Total	100	123	124	117	117	118
Industry	100	92	88	69	69	NA
Agriculture	100	201	232	267	264	NA

Source: Yearbook data and author's calculations based on indices of gross social product in current prices from Montias, *op. cit.*, p. 274, and other data from Dan Grindea, "Venitul national in republica socialista Romania" (Bucharest, 1967) pp. 88, 132.

At the same time, the portion of industrial production representing value added was reduced and that for agriculture was increased as a result of both the new price weights and the change from statistical methodology B to C. Hence, agriculture's net product could have been 17.5 percent higher; industry's could have turned out about 8.2 percent less. Hence, in the new 1977 prices, the weight of agriculture compared to industry in 1975 could have been increased by about 29 percent compared to what they had been in the 1963 weights.¹⁵

The new "constant" price system of 1977, like its predecessors, reduced the weight of the rapidly growing sector, industry, and increased the weight of the more slowly growing sector, agriculture. Probably these shifts recognize, in a large measure, changes in the relative current price structure. Evidence suggests that industry current prices changed very little at the branch wholesale level from 1965 to 1974. Prices paid to enterprises were changed beginning in 1969 by the application of the so-called "regulating tax" to reduce profit margins in cases where production costs had fallen greatly with new

¹⁴ Calculations are based on the 1977 plan fulfillment report (Scinteia, 5 February 1978) and data in the Romanian statistical yearbook.

¹⁵ The word "could" is used deliberately because gross industrial output and gross agricultural output are not used directly in national product computations. Turnover taxes are added to each sector's gross output to derive "gross social product" in each sector. Because turnover taxes are usually collected on industrial products, but not agricultural products, a difference could arise in the national product shares.

technology and economies of scale. Branch or wholesale prices were changed from 1974 to 1976 in a general price reform preceding the introduction of the new 1977 constant price system.¹⁶ During this time, prices paid to peasants rose about 30 percent (see Table 13 below). If, between 1965 and 1977, prices paid to peasants reflected the general movement of agricultural prices and industry prices remained virtually constant, then relative current prices in agriculture compared to industry would have increased 30 percent, about the same as appears in 1963 and 1977 implicit price indices.

At this point, it needs to be emphasized that there is nothing inherently suspect about the Romanian data because it exhibits index number problems. They would arise whenever a country's economic structure was changed rapidly by one sector growing faster than another sector and, as a result, relative scarcities changed. Two points are inappropriate about the way Romanians have responded to this situation. First, they take few pains to explain what they have done. The resulting confusion only causes outsiders to suspect the data and the motives behind it. Second, early year price weights (1950 for 1950-59, 1955 for 1959-65, 1963 for 1965-75) give the Romanian indices the most rapid growth possible. The latter problem can be illustrated by comparing Romanian and Bulgarian growth.

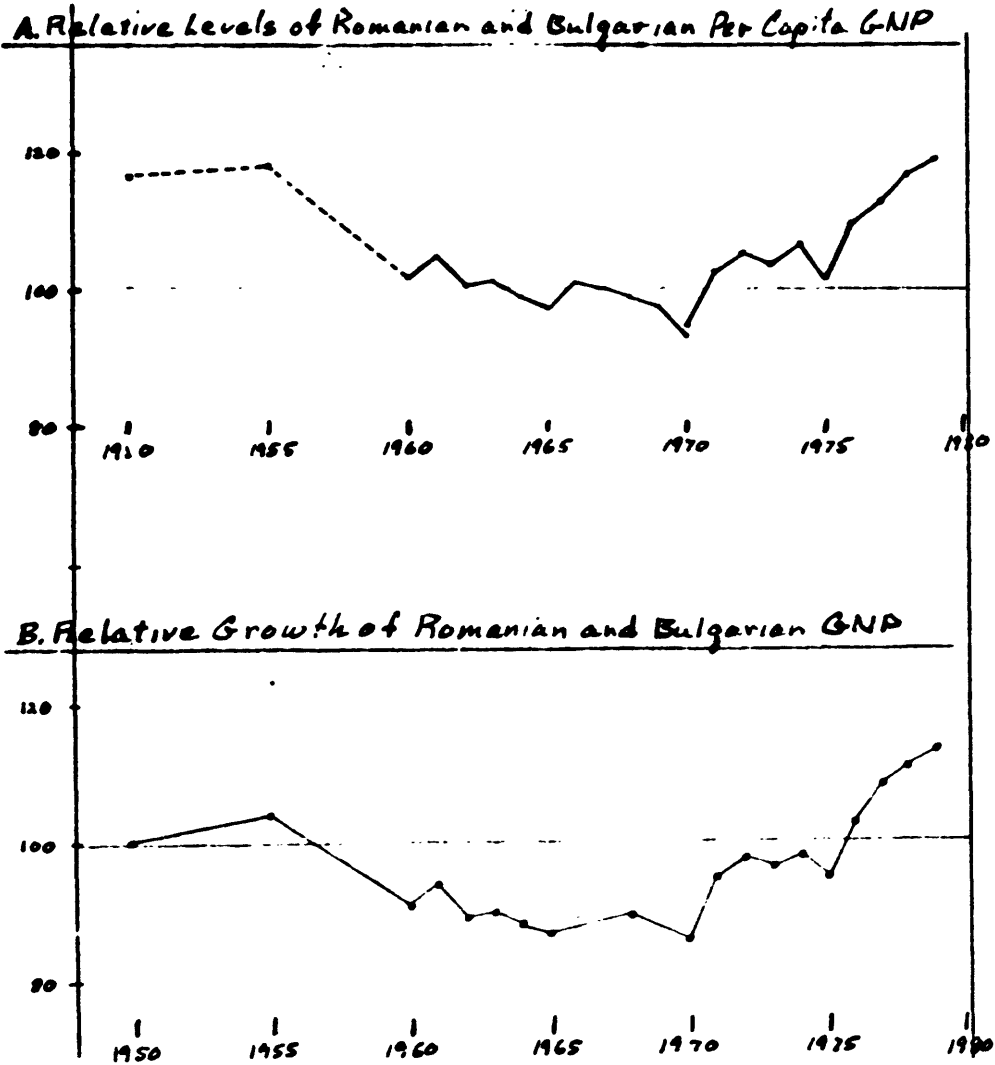
Data presented in Tables 1 and 2 of the Bulgarian paper illustrate how greatly Romania and Bulgaria differed in many important aspects of economic structure, while sharing similar levels of per capita GNP. Another view of their differences is seen in Figure 1. They followed different time paths since about 1955. To be sure, both grew rapidly by any measure. But Romania, with a per capita GNP about 18 percent higher than Bulgaria, grew more slowly from 1955 to 1970, until its per capita GNP fell to Bulgaria's level or below.^{16a}

From 1970 on, Romania and Bulgaria entered a different phase of comparative growth. In just eight years, Romania recovered all of the initial advantage in per capita GNP lost by a 15 year period of slower growth.

¹⁶ A useful and accessible discussion of the 1974-76 price reform is Gheorghe Sica, "Objectifs et méthodes du readjustement des prix de production effectués en Roumanie en 1974-1976", *Revue Roumaine des Sciences Sociales, Série des Sciences Economiques*, 20:2 (July-December 1976), pp. 199-206.

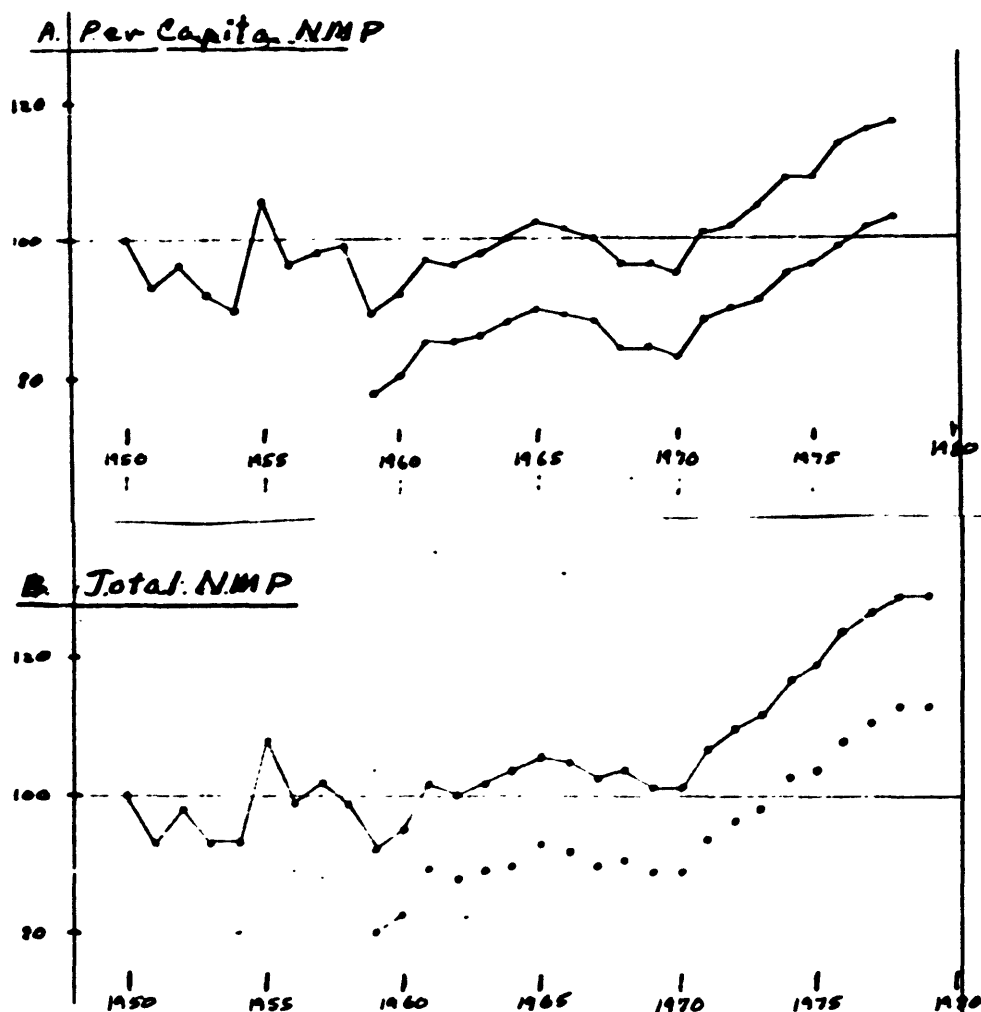
^{16a} Official Romanian estimates of the dollar value of their national product differ from those upon which Figure 1 is based. For example, in 1979 the per capita national product projected for 1990 was \$3,000-3,500 or 47,000-50,000 lei. It may be noted that by 1990, the Romanians expect a so called "commercial" exchange rate of about 15 lei per dollar. By using the projections of population and growth of national product, which were made at the same time, a range of the implicit national products in 1975 and 1980 can be derived as \$991-1,105 in 1975 and \$1,546-1,724 in 1980. The assumed "commercial" exchange rates, calculated on the basis of published and estimated national product figures in lei, turn out to be about 16 lei per dollar for 1975. Working with similar projections made in 1974, the implied 1975 national product per capita turns out to be \$838-929, with an exchange rate of about 19 lei per dollar. Estimates are based on sources cited for Table 5, below.

FIGURE 1



Source: Estimates of per capita GNP provided by Thad P. Alton ("Comparative Growth and Structure of Economic Activity" in *JEC* 77, p. 224) are changed and then projected back to 1965 and forward to 1979 on the basis of Alton's revised indices given to the author by preliminary communication. Figures for 1950 to 1965 are based on Alton's data in "Economic Growth and Resources Allocation in Eastern Europe", in *Reorientation and Commercial Relations of The Economies of Eastern Europe*, Joint Economic Committee Print (August, 1974), p. 270 (hereafter referred to as *JEC-1974*).

FIGURE 2.—Relative growth of Romanian and Bulgarian net material product.



Notes.—(a) Romanian index (1950=100) divided by Bulgarian index (1950=100). (b) Bulgarian net material product is measured in 1957 prices for 1950-62 in 1962 prices for 1962-71, and in 1971 prices for 1971-79. In the solid lines, Romanian net material product is measured in 1950 prices for 1950-59, in 1955 prices for 1959-65, in 1963 prices for 1965-75, and in 1977 prices for 1975-79. In the broken line, Romanian net material product is measured in 1955 prices for 1950-65, while prices for other periods remain the same.

Figure 2 presents a modified view of the scenario. The solid lines compare both countries' official NMP indices (Romania's divided by Bulgaria's). Now they are seen to follow about the same path from 1950 to 1971. Romania does more poorly in per capita terms because its population grew faster. Each had some good periods and each some bad ones, comparatively. Romania fell behind from 1955 to 1959 and from 1965 to 1970. It caught up from 1959 to 1965 and again after 1970. If history had been repeating itself, it ought to have started to fall behind again in 1974 or 1975. So far, history has not been repeated.

The major disagreement between figures 1 and 2 is whether Romania fell behind Bulgaria after 1955, or just went ahead of Bulgaria about

1971. There is a simple explanation for the disagreement. Bulgarian NMP indices are based on 1957 prices until 1962, then on 1962 prices until 1971 and thereafter on 1971 prices. In different prices, Bulgarian sector weights have followed changes like those already described for Romania. By using 1957 weights to measure growth from 1950 to 1960, Bulgarian growth indices were reduced compared to what they would have been in earlier year prices, say 1950. In short, it is inappropriate to compare Romania's growth in 1950 prices with Bulgaria's growth in 1957 prices.

The dotted lines in Figure 2 apply information in Tables 3 and 4 in a more appropriate comparison of growth. Romanian NMP growth is measured in 1955 prices from 1950 to 1965 (compared to Bulgaria's use of 1957 prices from 1950 to 1962). Now Figures 1 and 2 disagree not on Romania's slipping behind Bulgaria, but whether it did so from 1959 to 1965.

The substantial conclusion of this section is that measurement of Romanian growth is subject to very large index number problems which are never indicated in official statistics and have not recently been discussed by Romanian economists in the general and available literature. The official Romanian NMP index gives the best possible view by using 1950 price weights to measure growth from 1950 to 1959. Obviously, to compare this index with growth indices of other countries based on later year weights is a biased comparison.

On the other hand, pronounced differences in the comparative growth of Romania and Bulgaria before and after 1970 show up in all methods of measurement. The differences demand explanation and will be discussed as a focus for understanding Romania's exceptional economic performance in the 1970's.

III. PLANS AND PERFORMANCE, 1975 TO 1980

Romania's acceleration of growth after 1970 exceeded most indices of its FYP for 1971-75. In contrast to Romania's performance before 1970, the author has referred to the 1970's as a "remobilization process".¹⁷ It continued after 1975 in the form of another ambitious plan for 1976-80 and a subsequent upward revision of the plan in late 1977 (the 1971-75 plan had also been revised upward in 1972). As seen in Table 1 what happened to Romania's economy after 1975 depends on one's choice of indicators. The GNP indicator shows growth continued at the same rapid pace as in 1971-75. The official NMP indicators shows it slowing down. The latter indicator certainly has been the one to concern Romanian leaders and planners, if for no other reason than its greater reflection of what happened to industry, the priority sector in Romanian growth strategy.

The following section will review the general connections between plans and performances since 1975. It is particularly concerned with two questions: (1) What has been the relative performance of sectors, which have been strong and which weak; and (2) when did the economy by its own preferred indicators start to deviate from planned performance.

¹⁷ Jackson, in JEC-1977, pp. 892-900.

A. Problems of Connecting Plan and Performance

Several problems face analysis of the relationship between plans and performance of a CPE. First, there is usually a discordance between targets of a five-year plan and respective annual plans for the five-year period. Second, in Romania's case there have been two versions of the last two five-year plans, a version given by the "plan law" and a revised plan, in each case approved a year or two later and with more ambitious targets.¹⁸ Third, most plan targets are given as growth within the plan period, for example, from 1975 to 1980, but those for investments, foreign trade and agricultural output are given as the average growth from one five-year period to another. In Romania's case the foreign trade target is doubly difficult to interpret because plan figures are in constant prices, while performance figures are only available in current prices. Finally, Romania's plan for 1976-80 presents a special problem. The original plan was given in "1963 comparable prices". Then, subsequently the price base was changed to 1977 prices and the revised plan was stated in the latter. To make matters more complicated, some performance figures are available in indices combining both price bases.

B. The 1976-80 Plan

Table 5 sets out the main targets of the 1976-80 plan and its revision. They may be compared with performance figures for 1971-75 and 1976-79, which for investments, foreign trade and agricultural output are calculated two ways: (1) Growth during the period; and (2) average growth during the period compared to the previous five or four years.

International inflation and energy crisis did not dull expectations for continued rapid growth. Only one target, real income from agriculture per active peasant, was set below 1971-75 achievements. Its rapid growth had been a major policy of the first half of the 1970s and was now brought within range of expected agricultural output growth. The latter figure, investment and industrial labor productivity were planned to grow faster than their 1971-75 achievements. The upward revision of the plan, announced in December 1977, was more surprising since it came after that year's earthquake and reported labor troubles among coal miners. Perhaps both explain why the real wage target was revised upward so much. Both investments and agricultural output targets were also significantly increased. For most other targets the revalued original plan figures suggest revisions toward the upper end of the original plan targets.

¹⁸ Actually, there are four or more published versions of a five-year plan: (1) the "guidelines," usually approved by a party conference three years before the plan's first year; (2) the "draft directives" and the "directives", the former circulated several months before a party congress the year before the plan's first year and the latter approved by the congress. Then, follow the plan law and possibly its revisions or supplement.

TABLE 5.—ROMANIAN 5-YEAR PLANS AND PERFORMANCE (AVERAGE ANNUAL GROWTH)

Indicator	1971-75 performance	Plan directives	1976-80 plan law in 1963 prices ¹	1976-80 plan law in 1977 prices ²	Plan revisions	1976-79 performance	1981-85 guidelines ³	Directives ⁴
Population	1.0					(1.0)	1	
Total labor force	6	8.2				(7.5)		2
Employees	4.3	3-3.5	3-3.6			3.4	2-2.7	2-2.4
Net material product	11.3	9-10	10-11	10.3	11	8.4	8.6-9.6	6.7-7.4
Labor productivity	11.0	8.8-9.8				(8.6)		4.6-5.3
Gross industrial output	12.9	9-10	10.2-11.2	10.7	11.5	10.2	9-9.8	8-9
Labor productivity	6.4	6.7-7.2	8.5-9	8.5	9.2	7.6	7.4-8	7-7.5
Gross agricultural output ⁵	4.7	4.6-6	5.1-7.6	6.5-8.6	6.9-9	4.9	4.2-4.5	4.5-5
Average growth	6.5					6.3		
Total investments ⁶	11.5	10.5-11.4	12.7	10.3	12.8	11.6	6.5-7.3	5.4-6.2
Average growth	11.5					10.2		
Foreign trade turnover ⁷	(15.6)	11.5-12.5	13.7-15	15.6	(15.9)	16.5	9.6-10.3	8.5-9
Average growth	18.4					14.8		
Retail trade	8.2	7-7.7	7.7-8.1	8.1	8.7	6.5	5.4-6.7	6.4-6.2
Real wages	3.7	3.4-3.7	3.7	4.1	5.8	5.5	3.4-3.7	3-3.4
Real income from agriculture ⁸	10.8	3.7-4.6	3.7-5.2	5.2	5.4	6.5	3.7-4.1	3.7-4.2
Real final income per capita	6.8	6.2-6.5	6.2-7			4.9	3.4-3.9	3.1-3.4
Housing (1000 units per year) ⁹	102.5	163				142.1	260	220

¹ July 1976.² December 1977.³ November 1979.⁴ 1976-78.⁵ Plan and performance based on 5-year averages.⁶ 1976-79/1971-74.⁷ Average growth since 1970 or 1975.⁸ Income from work on cooperatives and personal or private land per active peasant.⁹ Excluding privately built housing.

Sources: "Directivile congresului al XI-lea al partidului comunist Roman cu privire la planul cincinal 1976-1980 si liniile directoare ale dezvoltarii economico-sociale a Romaniei pentru perioada 1981-90." (Bucharest, 1974); "Scinteia," July 3, 1976, Dec. 14, 1977, Nov. 20, 1979, and Feb. 7, 1980.

By the end of 1979, the only indicator to exceed or even meet the revised plan targets was growth of real income from agriculture per active peasant. Foreign trade in current prices had grown faster than the plan figure, but, for reasons explained below (see Section VI) its growth in constant prices probably was significantly below target. Investments and real wages had exceeded the original plan figures. Industrial output and productivity failed them marginally. More serious failures were reported for net material product, agricultural output, retail sales and especially housing. A significant shortfall also appears in the growth of real final income per capita (similar to disposable personal income). Differences in the growth of this figure and those for real wages and agricultural incomes suggest a large shortfall in social incomes (transfer payments and services in kind).

C. Annual Performance and Plans

Comparison of annual performance and plan may be even more difficult than for five-year plans. Annual plans are made before the results of the previous year are known. They are necessarily inaccurate and logically would be adjusted. In addition, only the 1976 plan was done in "1963 comparable prices"; the following years' plans were expressed in prices of the first of January of each year. Only a few performance figures are expressed in these terms. Others are expressed in combinations of 1963 and 1977 prices, often in percentages significant with no decimal point. It is best to treat the "actual vs plan" cal-

ulation as significant only if large deviations are involved. Table 6 is more important as giving detail on how performance trends unfolded compared to the five year plan(s) and how, if any, annual plans were adjusted to these trends.

TABLE 6.—ANNUAL PERFORMANCE AND PLAN 1976-79

Indicators	Annual growth (percent)				Actual against plan (percent) ¹			
	1976	1977	1978	1979	1976	1977	1978	1979
Net material product.....	10.1	9.0	8.4	6.2	99.6	97.9	97.3	97.6
Labor productivity ²	10.0	8.4	8.7	NA	NA	NA	NA	NA
Gross industrial product.....	11.7	12.7	8.8	8.0	101.4	102.0	98.4	96.9
Labor productivity.....	8.2	8.8	7.0	6.4	99.7	99.6	98.2	96.8
Gross agricultural output ³	(7.2)	(5.2)	(4.6)	(4.7)				
Compared to previous year as in annual plans.....	17.2	2.6	2.2	5.0	101.4	92.5	91.8	99.7
Labor productivity.....	23.5	2.5	7.9	NA	NA	NA	NA	NA
Total investments ⁴	(10.7)	(11.0)	(11.9)	(10.8)				
Compared to previous year as in annual plans.....	8.2	11.7	16.0	5.1	90.6	95.7	99.3	96.3
Foreign trade turnover ⁵	(14.5)	(14.8)	(11.0)	(19.3)				
Compared to previous year as in annual plans.....	9.8	6.9	11.9	19.1	93.2	92.6	94.0	102.1
Retail trade.....	8.2	6.8	12.1	5.8	98.4	98.5	101.9	96.8
Real wages.....	6.2	5.9	8.3	2.1	98.0	99.2	100.7	95.7
Real final incomes/capita.....	8.6	3.6	8.2	1.8	100.4	97.6	100.3	94.7
Income from agriculture ⁶	16.2	3.1	5.7	3.1	105.1	96.5	101.5	97.1
Housing (1 000 units) ⁷	112.4	125.4	151.7	178.8	77.5	65.3	73.6	72.1
Total housing.....	139.4	145.0	166.8	191.1				

NA = Not available.

¹ Based on levels planned compared to achieved.

² Labor in the productive sectors.

³ Items in parentheses are average growth compared to the 1971-75 average as in 5-year plans.

⁴ Based on figures in current prices.

⁵ Per active peasant.

⁶ Housing built by socialist organizations or with State credits.

Sources: Table 5; "Scinteia" Dec. 21 1975 Nov. 6 1976 Nov. 26 1977 and Nov. 4 1978.

Romania's best year during the period seems to have been 1976, but interconnected problems in investments and foreign trade might have occurred. Industry's performance in 1977 was exceptional, given the earthquake and reported labor troubles. Agricultural output fell slightly after a very sharp growth in 1976. With it, the growth of peasant incomes dropped abruptly and pulled down the growth of final incomes. The next year saw industry's growth fall below 10 percent for the first time since 1956, according to the official index. Possibly this was a delayed effect of the earthquake. One might have expected a surge of housing construction; it grew but far below plan. But even with net material product pulled down, growth of real final income, wages and peasant incomes (the latter helped by some slight recovery of agricultural output) increased. In 1979, every indicator except agricultural output showed less growth. Serious problems (in a Romanian perspective) seem to have developed for industry.

D. The 1981-85 Plan

As shown in Table 5, two versions of the five-year plan have been published.¹⁰ Changes to the "directives" version may take place when the plan law is approved in 1981. Moreover, a party conference in 1982

¹⁰ See, footnote 18; and Jackson, in JEC-1977, p. 896.

could see the plan law revised, as happened to the plans for 1971-75 and 1976-80. The two published versions of the 1981-85 plan remain useful for indicating expectations of Romanian leaders and planners.

The "guidelines" version of the plan is lower by all indicators than any version of the 1976-80 plan. Published in late 1977, it nicely matches performances of 1976-79 and hints that even then, a slowdown in growth was expected. Unfortunately, a slowdown came sooner than planned. As the economy's growth decreased from 1977 to 1979, so were expectations for growth in 1981-85. But not all indicators were revised down. The expected growth of agriculture was increased. Why, is unclear at this point. A reduced growth of industry would imply reduced absorption of labor from agriculture and reduced demand for new housing. Industry's expected growth could have been reduced because of supply or demand factors independent of agriculture, leaving as a residual more agricultural labor resources. Or, for other reasons, possibly the outlook for export markets, agriculture could have been given a higher priority.

IV. LABOR RESOURCES IN INDUSTRY AND AGRICULTURE

A major comparative feature of Romania's industrial growth in the 1970's is the reduced extent to which growth was accompanied by increasing labor inputs.²⁹ Romania's labor productivity growth has not been less than in other CMEA countries, but the percentage increase in its labor force has been much greater.

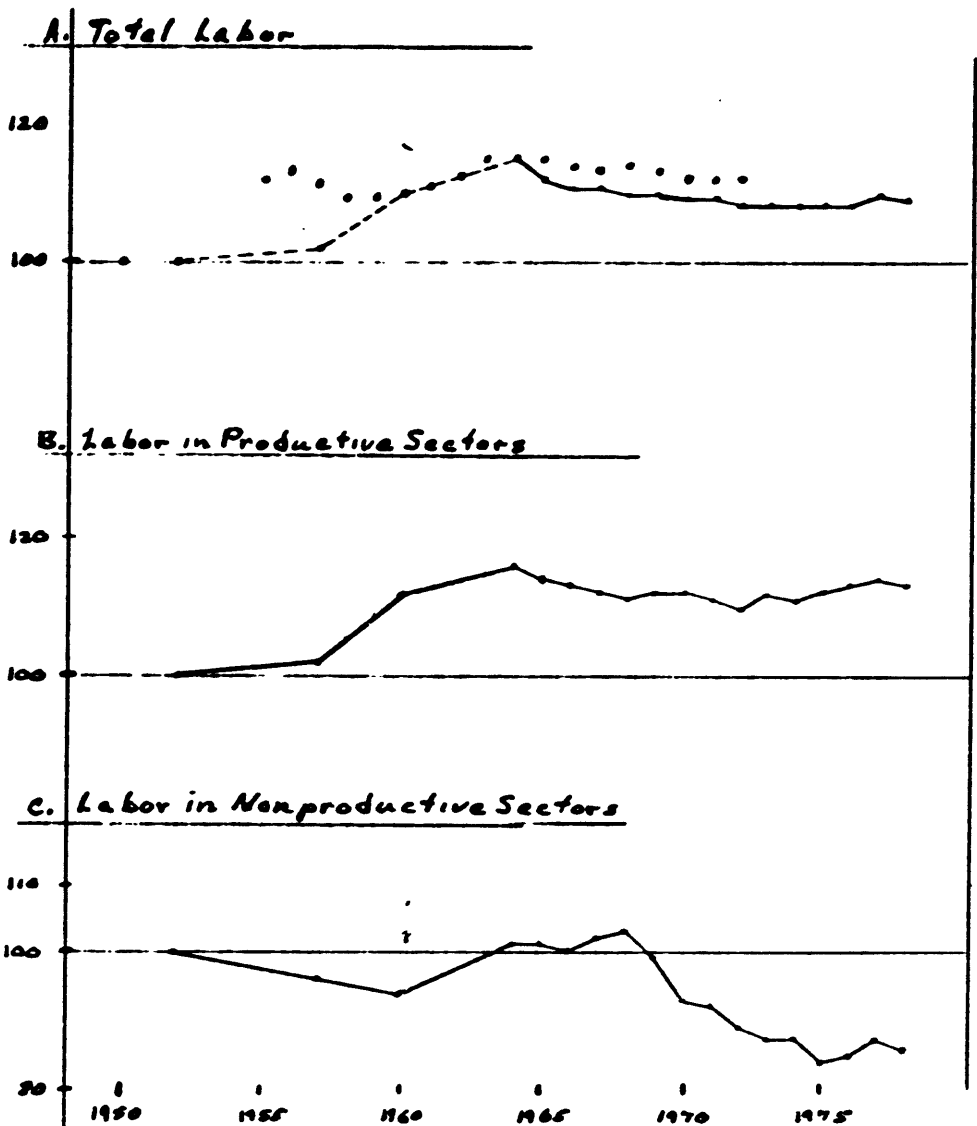
A. Comparative Growth of Labor Resources

Labor dimensions of the comparative Romanian-Bulgarian growth pattern are presented in Figure 3. Here, as in Figures 1 and 2, Romanian indices are divided by Bulgarian indices. As long as the lines remain above 100, the Romanian category has grown faster than its Bulgarian counterpart. Parts A, D and E add a second (dotted) line representing alternative American estimations of each country's labor force. Although the lines based on official data have a base 1952=100 and the dotted lines have a base 1950=100, there are significant differences in them only for agricultural labor around 1955, which are reflected in total labor.

The more important questions for comparative growth patterns concern the figures for industrial and agricultural labor. Romania's industrial labor force grew much slower than Bulgaria's until 1960. Then, in a rather abrupt change it grew about as fast until 1967 or 1970. In a second abrupt change, it then grew much more rapidly and by 1980, made up the ground lost before 1960.

²⁹ For comparative data see, UN/ECE, *Economic Survey of Europe in 1976, Part II* (New York, 1977), p. 73. Whereas, in the period 1971-75, fifty percent of Romania's growth came from increased labor productivity, in Poland and Bulgaria the share was about 75 percent; in other countries it was even higher.

FIGURE 3.—Comparative growth of Romanian and Bulgarian labor resources.¹



¹ Solid line (1952=100); dotted line (1950=100).

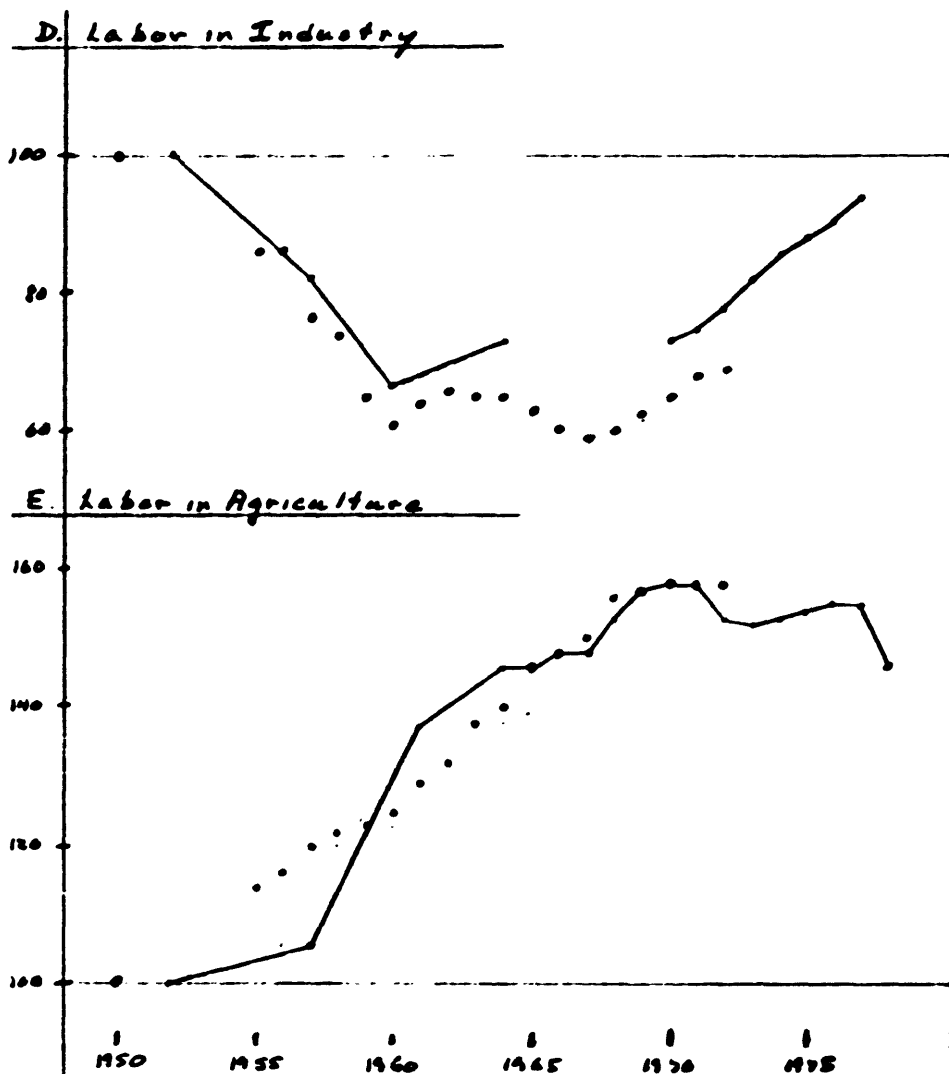
Sources: Solid lines—Romanian official data and the author's calculations, as explained in table 9 of the paper on Bulgaria. Dotted lines—Paul F. Myers, "Population and Labor Force in Eastern Europe: 1950 to 1996," in *JEC* 1974, pp. 455, 462.

Slower growth of industrial labor in Romania than Bulgaria had two immediate causes. First, Romania's industrial capital stock grew more slowly until 1970. Second, its capital : labor ratio in industry grew faster than in Bulgaria until 1960, more slowly from 1960 to 1965, and since then at virtually the same rate.

Why the two countries' early industrialization patterns differed is still unclear. About 1950, as a result of presocialist development, Romania had both larger shares of its capital stock in industry and higher industrial capital : output ratios than Bulgaria.²¹ Subsequently, Romania's growth of total capital stock was only slightly slower than in Bulgaria. Its far slower growth of industrial capital may have

²¹ The comparison is based on industry's shares of capital and labor in each country around 1950.

FIGURE 3.—Comparative growth of Romanian and Bulgarian labor resources—
Continued



See footnotes at end of figure 3, p. 250.

reflected larger shares of investments allocated to transportation. Great resources were wasted in this sector by the first attempt to build a Danube-Black Sea canal in the early 1950's.²² Also, large shares of industrial investments were poured into rapidly depreciated capital petroleum extraction. Romania's slightly faster growth of industrial capital: labor ratios reflected differences in branch and possibly technology. Given these circumstances, jobs in Romanian industry were created at a much slower rate than they were in Bulgaria until after 1960. For Romania to have equaled the growth of Bulgaria's industrial labor, given the actual growth of its capital stocks in industry, it would have had to have reduced the industrial capital: labor ratio by 1960 to 96 percent of its 1952 level.

²² Construction of the canal was renewed as a major project in the 1976-80 FYP and is expected to be complete in the early 1980's.

Even if Romania could have matched Bulgaria's growth of industrial labor, its agricultural labor would have grown faster than in Bulgaria because its total labor grew faster. As it was, Romanian agricultural labor force grew absolutely until 1959 and did not fall below the 1952 level until 1962. Bulgaria was able to reduce its agricultural labor force absolutely from 1952 on, and, compared to Romania, until 1970. From then until 1977 the two countries reduced agricultural labor at about the same rate, but since 1952 the total Romanian reduction was only half as much in percentage terms as in Bulgaria.

B. Current and Planned Labor Resources

As shown in Figure 3, Romania's agricultural labor fell sharply compared to Bulgaria's in 1978. If it should continue to do so at the same rate, by 1983 it will have reduced agricultural labor in percentage terms since 1952 as much as Bulgaria has and probably will face constraints on growth like those discussed in the Bulgarian paper. Evidence for potentially tight labor supplies may be seen in the fact that, while Romanian working-age population grew about 7.2 percent from 1970 to 1975, the employed labor force grew only 2.3 percent, as participation rates fell. By contrast, Bulgaria's labor force grew more, even though its working-age population grew only 2.4 percent. From 1975 to 1990, Romania's working-age population will grow much more slowly than in the past, at rates of 0.5–0.7 percent per year. Labor forecasts indicate marginal reductions in participation to 1980, but then increasing participation to about 1970 levels by 1985.

Romania's industrialization, of course, depends less on total labor than on labor reserves in agriculture. Here, its apparent advantage over Bulgaria is not only the much larger share of labor in agriculture, but also that the rural population is still reproducing. In 1978, 1.2 rural births occurred for one urban birth.

Yet evidences of local labor shortages in highly industrial regions like Brasov have appeared. In Table 7, it is clear that the number of employees occupied in industry and construction planned for 1980 in 1976 will not be met. Possibly the more striking evidence of concern for the labor supply has been repeated delays in reducing the work-weeks. In 1970, targets were set for 44 hours by 1975 and 40–42 hours by 1980. In 1974, the 44 hour goal was pushed back to 1983. Presently, it is set for 1985 with the immediate goal of 46 hours by this year.²³ The delay added 7 to 10 percent to the labor supply.

Published Romanian data may exaggerate both the quantity and quality of the remaining labor force in agriculture. Data in Table 8 are illustrative. In 1970, only three-fourths of the members of agricultural cooperatives actually performed cooperative work. Some were evidently not considered occupied in agriculture. Less than half indicated as occupied were "full-time" cooperative members, i.e. meeting a minimum number of work-days. The situation was more pronounced where other work opportunities were available. In Ilfov district, surrounding Bucharest, nearly all of the working-age population were cooperative members in 1969, but 70 percent of the members worked less than the minimum norms or not at all on the cooperatives. Many

²³ Scintela, 1 December 1970; and sources for Table 5.

were permanent employees; nearly all worked at least as temporary or seasonal employees.²⁴

TABLE 7.—POPULATION AND LABOR RESOURCES

(In thousands of persons or percentage)

	1970	1975	1976	1977	1978	1979	1980 ¹	1980 ²	1980 ³
Total population	20,253	21,245	21,446	21,658	21,855	22,135		22,270	23,550
Urban population	8,258	9,182	9,403	10,362	10,626			11,780	(⁴)
Working age population ⁵	11,313	12,128			12,375			12,552	12,929
Employed population ⁶	9,880	10,110	10,189	10,246	10,277	10,320	10,400	10,400	11,400
Employees ⁷	5,109	6,301	6,559	6,740	6,946	7,183	7,420	7,700	8,350
Females	1,544	2,172	2,323	2,401	2,516	2,658		3,042	
Other employed	4,771	3,810	3,630	3,505	3,321	3,137	2,980	2,700	3,050
Nonagricultural	266	369	408	442	418				
Industry and construction	2,969	3,875	4,026	4,187	4,313		4,607	4,888	5,882
Agriculture	4,945	3,925	3,739	3,585	3,437	3,190	3,026	2,818	2,462
Other productive	958	1,157	1,232	1,296	1,294		1,622		1,813
Nonproductive ⁸	1,008	1,153	1,192	1,178	1,233		1,145		1,243
Share of population:									
Urban	40.8	43.2	43.8	47.8	48.6			50.0	(⁴)
Working age	55.9	57.1			56.6			56.4	54.9
Share of working age: Employed	87.3	83.4			83.0			82.9	88.2
Share of employees: ⁷ Females	30.2	34.5	35.4	35.6	36.2	37.0		39.5	(⁴)
Share of occupied: Employees ⁷	51.7	62.3	64.4	65.8	67.7	69.3	71.3	74.0	73.2
Industry and construction	30.1	38.3	39.5	40.9	42.0		44.3	47.0	51.6
Agriculture	50.1	38.8	36.7	35.0	33.4	31.0	29.1	27.1	21.6
Other productive	9.7	11.5	12.2	12.7	12.5		15.6		15.9
Nonproductive ⁸	10.2	11.4	11.7	11.5	12.0		11.0		10.9

¹ Expected in 1979.² Preliminary or projection.³ The unusually large increase in urban population resulted from the larger number of places defined as urban in the 1977 census.⁴ Not available.⁵ Males 16-59 and females 16-54.⁶ Author's mid-year estimates from averaging official year end data.⁷ Workers and employees, including those in non-agricultural cooperatives.⁸ Services, excluding trade.Sources: Yearbook data; sources cited for table 5; and *Era socialist* a LIX:11 (June 1979), pp. 7-9.

TABLE 8.—AGRICULTURAL LABOR RESOURCES

(In thousands of persons)

	1965	1970	1975	1976	1977	1978
MID-LEVEL						
Total	5,532	4,945	3,925	3,439	3,585	3,437
Employees	426	440	484	517	521	534
Nonemployees	5,106	4,505	3,441	3,223	3,064	2,903
YEAR END						
Total	5,477	4,849	3,837	3,641	3,530	3,345
Employees	315	344	391	414	421	438
State farms	301	292	252	270	267	262
Other	-72	-44	13	12	21	39
Nonemployees	5,162	4,505	3,446	3,227	3,109	2,907
Noncooperative	548	500	N.A.	N.A.	N.A.	N.A.
Cooperative	4,614	4,005	N.A.	N.A.	N.A.	N.A.
Who worked	4,111	3,376	2,813	2,756	2,604	2,427
Males (percent)	46.9	43.9	N.A.	N.A.	N.A.	N.A.
Full time	2,300	1,728	N.A.	N.A.	N.A.	N.A.
Full time (percent)	51.0	48.6	N.A.	N.A.	N.A.	N.A.
Workdays-index	100.0	68.9	N.A.	N.A.	N.A.	N.A.
Specialists	24.1	29.3	37.5	37.0	38.6	41.7
Higher education	11.4	16.4	21.0	21.7	21.7	23.7
Secondary	12.7	12.8	16.5	15.4	16.8	17.9

Sources: Yearbook data and Grigore Valceanu (ed.), *Agricultura cooperatista si cresterea economica* (Bucharest, 1937), p. 28.²⁴ Directia centrala de statistica, *Studiul de statistica*, Volume II (Bucharest, 1972), p. 1660.

In 1973, two-thirds of all rural families had a wage earner.²⁵ Many commuted to work from the villages, sometimes surprisingly long distances. Others moved without their families. In 1977, 40 percent of non-agricultural workers were reported to have families still living in rural areas.²⁶ Some may have been unmarried; most were males. In both 1966 and 1973, the ratio of urban males to urban females in the ages, 25 to 39 was about 1.07.²⁷ The rural population is increasingly aged and female. Both aspects are illustrated by the fact that the absolute natural increase of population of urban areas exceeded that of rural areas in 1978, while rural births exceeded urban births by 20 percent.²⁸

The "feminization" of Romanian agricultural labor was reported in 1977 to have reached the two-thirds mark.²⁹ This terminology is meant to indicate that the bulk of Romania's agricultural labor force is female. At the same time, females are the remaining reserve for further extensive industrialization. Females formerly employed in agriculture furnished approximately 60 percent of the increase in employees from 1975 to 1978. Another 8 percent came from new young female workers and from urban females housekeepers. About the same proportions are planned to provide the 2.4-2.5 million additional employees from 1980 to 1990. By that time, the presently planned shares of urban population and of agricultural labor will approximately equal those of Czechoslovakia in 1975. Bulgaria, with far greater shares in 1975-78, already experienced problems of labor shortage. It is likely that Romania will soon share them.

V. CONSUMPTION STANDARDS AND INCOMES POLICIES

If Romania's per capita GNP in 1950 exceeded that of Bulgaria by 15-20 percent, as indicated by Figure 1, Romania's per capita consumption ought to have been higher than Bulgaria's in the absence of higher investment rates. Afterwards relative consumption in Romania fell. For Romania since 1970 two questions need answers: First, how has its surge of growth affected consumption and personal income? Second, what have been the relative differences in personal incomes that might influence the availability of labor reserves in agriculture?

A. Comparative Consumption and Incomes

Romanian and Bulgarian per capita consumption of specific commodities from 1950 to 1978 are compared in Table 9. By these indicators, in 1950, Romania could not have been ahead of Bulgaria by much. By 1965, it fell behind and stayed at about the same comparative level in 1975. Since 1975 Romania has started to catch up.

The relative growth of two income indicators is compared in Figure 4. The relative movement of per capita real final incomes in the two

²⁵ *Revue roumaine des sciences sociales, serie des sciences economiques*, 18:2 (1974), p. 138.

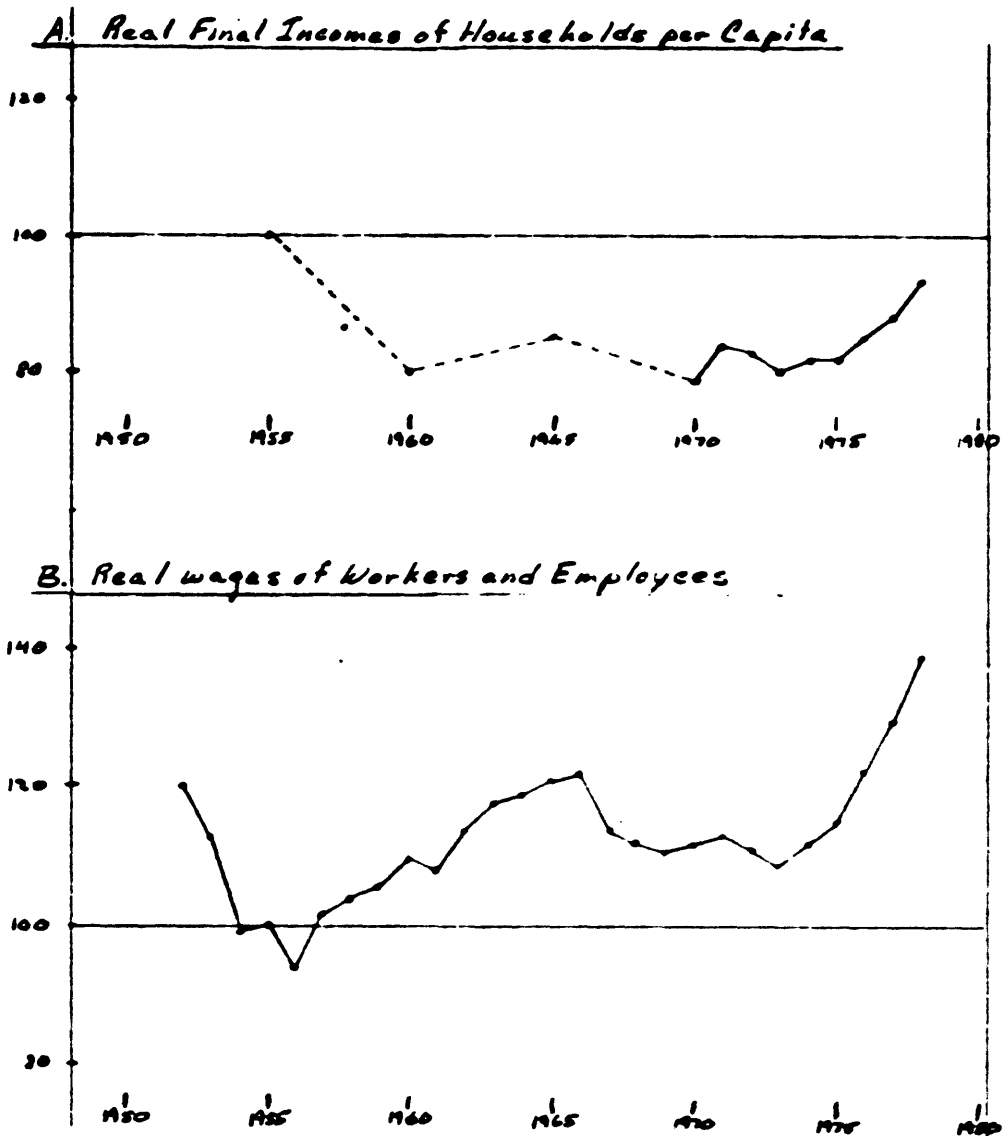
²⁶ *Era socialista*, LVII:13 (July, 1977), p. 19.

²⁷ *Anuarul demografic*, 1974, pp. 38, 110.

²⁸ That is, compared to urban areas, rural areas had both large shares of reproducing females and of older persons having higher death rates.

²⁹ *Era Socialista*, LVII:19 (October, 1977), p. 18.

FIGURE 4.—Relative growth of Romanian and Bulgarian personal income indicators¹ (1955=100).



¹ Romanian index divided by Bulgarian index.

Source: National statistical yearbooks, various issues.

countries follows the pattern of relative consumption in Table 9.³⁰ Romania fell behind until 1960 and remained in the same relative position until 1975, when it started to catch up. Part B of Figure 4 suggests that Romanian workers and employees fared much better than the average person. Real wages in Romania, after falling relative to those in Bulgaria from 1952 to 1955, grew until 1966. By implication, incomes of Romanian peasants must have declined relative to wages in Romania and to Bulgarian peasant incomes until 1966.

³⁰ The socialist concept of final income is similar to the western one of disposable income. They differ in that final income is net of financial transactions with socialist units. Therefore, it includes proceeds of loans, but not increases in saving deposits or loan payments.

TABLE 9.—PER CAPITA CONSUMPTION—ROMANIA AS A PERCENTAGE OF BULGARIA

	1950/52 ¹	1965	1975	1978
A. Consumption per capita:				
Meat, milk, eggs and their products ² (kg).....	114	87	86	91
Total fats (kg).....	58	56	92	106
Cereals, potatoes and their products (kg).....	62	96	118	107
Sugar and its products (kg).....	106	67	62	77
Vegetables and their products (kg).....	82	85	125	138
Fruit and fruit products (kg).....	23	20	36	NA
Fabrics ³ (nm).....	³ (125)	³ (67)	³ (74)	NA
Leather footwear ⁴ (prs).....	⁴ 152	⁴ 115	⁴ 125	NA
B. Stocks per cap. to:				
Television sets.....		130	74	88
Washing machines.....	NA	36	30	43
Refrigerators.....	NA	152	55	64
Automobiles.....	NA	21	30	31
Housing (living space (m ²)).....	NA	75	NA	65
Urban.....	NA	90	NA	77
Rural.....	NA	71	NA	53
Hospital beds.....	NA	108	104	101
Doctors.....	NA	73	62	50

¹ Romania 1950; Bulgaria 1952.

² Milk in liters and eggs have been converted to kilogram equivalents by factors given in FAO "Production Yearbook 1972" (Rome 1972) p. 219.

³ Bulgaria including cotton-type and wool-type fabrics only.

⁴ Original Romanian data includes rubber footwear; consumption is estimated on the basis of production and export data.

From 1966 to 1973, real wages in Romania grew more slowly than in Bulgaria, but then began an abrupt rapid increase. Real final incomes per capita also grew more slowly than those in Bulgaria from 1965 to 1970, then began a slow relative increase until 1975 and a faster relative increase since.

Comparative Romanian and Bulgarian income patterns, hence, are marked by three differences: (1) the initial relative decline of Romanian average incomes; (2) a greater relative disparity between changes in real wages and peasant incomes in Romania that developed mostly in the years from 1955 to 1966; and (3) the tendency for real incomes in Romania since about 1970 to grow faster than those in Bulgaria, a tendency that was delayed about three years in the case of real wages.

The greater relative disparity of wages and peasant income in Romania reflects pronounced differences in relative productivity of labor in industry and agriculture that were observed in Romania as compared to Bulgaria (shown in Table 2 of the Bulgarian paper). Romania's relatively lower labor productivity in agriculture is accounted for by: (1) its slower decrease in agricultural labor because of slightly more rapid growth of total labor, but mostly because of slower growth of labor in industry; and (2) an even slower growth of capital stocks in agriculture compared to Bulgaria.

B. Relative Nonagricultural and Agricultural Incomes

In Romania and Bulgaria basic incomes outside of agriculture are determined by wages paid to employees of state enterprises. In agriculture, basic incomes take the forms of a share of income of agricultural cooperatives and of products produced on personal garden plots from private farm operations. The bulk of agricultural income from both sources has been in payments in kind, not money (see Table 10). Wage incomes have been a small proportion of total agricultural incomes in Romania and have been so, too, in Bulgaria until quite recently (see table 13).

Available Romanian data on wages and peasant income earned in agriculture are compared in Table 10. Two qualifications of the latter

TABLE 10.—AVERAGE WAGES AND INCOMES FROM AGRICULTURAL LABOR IN CURRENT LEI

	Average monthly income from agricultural work per active peasant					Average monthly wages of employees			Ratio of agricultural income to wages		
	Before taxes	In kind	In money	After taxes	Taxes	Before taxes	After taxes	Taxes	Before taxes	After taxes	Taxes
1985 ¹				1,770			2,830		62.5		
1980 ²				1,380			2,267		60.9		
1977				1,195			1,818		63.7		
1975	1,018	624	394	990	28	1,813	1,595	218	56.1	62.1	12.8
1970	589	322	257	574	15	1,434	1,289	145	41.1	44.5	10.3
1965	506	308	196	495	11	1,115	1,028	87	45.4	48.2	12.6

¹ Planned.
² Expected.

Sources: Romanian statistical yearbooks, various issues, and sources cited for tables 5 and 6.

are important. First, not all peasant income sources are identified, a point to be discussed shortly. Second, it remains unclear how average income per active peasant is calculated. The data could represent income earned by those working a normative amount of time in agriculture, something equivalent to a "full-time" worker. On the other hand, the data could represent the division of total peasant income from farming by the number of "active" peasants without regard to how much any peasant was active. Significant differences in figures calculated in the two ways would be expected because of the large proportions of peasants who are active in farming only part-time. This includes those who work off the farm, cooperative or private, and those who are otherwise occupied in housework or in education.

It is assumed that the peasant income figures refer to what could have been earned by someone, more or less, fully occupied in farming. With this interpretation, Table 10 shows that the current income obtained in peasant agriculture (cooperative and private) in 1965 was only half of current average wage income. Relative income possibilities did not change until after 1970 (which was a very poor year in farming). Then the Romanian government undertook a number of measures (including granting of minimum incomes for some kinds of peasant work) which significantly improved relative potential incomes from peasant farming to 60–65 percent of wage incomes in current prices.³¹ Further relative improvement appears to have not been planned for 1985. A similar pattern of change in relative incomes is shown by the indices of real income in Table 11. However, there is a

TABLE 11.—INDICES OF REAL FINAL INCOMES, WAGES AND INCOMES FROM AGRICULTURE

Year	Final incomes per capita	Wages per employee	Incomes from agriculture per active peasant	Ratio agriculture incomes to wages
1985 ¹		186	262	141
1980 ²		158	217	137
1979	172	150	215	143
1978	168	147	208	141
1977	156	136	198	146
1976	151	129	192	149
1975	139	121	173	143
1971	112	103	128	124
1970	100	100	100	100
1965	81	84	93	111

¹ Planned.
² Expected.

Sources: Romanian statistical yearbook, various issues and sources cited for tables 5 and 6.

³¹ A discussion of agricultural income policies is found in Jackson, JEC, 1977, pp. 932–6.

smaller relative improvement in real incomes from peasant farming. Prices of commodities purchased by peasants evidently rose faster than prices of products purchased by Romanian wage earners, a result that might reflect different budget compositions.³²

With the aid of calculations in Table 12, recent changes in potential peasant income in current prices can be divided approximately into sources from productivity and from price increases. From 1965 to 1970, more than half of increased money incomes appear to have resulted from increased agricultural prices. Since 1970 most of the increase in peasant money incomes has come as a result of increases in labor productivity in agriculture. Romanian government policies with respect to peasant agricultural incomes after 1970, mentioned above, may be viewed as having only recognized the rising productivity of agricultural labor. In 1977, for example, relative real income from agriculture and relative labor productivity had both increased about 45 percent over 1970 levels.

TABLE 12.—INDICES OF AGRICULTURAL PRICES AND PRODUCTIVITY PARITY

	1965	1969	1970	1971	1975	1977
A. Prices						
1. Prices of agricultural products sold by peasants	83.8	-----	100	-----	105.9	190.7
2. Prices of industrial products purchased by peasants	96.9	-----	100	-----	104.2	106.1
3. Ratio of (1) (2)	86.4	-----	100	-----	101.6	102.5
B. Labor productivity						
1. In gross output:						
Agriculture	124.2	101.4	100	125.4	173.1	218.4
Industry	69.0	93.9	100	103.8	134.7	155.8
Ratio	177.8	108.0	100	120.8	128.5	140.2
2. In value added:						
Agriculture	91.3	108.0	100	130.0	164.3	218.4
Industry	68.5	91.0	100	102.9	135.2	151.0
Ratio	133.3	118.7	100	134.1	120.6	144.6

Source: "Era socialista," LV:12 (June 1975), p.11; "Revue roumaine des sciences sociales, Serie des sciences economiques," 23:1 (January-June, 1979), p. 42; and calculations from the Romanian statistical yearbook, various issues.

It is not surprising that wage incomes exceed those available from peasant agriculture in Romania. Today, the difference mostly reflects real differences in labor productivity and not price discrimination against agriculture. Differences in productivity arise from several sources. Agricultural labor is more poorly educated. It works with a smaller capital stock per worker. For example, in 1978 capital stock per person occupied in agriculture was 54,473 lei; in industry it was 198,176 lei, or 3.8 times more. But this calculation exaggerates the differences in industry's favor. Differences in capital per full-time equivalent worker are much less, perhaps on the order of two times. A third factor is that even a full-time worker in Romanian agriculture would be occupied only 200 days per year. By contrast, an industrial worker averages 290 days per year.³³ Even if daily productivity were the same in the two sectors, an industrial worker in one year would produce 45 percent more output.

³² The first official comparison of peasant and employee budgets, 1978 data by percentages appeared in the 1979 Romanian statistical yearbook, p. 101.

³³ Era socialista, LVI:18 (September 1976), p. 16.

C. Urban and Rural Income Differences

Wage and agricultural incomes in Table 10 do not reflect differences in per capita or per family incomes of urban and rural dwellers in Romania. There are several reasons why this is so. First, dependency rates or the number of persons occupied per family differ. In the 1966 census, presently the latest available data, urban families averaged 1.39 active members; rural families averaged 2.04.³⁴ Second, there is a difference in the extent of activity. Urban active persons are more fully occupied than are those in rural areas by some unknown margin. Finally, there is the important point that both groups receive income from more sources than indicated in Table 10. For comparison, income sources of an average Bulgarian cooperative farm family are presented in Table 13.

TABLE 13.—INCOME STRUCTURE OF COOPERATIVE FARMERS IN BULGARIA

(In percent)

	Income from farming			Other income (percent of income from farming)		
	Cooperative	Personal	Total	Total	Wages	Transfers ²
A. Bulgaria:						
1977.....	21.9	18.1	100	208.0	104.4	96.0
1976.....	35.3	64.7	100	122.2	68.2	54.0
1975.....	49.4	50.6	100	81.2	43.8	37.4
1974.....	56.4	43.6	100	68.5	37.2	31.3
1973.....	62.4	37.6	100	53.1	27.6	25.5
1972.....	61.4	38.6	100	56.6	30.1	26.5
1971.....	59.4	40.6	100	49.6	25.4	24.2
1970.....	57.3	42.7	100	51.6	26.6	25.0
1965.....	60.9	39.1	100	32.8	18.3	14.5
1962.....	58.1	41.9	100	29.6	17.1	12.5

¹ Family garden plot.

² Only money transfer payments.

Sources: Bulgarian statistical yearbook, various issues.

Even as early as 1962, a Bulgarian cooperative farm family received 23 percent of its total income (excluding social services in kind) from sources outside the cooperative or the personal garden plot. With the virtual elimination of agricultural cooperatives recently in Bulgaria, the outside share jumped up to two-thirds, with the dominant share from wage income. Only scattered references to the equivalent Romanian situation have been found. Even as early as 1965, 30.6 percent of *money* income of Romanian peasant families came from wages. By 1970, the share was about one third, not greatly increased.³⁵ The wage share, of course, was lower in total peasant incomes—which includes in kind income—an estimated 20–22 percent. The figure is surprisingly high, over the 18 percent share of wages in Bulgarian cooperative family incomes.³⁶

D. Recent Consumer Price Policy

All available indicators of recent consumer price movements in Romania are presented in Table 14. Romanian retail prices have increased in approximately the same way as those in Bulgaria (shown in Table 8 of that paper). Food prices in the Romanian cost of living in-

³⁴ "Anuarul demografic 1974," pp. 119–29.

³⁵ Banca Națională, "Studii, probleme, comentarii bancare" (Bucharest, 1972), p. 131.

³⁶ Revue roumaine des sciences sociales, série des sciences économiques, 18:2, p. 138.

crease only slightly compared to retail food prices. It may be that prices of food purchased in peasant markets are adequately represented. Romanians publish no data in peasant markets, but impressions from buying in them since 1970 are that prices have increased more than in retail food stores. That fuels and lighting have led the cost of living upward is no surprise. Their increases, in any case, are tiny compared to the cost to Romania of imported fuels. One incongruity in the Romanian data may be noted. The price deflator for incomes from agriculture moves up more from 1965 to 1970 than prices of industrial goods purchased by peasants, shown in Table 12. In addition, both indices move higher than either the total cost of living index or the retail price index. Probably, the differences are accounted for by the relatively larger share of food in peasant family budgets. Even though not all of the food was purchased, it is probably priced in index calculations at retail values.

TABLE 14.—INDICATORS OF CONSUMER PRICES
(1970=100)

Year	Cost of living					Retail prices (excluding peasant markets)				Deflators		
	Total	Food	Clothing and footwear	Fuel and lighting	Rent	Total	Food	Catering	Non-food	Final income	Wages	Incomes from agriculture
1979	108.0	108.1	100.9	122.0	114.9	103	106	106	101	104	106	106
1978	105.4	107.1	100.5	121.3	112.2	103	105	106	101	103	104	105
1977	103.0	107.1	100.0	120.8	111.1	102	105	106	100	100	103	105
1976	103.3	106.1	100.0	120.8	111.1	102	105	106	100	100	103	105
1975	102.6	105.5	100.0	119.9	108.3	102	104	104	100	101	102	103
1974	102.4	105.1	99.6	100.2	100.0	101	103	103	100	100	102	103
1973	101.3	103.3	99.8	100.2	100.0	101	102	102	99	100	102	103
1972	100.6	102.1	99.8	100.0	100.0	100	101	102	92	100	102	103
1971	100.6	101.5	99.8	100.0	100.0	100	101	101	93	100	102	103
1970	100.0	100.0	100.0	100.0	100.0	100	100	100	100	100	100	100
1965	NA	NA	NA	NA	NA	106	101	96	111	93	95	91

Sources: Data and calculations from Romanian statistical yearbooks and sources cited in tables 5 and 6.

VI. INVESTMENT AND CAPITAL RESOURCES

From 1960 to 1978 investments grew faster in Romania than in any other European CMEA country. However, the more remarkable Romanian accomplishment was the sustaining of consistently high investment growth, over 11 percent annual average growth in each five-year sub-period. One or more of the other countries exceeded Romania's growth in one five-year period (Bulgaria and Hungary in 1966-70, Poland in 1971-75), but typically they did not or could not successively repeat the performance as Romania did.³⁷

Romania's investment growth in 1979 dropped to only 5.1 percent, hardly a low growth by standards of most other countries. But, given Romania's previous record, significant problems were suggested. This growth rate was, in fact, the lowest recorded since 1957 when investments actually declined.

A. Comparative Growth of Investments and Capital

The growth of investments and capital in Romania and Bulgaria during successive five-year periods is set out in Table 14a. Missing

³⁷ See, CMEA Yearbook 1979, p. 172.

Bulgarian capital stock estimates before 1952 prevented an extension of the comparison to the first years of socialist government. In any case, during these years reconstruction was still underway in Romania, making comparisons more difficult. From 1952 to 1970, Bulgaria's total investment growth and total capital growth exceeded Romania's by nearly identical margins of only 7-8 percent. The countries are not to be differentiated either in terms of their abilities to make investments grow or their abilities to turn investments into capital. Both tend to show the same characteristics. Whenever investment growth increased, the resulting ratio of investment growth to capital stock growth fell.

TABLE 14a.—COMPARATIVE GROWTH OF ROMANIAN AND BULGARIAN INVESTMENTS AND CAPITAL¹

	1949-52	1953-55	1956-60	1961-65	1966-70	1971-75	1976-78
A. Total:							
Bulgaria:							
Investments.....	140	123	226	146	180	151	116
Capital.....		116	136	145	153	146	126
Ratio.....		106	114	101	118	103	92
Romania:							
Investments.....	227	128	184	170	170	172	141
Capital.....		115	129	139	141	150	131
Ratio.....		111	143	122	113	108	108
B. Industry:							
Bulgaria:							
Investments.....	166	132	206	192	182	134	^a (118)
Capital.....		162	163	198	190	157	^a (122)
Ratio.....		81	126	97	96	85	97
Romania:							
Investments.....	137	128	154	180	165	179	^a (152)
Capital.....		129	146	150	186	185	^a (138)
Ratio.....		90	105	119	80	97	110

¹ Index of the year ending each period compared to the year ending the previous period.

^a Industry and construction

The significant difference between the two countries, and one still needing explanation, is the much faster growth of investments and capital in industry in Bulgaria. From 1952 to 1970, Bulgarian industrial investments grew over 50 percent more and industrial capital over 75 percent more than in Romania.

B. Rates of Investment and Investment Effort

That Romania's total investments grew marginally slower than those in Bulgaria from 1952 to 1970 does not necessarily indicate a lower rate of investment in Romania. In fact, Romania's lower growth of national product through 1960 could suggest a possibly higher investment rate during these early years.

One set of evidences of Romania's investment rate are the figures in Table 15 showing the division of net material product used into its components of accumulation (or net investment in fixed capital and inventories) and material consumption. As explained in more detail in the Bulgarian paper, the defects of these data are that they give no indication of investment financed by depreciation and give no explicit recognition of net foreign investments. Romania provides no further consistent information about these statistics, no values and no growth indices.

TABLE 15.—STRUCTURE OF NATIONAL INCOME USED

Period	Total	Consumption fund			Accumulation fund		
		Total	Individual	Social	Total	Fixed capital	Inventories
A. Comparable prices:¹							
1951-55.....	100	82.4	.....	.....	17.6	.....	.....
1956-60.....	100	84.0	.....	.....	16.0	.....	.....
1961-65.....	100	75.7	.....	.....	24.3	.....	.....
1966-70.....	100	71.2	.....	.....	28.8	.....	.....
1971-75.....	100	65.9	.....	.....	34.1	.....	.....
1976-80 (plan).....	100	66.5	.....	.....	33.5	.....	.....
1981-85 (plan).....	100	70.0	.....	.....	30.0	.....	.....
B. Current prices:							
1951-55.....	100	75.7	.....	.....	24.3	.....	.....
1956-60.....	100	82.9	.....	.....	17.1	.....	.....
1961-65.....	100	74.5	.....	.....	25.5	.....	.....
1966-70.....	100	70.5	.....	.....	29.5	.....	.....
1971-74.....	100	66.9	.....	.....	33.1	.....	.....
1976-78 ²	100	63.1	.....	.....	36.9	.....	.....
C. Assumed "current prices":³							
1951-55.....	100	71.4	70.3	9.1	20.6	12.0	7.8
1956-60.....	100	82.6	73.7	8.9	17.4	12.5	4.9
1961-65.....	100	74.3	65.9	8.4	25.7	18.1	7.6
1966-70.....	100	68.7	61.1	8.6	30.3	22.5	7.8
1971-75 ⁴	100	68.3	58.8	8.4	31.8	25.6	6.2

¹ 1960-60 in 1960 prices; 1956-65 in 1955 prices; 1965-75 in 1963 prices; plan 1976-80 unclear, but assumed to be 1963 prices; plan 1981-85 unclear, but assumed to be 1977 prices.

² Including changes in livestock herds (unclear if this means all herds or just young animals and animals for fattening)

³ Preliminary.

Source: (A) Except plan figures, "Annual statistic 1979," p. 97; plan figures from sources cited in table 5; (B) 1951-74 from "Annual statistic 1975," p. 57; 1976-78 from CMEA-79, p. 48; (C) Manoa Moneacu in "Contributii la dezvoltarea problemelor teoretice ale economiei socialiste" (Bucharest, 1971) pp. 48-49.

The Romanian indicators in Table 15 may be compared to counterpart Bulgarian statistics in Table 10a of that paper. The better data for indicating investment rates are those in current prices. Bulgaria's accumulation rate (or net investment rate) was higher in 1956-60 and then declined relative to Romania's until after 1970 when Romania had the higher rate of accumulation. But, for reasons that can not yet be explained, Bulgaria's higher accumulation rate was the result of larger shares of inventory accumulation. The two countries' shares of net investment in fixed capital were virtually the same in the early years. The statistics in constant prices are subject to misinterpretation because of the index number problems clearly shown in Bulgaria's case. There are only two periods when the Romanian and Bulgarian constant price data are based on approximately the same year prices, 1961-65 when Bulgaria used 1957 prices and Romania used 1955 prices, and 1966-70 when Bulgaria used 1962 prices and Romania 1963 prices. Both would suggest a higher accumulation rate in Bulgaria.

A different and probably more informative picture of Romania's investment effort in the 1970's is found in Table 16. It may be compared to Table 11 of the Bulgarian paper, with the following qualifications: (1) Romanian inventory investments are incomplete, including only unfinished investment projects; (2) the estimates of gross material product fail to consider a proportionately larger service sector in Bulgaria; and (3) the Romanian estimates are in "constant" prices, while the Bulgarian estimates are in "current" prices. The qualifications will be considered, in turn.

The estimated rates of investment in fixed capital (inventory accumulation excluded) for the two countries during the years from 1971

to 1976 using Romanian data in 1963 prices, average less than one percentage point difference. *The countries appear to have had identical rates of investment in fixed capital from 1971 to 1976.* For the first three years of the present five-year plans, 1976 to 1978 (using Romanian data in 1977 prices), Romania invested at a rate averaging 2.3 percentage points (or less than a one percent) higher than Bulgaria.

Romanian inventory investments are understated. In order to compare them with Bulgarian figures, an additional sum of 50 percent of the figures for unfinished investment projects is added.³⁰ With this correction, during 1971-75, the Romanian total investment rate averaged 2.3 percentage points *less* than the Bulgarian figure. In the current five-year plan period, 1976-78, the Romania figure averaged 3.9 percentage points *more* than that for Bulgaria.

³⁰ By this correction, the official figures for investment in fixed capital for 1971-75 are about 88 percent of the result (not including capital repairs). A Romanian economist stated that the actual figures averaged 83-85 percent during 1965-75. See, *Revista economica*, 1976:31 (6 August), p. 2.

TABLE 16.—ESTIMATED INVESTMENT RATE IN GROSS MATERIAL PRODUCT

(in '000 lei in constant prices)

	Investment (1)	Capital repairs ¹ (2)	Total in- vestment in fixed capital (3)	Changes in in- ventories (4)	Change in un- finished in- vestments ² (5)	Total in- vestment (6)	Depre- ciation ³ (7)	Net in- vestment in fixed capital (1)-(7) (8)	Net mate- rial product ⁴ (9)	Gross material product (3)+(7) (10)	Rate of investment	
											(3)/10	(5)/10
In 1963 prices:												
1970.....	80.0	8.3	88.3	NA	6.0	94.3	23.6	65.2	212.1	235.7	37.5	40.0
1971.....	88.4	7.9	96.3	NA	9.6	105.9	26.5	61.9	240.0	266.5	36.1	39.7
1972.....	97.5	8.7	106.2	NA	15.3	121.5	28.7	68.8	265.0	297.3	36.2	41.4
1973.....	105.7	10.1	115.8	NA	14.5	130.3	31.9	73.8	293.0	324.9	35.6	40.4
1974.....	119.7	11.8	131.5	NA	5.7	137.2	36.4	83.3	329.0	365.4	36.0	37.3
1975.....	137.7	11.8	149.5	NA	5.3	154.8	40.8	96.9	361.9	402.7	37.1	38.4
1976.....	148.0	13.2	162.2	NA	17.2	179.4	44.7	101.3	400.0	444.7	36.5	40.3
In 1977 prices:												
1975.....	139.7	11.5	151.2	NA	NA	NA	40.8	98.9	357.0	397.8	38.0	NA
1976.....	151.6	12.0	163.6	NA	15.1	178.7	44.7	106.9	396.0	440.7	37.1	40.5
1977.....	169.3	15.1	184.4	NA	23.4	207.8	38.3	131.0	431.7	470.0	39.2	44.2
1978.....	196.3	17.3	213.6	NA	40.5	254.1	42.3	154.0	464.0	506.3	42.2	50.2
1979.....	206.3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

NA—Not available.

¹ Estimated as the value of gross industrial output in machine building for repairs (according to the "Dicționar statistic economic" (Bucharest, 1963), p. 202, "capital repairs of equipment constitutes work with an industrial character and, as a result, is included in the industry branch.

² Estimated as the difference in (1) and the value of commissioned investments.

³ From author's estimates and World Bank data.

⁴ 1971-74 in 1963 prices and 1975-76 and 1978-79 in 1977 prices projections from published figures using official growth rates.

Source: Official data; and Tsantis and Pepper (World Bank), op. cit., p. 561.

The second correction requires an adjustment for services missing in material product. Such an adjustment would make the estimated investment rates approximate those for gross national product. For the year 1977, it is estimated that services were 11.6 percent of Romania's net material product and 15.3 percent of Bulgaria's.³⁹ For 1977, the adjustment moves Romania's total gross investment rate down 4.6 percentage points and Bulgaria's rate down 5.1 percentage points. The results show Romania investing 42.2 percent (adjusted for inventory understatement) and Bulgaria investing 40.6 percent of their approximate gross national product. Both rates are lowered, but their relative position is barely influenced.

A final qualification to the comparison is that using constant price data in Romania's case since 1970 understates its investment rate during the earlier years of the comparison. The understatement results from the near certainty that prices of Romanian investment goods remained more or less constant, but prices of other items in NMP rose, especially those in agriculture. The understatement probably is not great in any case.

In conclusion, the much faster growth of national product in Romania compared to Bulgaria since 1970 does not appear to result from a higher rate of Romanian investment. One is rather inclined to explain the difference in terms similar to those used to explain Bulgaria's faster growth from 1950 to 1960, that is, in terms of relative ability to transfer labor from low to higher productivity sectors.

C. Investment Plans and Performance

Romanian investments during a five-year plan period tend to follow a plan cycle, that is, they grow more quickly in the first years of the plan as new projects are approved and initiated and then grow more slowly as projects are completed. Given their behavior, it makes good sense that investments are planned as the average growth from one five-year period to another. But it makes a discussion of the relationship between plan and performance more difficult. For this reason, Table 17 shows investment growth in terms of the growth of any given year over the level of investments five years earlier.

As seen in Part B of Table 17, levels of investment in the first four years of the 1976-80 plan were below those required to fulfill the original plan targets. They failed even more to match the supplementary investments added in the revised plan of 1977, most of which was scheduled for industry. Still, compared to most other indices, investment was relatively close to the planned levels.

³⁹ The estimates are based on 1975 figures for Romania and 1974 figures for Bulgaria and include adjustment for services in NMP. See Thad P. Alton et al. *Expenditure on Gross Domestic Product in East European Countries, 1975*. Occasional Papers of the Research Project on National Income in East Central Europe, (New York, 1977) pp. 9, 37.

TABLE 17.—INVESTMENT GROWTH AND STRUCTURE ON A 5-YEAR BASIS

(In percent)

Sector	Performance				Planned			
	1971-75 ¹	1976 ²	1976 ³	1977 ³	1978 ³	1979 ³	1980 ³	1976-80 ¹
A. Distribution	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Industry.....	50.5	47.5	46.8	47.7	49.5	57.0	.....	58.1
Construction.....	4.7	6.6	6.1	6.3	6.5	3.5	.....	3.4
Agriculture.....	14.0	13.6	14.0	14.1	13.5	10.3	.....	11.6
Forestry.....	.4	.4	.4	.4	.4	.....	.....	.....
Transportation and commu- nications.....	10.1	10.9	10.6	10.4	10.1	8.9	.....	9.5
Research and development.....	.7	.7	.6	.7	.6	.7	.....	.8
Trade.....	3.5	3.8	3.9	3.2	2.8	2.5	.....	2.6
Education, health, and culture.....	2.2	2.7	2.6	2.3	1.8	2.5	.....	2.2
Municipal services.....	2.9	3.0	3.9	3.0	3.6	2.5	.....	2.5
Housing.....	9.3	9.0	10.6	9.7	9.8	9.7	.....	8.2
Other.....	1.0	1.1	1.2	1.1	1.0	.....	.....	1.3
B. Growth	10.7	10.7	10.7	11.0	11.9 ³ (10.8)	12-13	.....	12.7
Industry.....	10.9	.....	8.4	10.4	12.3	.....	.....	15.9
Construction.....	15.1	.....	23.7	22.0	21.3	.....	.....	5.7
Agriculture.....	8.3	.....	9.6	10.3	10.5	.....	.....	8.6
Forestry.....	8.0	.....	11.6	9.3	10.9	.....	.....	.....
Transportation and commu- nications.....	10.4	.....	12.8	11.9	12.2	.....	.....	11.3
Research and development.....	13.7	.....	9.6	12.4	10.5	.....	.....	15.2
Trade.....	15.3	13.1	6.9	5.6	.....	.....	.....	6.0
Education, health, and culture.....	6.3	.....	12.3	9.0	5.5	.....	.....	7.8
Municipal services.....	12.2	.....	21.9	18.7	17.1	.....	.....	9.3
Housing.....	10.1	.....	9.8	7.9	9.7	.....	.....	10.1
Other.....	12.6	.....	16.1	13.7	11.1	.....	.....	13.0

¹ In 1963 prices.² In 1977 prices.³ Performance.

Sources: Calculated from Romanian statistical yearbooks, various issues and from sources cited in tables 5 and 6.

Annual plan targets for investment growth on the basis of the past year, shown in Table 18, were higher each year than growth rates required to fulfill the five-year plan. This incongruity, which is observed in other plan indices, was even greater at the sector investment level. Only one annual investment plan was substantially met. The least fulfilled annual plan was that for 1976, even though 1979 saw the lowest growth of investments.

The distribution of investments as planned for 1976-80, shown in Table 17, provided for a not unexpected shift towards industry. The trade sector's investment share was greatly reduced. Otherwise, the plan saw essentially the same distribution as had taken place in 1971-75. Worth emphasizing, is that a larger share of investments in industry did not preclude a significant growth of investments in agriculture. In fact, given the planned shifts in labor, the growth of investments per occupied person was higher in agriculture than in industry by a margin of 15-20 percent.

By 1979, the distribution of investments had deviated significantly from that planned. Investments in industry were far below the plan, while those in construction were far above the plan. Oddly, annual plans for investment in construction called for investments to decrease, but instead investments grew faster than in any other sector. Very large investment growth in industry was planned every year, but from 1977 targets were seriously under filled.

TABLE 18.—ANNUAL INVESTMENT GROWTH; PLANS AND PERFORMANCE

(Annual percentage growth)

	1976	1976	1977	1978 ¹	1979 ²	1980
Planned growth:						
Year-to-year.....	19.4	.....	16.7	16.8	9.1	12-13
5-year earlier or an average annual basis.....	15.8	.....	19.1	(25.5)	(18.7)	29-29
Industry.....	10.3	.....	39.1	(46.5)	(38.7)	.....
Construction.....	4.1	.....	-45.6	(-29.9)	(-35.4)	.....
Agriculture.....	-4.4	.....	0	(1.7)	(-9.1)	.....
Forestry.....	.....	.....	.....	.....	.....	.....
Transportation and communications.....	0	.....	1.3	(11.4)	(4.5)	.....
Research and development.....	0	.....	29.3	(33.0)	(33.3)	.....
Trade.....	-12.5	.....	-15.0	(1.9)	(7.4)	.....
Education, health, and culture.....	57.1	.....	100.0	(60.6)	(100.0)	.....
Municipal services.....	-4.6	.....	8.5	(10.9)	(-18.9)	.....
Housing.....	-3.8	.....	16.8	(21.2)	(18.6)	.....
Other.....	.....	.....	.....	.....	.....	.....
Actual growth:						
Industry.....	8.2	8.5	11.7	16.0	5.1	.....
Construction.....	4.3	4.9	16.3	20.4	.....	.....
Agriculture.....	33.6	44.9	16.9	18.5	.....	.....
Forestry.....	12.6	12.1	12.3	11.3	.....	.....
Transportation and communications.....	12.5	13.3	2.8	17.2	.....	.....
Research and development.....	10.2	8.5	18.7	13.6	.....	.....
Trade.....	9.9	10.3	21.2	3.3	.....	.....
Education, health, and culture.....	15.9	14.2	-9.9	7	.....	.....
Municipal services.....	-5.1	-6.2	7.9	-11.8	.....	.....
Housing.....	32.6	35.3	9.6	10.9	.....	.....
Other.....	7.1	1	2.3	17.3	.....	.....
Other.....	-10.3	-5.8	6.5	1.3	.....	.....

¹ Figures in parentheses based on 1978 prices.² Figures based on 1979 prices.

Source: See table 17.

A possible explanation of the differences in plan and performance between industry and construction is that some unfinished construction on industrial projects was charged to the construction sector. No other explanation has been found in the Romanian literature.

The most serious problem for Romanian investment since 1976 shows up in Table 16. Considering the data on unfinished construction or investments for 1971-75, one observes a probable normal cycle. However, in 1976 the volume of unfinished investments tripled over the level of 1975. By 1978, they amounted to about 21 percent of that year's new fixed capital investments. Yearbook data show that the problem was worse in industry than in any other sector. This build up may indicate that Romanian planners were finally starting to lose their ability to manage rapid investment growth in ways that have typically forced other CMEA countries to subsequently reduce the growth of investments and, with them, the overall growth of national product.

VII. FOREIGN TRADE AND CAPITAL

Romania's foreign trade and international economic policies have drawn world attention to the country. Yet surprisingly many facets of its foreign trade behavior are unknown or misunderstood, a result by in large, of Romania's refusal to publish foreign trade prices and real trade indices. Romanian economists rarely seem to remember this point. Often, with no caveat, they compare growth of the country's trade in current prices with growth of its national product in constant prices, emphasizing the not so surprising fact of the former's more rapid growth than the latter, as if it indicated Romania's increasing participation in the "international division of labor" (i.e. foreign

trade dependence). Of course, it does not, as probably they understand.⁴⁶

A second important misinterpretation of Romania is the extent to which it has depended on machinery imports from the West since about 1960. The share of western machinery in its total machinery imports has been higher since that time than it has in the cases of other CMEA countries. Besides, there is no doubt that the western option has been a very important determinant of Romanian policy. Still, there remains an important point: How much has Romania depended on machinery imports of any source as compared to its use of the home-built variety?

A. A Comparative Perspective on Foreign Economic Dependence

To compare Romania's foreign trade independence with that of Bulgaria may easily distort it. Bulgaria depends on foreign trade far more than other members of the CMEA group, partly because of its small size and lack of mineral resources. Still, the estimates in Table 19 show differences that must reflect differences in development strategy and policy. Romania's apparently low dependency by all three measures estimated in the table surprised even the author. Its total trade increased faster than national production in only two periods, 1955-1960 and 1965-70. The portion of its machinery production exported seems not to have grown from 1960 to 1975 (although some lines of machinery are very export oriented). As a complement to the small fraction of production that is exported, the share of imported machinery and equipment invested has remained low, generally half the fraction for Bulgaria.

Romania's very low propensity to import machinery from any source places its western machinery imports as relatively small fractions of total machinery used. Bulgaria would appear to have nearly as large western machinery shares in total capital stocks as Romania. The important differences between the two is that Romania has very large shares of domestically-produced equipment while Bulgaria has very large shares of equipment imported from CMEA countries, especially the Soviet Union.

Some qualification of the indicators found in Table 19 is called for. Estimates of Romania's real trade would not have been possible without estimated foreign trade prices for the period 1960 to 1975, provided by Professor Jan Vanous. For the period from 1950 to 1960 the author applied Bulgarian foreign trade prices to Romania's trade (in nine ETN categories), except for prices of Romania's petroleum exports which were separately estimated. The unknown distortions in this method could be clarified, most welcome by Romanian economists. The shares of imported equipment in investments could be dis-

⁴⁶ The near future may bring increasing information about Romanian trade. The IMF will begin to publish some version of Romania's balance of payments. In addition, as part of the measures initiated to revise enterprise profits and finance, the *devisa lei* is to be scrapped. Foreign trade will be recorded in the same unit as internal accounts and a single exchange rate, the "commercial rate"—15 lei per dollar will be used.

That Romania desires to simplify its exchange relations is indicated that it rushed Greece to accept the conversion of their payments to a convertible basis, beginning 31 December 1980. See *Scintela*, 15 November 1978; and Supplement la "Revista Economica, 1980:10," p. 1.

TABLE 19.—COMPARATIVE ROMANIAN AND BULGARIAN FOREIGN TRADE DEPENDENCE

	1950	1955	1960	1965	1970	1975
A. Ratio of real total trade growth to real NMP growth.						
Romania ¹	100	84	101	101	125	121
Romania ²	100		115	115	142	138
Bulgaria.....	100	90	153	218	243	245
B. Percentage of machinery exports to domestic machinery production:						
Romania.....			11.3	8.8	8.7	8.8
Bulgaria.....			18.5	27.2	31.3	41.4
C. Percentage of imported equipment in investments:						
Romania.....			23.9	29.9	29.8	25.3
Bulgaria.....			54.2	64.0	52.5	56.6
D. Percentage of western imported equipment in investment:						
(1) Without adjustment for relative CMEA, West prices:						
Romania.....			6.4	10.9	11.8	9.3
Bulgaria.....			3.7	11.3	7.8	10.4
(2) With adjustment:						
Romania.....			6.9	11.5	12.5	9.9
Bulgaria.....			4.0	12.2	8.5	11.3

¹ Using the official index based on 1950 prices for 1950 to 1959.

² Using an unofficial index based on 1955 prices for 1950 to 1959.

NOTE AND SOURCES

A. Real Romanian trade growth for 1950 to 1960 is estimated by applying Bulgarian unit value indices at the narrow CMEA commodity classification, except for petroleum exports for which a separate export price index is calculated. For 1960 to 1975, real Romanian trade growth is estimated using foreign trade price indices supplied by Jan Vanous, where prices for CMEA were applied to Romania's socialist trade. Bulgarian official trade volume indices are used.

B. Export shares given by Montias (Economic Development in Communist Rumania, p. 155) are projected forward using official indices of gross output of machinery and metalworking and devisa machinery and equipment exports deflated by unit export prices explained above.

C. Based on official data, where Bulgarian shares are estimated in real terms.

D. Share of machinery and equipment from the West (non-Socialist) are estimated in real terms, base 1960, and applied to imported shares in C. In the adjustment for CMEA, West relations prices, CMEA prices in 1960 were assumed to be 10 cent higher than western machinery prices.

torted by unknown differences in the import pricing practices of the two countries. Finally, the particular years chosen tend to somewhat understate Romania's relative western shares. Bulgaria's shares were larger than Romania's in 1966 and 1967, but several percentage points smaller than most other years.⁴¹

The Romanian-Bulgarian comparison deserves one further reference to suggest their relative dependence on foreign capital. It is less surprising that Table 20 shows Romania benefiting from less Soviet aid, especially 1961-65, than the evident fact that it has had slightly less recourse to western debt to finance western imports.⁴² As with trade dependency, differences between the two countries reveal what has surely been determined more by policy than by other circumstances. Romania might well have received more Soviet aid if her leaders would have accepted conditions for it. And, up to the present, Romania probably could have borrowed more hard currency to finance even more western equipment.

From a far longer perspective, one cannot avoid historical parallels. Before Romania and Bulgaria became socialist countries, between the

⁴¹ Romania's 1979 statistical yearbook says that the value of imports in domestic prices was established by applying "coefficients" to foreign values. The coefficients are probably the so-called "Commercial" exchange rate (from 1973 to 1978, 20 lei per U.S. dollar; then 18 lei per U.S. dollar). Values from 1975 to 1978 (in 1977 prices) have included also Romanian customs duties. Annual statistic 1979, p. 368.

⁴² For background on Romanian-Soviet relations around 1960, see Montias, *op. cit.*, pp. 193, 198-206. For useful comparative data, see: Paul Marer, "Soviet Economic Policy in Eastern Europe", in JEC-1974 pp. 135-63; Edward A. Hewett, *Foreign Trade Prices in The Council for Mutual Economic Assistance*. (London and New York: Cambridge also Romanian customs duties. Anuarul statistic 1979, p. 368.

two world wars, both were similarly different in their international orientation. Bulgaria borrowed more and traded more (and concentrated her ties on one strong partner). Romania, then as now, tried to avoid foreign debt and to limit her dependence on trade, especially on trade with a single partner.⁴³ How well that strategy has served her economic development during the present now needs to be considered in more detail.

TABLE 20.—COMPARATIVE ROMANIAN AND BULGARIAN FOREIGN CAPITAL DEPENDENCE

	1956-60	1961-65	1966-70	1971-75	
A. Change in hard currency net debt balance compared to imports from the West (percent):					
Bulgaria.....	29.9	20.0	24.4	22.9	
Romania.....		15.9	22.8	20.4	
B. Estimated Soviet aid deliveries compared to imports from the Soviet Union (percent):					
Bulgaria.....	9.9	16.8	NA	NA	
Romania.....	7.2	6.6	NA	NA	
C. Hard currency debt per capita (U.S. dollars):					
	1960	1965	1970	1975	1979
Bulgaria.....	12	31	75	259	436
Romania.....		12	50	115	305
D. Soviet aid deliveries per capita (U.S. dollars):					
	1955-60		1961-65		
Bulgaria.....	14		51		
Romania.....	5		7		

Note: (a) The increases in net debt from the beginning to the end of each period as a percent of total imports during the period. Western imports are from countries identified as "more developed countries" in Vanous' article on trade in JEC-East European Economic Assessment. Values in SDR's are adjusted to U.S. dollars. (b) Net debts are from Zoeter and Smell, with Smell figures for earlier years adjusted by their relation to Zoeter data in 1971.

Source: Jan Vanous, "Project CMEA-FORTRAM Data Bank of Foreign Trade Flows and Balances of CMEA Countries" (Vancouver, B.C., 1977); Marshall I. Goldman, "Soviet Foreign Aid" (New York) p. 28; Edwin E. Smell, "Eastern Europe's Trade and Payments with the Industrial West", in JEC-1974, pp. 693, 718; communication of data estimated by Joan Zoeter (see her contribution to East European Economic Assessment).

B. Plans and Performance, 1976-80

As with other indicators, comparing performance and plan for Romanian foreign trade is not easy. There is, first, the difference in price systems where FYP targets are in constant prices and performance reported in current prices.

Annual plan targets are given either way.⁴⁴ In addition, FYP targets are given as the average growth between succeeding five-year periods. In the following discussion, the FYP target rates are converted into rates of growth measured from year to succeeding year.

Romania's FYP for 1971-75 called for a real trade volume increase of 10-11.5 percent per year and about the same growth of NMP (10-11 percent).⁴⁵ By 1975, NMP averaged a growth of 11.3 percent and

⁴³ The interwar orientations of the two countries are described in John R. Lampe and Marvin R. Jackson, *Balkan Economic Development, 1550 to 1950* (Bloomington, Ind.: Indiana University Press, forthcoming 1981), Part III.

⁴⁴ Examples are: 1976 in current prices; 1977 in "plan" prices; 1978 not definitely indicated but probably prices of January 1, 1978; and 1979 probably in prices of January 1, 1979.

⁴⁵ That Romania's FYP's do give trade in constant prices was confirmed in a (rare) statement by a Romanian during the 1975 meetings of the Romanian-U.S. Economic Council. See, Chamber of Commerce of the United States, *Papers of the Second Plenum, Romanian-U.S. Economic Council* (Washington, D.C., 1975), p. 53.

total foreign trade in current prices a growth of 15.6 percent per year. Trade in constant prices, using data calculated for Table 19, increased about 10.7 percent a year. The 1976-80 plan expected average growth rates for real NMP and total trade of 10-11 and 14-15 percent, respectively. Thus, by their plan, Romanian leaders and planners have indicated a policy of increasing overall trade dependence. By 1978, total trade in current prices had averaged a growth of 13.4 percent; it increased a very large 19.3 percent in 1979. It remains to guess if the current price increases were large enough to carry the planned rate of real growth. In the absence of Romanian foreign trade prices, a rough estimate can be made using Yugoslav export and import unit values (on grounds of an approximately similar trade structure by commodities and regions).⁴⁶ The results suggest the following percentage increases (exports, imports): 1976 (10, 11), 1977 (1, 1), and 1978 (-3, 11). With world inflation continuing, Romania would have done well to have had a real trade growth in 1979 about half the current price increase. Thus, it may be presumed that foreign trade dependency has decreased, contrary to policy.

Table 21 presents evidence of the second Romanian foreign trade plan failure. Romania intended during the FYP to generate an export surplus and, in particular, to reduce its convertible currency deficit. It succeeded in 1976, even with a 67 percent increase in petroleum imports and again in 1977, despite a disruptive earthquake.

But, then in 1978, the plan failed. The ratio of imports to exports rose to the highest level since 1967, and rose again with a 1979 deficit of 5.3 billion devisa lei. Source of both deficits can be traced to the small 5.5 percent increase in exports (current prices) in 1978. With this shortfall, exports would have had to increase nearly 33 percent in 1979 for a balanced trade. One may believe that Romanian planners had the option to reduce imports in 1978 and 1979. In 1977, it is certain that they had done so in real terms, but in 1978 real imports increased about as much as in 1976.⁴⁷ Increased debt must have been the preferred alternative to disrupting import supplies to industry and investment projects.

⁴⁶ United Nations, *Monthly Bulletin of Statistics* (December, 1979), p. 136.

⁴⁷ It is assumed that planners have more control over the physical volume of imports than the price of imports.

TABLE 21.—FOREIGN TRADE SHARES AND BALANCES BY COUNTRY GROUP

	1970	1971	1972	1973	1974	1975	1976	1977	1978
1. Export shares (percent):									
Soviet Union.....	28.6	27.0	26.9	22.1	16.9	19.9	18.2	19.2	17.6
Other CMEA.....	22.4	21.4	21.0	23.6	19.6	18.9	20.2	22.6	24.3
Total CMEA.....	51.0	48.4	47.9	45.5	36.5	38.8	38.5	41.8	41.9
Other Socialist.....	7.1	8.3	8.0	6.2	6.8	7.2	7.4	6.4	7.4
Developed market.....	29.6	31.7	31.6	32.2	39.0	31.0	30.8	27.6	30.0
Less developed.....	12.3	11.6	12.5	16.1	17.6	23.0	23.3	24.2	20.7
Total.....	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
2. Import shares (percent):									
Soviet Union.....	25.5	23.1	22.1	19.8	14.7	17.2	17.5	19.1	16.1
Other CMEA.....	23.5	23.7	23.0	17.6	18.2	20.0	22.6	22.9	21.6
Total CMEA.....	49.0	46.8	45.1	37.4	32.9	37.2	40.1	42.0	37.7
Other Socialist.....	5.0	7.0	6.4	9.9	6.3	6.4	5.3	5.5	6.6
Developed market.....	38.6	38.7	40.0	41.4	47.4	40.5	34.7	32.2	33.5
Less developed.....	7.5	7.5	8.5	11.3	13.5	15.9	19.8	20.3	22.2
Total.....	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
3. Balances (million devisa lei):									
Soviet Union.....	168	491	665	672	329	700	254	32	-52
Other CMEA.....	-257	-289	-311	739	119	-275	-672	-84	167
Total CMEA.....	-89	202	354	1,411	448	425	-418	-52	115
Other Socialist.....	199	164	198	-46	50	230	643	302	44
Developed market.....	-1,250	-888	-1,219	-1,232	-2,653	-2,537	-1,110	-1,598	-2,561
Less developed.....	484	512	575	1,025	817	1,881	1,095	1,362	-1,395
Total.....	-656	-10	-82	1,158	-1,338	-2	211	15	-3,798
4. Trade (million devisa lei):									
Exports.....	11,105	12,606	14,373	18,576	24,226	26,547	30,504	34,894	36,821
Imports.....	11,761	12,616	14,465	17,418	25,563	26,548	30,244	34,879	40,619

Source: Official data and calculations from the Romanian statistical yearbook.

The recent development of Romania's trade by commodities is presented in Table 22. Its export side may be compared to a few plan figures. An early version of the 1976-80 plan called for the share of machinery in exports to rise to 31.8 percent and that for chemicals to rise to 16.0 percent by 1980.⁴⁸ By 1978, machinery exports would have had to increase faster to meet the plan by 1980. They may well have, or possibly their share was pushed up by a relative decline in other exports. A recent Romanian article said the share was expected to reach 40 percent in 1980.⁴⁹ The shortfall of chemical exports was far more serious and may well have been a principal source of the lack of growth in 1977 and 1978 of total exports. A problem for this industry could have been the lack of growth of petroleum imports in 1977 and below plan domestic production (discussed in the following section). However, in 1978 petroleum import volume rose 46 percent over the previous year, a major source of deficit. Still, with apparently more raw materials, chemical export shares did not grow. They might have grown in 1979 because the same recent article, cited above, indicated that the expected export share was 14 percent.

The commodity balances in Part C of the table show three noteworthy features. The negative balance in machinery was reduced sharply in 1976, a year which saw the largest shortfall of investments compared to annual plans of the 1976-79 period. A more important feature of the balances is that since 1975 Romania has covered its machinery deficits with growing export surpluses of consumer manufactures. In this light, the major problem in the balances is that export surpluses of chemicals and agricultural goods are not large enough to cover the rapidly growing deficit of ETN2-fuels, minerals and metals.

⁴⁸ *Era socialista*, LV:12 (June 1975), pp. 6-7.

⁴⁹ *Revista economica* 1980:13 (29 March), p. 9.

TABLE 22.—COMMODITY TRADE SHARES AND BALANCES

	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979
A. Exports (percent):										
1. Machinery.....	22.8	23.1	24.9	24.4	20.6	25.3	25.7	26.4	28.4	.....
2. Fuels, minerals, metals.....	22.7	20.2	16.5	17.3	21.9	22.3	24.1	20.7	22.4	.....
3. Chemicals.....	7.0	8.2	8.2	7.3	11.2	10.8	8.3	8.6	9.2	.....
4. Construction materials.....	2.6	2.6	2.9	3.3	3.0	2.9	3.0	3.9	2.6	.....
5. Other nonfood materials.....	10.2	9.6	8.6	8.1	7.2	6.3	6.5	5.6	5.7	.....
6. Food materials.....	4.5	4.8	7.5	7.2	5.1	5.7	6.3	5.9	4.6	.....
7. Processed foods.....	12.1	13.1	12.5	13.6	15.2	10.6	9.7	12.9	9.7	.....
8. Consumer manufactures.....	18.1	18.4	18.9	18.8	15.8	16.1	16.4	16.6	17.4	.....
B. Imports (percent):										
1. Machinery.....	40.3	42.2	46.1	42.2	34.0	34.7	31.8	36.7	37.1	.....
2. Fuels, minerals, metals.....	30.4	30.2	26.6	27.7	32.1	38.2	45.0	37.4	37.7	.....
3. Chemicals.....	6.7	5.4	5.6	6.4	10.1	6.5	6.8	6.2	6.7	.....
4. Construction materials.....	1.5	1.2	1.1	1.1	1.0	1.1	1.2	1.1	1.2	.....
5. Other nonfood materials.....	10.1	8.7	10.4	12.1	10.5	8.4	7.3	7.5	6.5	.....
6. Food materials.....	2.5	3.6	2.4	3.5	6.1	5.1	6.5	5.1	5.0	.....
7. Processed foods.....	3.0	3.7	2.7	2.3	2.3	2.2	2.0	2.1	2.1	.....
8. Consumer manufactures.....	5.5	5.0	5.1	4.7	3.9	3.8	3.4	3.9	3.7	.....
C. Balances (million devis lei):										
1. Machinery.....	-2,205.0	-2,403.5	-3,094.8	-2,798.8	-3,713.9	-2,491.3	-1,795.1	-3,477.9	-4,622.1	.....
2. Fuels, minerals, metals.....	-1,066.0	-126.1	-1,475.0	-1,610.6	-2,901.5	-4,241.3	-5,065.9	-5,813.1	-7,066.4	.....
3. Chemicals.....	-10.0	+351.8	+375.2	+233.0	+127.8	+1,135.9	+458.6	+807.6	+672.4	.....
4. Construction materials.....	104.0	+180.0	+255.2	+427.1	+485.7	+475.6	+575.6	+642.6	+458.1	.....
5. Other nonfood materials.....	-57.0	+106.7	-268.0	-613.2	-952.1	-558.7	-242.5	-671.8	-568.8	.....
6. Food materials.....	221.0	+147.0	+742.0	+720.8	-307.5	+173.5	-22.9	+309.9	-315.6	.....
7. Processed foods.....	988.0	+1,183.0	+1,398.8	+2,116.8	+3,085.4	+2,226.4	+2,346.3	+3,782.3	+2,726.9	.....
8. Consumer manufactures.....	1,368.0	+1,685.3	+1,974.4	+2,683.1	+2,838.5	+3,278.3	+3,955.5	+4,434.5	+4,981.1	.....
Total.....	-656.0	-10.1	-92.2	+1,158.2	-1,337.6	+1.6	+210.6	+14.1	+3,797.6	.....

Source: Romanian statistical yearbook.

C. Terms of Trade

The movements of Romania's terms of trade, especially after 1975, may be approximated incompletely and with hazard.⁵⁰ From 1970 to 1975, her overall terms of trade declined about 8 percent. Bulgaria's lower decline, 4 percent, in the same period reflected the two countries' different exposures to world and CMEA prices, especially for imported petroleum. However, given Romania's much lower trade dependence, her real welfare losses were probably no larger than those for Bulgaria.

During this period (1970-75) Romania's CMEA terms of trade declined about 6 percent. They showed no change in 1975 when the first CMEA price revisions took place. That year her terms of trade declined 2.8 percent with the Soviet Union, suggesting about a 3 percent improvement with other CMEA countries and less of an improvement than is estimated for Bulgaria (about 10 percent—see Bulgarian paper). In 1976 and 1977, Romania's terms of trade with the Soviet Union fell again by 3.1 percent and 2.4 percent. Her trade balances with other CMEA countries would have had to have improved by slightly smaller percentages to prevent an overall decline. Bulgaria's terms of trade with other CMEA countries declined 4 percent in 1976 and then increased 5 percent in 1977. If Romania followed this pattern, then her overall terms of trade with CMEA would have been down by about 4 percent in 1977 compared to 1975.

Romania's terms of trade with non-socialist countries declined a large 19-20 percent from 1970-1975. According to World Bank estimates, Romania's terms of trade declined 40 percent with the LDC's during this period. Given the two-thirds of non-socialist trade with the developed market countries, Romania's terms of trade probably would have increased with them by 5-7 percent from 1970 to 1975. They may have improved another 3-5 percent by 1977.

Such an improvement would have come close to neutralizing the decline in Romania's terms of trade with CMEA countries. Thus, whether Romania's overall terms of trade declined or rose from 1975 to 1977 depended on what happened in trade with LDC's. Romania would have had to balance a 17 percent increase in the price of imported petroleum with prices of machinery and agriculture exports. World machinery prices were up about 12 percent (over 1975) while prices of foods had not increased and those for agricultural non-foods rose 24 percent.⁵¹

This would suggest a decline of Romania's terms of trade with LDC's whose effect on overall terms would be diminished to about 20 percent, reflecting the LDC share of Romanian trade. One suspects that Romania did not suffer overall large declines. Other less developed European countries except Bulgaria managed small improvements (see Table 13 of the Bulgarian paper).

⁵⁰ Data for the following discussion include: calculations by the author based on foreign trade prices estimated by Jan Vanous (for total terms of trade, CMEA prices serve as proxies for all socialist trades) and Vanous additional communication to the author of the movement of Romania's terms of trade with developed market countries to 1977; Tsantis and Pepper (World Bank), *op. cit.*, p. 123; Raimund Diets, "Price Changes in Soviet Trade With CMEA and the Rest of the World Since 1975," in Joint Economic Committee Print, *Soviet Economy in a Time of Change*, Vol. I (Washington, D.C., 1979), p. 284.

⁵¹ United Nations, *Monthly Bulletin of Statistics* (February, 1980) pp. xxx and 1960.

The only additional evidence that can be offered are estimates of Romania's unit value indices for fuels, minerals and metals (ETN-2). The index of export prices rose to 227 in 1975 (1970=100); the import index rose only to 132. By 1978, the export index rose to 127 (1975=100); the import index rose to 111. With exports about 73 percent of imports in 1975 and 70 percent in 1978, it is evident that on balance, Romania's trade in this category contributed to an improvement in terms of trade. The principle source of improvement was Romania's continued large exports of petroleum products.³²

D. Directions of Trade

Shifts in shares of Romania's trade by country groups, shown in Table 21, are probably even more confusing than for other CMEA countries because of Romania's relatively large shares with non-socialist countries and her oil imports from OPEC rather than Soviet sources. The evident decline in CMEA trade shares from 1970 to 1974 may be attributed mostly to lower relative CMEA price levels and much less a shift of real trade. By 1975, when part of CMEA shares were recovered by rising prices, Romania's real export shares to all socialist countries declined to about 50 percent, compared to 53 percent in 1970. The decline in real import shares was greater from about 57 percent to 49 percent. The lack of estimated foreign trade prices since 1975 permits no easy summary of shifts through 1978. Each country group is more easily considered separately.

1. CMEA COUNTRIES

Romania's trade, since 1974, has evolved differently with the Soviet Union than with other CMEA countries. The initial round of CMEA price increases saw Romania's exports to the Soviet Union rise in value 29 percent and imports rise 22 percent. Since then import values have risen faster than export values. In 1978, even though both sides of trade were reduced slightly, Romania's long standing export surplus with the Soviet Union turned into a small deficit.

Price changes were possibly responsible for changing Romania's 1974 export surplus with other CMEA countries into successively larger deficits in 1975 and 1976. In contrast to the Soviet case, Romania's exports then rose more rapidly than imports. And both increased in 1978. *The combined real and price changes since 1974 have tended to shift Romania's trade from the Soviet Union to other CMEA countries.*

Table 23 offers a different view of Romania's CMEA trade balances. There, "hard goods coverage" is measured as the ratio of Romanian exports to imports (in current prices) of all commodity categories except machinery and consumer manufactures. "Machinery coverage" measures the extent to which Romanian machinery imports are covered by machinery exports and the balance of trade in consumer manufactures.

³² Calculations are based on 1973 unit values and physical import and export series. Included exports were 87.5 percent of total ETN 2 exports; included imports were 71.4 percent of total imports in the category.

TABLE 23.—COMMODITY IMPORT COVERAGE BY COUNTRY GROUP

	Hard goods ¹	Machinery ²
A. CMEA:		
1970	101	95
1971	110	99
1972	118	97
1973	97	123
1974	105	110
1975	101	107
1976	106	88
1977	104	97
B. Developed market countries:		
1970	111	26
1971	130	39
1972	133	36
1973	126	60
1974	101	43
1975	94	52
1976	99	90
1977	99	60
C. LDC:		
1970	85	
1971	88	
1972	84	
1973	83	
1974	87	
1975	89	
1976	58	
1977	81	

¹ Ratio of exports to imports of ETN categories 2 through 8.

² Ratio of the balance in consumer goods trade and machinery exports to machinery imports.

Source: Calculated from official data.

Except in 1973, when Romanian exports may have been diverted by world price changes, her exports to CMEA of "hard goods" have typically exceeded her imports. That behavior did not change through 1977. The same world price changes in 1973 raised Romania's coverage of CMEA machinery imports with exports of machinery and (excess) exports of consumer manufactures. Since then coverage has been reduced gradually except in 1976. As shown by the figures for developed market economies, what seems to have happened was a diversion of Romanian machinery and consumer manufactures from CMEA to developed market countries. As seen in Table 21, 1976 was also a year with a large Romanian trade deficit with other CMEA countries, but a much lower deficit with developed market countries.

2. DEVELOPED MARKET COUNTRIES

In 1976, Romania succeeded in a significant reduction of its deficit with developed market countries. One side of the reduction, as noted, was probably a diversion of exports, chiefly consumer manufactures, from CMEA. The other side was a drop in machinery imports from developed market countries of about 22 percent in current prices. There was very little change in Romania's hard goods balances with developed market countries through 1977. In 1977, a larger deficit resulted from a 62 percent increase in machinery imports from this group of countries.

The most significant aspect of Romania's trade with the developed market countries, as shown in Table 23, has been the general rise in the coverage of its machinery imports with exports of consumer manufactures, and surprisingly, machinery exports (whose percentage of imports rose from 8 in 1970 to a high of 18 in 1976, but fell to 12 in

1977). One has no idea of what the real costs of Romanian market penetration might have been. But Romanian marketing or foreign trade organizations have succeeded in linking domestic production to hard goods markets where competition is greater. Romanian experience in this area may prove to be more valuable to her economic development than imports of western machinery or technology. Here, Romanian strategy significantly departs from that of Bulgaria which, in tying exports of machinery and consumer goods to CMEA specialization agreements, has acquired little capacity to market in the West.

3. LDC MARKETS

Romania's increasing trade shares with LDC's have been a major goal of policy since the early 1970's. It is backed up today with 15,000 Romanian specialists (according to recent reports) and over 26 joint production companies in those countries. Through 1977, Romania enhanced this trade with export surpluses represented by large proportions of credit deliveries of equipment and construction services. At the same time, however, Romania has received increasing proportions of her imports of non-agricultural materials including all of her very greatly increased petroleum imports. It should not be overlooked, as Table 23 shows, that Romanian imports of "hard goods" from the LDC's have been covered by her own exports in these categories. In this case, exports have been increasingly represented by agricultural products. The LDC share of total Romanian exports of agricultural products rose from only 6 percent in 1970 to about 30 percent in 1977. The diversion was entirely from exports to the developed market countries.

The growth of Romania's trade share with LDC's and of its export surplus, coming as it did in the face of a 40 percent decline in terms of trade, necessarily imposed high real current costs on Romania's policy (her real export surplus grew much faster than her nominal surplus). What has happened since 1975 is less clear. The fall of the export surplus in 1976 clearly resulted from a very large, temporary deficit with the OPEC group. By 1978, it turned into a small export surplus.⁵³ *Therefore, the very large shift in Romania's LDC balance (see Table 21), which alone accounted for about 75 percent of her 1978 deficit, was entirely with non-OPEC countries.* What happened this year is unclear. As noted above, Romania's real total exports may have declined in 1978. In any case, exports to LDC's declined in current prices by 11 percent. Did the decline represent Romanian delivery failures, or could Romania now have been drawing upon its previous credit extensions?

VIII. INDUSTRY'S PERFORMANCE AND PROBLEMS

Rapid industrialization, constrained by considerations of national independence, has been the keystone of Romanian economic policy since 1948. There is no doubt about the rapid growth of industrial output, whatever measure is chosen. Yet, before 1960 Bulgaria achieved a faster growth of output and even faster growth of industrial employment. Bulgaria's performance was partly a function of its initially

⁵³ See, *Directions of International Trade*, 1979, p. 232.

lower level of industrialization. Still, this provides no logical reason for the slower growth of Romania's industrial capital. Romania does appear to have started with a more capital intensive industry than Bulgaria. But, again, this ought not to have required Romania to increase capital: labor ratios relative to Bulgaria's until 1960. But Romania did and, in consequence, absorbed less of its more rapidly growing labor force into industry.

Since 1960 Romania's industrial growth has outpaced even Bulgaria's rapid growth. Its relative improvement was connected with both increasing capital growth and decreasing capital labor ratios (the latter only until 1965) compared to Bulgaria. Oddly enough, the shift took place at a time when Romania appears to have benefited from less foreign capital and foreign trade independence, compared to Bulgaria.

It was not until after 1970 that Romania's more rapid industrial growth began to show noticeable effects on raising its growth of national product compared to Bulgaria. From 1970 to 1978 Romanian industry's share in NMP grew 27 percent more than Bulgaria's counterpart; its share in GNP grew 43 percent more.

Only with this background can the reduction of Romania's growth rate of industrial output in 1978 and 1979 be considered a "problem". As noted, it was the first time since 1956 that the official index of gross industrial output fell below 10 percent. Worth mentioning is the fact that "net industrial output", newly incorporated as a plan and performance indicator in 1979 did grow 9.1 percent that year, faster than the 8.0 percent recorded for gross industrial output. But the margin of its growth over the gross indicator was less when compared to 1975.⁵⁴

A. Plan and Performance, 1976-80

The original plan targets for 1976-80 envisaged a pattern of growth similar to that achieved in 1971-75. A slightly faster pace was set for fuels and food. Other branches were to repeat their performances, except electric power and machinery. But the latter kept its leading role in growth, along with chemicals, and its most rapidly growing product groups, electronics and machine tools, were expected to more than double their output from 1975 to 1980.

By 1979 only one branch, construction materials, was above rates set by the plan. It began to exceed the plan in 1976, which coincides with the previously noted over fulfillment of investment in construction. Oddly enough, the two physical product series in the industry for which FYP targets are available were below plan. In fact, none of the physical series given in the yearbook show much growth.

Branches below plan were more numerous—electric power, fuels and chemicals, with the latter showing the greatest shortfall. Numerous products or product groups were below plan including: steel, aluminum, cellulose, cement, fiberboard, fabrics, footwear, sugar and edible oils. Every product group for which targets were available (as listed in Table 24) were behind plan except industrial equipment and household appliances. Especially large shortfalls were recorded by transportation equipment, radios and televisions.

⁵⁴ See Scinteia, 7 February 1980. No earlier data on "net industrial output" has been released. It differs from industry's contribution to NMP by turnover taxes included in the latter.

Of course, there remains one year of the plan to finish. Perhaps the downward trend of 1978 and 1979 will be reversed. The latter year showed all branches except food with lower growth than the 1976-78 averages. Chemicals and electric power grew only 2 percent and fuels less than 1 percent. But in only a few cases was 1979 critical for the below plan rates since 1975. In fact, for coal output, the worst years were 1976 and 1977. For the chemical industry, 1979 was critical, but all of its product series in Table 24 were doing poorly in earlier years.

TABLE 24.—INDUSTRY PLAN AND PERFORMANCE

Branch or product	Performance						Plan 1976-80
	1971-75	1976	1977	1978	1979	1976-79	
Electric power and heat.....	9.8	9.2	4.2	6.4	1.8	5.3	6.7-7.7
Electricity.....	8.9	8.5	2.7	7.4	1.0	4.8	6.9-8.0
Fuels.....	5.3	7.1	5.1	4.9	.6	4.4	6.8-8.3
Coal, net.....	5.7	-4.6	3.6	9.3	12.0	4.9	14.4-15.7
Petroleum.....	1.8	.8	-.3	-6.3	-10.2	-4.1	1.2
Natural gas.....	6.2	10.5	-3.6	.8	-6.2	.2	-.1
Metallurgy.....	11.3	11.3	16.2	8.7	8.0	11.0	11.6-12.6
Iron ore.....	10.0	7.6	5.4	5.9	3.7	5.6	NA
Pig iron.....	-.9	-7.5	-13.0	1.8	NA	NA	NA
Steel.....	9.4	12.3	5.0	4.8	NA	NA	NA
Rolled ferrous.....	7.9	12.4	6.7	2.8	9.6	7.8	11.7-12.6
Aluminum.....	8.6	7.3	14.9	6.7	NA	NA	NA
Machine building.....	15.1	1.5	.1	1.9	1.9	1.6	4.6-5.0
Electric motors.....	18.1	12.2	15.2	14.3	11.7	13.4	11.8-12.6
Automation/calculation devices.....	18.1	-3.9	22.5	12.1	8.3	9.4	11.0-13.0
Metalcutting equipment.....	35.3	18.3	-29.0	44.7	29.3	11.9	20.1-23.9
Industrial equipment.....	31.8	18.8	16.8	14.3	27.7	18.9	20.6-23.7
Tractors.....	12.9	10.5	21.1	10.7	18.0	15.0	13.5-14.7
Trucks.....	11.2	7.8	10.0	10.8	-4.9	4.6	7.0-9.9
Offroad vehicles.....	.5	-5.8	2.5	-2.4	0	-1.5	4.6-6.8
Utility vans.....	11.2	-16.6	-9.7	-9.4	NA	NA	7.6-9.9
Main line locomotives.....	13.0	6.0	24.2	-14.2	NA	NA	14.0-17.0
Marine vessels.....	4.7	-26.0	25.9	-20.6	4.4	-3.8	1.8-2.9
Radios.....	37.1	26.0	50.3	-44.5	61.4	14.1	31.4-34.5
Televisions.....	9.4	11.1	-7.7	-9.0	14.0	1.5	9.1-10.6
Household appliances.....	12.8	7.0	-13.1	8.4	11.2	2.9	6.5-7.4
Refrigerators.....	21.8	20.1	3.1	15.8	13.7	16.3	11.7-13.4
Chemicals.....	19.7	13.3	10.1	8.9	10.7	12.3	9.0-10.7
Fertilizers.....	15.2	15.8	14.2	9.9	1.0	10.1	15.2-16.5
Macromolecular material.....	14.1	8.1	6.0	24.2	2.5	9.9	18.5-19.1
Synthetic rubber.....	11.0	34.0	17.0	1.5	-6.5	10.4	23.6-25.0
Artificial and synthetic fiber.....	10.1	-3.8	43.0	8.3	.9	10.7	24.0-26.3
Tires.....	15.7	12.8	2.3	7.4	-.6	5.5	14.3-17.1
Construction materials.....	5.6	12.3	4.2	1.5	1.0	5.8	10.6-11.7
Cement.....	10.0	14.2	17.0	16.2	12.8	15.1	9.0-10.0
Particle and fiber board.....	8.6	8.9	6.0	5.9	6.2	6.7	9.6-10.8
Woodworking and paper.....	14.1	8.4	4.9	7.5	1.5	5.5	7.8-8.6
Furniture.....					4.4	6.5	4.6-5.7
Cellulose.....	12.4	8.3	3.7	7.6	8.6	7.0	7.6-9.2
Paper and cardboard.....	5.3	6.1	1.5	-.8	1.6	2.1	4.9-6.8
Light industry.....	4.7	6.8	8.7	5.4	3.1	6.0	6.8-7.2
Textiles.....		13.1			8.1	10.0	8.0-8.7
Fabrics.....	12.1	(16.0)	(11.0)	(9.0)			
Clothing.....	7.3	14.7	5.8	2.9	.6	5.9	10.1-10.5
Knitwear.....	17.1	(11)	(8)	(7)			
Readymades.....	7.8	20.6	6.5	10.7	10.7	12.0	NA
Leather.....	17.6	10.8	-20.9	7.6	7.3	7.9	6.0-7.2
Footwear.....	9.1	(10.0)	(11.0)	(7.0)			
Food industry.....	5.7	10.2	3.2	.8	4.9	4.7	9.2-9.8
Meat and meat products.....	7.4	9.8	11.2	.6	7.7	7.2	7.7-9.2
Edible oils.....	15.8	13.6	6.2	.5	17.1	9.1	8.1-10.3
Sugar.....	3.2	0	14.0	-.7	10.0	4.0	13.5-14.2
Conserved vegetables and fruit.....	6.5	8.7	4.9	-22.2	-5.6	.4	14.1-14.8
.....	9.7	22.2	2.0	-1.9	-1.6	5.2	2.7
Total.....	12.9	11.7	12.3	9.1	8.0	10.2	10.2-11.2
"A" group.....	13.7	11.3	13.9	10.2			
"B" group.....	11.1	11.7	9.5	5.9			

Sources: See tables 5 and 6.

Annual industrial growth plans, as noted in other cases, did not have targets always consistent with the FYP. In some cases, the differences clearly suggest a change in plans. Aluminum is the most obvious case; its annual plans were fulfilled each year. Motor vehicles, excluding tractors, are another one. And one may add the construction materials branch as a whole, but not cement which failed annual plans each year. Annual plan fulfillment in Table 25 suggests that annual plans were generally more ambitious than the FYP because in each year more product plans were underfilled than fulfilled.

B. Sources of Problems in Industry

Why Romanian industrial growth was reduced in 1978 and 1979 cannot be answered with any certainty. The events are too recent, with much data lacking for 1979, and systematic analysis such as computation of production functions, etc. is missing. It would be especially useful, to have some idea if a downward trend in growth had begun or if Romania had suffered a temporary dislocation,

Evidence of a possible downward trend is found in the plans for 1981-85 (see Table 5). As early as December, 1977, before performance had declined, the plan guidelines projected a lower average rate of growth for industry (9.0-9.8 percent). Then after performance declined, the plan directives, approved in November 1979, reduced the growth rate to 8.0-9.0 percent, a range matching the economy's 1978 and 1979 performance. Hence, Romanian planners and leaders appear to believe that the causes of the recent reduction are relatively permanent. But the problem of relying on this evidence is that past guidelines and directives have understated growth rates in the final plan. At the "directive" stage the 1976-80 plan set industrial output growth at 9-10 percent a year, but they ended up 11.5 percent a year in the revised plan of 1977.

TABLE 25.—ANNUAL PLAN FULFILLMENT FOR INDUSTRIAL PRODUCTS

Percentage fulfillment	Number of products ¹			
	1976	1977	1978	1979
Over 101.9.....	5	4	4	3
98 to 101.9.....	7	8	6	3
90 to 97.9.....	10	7	8	8
80 to 89.9.....	5	3	5	6
70 to 79.9.....	0	1	2	4
60 to 69.9.....	1	3	1	4
50 to 59.9.....	0	0	1	0
Total.....	28	28	28	28

¹ Products or product groups for which plan and performance figures are available.

Sources: See table 6.

The possible sources of Romania's reduced industrial growth are numerous. Possibly both permanent and temporary factors were at work. The evidence for them ought to be reviewed.

A likely permanent factor was reviewed in the section on labor resources. Table 7 shows that labor in industry and construction will reach only 94 percent and possibly less of levels planned in 1976 for 1980. By 1979, female labor, now 38.9 percent of industrial employees

(up from 30.6 percent in 1970 and 35.8 percent in 1975), had reached only 87 percent of levels planned for 1980. Future labor reserves are predominantly rural females. Even though they, like males before them, are likely to be attracted by higher incomes from industrial employment, they are less likely to be either long-distance commuters or to move from villages as single persons. The single most important factor governing their movement to urban areas will probably be the rate of urban family-type housing construction. Romania's failure to meet housing construction plans may be a cause of the labor plan shortfall.

A "labor shortage" explanation requires at least two qualifications. First, it is difficult to ascertain whether labor growth causes industrial growth or, as long as agricultural reserves are available, whether industrial growth causes labor growth. Simply put, the labor shortfall in industry may reflect a shortfall in job creation because capacity expansion has been behind schedule. Second, in any case, industrial growth results from two factors, labor growth and labor productivity growth. Data on both are presented in Table 26.

TABLE 26.—GROWTH OF LABOR AND LABOR PRODUCTIVITY BY BRANCH OF INDUSTRY¹
[In percent]

Branch	Growth				Share of growth		Labor productivity ²		
	1971-75 ³	1976	1977	1978	1976-78 ³	1971-75	1976-78	1971-75 ³	1976-78 ³
Electric power and heat.....	1.4	2.1	0.9	-1.4	0.6	0.4	0.2	8.3	6.5
Fuels.....	.9	2.4	2.9	2.7	2.7	.6	2.7	4.3	3.5
Coal.....	.7	1.6	3.5	2.3	2.5	.3	1.4	4.7	2.3
Petroleum.....	.7	3.7	.8	3.6	2.7	.2	1.0	3.4	3.7
Ferrous metallurgy.....	3.8	6.0	5.7	4.1	5.2	2.2	5.2	8.1	9.8
Non-ferrous metallurgy.....	3.8	6.8	.9	2.9	1.5	1.7	1.1	5.9	5.2
Machinery and metalworking.....	10.8	5.7	5.0	5.6	5.4	49.7	51.3	7.4	9.0
Chemicals.....	7.3	3.7	4.1	5.6	4.4	7.7	8.7	7.7	11.5
Minerals.....	4.9	4.0	1.5	-2.3	1.0	.4	.1	12.4	9.2
Construction materials.....	2.1	.3	7.8	1.6	3.2	.2	3.8	6.4	9.8
Wood processing.....	1.3	-.3	.6	-.1	.1	2.7	.3	4.8	7.2
Paper.....	4.0	4.3	1.9	0	2.0	.8	.7	5.1	7.4
Glass and porcelain.....	1.4	3.5	4.5	-.1	2.4	.2	1.0	5.8	8.2
Textiles.....	7.3	5.9	4.9	2.1	4.3	12.8	13.9	4.6	8.1
Clothing.....	8.6	4.2	1.8	.3	2.1	8.2	3.8	8.1	5.8
Leather.....	4.0	3.7	3.6	1.5	2.9	2.5	3.0	5.2	6.7
Food.....	4.1	2.7	5.3	-2.7	1.7	5.3	3.7	3.2	5.2
Other.....	4.8	-.9	4.5	-2.2	.4	1.3	.2	.....	.....
Total.....	6.3	3.8	4.1	2.6	2.1	100.0	100.0	6.4	8.0

¹ Excluding temporary employees and private artisans.

² "Republican" industry.

³ Annual average, geometric rate.

Source: Romanian statistical yearbook, various issues.

Labor productivity did increase faster from 1976 to 1978 than in the previous five years, but not enough to make up for the even greater reduction in the growth of labor. To have done this would have required an average increase of 10.8 percent. In 1979, productivity (in republican industry, excluding local and cooperative industry) grew only 6.4 percent. The rate called for in the plan for 1976-80 was 8.5-9.0 percent, then revised to 9.2 percent. The "directives" version of the 1981-85 plan calls for an industrial labor growth of less than one percent a year, with productivity growth of 7.0-7.5 percent a year. Romanian planners must hope that the 1979 performance slowdown resulted from temporary causes.

Recent patterns of investment in industry are shown in Table 27. As would be expected in a still relatively small economy, annual investments at the branch level fluctuate in a confusing pattern, mostly reflecting the initiation of new projects. However, the structure of investments for 1976-78 hardly deviates from the 1971-75 pattern. The annual growth of total investments shows a pattern following a normally expected five-year plan cycle. It differs from the pattern in the previous five-year period (shown as the bottom line of Table 27) by a much slower start and, then, a much faster build up in 1977 and 1978. Why investment was slow to get under way in 1976 is unclear. Domestic machinery and construction materials industries that supply most investment goods grew that year, respectively, 12.2 and 14.2 percent. A possible source of problems was noted in the section on foreign trade. Under evident pressure to prevent a balance of trade deficit, imported machinery and equipment increased only 4.6 percent in current prices. Given a world price increase of 3 percent and CMEA price increases of 9-20 percent, real machinery imports would appear to have decreased.^{55 56 57} Yet, Romanian data on imported equipment in investment shows an increase in 1976 from 1975 of 14 percent in 1963 prices or 24 percent in 1977 prices.⁵⁸

TABLE 27.—INVESTMENTS OF BRANCH OF INDUSTRY¹

[in percent]

Branch	Growth					Structure	
	1971-75 ^a	1976	1977	1978	1976-78 ^b	1971-75	1976-78
Electric power and heat.....	10.6	5.2	-0.4	7.5	4.1	13.7	12.0
Fuels.....	12.2	9.0	1.1	18.9	9.4	12.6	13.2
Coal.....	17.4	10.0	34.0	8.3	16.9	3.3	4.8
Coke.....	23.5	66.9	-35.3	-19.7	-3.1	.7	.5
Petroleum.....	12.5	7.7	-11.2	29.0	7.2	7.2	7.2
Natural gas.....	-4.2	-13.8	-17.1	28.4	-2.9	1.4	.7
Ferrous metallurgy.....	17.6	.1	9.4	34.9	13.4	8.8	10.7
Nonferrous metallurgy.....	11.9	29.9	6.0	10.8	15.1	3.7	3.3
Machinery and metal working.....	12.0	14.2	35.2	23.8	24.1	20.2	23.4
Chemicals.....	18.5	-8.8	40.7	24.5	16.9	15.8	15.0
Minerals.....	-2.1	-13.7	5.8	75.7	17.1	.5	.5
Construction materials.....	7.1	7.3	-8.0	44.5	12.6	5.2	4.2
Wood processing.....	6.0	0	8.3	1.1	3.1	3.4	3.0
Paper.....	13.0	-51.5	56.5	90.5	13.0	1.7	1.1
Glass and porcelain.....	-17.3	14.9	90.4	11.1	34.5	.6	.7
Textiles.....	11.5	5.2	29.2	15.0	16.1	4.1	3.6
Clothing.....	13.4	-28.7	30.5	20.9	4.0	.6	.4
Leather.....	14.9	-3.9	25.9	45.3	20.7	.4	.4
Food.....	12.8	8.8	1.4	.6	3.5	6.2	5.9
Other.....	10.9	17.6	16.1	-1.5	10.4	2.4	2.6
Total.....	12.3	14.9	16.3	20.4	13.7	100.0	100.0
"A" group.....	12.5	4.0	17.8	22.1	14.3	83.4	85.6
"B" group.....	11.5	10.1	3.5	11.0	10.2	15.7	14.4
	1966-70	1971	1972	1973	1971-73		
Total.....	10.6	12.8	15.0	13.8	13.9		

¹ Socialist sector.² Annual average, geometric rate.

Source: Romanian statistical yearbook, various issues.

^{55 56 57} Price data are from United Nations, Monthly Bulletin of Statistics, (February, 1980) p. xv; and Diets. op. cit., p. 27⁸⁵⁸ The different results are presumed to show the influence of custom duties included in the 1977 prices. See, Anuarul statistic 1977, p. 333, and 1979, p. 375.

Investments, in any case, do not instantly create new job or production capabilities. A major problem in the Romanian economy, as discussed in the section on investments, was the very rapid increase in inventories of unfinished investment projects the great bulk of which were in industry. This was not just because investments in industry were greater than in any sector, but because the ratio of investments commissioned or put into operation to investment outlays was lower. Table 28 presents the ratios by branch of industry for 1976-78 and a comparable period, 1971-73. The table also compares 1971-73 with the whole five-year period, 1971-75, to show the expected cycle; that is, the commissioning ratio is low during early years as new projects are started and then rises as they are completed. A high level of uncommissioned projects in 1976-78 compared to 1971-73 appears in several branches: coal, ferrous metallurgy, machinery and metalworking and several branches of light industry. As a result, commissioned investments actually declined 8.3 percent in 1976, rose less than one percent above the 1975 level in 1977 and were still only 3.1 percent above 1975 in 1978.

The question is, what was causing the problem? In the case of ferrous metallurgy, a possible explanation was the large investment flows into Romania's third major integrated steel complex at Calarasi on the Danube River.⁶⁰

The coal industry's problems have been attributed to a failure of equipment deliveries from local producers. In any case, its problem appeared to be solved, as evidenced by the significant growth of output in 1979 (see Table 29). While import restrictions may have been a problem in 1976, they did not continue in 1977 and 1978. Imported equipment rose 20 percent and then another 40 percent (in 1977 prices). In Romania's import statistics, machinery took nearly 70 percent of

TABLE 28.—PERCENTAGE OF INVESTMENTS PUT INTO OPERATION COMPARED TO INVESTMENTS¹

Branch	1971-75	1971-73	1976-78
Electric power and heat.....	77.2	118.2	87.4
Fuels.....	66.3	64.8	68.8
Coal.....	83.5	98.4	81.4
Coke.....	78.9	72.5	84.3
Petroleum.....	55.5	52.3	58.2
Natural gas.....	76.3	68.7	78.9
Ferrous metallurgy.....	79.2	92.0	78.8
Nonferrous metallurgy.....	83.7	75.6	82.2
Machinery and metalworking.....	98.5	87.7	88.2
Chemicals.....	83.9	58.2	68.4
Minerals.....	112.2	111.6	75.6
Construction materials.....	98.4	2.3	98.1
Wood processing.....	105.8	102.7	95.8
Paper.....	87.9	81.0	98.7
Glass and porcelain.....	108.3	108.2	62.3
Textiles.....	98.4	98.7	83.1
Clothing.....	98.7	93.6	87.6
Leather.....	99.3	92.4	87.8
Food.....	98.5	83.4	95.8
Other.....	98.6	93.2	78.7
Total.....	86.1	79.9	78.3
"A" group.....	85.0	78.5	77.9
"B" group.....	92.9	86.7	87.8

¹ Socialist sector.

Source: Romanian statistical yearbook, various issues.

⁶⁰ Its first stage is to be completed during the 1981-85 period with a 3 million ton capacity. Its first output, from an electric furnace, was announced by Ceausescu at the 13th Party Congress. *Scientia*, 20 November 1979.

the increase in imports in 1977 and nearly 40 percent in 1978.⁶⁰ What happened in 1979 is not yet known.

Two temporary influences on Romania's industrial production deserve note. Both might be placed in the "acts of god" category. The first is the earthquake of March 4, 1977. Some 763 industrial, construction and transportation units were damaged, but two weeks later only 17 had not been put back into full capacity.⁶¹ Serious damage is known to have occurred at important facilities in electronics and chemical fertilizers, as a result of which their 1977 annual targets were fulfilled only by 60–65 percent. Industrial electronics were quick to recover, but not production of radios and televisions. Fertilizer production managed only a small 2.8 percent growth in 1977, then 7.4 percent in 1978, only to fall by nearly 1 percent in 1979 from other causes. All other areas fared better as attested by the overall increased growth of industrial output in 1977 compared to 1976.

A second temporary problem was the small (0.6 percent) decline in agricultural output in 1977. But its effects were delayed to 1978 when output of the food industry rose only 0.6 percent (compared to 11.2 percent in 1977). As in Bulgaria, another agricultural problem, the limited growth of animal feed which kept herds below planned levels, temporarily retarded meat output in the food industry.

C. Energy and Material Balances

With the three most disrupted branches of Romanian industry—chemicals, fuels and electric power, the major users and producers of energy—a further consideration of problems arising in Romania's energy and materials balance is unavoidable. Two points need evaluation. First, to what extent have outside events beyond the control of Romania's leaders and planners caused problems, and in what way may Romania's policy of lesser dependence on Soviet sources of energy and materials have posed special problems? Second, to what extent have problems resulted more from the way Romania has reacted to the energy crisis in efforts to increase the efficiency of energy and materials use, to otherwise reduce their use and to develop internal resources?

Romania rivals Poland as the most energy sufficient country in Eastern Europe. In part, Romania's advantage results from lower per capita consumption, reflecting her relatively lower levels of industrial development and personal consumption. However, at the same time, Romania, like Poland, tended to develop industrial branches and product assortments that were energy and material intensive. Whereas Poland's relative development has been based on coal resources, Romania's has been more oriented to use of her petroleum and natural gas.

A pre-existing refinery industry was expanded beginning immediately after the war. Chemicals based on hydrocarbons started to de-

⁶⁰ In the import statistics, machinery imports grew 33 percent in 1977 and 18 percent in 1978, in current prices. World prices rose 9 percent and then 15 percent. CMEA prices rose 3–15 percent in 1977. A rough deflation of the import statistics, would result in a figure corresponding to the imports in investment statistics for 1977, and a much smaller one in 1978.

⁶¹ Scinteia, 18 March 1977. At that time total material damages were reported to have been 9 to 10 billion lei (about \$500 million at the existing commercial exchange rate), or 2–3 percent of the NMP and about 6 percent of the investment of 1977. Subsequently, a much higher figure of \$2 billion of material damages was reported by President Ceausescu (Scinteia, 20 November 1979).

velop more rapidly in the 1960's. Finally, lacking resources of even medium quality coal, Romania's thermoelectric capacity was fueled mostly by hydrocarbons. Before 1970, these combined demands, including exports, exceeded domestic production of petroleum. After 1970 (see Table 29) the surge in industrial growth, with chemicals as a leading industry and the maintenance of relatively constant levels of petroleum product exports, forced crude petroleum imports up so fast that in 1978 they exceeded domestic production. During this time new refining and chemical capacities, the most spectacular example of which is the huge Navrodi complex, were increasingly located on the Black Sea coast or at major lower Danube River ports.

The other part of Romania's energy and material situation has been her effort, common to all the East European socialist countries and many others to develop an iron and steel industry on the base of inadequate domestic natural resources. Both the Galti complex initiated in the early 1960's and now the new one at Calarasi are located for convenient access to imports of raw materials. Coke imports (see Table 29) exceed domestic production.⁶² In addition, iron ore imports exceeded domestic production by 1965, by the time new Galati steel production came on line. Domestic iron ore production barely grew through 1970, and then declined.

TABLE 29.—PRODUCTION, IMPORTS AND EXPORTS OF SELECTED FUELS, ENERGY AND MATERIALS¹

	1970	1975	1976	1977	1978	1979
A. Production:						
Crude oil.....	13,377	14,490	14,700	14,650	13,720	12,323
Petroleum products.....	14,403	18,327	21,151	21,236	23,793	-----
Natural gas ¹	19,971	27,001	29,835	28,755	29,973	27,189
Electricity ²	35,088	53,721	58,266	59,858	64,255	64,905
Total coal.....	20,531	27,091	25,842	26,778	29,263	32,764
Washed coking coal.....	1,306	1,845	1,924	2,154	2,540	-----
Metallurgical coke.....	1,070	2,227	2,472	3,148	3,456	-----
Iron ore.....	3,206	3,065	2,835	2,467	2,511	-----
Chemical fertilizer ²	895	1,729	1,860	1,981	2,461	2,522
Synthetic resins and plastics.....	206	347	465	544	552	516
Synthetic rubber.....	61	99	95	136	147	149
Chemical fibers.....	77	150	179	184	197	196
B. Imports:						
Crude oil.....	2,291	5,085	8,475	8,844	12,937	-----
Metallurgical coke.....	2,417	2,537	2,816	2,096	2,803	-----
Washed coking coal.....	685	2,015	2,085	2,696	3,543	-----
Electricity.....	28	502	684	1,738	344	-----
Iron ore.....	6,268	10,879	11,740	12,402	13,843	-----
Plastics and materials.....	22	52	47	96	83	-----
Asbestos concentrate.....	317	516	685	779	879	-----
Potash fertilizer.....	39	92	110	129	162	-----
C. Exports:						
Petroleum products.....	5,370	6,176	7,842	6,742	7,550	-----
Electricity.....	2,334	2,918	2,422	2,016	2,156	-----
Chemical fertilizer ²	442	1,414	1,933	2,225	2,266	-----
Synthetic resins.....	44	50	143	174	184	-----
Synthetic rubber.....	25	39	41	52	69	-----
Synthetic fibers.....	5	24	47	27	44	-----

¹ All units in 1,000 tons except electricity in 1,000,000 kWh and natural gas in 1,000,000 M³.

² Fertilizer production in 100-percent active substance; fertilizer exports are unqualified.

Source: Romanian statistical yearbook and "Sciencia," Feb. 7, 1980.

⁶² Through 1974, Romania's main sources of hard coal and coke were the Soviet Union, Czechoslovakia and Poland (Comertul exterior al R. S. Romania, 1974, pp. 120-1). A strong desire to diversify sources may have led to the surprising joint-venture with Occidental Petroleum to mine West Virginia hardcoal with shipments beginning in 1980. A second North American coking coal source has since been developed in a 20 year agreement with Denison Mines of Canada, with deliveries of 1.4 million tons a year to begin in 1982 RFER "Romania Situation Report/23" (27 December 1979); and Newsweek (9 July 1979).

Other important aspects of Romania's energy and materials situation are brought into focus by Table 30. By 1970, Romania became a net importer of energy and non-food materials, excluding their finished products (machinery and non-food consumer manufactures). However, until then the other source of materials, Romania's agriculture, provided sufficient exports, including processed values, to provide a small overall export surplus of energy and materials. By 1975, when petroleum imports matched petroleum products exports (see Table 29), the export surplus turned into a deficit, one that expanded over 5 times by 1978 and may have been even larger by 1979.

In terms of international trade, which should be emphasized as a small (see Table 19), but necessary part of her economy, Romania has become an industrialized country trading growing exports of machinery and consumer goods, with a constant margin of food products thrown in, for imports of raw materials and other kinds of machinery. The benefit of trade to her is now largely defined by the comparative efficiency with which raw material imports are combined into machinery and consumer manufactures.

This point, however, needs two qualifications. It may be observed that Romania's present demand for petroleum imports is in excess of domestic requirements. Processed petroleum is exported as refined products, chemical and even consumer manufactures (synthetic textiles). These exports are the results, partly, of capacity built before the energy crisis and some more added before the Iranian crisis and the latest OPEC price rises. But, at least, through 1978, Romania enjoyed sharply rising terms of trade in the exchange of refined petroleum products for crude oil (see Section VI, terms of trade). It is more doubtful, given the fall in world prices of chemical fertilizers, if Romania's chemical exports have been as beneficial. Still, as late as 1979, output of the chemical and oil processing industry was projected to grow 9.0-9.8 percent a year from 1981 to 1985, fast enough, it would appear, to provide export margins.

D. Recent Developments in Energy Supplies

The question of whether the energy crisis played a part in Romania's reduced industrial growth still has not been answered. In the search for answers, consideration may be given first to some general aspects of Romanian energy consumption.

Back at the 10th Party Congress in 1969, Romanian energy consumption during the period 1976-80, was forecast to grow an average of 4.2 percent a year. At that time Romanian per capita energy consumption was the lowest in the European CMEA group, but about double that of its Balkan neighbors, Greece and Yugoslavia.⁶⁸ After 1969, both planned and actual growth exceeded the 1969 directives and, with more growth, energy consumption increased at 6.2-7.0 percent a year from 1970 to 1975. By then, per capita consumption exceeded that in Hungary, but still remained low by CMEA standards. The FYP for 1976-80 provided an average annual energy consumption growth of 6.8 percent. Evidently, Romanian leaders and planners, as in Bulgaria, saw no reason in the first stages of the energy crisis to change their

⁶⁸ United Nations, *World Energy Supplies*, various issues, and sources cited in Tables 5 and 6.

TABLE 30.—FOREIGN TRADE BALANCES OF MATERIAL AND ENERGY GROUPS¹

[Million devise lei]

Commodity group	1960	1965	1970	1975	1978
1. Fuels, minerals, metals:					
Exports.....	1,591	1,650	2,513	5,912	8,227
Imports.....	1,332	2,032	3,570	10,153	15,293
Balance.....	259	(373)	(1,066)	(4,241)	(7,066)
2. Chemicals and rubber:					
Exports.....	94	425	778	2,857	3,371
Imports.....	280	407	788	1,721	2,690
Balance.....	(195)	18	(10)	1,136	672
3. Construction and materials:					
Exports.....	108	225	285	772	963
Imports.....	41	92	181	296	505
Balance.....	67	133	104	476	458
4. Other nonfood materials:					
Exports.....	631	910	1,131	1,665	2,082
Imports.....	520	707	1,187	2,224	2,651
Balance.....	111	203	(56)	(559)	(569)
5. Food raw materials:					
Exports.....	403	511	506	1,517	1,714
Imports.....	98	55	285	1,344	2,030
Balance.....	305	456	221	173	(316)
6. Food products:					
Exports.....	508	910	1,345	2,822	3,581
Imports.....	99	155	358	595	854
Balance.....	409	754	987	2,227	2,727
7. Combined balances:					
1 to 4.....	242	(19)	(1,028)	(3,188)	(6,505)
5 to 6.....	714	1,220	1,208	2,400	2,411
Total.....	956	1,201	180	(768)	(4,094)
8. Total foreign trade balance.....	415	147	(657)	(2)	(3,798)

¹ Parentheses indicate a negative balance (i.e. net exports).

Source: Romanian statistical yearbook.

pattern of growth. But contrary to plans, from 1976 to 1978 (as shown in Table 31), energy consumption grew only 3.1 percent a year, about half the growth planned.⁶⁴

Questions may now be asked: How was the reduction brought about? Was it the result of reducing energy consumption in non-essential uses? There is little doubt that progress in this direction has been brought about by rationing, price increases and even requirements for tourists from other socialist countries to pay for gasoline in hard currencies. But no matter how effective, the fact that only 13.3 percent of total Romanian energy consumption in 1975 took place in transportation, communication, heating (outside of industrial processes), homes or offices, meant little energy could be saved by such measures. Industry consumed 83.3 percent of all energy and only 14.0 percent as raw materials. Thermal-power stations alone used 24.5 percent, chemicals 15 percent and metallurgy 12 percent.⁶⁵ Any substantial energy

⁶⁴ At the 12th Party Congress in November 1979, Ceausescu announced that off-shore drilling had tapped oil, but indicated that the extent of deposits were unknown. Scinteia, 20 November 1979.

⁶⁵ For primary energy consumption by uses in 1970 and 1975, as well as planned uses in 1980, see Jackson, in JEC-1977, p. 293.

TABLE 31.—PRODUCTION AND CONSUMPTION OF PRIMARY ENERGY¹

	Share (percent)			Growth 1970-100		Average	
	1970	1975	1978	1975	1978	1971-75	1976-78
1. Sources:							
Production.....	100.0	100.0	100.0	126.2	128.1	4.8	0.5
Coal and lignite.....	17.5	17.4	17.1	125.1	124.8	4.6	-1
Petroleum.....	32.0	27.9	27.5	109.9	110.1	1.9	.1
Natural gas.....	49.9	53.4	54.0	135.2	138.8	6.2	.9
Hydro and nuclear power.....	.6	1.3	1.4	308.6	315.6	25.3	.8
Imports (percent of production).....	9.9	15.5	24.6	196.8	316.5	14.5	10.0
Exports (percent of production).....	12.8	11.9	13.0	117.7	130.2	3.3	3.4
Consumption.....	100.0	100.0	100.0	135.2	148.3	6.2	3.1
Solid fuels.....	23.6	23.3	21.7	133.6	136.4	6.0	.7
Liquid fuels.....	23.5	22.8	26.0	134.2	137.0	6.1	.7
Natural gas.....	52.8	52.9	51.0	135.5	143.4	6.3	1.9
Hydro and nuclear power.....	.1	.9	1.3	1,589.6	2,333.3	73.9	13.7
2. Per capita consumption.....				128.9	138.5	5.2	2.4
3. Production-consumption ratios:							
Total.....	106.7	99.7	92.2				
Solid fuels.....	79.2	74.2	72.5				
Liquid fuels.....	145.3	121.8	97.6				
Natural gas.....	100.9	100.6	97.6				
Hydro and nuclear power.....	722.9	148.4	97.8				
4. Value of production per 1,000 units of energy consumed:							
NMP (lei).....	3,580.0	4,528.0	5,366.0	126.0	150.0	4.7	6.0
Net industrial product (lei).....	NA	NA	NA	130.0	153.0	5.4	5.6
GNP (U.S. dollars).....	571.4	584.2	658.7	102.2	115.3	.4	4.1
Value added in industry (U.S. dollars).....	201.4	230.8	266.4	114.6	132.3	2.8	4.9

¹ Based on data in coal equivalents.

Source: United Nations "World Energy Supplies" various issues; and data cited in table 1.

saving, then, had to be accomplished in industry, especially power, chemicals or metallurgy. A program of energy and material conservation in industry had been decreed in 1973 and was subsequently enlarged by numerous measures, including the expansion of the system of centrally approved norms to 8,200 by 1980.⁶⁶ The effectiveness of these measures is unclear. Whereas the originally planned ratio of NMP growth to energy consumption growth was 1.035, the ratio realized through 1978 was a higher 1.058. In these general terms and those indicated in Table 30, Part 4, Romania managed to improve her overall energy efficiency. If the task had been done as planned, Romania's planning and management system would have accomplished a remarkable performance. However, the evidence is clear that this was not the case.

The problem, as in Bulgaria's case, began with failures in domestic production and, as in Bulgaria, was a failure to expand coal production for thermopower generation (see Table 24). As a result, the share of electric power generated from coal, instead of rising from 25 percent in 1975 towards a plan goal of 44 percent in 1980, fell in 1978 to only 23 percent. At the same time, planned commissioning of new hydropower capacity was behind schedule. It was planned to provide 18.4 percent of total power by 1980, but actually provided only 16.5 percent in 1978 and in 1979 was expected to reach only 17.6 percent in 1980. In 1977, shortfalls from both sources were allowed to impact on power generation plans which were not met by the growth of only 2.2 percent.

⁶⁶ *Eră socialista*, 1980:5 (5 March), p. 29.

A far larger reduction would have resulted if unplanned uses of hydrocarbon fuels had not been undertaken. The share of power generated by these fuels, 54 percent in 1975, was planned (in 1976) to fall to 33 percent by 1980. Instead, the 1978 share rose to 56 percent. During this time, the share from natural gas fell; that from petroleum rose from an insignificant 4 percent in 1975 to nearly 16 percent in 1978.⁶⁷ A final problem was the failure of domestic petroleum production to meet even the modest growth of 1.2 percent a year set in the 1976–80 plan, an even smaller growth than achieved in 1971–75. Instead, output declined by over 15 percent by 1979, creating an approximate shortfall below planned sources of about 3 million tons (see Table 24).

The remaining aspects of Romania's energy crisis are unclear. There is no evident way of knowing how petroleum supplies were divided among uses in 1975, so one cannot estimate the unplanned diversion from chemicals and refining to power generation. At the same time, no data has been found to indicate petroleum import plans for 1976 through 1980.

A remaining blank spot is what happened to Romanian petroleum imports in 1979 during the Iranian crisis. Estimates place Romanian pre-crisis imports at 4.8–5.0 million tons, or 38–39 percent of total imports. Re-establishment of imports at this level with the new Iranian government did not occur until April, 1980.⁶⁸ How much of the shortfall was made up from other sources and at what cost is not yet known by the author, although in January 1979, Romania was reported to have asked Saudi Arabia for 3 million tons to compensate for its Iranian shortfall. If the shortfall remained even half, then surely Romania's problem in 1979 must be put in the temporary category—so to speak, another act of God along with the 1977 earthquake and that year's poor harvest.

IX. AGRICULTURE'S ROLE IN SUSTAINING ECONOMIC GROWTH

Following the collectivization of Romanian agriculture in 1962, the sector performed poorly through the end of the decade. Labor productivity failed to respond to the movement of labor out and of investments into the sector. Personal incomes improved only when wage jobs were in commuting range of a village. Substantial progress began after 1970. From then until 1975, labor productivity increased faster than in industry, although a wide absolute gap still remained. Producer prices were raised and personal incomes from farm work improved compared to wages. Still, it may be said that Romanian agriculture has yet to become a self-sustaining operation. Relative real incomes and other conditions of life in the villages remain low enough so that most young persons would leave if jobs and housing were available in urban areas. Generally, agricultural labor remains relatively unproductive, if for no other reason than it fails to provide enough working days in a year. Most agricultural cooperatives have not been financially self-sustaining and were recently forgiven debts of 13 billion lei, a sum equaling nearly 60 percent of their long-term debt

⁶⁷ Electric power generated by sources is given in the Romanian statistical yearbook. Other references are from: *Revista economica*, 1979:45 (9 November), p. 11, 1980:4 (25 January), p. 6; *Scinteia*, 24 July 1979; and sources cited in Tables 5 and 6.

⁶⁸ RFER, *Romanian Situation Report* 13 (9 February 1979); and *New York Times*, 23 April 1980.

and more than 30 percent of total debt. It is still unclear how high agricultural delivery prices might have to be raised in order to make them able to show profits sufficient for investment needs.

In spite of these conditions, Romanian agriculture has performed well since 1975. As seen in the GNP calculations, its improvement over 1971-75 provided enough compensation so that declining industrial growth did not lower the overall growth rate of GNP from one period to the other.

A. Plan and Performance, 1976-80

Agricultural targets in the FYP, it must be remembered, are one of the three given as the average expected during one plan period compared to the average obtained in the preceding one, calculated as a growth over five years. Table 32, which summarizes the output side of the plan and performance, has been calculated this way. The figure of 7 percent for gross agricultural output in 1976, for example, means that the level of output that year represents a 7 percent average annual growth compared to the average obtained in 1971-75 (and calculated from the mid-year 1973). In this way the figure given for each year can be compared to the plan figure in order to see if growth is at plan or not. The growth rates from one year to the next are quite different (1976—17.2; 1977—minus 0.6; 1978—2.2; and 1979—5.0, see Table 5). A comparison with annual plans has not been made, but except for 1976, most indicators failed most annual targets.

A second complication in comparing performance and plan is that the original plan targets (in the table) were first given in 1963 prices. Subsequently, in 1977 they were restated in 1977 prices as 6.5-8.6 percent, an increase reflecting the larger weight of animal production in the new prices. Then, at the same time the targets were revised upward to 6.9-9.0 percent. By contrast, annual performance was measured in 1963 prices in 1976, but 1977 prices thereafter. Plan and performance comparisons, hence, are somewhat inaccurate.

By 1979, performance in four years was sufficiently high over the average of five years earlier to nearly fall within the range of the original plan targets. But only 1976 met the revised plan targets. That year saw the level of output rise enough so that the small annual decline in 1977 and the modest growth in 1978 and 1979 were enough to fulfill the plan. The planned share of animal production was not met in 1976 because of the especially good crops that year. The planned shares were more than met in the next two years even with adjustment for price changes, but in 1979 the plan fulfillment report stated that, "an insignificant growth of animal production was obtained". It suggests growth was significantly behind the plan.

A glance at Table 33 shows that animal herds were far behind planned growth targets, except for poultry flocks. The relatively high growth in meat production then could show the effects of higher than planned slaughter rates. Problems of animal feed supplies show in the plan failure for soya and declining production of green corn fodder. Barley and corn, the main feed grains did much better. In fact, the corn harvest in 1979 would appear to have been a Romanian record.⁶⁹

⁶⁹ Romanian corn statistics leave a great amount of uncertainty, however, because they are not reported by standard moisture content.

TABLE 32.—AGRICULTURAL OUTPUTS—PERFORMANCE AND PLAN (PERCENT ANNUAL GROWTH)

Indicator	Performance ¹					1976-79	Plan 1976-80 ²
	1971-75	1976	1977	1978	1979		
Gross agricultural output.....	6.5	7.0	5.0	5.0	5.0	6.3	6.5-8.6
Crop production.....		7.0	4.0	3.0	NA	NA	
Animal production.....		7.0	7.0	7.0	NA	NA	
Share of animal (percent).....	40.4	40.5	43.0	44.3	NA	NA	42
Cereals.....	3.1	9.8	5.9	5.1	4.5	6.3	6.2-8.6
Wheat and rye.....	2.8	7.5	4.6	2.9	-2.4	3.1	NA
Corn.....	2.0	11.5	4.9	4.1	6.8	6.8	NA
Barley.....	9.7	13.3	21.8	22.2	15.8	18.3	NA
Sunflower.....	.9	1.6	1.5	2.6	2.6	2.1	5.6-8.3
Sugar beets.....	6.3	13.3	7.0	4.2	4.0	7.1	12.6-14.9
Soyas.....	35.0	-1.3	-3.6	.8	9.2	1.3	19.8-21.1
Flax for fiber.....	7.9	28.7	3.4	11.3	(2.0)	11.4	25.5-28.3
Potatoes (tub).....	3.2	13.8	6.3	6.2	5.9	8.1	9.4-10.7
Vegetables—total.....	5.1	10.3	3.8	6.5	4.6	6.3	NA
Field grown.....	4.5	10.3	3.1	7.6	NA	NA	10.5-11
Fruit and grapes.....	-1	8.0	6.2	2.9	6.3	5.9	10.6-11.4
Fruit.....	-3.7	7.2	7.3	3.7	8.6	6.7	NA
Grapes.....	3.8	9.1	5.4	2.2	3.9	5.2	NA
Green corn silage and fodder.....	8.9	-3.5	-1.3	-4.9	NA	NA	NA
Meat (live weight) ³	7.1	7.6	5.8	5.4	(7)		6.2-7.7
(7).....	6.7	6.8	6.6	5.5	(7)		7.2-8.3
Beef ⁴	3.0	5.5	4.8	3.6	(7)		NA
Pork ⁵	9.2	7.4	4.4	4.2	(7)		NA
Poultry ⁶	14.7	14.1	11.5	11.5	(7)		NA
Milk (cow) ⁷	2.2	5.1	6.0	5.6	(7)		8.5-10
Eggs.....	8.5	9.8	7.9	7.4	(7)		5.3-7
Wool.....	.9	1.6	3.2	3.3	(7)		6.5-8.8

NA=Not available.

¹ Growth for 1971-75 is calculated as the difference between the averages for this period and for 1966-70, averaged for 5 years. Figures for the 1976-80 plan are calculated in the same way with respect to the averages for 1971-75. Annual figures for 1976 through 1979 are calculated as the average growth from 1971-75 averages, and 1976-79 is their simple averages.

² In 1977 prices.

³ In 1963 prices.

⁴ Flax and hemp.

⁵ Including increased weight of herds.

⁶ Excluding increased weight of herds.

⁷ The plan report stated that animal production in 1979 showed an "insignificant" growth compared to 1975.

⁸ Including milk sucked by young animals. Data excluding this portion of production are available, but the basis of the plan figures are uncertain.

Source: See tables 5 and 6.

The strength of the Romanian crop sector, compared to plan targets, was in the major carbohydrate foods, grains and potatoes, which (as shown in Table 9) were already consumed in relative abundance. As noted in the discussion of industry, the below plan levels of sunflower seeds and sugar beets were reflected in low figures for output in the food industry. The high growth of flax production, still below the even higher plan targets, reflects a Romanian emphasis on supplying domestic natural fibers for the textile industry. Romania has made renewed efforts to grow cotton, but no production figures are reported, indicating a lack of success. Vegetables, fruits and grapes were produced at significantly higher levels than in 1971-75, but did not match the ambitious plans set for them.

The input side of agriculture, in Table 33, shows that total investments, including a significant content of structures (animal shelters, greenhouses, etc.), and machinery targets were substantially met by 1978. All other inputs did more poorly. Major land improvements (irrigation, draining, erosion control) were all behind schedule. Total fertilizer deliveries through 1978 were only 4.1 million tons, just over

35 percent of the total 11.0-11.5 million tons called for in the plan. Here was a major impact of the energy crisis. Fertilizers are said to represent 50 percent of total energy consumed in Romanian crop production.⁷⁰ How tight fuel supplies may have affected agriculture is not known, although fuels consumed per hectare were reported to be up about 13 percent over 1975.

Aside from the quality of agricultural labor, the main restrictions on Romanian agriculture are becoming less the simple quantitative input flows than the way inputs are applied. Sufficient crop specialization is not practiced. For example, corn, the traditional peasant food source, is still too often planted in areas where the soil is acid or the growing season too short. The assortment of tractors and other machinery is said to need changing, more than a simple numerical increase, and still suffers from spare parts shortage and inadequate maintenance. The numerous instances cited of poor use of irrigation systems may be one reason why their extension has moved slowly. Fertilizer application is managed poorly. Too much is used on acid soils and too much nitrogen is used on chernozem soils. In general, too much phosphate and too little potash is found in the general proportions of fertilizers delivered. The problem may arise because Romania does not produce the latter.⁷¹

TABLE 33.—SELECTED AGRICULTURAL INPUTS PERFORMANCE AND PLAN

	1975	1976	1977	1978	1979	1980	1985
Investment growth:							
5-yr basis (average percent).....	8.3	9.6	10.3	10.5		8.6	3.3
Compared to previous year (percent).....		12.1	12.3	11.3			
Tractor deliveries (thousand units).....	11.9	11.9	13.1	14.8	14.4	14.0	
Combine deliveries ^a (thousand units).....	5.6	5.8	4.7	3.7			
For cereal grains (thousand units).....					2.5	3.37	
Tractor stocks (thousand units).....	119.5	128.0	138.5	138.5	140.0	(9)	142.5
Grain stocks (thousand units).....	17.9	23.6	28.1	31.7	34.4	(9)	41.1
Animal herds:							
Cattle (thousands).....	6,126	6,351	6,306	6,511	6,513	7,520	8,000
Cows (thousands).....	3,028	3,014	3,123	3,186	3,188	3,710	
Pigs (thousands).....	8,813	10,193	9,744	10,337	10,890	12,590	14,590
Sheep and goats (thousands).....	14,310	14,774	14,867	16,035	16,195	19,275	21,000
Poultry (layers) (thousands).....	40,116	45,673	42,830	48,534		53,465	60,000
Additional land:							
Irrigated (thousand hectares).....	77	255	125	211	190	250	170
Drained (thousand hectares).....	(9)	170	(218)	112	45	220	165
Erosion control (thousand hectares).....	(9)	123	(477)	200	187	200	195
Stocks of land:							
Irrigated (thousand hectares).....	1,474	1,729	1,854	2,065	2,263	3,000	3,650
Drained (thousand hectares).....							
Erosion control (thousand hectares).....	(718)			(1,218)	(1,405)	(1,718)	(2,683)
Fuel consumed/hectare (index).....	100					113	
Fertilizer:							
Delivered (thousand tons).....	1,196	1,144	1,120	1,400	1,431	2,250	
Used (thousand tons).....	920	1,005	1,025	1,111			3,950

¹ Preliminary or projection.

² Average of 5 years compared to previous 5 years.

³ Average growth rate from average of 1971-75 and 1973 base.

⁴ Mid-points.

⁵ Including corn harvesters.

⁶ Not available.

⁷ Annual average required to fulfill the 5-year plan.

⁸ Expected in 1979.

Source: See tables 5 and 6; Era socialista LIX (Aug. 5 1979) p. 2.

⁷⁰ Era socialista, LIX:18 (5 July 1979), p. 38.

⁷¹ Scintila, 28 February 1980; Era socialista, LIX:15 (5 August 1979), pp. 18-8.

B. Agricultural Organization

By far the more important changes in the organization of Romanian agriculture have come from its rapid industrialization which has improved man: land ratios and machine: man ration. That is, the basic problem of too many people and too little investment has been remedied. Since 1970, the problem in agriculture has become more one of stimulating the productivity of resources now in the sector. To that end, the most important changes were taken in the early 1970's to raise relative agricultural prices and to provide higher and more certain incomes for farm work (see Section V). An important aspect of Romanian policy has been to provide incentives for farming on personal plots and private land, as well as within the agricultural cooperatives. As a result, average incomes from farm work per active person were roughly the same for cooperative peasants and private farmers. The latter have been included in provisions for pensions, credits and other measures. The Romanian attitude seems to recognize the important role of private farming and, at least within its present dimension to stimulate it.⁷³

Still the major problems remain those of more productive organization, which will generate sufficient productivity, given relative prices, to provide income to keep capable persons in the sector and to generate investable profits for farm organizations. Since 1974, the direction of Romanian policy has been to encourage joint operations among agricultural cooperatives and state units for the establishment of animal breeding and fattening facilities and for units to process agricultural products. Progress in this direction has not been smooth. One receives the impression that the new organizations have been rather better at acquiring credit for investments than in the organization of productive operations. These problems, as well as those enumerated above concerning operation of irrigation systems, fertilizer use, crop patterns, etc, have brought about a series of possibly fundamental reorganizations since early 1979. Then a new form of agricultural organization was created, called a "unified state and cooperative agro-industrial council". Some 709 were created, each centering upon a state machine-tractor station. Henceforth, the unified council will become the responsible planning unit [*titular de plan*] for all agricultural activities in a given area (averaging 15,000 hectares of agricultured land), including private agriculture. The attached machine-tractor station will control all technological means, including equipment, irrigation facilities, fertilizers, etc, while agricultural cooperatives, state farms and other subordinate units will control land and labor.

More recently, the Ministry of Agriculture and Food Industry has been reorganized. Its most important change has been the creation of district general directorates for Bucharest and the 39 districts (*judeti*). Each district directorate will be responsible for all planned farm production (state, cooperative and private) in its districts. It appears that Romania has taken the first steps towards organization of agro-industrial complexes (see the paper on Bulgaria) that will eventually do away with the agricultural cooperative. In fact, it has been stated

⁷³ A very useful review of the situation of private farming is found in RFER, "Romanian Situation Report 19" (18 May 1979).

that the present division of agricultural into state and cooperative sectors no longer corresponds to the technical base. However, for the time being, it has been stressed that change will be slow because the capabilities of the unified councils are limited.⁷³

From 1965 up to the present there have been remarkably few changes in the structure of agricultural inputs or outputs by organizational units. State units have increased slightly their shares of labor because the exodus from agriculture comes from cooperative and private farmers. State units have made larger relative increases in the share of animal products because most facilities for modern poultry and egg production and pig fattening have been invested in them. Cooperative farms have made their gains in dairy farming and cattle raising.

TABLE 34.—AGRICULTURAL INPUTS BY ORGANIZATIONAL UNIT

	1970	1975	1976	1977	1978	1979	1980 ¹	1985 ¹
Fixed capital	63.0	100.0	111.0	122.0	131.0			
State farms.....	25.6	28.4	28.2	28.0	28.3			
MTS.....	13.4	13.9	15.4	15.4	16.2			
Cooperative farms.....	23.9	24.3	23.8	23.3	23.4			
Other.....	37.1	33.5	33.7	33.3	32.1			
Agricultural land	99.9	100.0			100.1			
State farms.....	14.0	13.8			13.6			
Other state units.....	16.1	16.3			16.4			
Cooperative farms.....	53.9	54.0			54.3			
Personal plots.....	6.6	6.5			6.3			
Private farms.....	9.4	9.4			9.4			
Labor	126.4	100.0	94.9	92.0	87.2	81.7	73.4	64.2
State farms.....	6.0	6.6	7.4	7.6	7.8			
MTS.....	2.0	3.3	3.6	3.8	4.1			
Other employees.....	—	3	3	6	1.2			
Working cooperators.....	69.6	73.3	75.7	73.8	72.8			
Others.....	23.3	16.5	13.0	14.2	14.1			
Cows	86.7	100.0	99.5	103.1	105.2	105.3	122.5	
State units.....	10.7	11.5			13.1			
Cooperative farms.....	38.1	39.4			42.6			
Personal.....	34.7	32.8			28.7			
Private.....	16.4	16.3			15.7			
Other cattle	83.6	100.0	107.7	102.8	107.3	107.3	122.3	133.0
State units.....	16.5				17.3			
Cooperative farms.....	44.3				45.7			
Personal.....	23.9				22.1			
Private.....	15.3				15.4			
Pigs	72.2	100.0	115.7	110.6	117.3	123.7	141.8	142.0
State units.....	38.3	41.0			40.6			
Cooperative farms.....	25.4	31.7			32.2			
Personal.....	28.4	20.8			19.5			
Private.....	8.2	6.5			7.8			
Sheep and goats	100.3	100.0	103.2	103.2	112.0	112.7	134.7	147.0
State units.....	12.2	13.5			15.4			
Cooperative farms.....	36.9	38.9			41.0			
Personal.....	37.8	33.7			29.5			
Private.....	13.1	13.9			14.1			
Laying hens	87.1	100.0	113.9	106.8	121.0	(?)	133.3	150.0
State units.....	9.4	20.0			22.9			
Cooperative farms.....	3.4	7.8			10.3			
Personal.....	65.3	55.8			49.1			
Private.....	21.8	16.4			17.7			
Fertilizer used	64.0	100.0	108.3	110.4	119.6	(?)	(?)	425.0
State farms.....	34.5	27.1			26.4			
Cooperative farms.....	63.8	62.8			63.4			
Other.....	1.7	10.0			10.2			

¹ Preliminary or projection.

² Not available.

Sources: Calculated from Romanian statistical yearbooks, various issues.

⁷³ Scintela, 28 February 1980; Romania libera, 5 and 6 February 1979; Revista economica, 1979:45 (9 November), pp. 17-18, and 1980:4 (23 January), pp. 12-18; RFER, "Romanian Situation Report" 13V (March 18, 1980).

Personal and private farmers continue to account for very large shares of animal products, which accounted for 63.7 percent of their gross agricultural output in 1971-73.⁷⁴ With only 44 percent of the cows, they produced 54 percent of the milk; with 27 percent of the pigs and 37 percent of cattle, other than cows, they produced 45 percent of the meat. As might be expected, their crop production is not concentrated in grains which lends itself to large-field, mechanized operations. But with only 15 percent of the agricultural land, they still provide 15 percent of cereals, but their productivity in other crops is remarkable: 55 percent of potatoes, 43 percent of vegetables, 57 percent of fruit and 41 percent of grapes. The only areas where their contributions are small are grains, forage and fodder, and technical crops (sugar beets, fibers and oil seeds).

TABLE 35.—AGRICULTURE PRODUCTION BY ORGANIZATIONAL UNIT

Indicator	1965	1970	1975	1976	1977	1978
Gross agricultural output.....	67.0	73.0	100.0	119.0	118.0	122.0
State farms.....	57.0	73.0	100.0	115.0	111.0	113.0
Cooperative farms.....	74.0	74.0	100.0	121.0	114.0	116.0
Gross crop production.....	74.0	76.0	100.0	125.0	119.0	119.0
State farms.....	74.0	83.0	100.0	110.0	105.0	107.0
Cooperative farms.....	80.0	77.0	100.0	124.0	113.0	114.0
Gross animal production.....	57.0	70.0	100.0	112.0	118.0	125.0
State farms.....	39.0	62.0	100.0	119.0	117.0	120.0
Cooperative farms.....	54.0	65.0	100.0	109.0	117.0	121.0
Share of physical production (percent):						
Cereals:						
State units.....	24.7		23.3			24.0
Cooperative farms.....	68.6	64.4				64.5
Personal plots ¹	6.5		9.7			8.6
Private farms.....	2.1		2.6			2.9
Potatoes:						
State units.....	6.5		7.2			6.4
Cooperative farms.....	44.2		40.7			38.4
Personal plots ¹	35.1		35.7			35.7
Private farms.....	14.0		16.4			19.5
Vegetables:						
State units.....	10.6		17.8			16.9
Cooperative farms.....	55.3		39.4			40.2
Personal plots ¹	27.7		36.1			34.2
Private farms.....	6.3		6.7			8.6
Fruit.....						100.0
State units.....	8.2	13.0	25.0	26.4	26.7	24.0
Cooperative farms.....	15.6	18.4	18.7	19.7	20.2	18.7
Personal plots ¹	45.2	40.3	36.2	32.1	30.8	34.9
Private farms.....	30.1	27.3	20.1	21.7	22.3	22.4
Grapes:						
State units.....	24.2	26.1	25.9	24.0	24.4	24.9
Cooperative farms.....	43.0	42.6	42.1	39.4	36.0	34.3
Personal plots ¹	30.1	28.1	29.6	33.8	36.3	37.6
Private farms.....	2.7	3.1	2.4	2.8	3.2	3.2
Meat:						
State units.....	22.4	28.4	29.1	30.5	29.7	29.6
Cooperative farms.....	23.0	22.5	25.0	24.5	26.4	25.5
Personal plots ¹	43.1	36.5	33.3	32.4	31.6	32.1
Private farms.....	11.4	12.7	12.6	12.5	12.3	12.8
Milk (all animals):						
State units.....	16.9		14.9			16.1
Cooperative farms.....	26.8		27.8			29.5
Personal plots ¹	40.3		37.7			35.5
Private farms.....	16.0		19.6			18.9
Eggs:						
State units.....	11.7		23.9			29.4
Cooperative farms.....	4.0		9.0			11.6
Personal plots ¹	62.0		48.5			43.4
Private farms.....	22.3		13.6			15.6

¹ Of members of agricultural cooperatives.

Source: Calculated from Romanian statistical yearbooks, various issues.

⁷⁴ Julian Vacarel, *Finanțele și cerințele dezvoltării agriculturii* (Bucharest 1976) p. 154.

No precise Romanian data has been published since 1965 on sources of total agricultural production by farm category. Then, personal and private farmers provided about 25 percent of the value of crops and 64 percent of animal products. Their share of the total in 1965, then, works out to about 38 percent.⁷⁵ In 1975, peasant incomes from their own production, i.e. personal plots and private farms was estimated at 35 billion lei.⁷⁶ That year, gross agricultural output in 1963 prices was 93.8 billion lei; in 1977 prices, more resembling current prices it was about 107 billion lei.⁷⁷ The sums suggest that perhaps a third of Romania's agricultural production was produced privately in 1975, hardly reduced from 1965.⁷⁸

⁷⁵ Constantin Barbacioru, *Venitul national* (Craiova, 1978), pp. 209-11; calculation of the total is based on yearbook shares of crops and animal products in 1955 prices.

⁷⁶ *Era socialista*, LVI:18 (September 1976), p. 12.

⁷⁷ Estimated from *Anuarul statistic 1979*, pp. 360-1.

⁷⁸ The calculation may be distorted by pricing gross agricultural output in producer prices while peasant incomes are measured in consumer prices. The CMEA yearbook indicates that the "socialist" sector produced about 91 percent of Romania's gross agricultural output. But the figure includes production from personal plots.

GERMAN DEMOCRATIC REPUBLIC

THE GDR IN A PERIOD OF FOREIGN TRADE DIFFICULTIES: DEVELOPMENT AND PROSPECTS FOR THE 1980's

By Doris Cornelsen*

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1. INTRODUCTION

The transition from one to the next medium-term (five-year) plan does not in most cases constitute a genuine break in the economic development of the GDR, even if the priority of targets is shifted. Rather, the characteristic stages of development cut across the medium-term plans. In light of this fact, a new phase started as early as the middle of the 1971-75 five-year plan with the rapid increase of world market prices in 1973/74—the period of foreign trade difficulties.¹

After the re-centralization and the change in economic leadership from Ulbricht to Honecker, a pro-consumer policy was at first initiated at the 8th Party Congress of the SED in 1971. Rapid economic growth facilitated this target. The range of goods for sale increased and the standard of living improved visibly. However, the world-wide increase

*German Institute for Economic Research (DJW), Berlin.

¹The preceding period may be divided into three major periods according to the most important problems of development: 1945-53, reparations payments; 1954-61, mass emigration; and 1962-70, reforms.

in raw material and energy prices only too quickly put an end to this period of undisturbed economic development. In the CMEA area, price adjustments were delayed until 1975. Since then the GDR with its sparse raw material resources has been confronted with exceptional raw material price increases, while prices for its export goods have not risen accordingly. Since then exports have, therefore, become the most essential target for planning and development. They will also continue to have top priority in the long run.

The sharp deterioration in the quality of economic statistics and commercial data available from official GDR sources is a serious handicap to our analysis. As a result of this limitation, we have had to rely extensively on qualitative assessments and on partial statistical reporting. The weekly publication of our institute in Berlin often discusses this kind of information. Frequent reference is made to weekly reports as sources in lieu of official GDR reports. As difficult as any economic analysis is with reasonable data from primary sources, we do feel that the evidence available is sufficiently reliable to support our major conclusions.

2. BASES OF DEVELOPMENT FROM 1976 TO 1980

The Main Goals of the Plan

Two extensive new planning methods have been developed as a basis for the planning process during the five-year plan period 1976–1980: the “Ordinance on the Planning System for the Economy from 1976 to 1980” [planning system]² as well as the “Ordinance on the guidelines for the annual planning of the enterprises and combines of industry and the building trade” [guidelines].³ The aim of both ordinances was to make planning more clearly understood and better organized. Moreover, the efficiency and cost-consciousness of the enterprises was to be improved by introducing new indicators.

The planning system provides for the first time equal planning methods for the whole five-year plan period. The importance of the five-year plan was upgraded and the often emphasized principle that annual economic plans are predetermined parts of the five-year plan period was codified. Long-term goals (e.g. rationalization, research and investment development) are to be safeguarded by balances and calculations.

The guideline regulates annual planning. For this purpose, the enterprises are given State planning targets for the five-year plan. As a new feature, detailed rules to determine efficiency and labor productivity have been set out. The introduction of the indicator “own performance” in calculating labor productivity represents progress. Moreover, many new indicators, most of which are qualitative, have been introduced.

The draft directive on the five-year plan 1976–1980 was published in January 1976. It was submitted to the 9th Party Congress of the SED in May and adopted with few amendments. In December, the “Volks-

² Special issue of the “Gesetzblatt der DDR,” (Official Gazette of the GDR). No. 77 a/1974.

³ Special issue of the “Gesetzblatt der DDR,” (Official Gazette of the GDR). No. 780/1975.

kammer" ratified the five-year plan as law.⁴ The final wording was somewhat more cautious than the draft. The directive set ranges for growth in the individual aggregates; in the law the precise growth rates were almost all in the lower end of the ranges.

As for the list of the most important tasks, the 1976-1980 five-year plan does not differ at first glance from the previous plan: strengthening of the raw material base, increasing the supply of consumer goods and increasing exports. The priorities and emphasis have somewhat shifted, however. At the top of the list were raw material problems and the tasks of increasing exports and making maximum use of domestic raw material and fuel deposits as well as secondary raw materials. "Continuity" and "stability" were emphasized with regard to the supply of consumer goods.

Economic growth was planned only slightly below the levels achieved in previous years (average annual growth in percent):

	Achieved 1971-75	Plan 1976-80
GDP.....	5.4	5.1
Industrial goods production.....	6.5	6.1
Gross investment.....	4.0	5.2
Retail trade turnover.....	5.1	4.0

A slight shift in the ranking of industries was planned. The machine tools and processing machines sector, which is of special importance for exports, was moved to the top, followed by the electro-technical industry/electronics/equipment sector. The planned growth in the production of industrial consumer goods was considerably higher than that of domestic consumption, which indicated that the export of consumer goods was also to be greatly increased.

Moreover, in order to raise productive capacity investments were also to be increased to a greater extent. At the beginning of the 1970s a restrictive phase could be noted in this field. A considerable portion of the increase was earmarked for the development of domestic raw material and fuel stocks.

With regard to the allocation of GNP, the growth of exports was given the highest priority. Although published planning figures in this sector were very scarce, it may be concluded from various indications that exports were to grow more rapidly than imports during this planning period.

The remaining item in the use of the GNP was private consumption. It was to increase by only about 4 percent per year—based on retail trade turnover. A reduced growth was planned especially for manufactured goods. In this sector growth was 7 percent per year during the period 1971-1975; it was now to be only 4 to 5 percent.

Increasing expenditures by the State for maintaining stable consumer prices as well as for social and cultural purposes was referred to as an element of an increased standard of living.

⁴Law on the Five-Year Plan for the Development of the Economy of the GDR 1976-1980, December 15, 1976. Official Gazette of the GDR Part I, 1976, No. 46, December 17, 1976, page 520.

The Social Policy Program of 1976

When planning for the years 1976 to 1980 the economic leadership of the GDR was confronted with a dilemma: In spite of foreign trade difficulties, the 8th Party Congress line that the "main task" was raising the standard of living could not, in principle, be departed from. The population expected, after all, that growing productivity would be rewarded. A presumable consequence of this fact was the social policy program published a few days after the 9th Party Congress.⁸ Such decisions, comprising a number of social policy measures, have been taken almost regularly at intervals of four years since 1960. However, this program was particularly extensive. With its remarkable reduction of working hours and pension increases it had considerable impact on production and the distribution of income. The reduction of the weekly working hours of part-time workers and working mothers and the increase in annual leave for the regular work force (effective in 1977) was a further remarkable step in this field after the improvements of 1967 and 1972. The title of the decision read: Measures for the further introduction of the 40 hour week.

Workers in the three-shifts system (28 percent of all production workers in the GDR) and all mothers with two children will have a 40 hour week beginning in May 1977. Moreover, annual leave was increased from the beginning of 1979; 6.6 million working people will receive three additional days of leave, 0.94 million as many as four to six additional days. The basic leave for adults will be 21 working days. These new arrangements for working hours and leave with full pay are probably part of the distribution policy strategy of the whole five-year plan period: Wages and domestic supply of consumer goods could only be increased relatively little within the overall plan, and in compensation working hours were reduced.

The increase in pensions and social benefits begun on December 1, 1976 led to 12.5 percent higher pensions during the whole year of 1977, which considerably increased the expenditure of the State budget during the entire plan period.

A remarkable feature in the social policy program was the improvement of the situation of working mothers by introducing the "baby year." This new arrangement was the latest and so far the most successful measure to encourage a rise in birth rates. Women are entitled to stop working after the birth of the second and any further children until the child is one year old. They receive full pay during the first 26 weeks of the pregnancy and birth leave and sick-allowance after the 26 weeks. This immediately and decisively changed the demographic trend in the GDR: Exactly nine months after the announcement and coming into force of the social policy measures in March 1977 the birth rate rose by 14 percent compared with the same month in the year before. The rate of growth during the following months were even higher. The number of first children rose by 7 percent in 1977, but that of second and following children by 23.5 percent.

⁸ Joint decision by the Central Committee of the SED, the Executive of the FDGB (trade union) and the Ministerial Council of the GDR regarding further planned improvements of working and living conditions of the working population during the period 1976-1980, May 27, 1976. Neues Deutschland, May 29-30, 1976, page 1.

SELECTED SOCIAL POLICY MEASURES FOR THE PERIOD 1976-80

Measures	Before	New	Effective from—
Increase in maternity leave.....	18 weeks.....	26 weeks.....	May 27, 1977.
Increase of lower incomes for fulltime workers and employees:			
Minimum gross wages.....	350 marks per month.....	400 marks per month.....	Oct. 1, 1976.
Differentiated increase of incomes between 400 and 500 marks by 15 to 40 marks.			
Increase in old age pensions and social benefits:			
Minimum old age and disability pension.....	200 to 240 marks per month.....	230/300 marks per month.....	Dec. 1, 1976.
Minimum pension for accident victims.....	240 marks per month.....	300 marks per month.....	
Pension for veterans.....	do.....	do.....	
Additional amount for husband/wife.....	75 marks per month.....	100 marks per month.....	
Social benefits for singles.....	175 marks per month.....	200 marks per month.....	
Social benefits for couples.....	250 marks per month.....	300 marks per month.....	
Reduction of working hours for shift workers:			
In the 3 shift or uninterrupted shift systems.....	42 hr per week.....	40 hr per week.....	
In the 2-shift system.....	43½ hr per week.....	42 hr per week.....	
For full-time working mothers.....	40 hr per week (for mothers with 3 or more children and mothers with 2 children working in the 2-shift system).	40 hr per week (for all mothers with 2 children).	
3 days additional leave.....			Jan. 1, 1979.

Source: Doris Cornelsen, "The economic situation in the German Democratic Republic in mid-1976," Weekly Report of the DIW, No. 33, 1976, p. 303.

Live births per 1,000 persons: 1975, 181.8; 1976, 195.5; 1977, 223.2; 1978, 232.2; and 1979, 235.2. Source: Statistical Year-Book of the GDR 1979, page 351, Neues Deutschland, January 1, 1980, page 4.

There can be no doubt that this development is primarily due to the baby year.⁶ It appears likely that the birth rate will now remain at this higher level. Whether this development will continue cannot be forecast, however.

Apart from these measures of 1976, the very "core of the social policy program" in the GDR is the housing program. The comprehensive census of dwellings and buildings in the GDR in 1971 disclosed the alarming state of dwellings and buildings. This probably led to the extensive house-building program which was prepared at the 9th and 10th meetings of the Central Committee of the SED and was explained in detail by the responsible minister.⁷

At the 6th building conference of the Central Committee of the SED in April 1975 the program was again confirmed⁸ and it has not yet been called into question despite the change in overall economic priorities. The program provides for "the solving of the housing question until 1990." For this purpose, about 2.8 to 3.0 million dwellings are to be built or renovated from 1976 to 1990, thus substantially improving housing conditions for 10 of the 17 million inhabitants of the GDR. The cost of the entire project (including local utility works) was estimated to be 200,000 million marks. Thus, the share of house-building in overall state expenditure and also in available building capacities is considerable.

⁶ See Heins Vortmann, "Birth rate increase in the GDR—result of the baby year: Development of births and family promotion in the GDR," Quarterly Review on Economic Research of the DIW, No. 3/1978, p. 210 ff and "Continuously high birth figures in the GDR," Weekly Review of the DIW, No. 30/1979, p. 315 ff.

⁷ "Neues Deutschland," October 4, 1975, page 5 et seq.

⁸ Neues Deutschland, April 24, 1975, page 3 et seq.

In sum, the following social policy measures during the five year plan period 1976–1980 have had a major impact on the production, distribution, and utilization of GNP:

- The reduction of working hours and the additional leave reduced the available labour volume;
- The pension increases placed a burden on the State budget and increased private demand;
- The stimuli to increase the birth rate also reduced the number of working women and increased the demand for equipment and places in nurseries; and
- The house-building program required a major part of the capacity of the building industry.

3. BASIC LINES OF ECONOMIC DEVELOPMENT IN 1976–80

The Development of the Labor Force

Due to the age structure the working age population rose tangibly during the second half of the 1970s, increasing by more than 500,000. If one takes only the number of employable persons according to age and sex, one arrives at a possible increase in the working force of about 300,000.

A similar calculation had been made in the GDR: as a result, the following increase in employment in the producing sectors was planned for the five-year plan period:⁹

Industry, +130,000; building trade, +36,000; and transport, +23,000.

The additional workers are to be employed in the educational sector and for the supply and welfare of the population.

Thus, the work force in the three producing sectors could increase by about 4 percent, the increase being highest in the building sector with 6.5 percent.

To assess the development of the labor pool, however, it is necessary to take the working hour reductions into consideration. About 1.5 million people, almost 20 percent of the work force, profited from the reduction of weekly working hours for shift workers and working mothers, and even the remaining work force will receive additional leave. The subsequent change in average working time in industry resulting from working time reductions and the share of the persons enjoying these reductions in the entire industrial work force has been calculated (changes in percent compared with the year before):

Weekly working hours: 1977, -1.5; and 1978, -0.5.

Not included in this calculation are the consequences of the prolonged pregnancy and birth leave and the "baby year," measures which are enjoyed now by almost all the women eligible. The increase in annual leave from the beginning of 1979 is estimated—according to official data¹⁰—at 1.45 percent of working time. At least in industry the increase in the labor force has been almost completely offset.

⁹ Directive of the 9th Party Congress of the SED on the Five-year Plan for the Development of the Economy in the GDR during the years of 1976–1980 (Draft), page 23.

¹⁰ Wolfgang Bayreuther: "From 1 January 1979 more leave for more than 7.5 million workers," *Work and Working Law*, 10/1978, page 437.

However, it has become known that in some sectors—transportation, for instance—the working hour reductions were offset by additional overtime. Moreover, in view of the under-utilization of working time, it appears likely that the reduction in working hours has not affected production in other sectors at all. In considering the level of productivity, not only the slowly growing work force but also the working time reduction should be taken into account.

Production

A breakdown by years had been made in the five-year plan for the main indicators for GDP or “produced GNP” and “industrial production”. There was to be a slight acceleration in growth during the planning period. A comparison between the Plan and actual performance¹¹ shows a different picture (growth compared with the year before in percent) :

	1976	1977	1978	1979	1980	1980/76
5-year plan:						
Produced GNP (GDP).....	5.3	4.8	5.0	5.1	5.0	127.9
Industrial goods production.....	6.0	5.3	6.2	6.1	6.6	134.0
Actual performance:¹						
Produced GNP (GDP).....	3.5	5.2	3.8	4.0	4.8	123.4
Industrial goods production.....	5.9	4.6	5.0	4.8	4.7	127.6

¹ For 1980: planned.

Source: Law on the 5-yr plan for the development of the economy in the German Democratic Republic op. cit. p. 520. Actual performance: Statistical Year-Book of the German Democratic Republic 1979 and information from the Central State Administration for Statistics regarding the fulfilment of the economic plans in Neues Deutschland, Jan. 22-23, 1977, Jan. 12, 1978, Jan. 19, 1979, and Jan. 17, 1980. For 1980: Law on the economic plan 1980, Official Gazette of the German Democratic Republic, pt. 1, No. 45, Dec. 29, 1979 p. 457.

It is evident that the targets of the five-year plan can no longer be met even in case of considerable over-fulfillment in 1980. Moreover, growth has not accelerated during the five-year plan period. On the contrary, it has slowed down.

Fluctuations in agricultural performance had a great impact on produced GNP. Especially in 1976, agricultural production was considerably affected by the extreme drought of the summer; agricultural net product decreased by about 10 percent. These losses influenced the year of 1977 as well, especially with regard to the production of meat and milk. However, compared with the bad year of 1976, there was a high growth in net product in 1977. Thus, favorable and unfavorable agricultural results over the two-year period significantly affected produced GNP.

In 1978 and 1979 medium yields were obtained. In 1979 animal production lagged behind expectations because of the long winter.

If the agricultural sector is eliminated from produced GNP, the general trend becomes more evident (growth of produced GNP without agriculture, in percent) : 1976, 5.4; 1977, 4.5; 1978, 4.4; and 1979, 4.2.

This slightly leveling trend is apparent in almost all economic sectors, including the important industrial sector. Because of the GDR's very restrictive publication practices which industrial branches have

¹¹ In 1977 the price basis of 1975 was re-instated for statistical reporting on the GNP and the individual aggregates. The actual performance has to be based on the revised figures.

TABLE 1.—ORIGIN OF GERMAN DEMOCRATIC REPUBLIC NATIONAL INCOME

	Billion marks					Percentage share	
	1975	1976	1977	1978	1979 ¹	1975	1979 ¹
Industry ²	85.5	90.5	94.5	98.9	103.6	59.1	61.0
Construction.....	18.7	11.3	11.8	12.2	12.4	7.4	7.3
Agriculture and forestry.....	16.0	14.2	15.9	15.7	13.8	11.1	9.3
Transport, posts, telecommunications.....	7.3	7.6	7.8	8.1	8.3	5.0	4.9
Domestic trade.....	21.2	21.9	23.0	23.9	24.7	14.6	14.5
Remaining producing branches.....	4.1	4.4	4.6	4.9	5.1	2.8	3.0
Net product.....	144.7	149.9	157.6	163.7	169.9	100.0	100.0
Price subsidies.....	2.3	2.4	2.4	2.6	2.7		
Produced national income.....	142.4	147.5	155.2	161.1	167.2		
Economically active persons (thousands).....	8,956	9,020	9,075	9,135	9,200		

¹ DIW provisional estimates.

² Including manufacturing enterprises without building trades.

Source: German Democratic Republic Statistical Yearbook 1979, p. 74; "Neues Deutschland," Jan. 17, 1980, p. 3; DIW calculations.

not performed in line with the Plan cannot be accurately determined.¹² The following rough picture can be drawn:

The plan data shown in detail for the various industrial ministries ranged from an increase of 5 percent (enterprises of the Ministry for Coal and Energy) to 9 percent (machine tools and processing machines); the average was 6.5 percent. The realized rates up to 1978 amounted to 5 percent (for the entire economy); the lowest rate was 4 percent (textile industry), the highest rate 8 percent (electro-technical industry).

Especially important deviations from the Plan have probably occurred in the chemical and engineering sectors. They probably amounted to between one and two percent. Export backlogs in the engineering industry have already been mentioned.

There have probably also been backlogs in the consumer goods industries.

The electro-technical industry probably even exceeded its planning targets.

These trends are also apparent when the planning targets of the five-year plan are compared with those of annual plans. It is apparent—as the principles of the planning system provide—that the annual plans cannot be taken as "slices" of the five-year plan. The originally planned growth targets were revised downward in some sectors, including the chemical industry, machine-tool industry and light industry. This option is also envisaged in the guideline:¹³ An approved option for amending the annual plan sectors of the five-year plan is

¹² Production of industrial goods (about 75 percent of economic production) is planned once in the aggregate and once according to the various ministries. In the plan fulfillment reports industrial goods production is shown in total and as a sum of the ministries. In the *Statistical Year-Book of the GDR* figures for industrial goods production were published by ministry, for the last time for 1976 (in the Year-Book for 1977), but they were not comparable with those published for previous years. Publication of monthly statistics on production of industrial goods by industrial sectors, not ministries—was abandoned in the summer of 1979 with the appearance of figures for the first quarter of 1979. The *Statistical Year-Book* contains—for the last time in 1978—differently defined data, i.e. "gross industrial production," according to industrial sectors and groups of products, not ministries. The breakdown in sectors does not correspond to that of the ministries, as it is partly more specific and partly more general.

¹³ Op. cit. page 10.

TABLE 2.—PLANNING TARGETS IN THE INDUSTRIAL SECTOR 1976-80

Industrial ministry	Growth rate 1980/75 ¹		Annual plans ² —growth rate				
	Total	Annual	1976	1977	1978	1979	1980
Coal and power.....	28.4	5.1	4.9	3.9	4.8	4.9	4.4
Ore mining metallurgy and potash.....	27.3	5.0	4.9	4.0	3.4	2.9	4.3
Chemical industry.....	44.5	7.6	7.4	6.2	6.7	5.8	5.7
Electrical engineering electronics.....	45.7	7.8	7.7	7.0	8.7	8.7	7.3
Heavy engineering and plant construction.....	39.6	7.0	6.2	6.4	6.7	6.2	6.0
Machine tool and processing machine construction.....	56.0	9.3	9.1	7.6	8.0	7.5	7.8
General mechanical engineering agricultural machinery and vehicle building.....	42.0	7.3	6.6	7.2	6.7	7.9	7.1
Light industry.....	40.0	7.0	7.4	5.2	5.9	3.9	2.4
Glass and ceramics industry.....	44.1	7.6	8.5	7.2	6.9	5.0	6.2
Area managed industries and food processing industry..	33.5	6.0	6.7	6.1	5.9	5.5	4.4
Total³.....	37.9	6.6	6.7	6.0	6.2	5.8	5.4

¹ Five-year plan 1976-80 (Gesetzblatt der DDR pt. 1/1976 No. 46 p. 524).

² Gesetzblatt der DDR pt. 1: 1975 No. 46 p. 740; 1976 No. 46 p. 553; 1977 No. 37 p. 415; 1978 No. 42 p. 458 and 1979 No. 45 p. 458.

³ Ministry for geology included.

Source: Planning targets and DIW calculations.

the "inclusion of the development achieved during the expired planning years."

Investments

With the changed targets in the five-year plan 1976-1980 a phase of restricting investments came to an end. According to the Plan, investments were to rise by the same extent as overall economic activity. The total volume of investments (price basis of 1957) was to be 242,000 million M and of these 8,000 million M were earmarked for joint investment projects in the USSR and the other socialist countries, especially for joint development and exploitation of raw material deposits. Prorated over the plan period, the growth in domestic investments corresponded to an average annual rate of 5.2%.

TABLE 3.—GROSS CAPITAL INVESTMENT IN THE GERMAN DEMOCRATIC REPUBLIC BY SECTORS

	Billion mark at 1975 prices					Percentage share	
	1975	1976	1977	1978 ¹	1979 ²	1975	1979 ³
Industry.....	20.96	22.72	24.30	25.86	26.8	49.0	53.4
Construction.....	1.41	1.78	1.73	1.68	1.5	3.3	5.0
Agriculture and forestry.....	4.98	5.09	5.30	5.06	4.9	11.8	9.7
Transport, posts and telecommunications.....	4.43	4.68	4.16	4.04	4.1	10.5	8.1
Trade.....	1.56	1.60	2.04	2.12	1.8	3.7	3.0
Other producing branches ⁴.....	.42	.53	.61	.55	.5	1.0	1.0
Cultural and social institutions ⁴	2.00	1.92	2.11	2.30	2.4	4.8	4.8
Extension of housing stock.....	3.48	3.84	4.00	4.40	5.0	8.3	10.0
Other nonproducing branches.....	2.79	3.00	3.44	3.10	3.2	6.7	6.6
Total.....	42.05	45.15	47.69	49.10	50.2	100.0	100.0
Investment in CMEA projects.....	.63	1.10	1.67	1.70	1.8	.....	.....
Total investment.....	42.68	46.25	49.36	50.80	52.0	.....	.....

¹ Provisional.

² DIW provisional estimates.

³ Leading economic bodies and institutes of all producing branches, project-planning and computing enterprises, publishing houses, repair combines and drycleaning.

⁴ Except science and research.

Source: German Democratic Republic Statistical Yearbook 1979, p. 74; "Neues Deutschland," Jan. 17, 1980, p. 3; DIW calculations.

However, such even growth did not occur. Investment activity rose sharply at the start of the five-year plan period, but then diminished. It should be stressed that the planning of investments in the GDR has not reduced fluctuations in investments. Although it is not easy to find consistent trends for the various years and the various sectors, the following basic trends are apparent:

The industrial sector was provided with investment funds in a relatively consistent manner. The share of industry in total investment, which had been declining slightly during the preceding five-year period, rose slightly.

Investment within industrial sectors is no longer published; the last information (for the year 1976) was published in 1977 in the *Statistical Yearbook*. The planned figures show, however, that priority is clearly given to the production of basic materials and especially to the supply of energy and fuel.

DISTRIBUTION OF INDUSTRIAL INVESTMENTS

(in percent)

	Actual			Plan, 1976-80
	1960-65	1966-70	1971-75	
Basic materials production.....	66	52.0	55.0	60
Water supply.....	6	5.9	4.8	4
Investment goods industry.....	16	24.8	22.3	19
Consumer areas.....	12	16.4	17.0	17

Source: "Development and structure of investments in the GDR to 1980," Weekly Report of DIW, No. 45/1976, p. 419.

It would be odd if the investment goods industries, which are so important for the export sector, had lost in importance.

Enterprises are increasingly called upon to set up their own construction departments and to produce more from their own resources. As early as the previous five-year period (1971-1975) investments were carried out in this way. In 1979, 1/3 of all industrial investments were produced by individual enterprises (3,300 million M of 26,000 million M).

Investments in the transport sector were again deferred. Until 1975 considerable investments were made in this sector in order to replace old stock. This sector's performance is still not satisfactory and it frequently is a bottleneck in overall development. Nevertheless, it has lost its priority in the allocation of investment funds in the current five year period.

The extensive housing program requires a further concentration of funds in this sector. Its share in investment has risen.

Numerous speeches and administrative measures indicate that investment has only partially coincided with planned concepts. For instance, intensification, i.e., the more rational use and labour-saving modernization of existing facilities, was to have precedence over extensive development. However, more jobs are created than saved by investments.¹⁴ To avoid this, rules for investment were tightened. With the two new investment ordinances¹⁵ concerning the preparation

¹⁴ See discussions between Erich Honecker and local first secretaries in Neues Deutschland, February 18-19, p. 5.

¹⁵ Ordinance on the preparation of investments. See Official Gazette of the GDR, Part I, No. 23/1978 p. 251f and Ordinance on the planning, preparation and implementation of follow-up investments, in Official Gazette of the GDR, Part I, No. 23/1978, p. 257 f.

of projects, which detail the State requirements that are to be met, additional costs may be avoided and efficiency be generally increased.

Control over investment activities has evidently been insufficient. On the one hand, despite minute planning regulations, investments of "thousands of millions" were made outside the plan.¹⁶ On the other hand, due to the spreading of investments over too many projects, especially in the building sector, numerous investment projects remain unfinished. A special decision on investments issued in November 1979¹⁷ again detailed the faults of the investment process and announced that potential projects would be classified and ranked according to economic considerations. In the annual plan for 1980 the number of previously planned investment projects in industry was reduced from 450 to 250. Projects outside the plan are to be strictly avoided and the number of uncompleted investments is to be reduced. A new ordinance to cover incomplete investments was also issued.¹⁸

Income and Private Consumption

The slower growth in the amount of consumer goods supplied to the domestic market was accompanied by careful planning of net incomes. So far the GDR has been relatively successful in balancing supply and demand. However, during the plan period 1976–1980 this careful equilibrium was somewhat disturbed.

A tangible rise in net income was caused by the increase in pensions and social benefits of the social program. In "normal years" there is only a minimal rise in pensions because the new pensions are, on average, only slightly higher than existing pensions, whereas pensions were increased by 12.5 percent in 1977. From the mid-1970s to the 1990s this effect will still be slightly attenuated because the number of pensioners declines slightly due to the age structure.

There were only three "normal years" in this five-year period. A second increase in actual pensions, nonetheless, was announced at the end of 1979. Thus, pensions were increased as of December 1, 1979—after three years instead of the usual four. In 1980 the economic leadership expects additional expenditures of 1,500 million M for pensions or an increase of 10 percent.

The increase in net wages and salaries was not as low as planned in the five-year plan and in the annual plans. Presumably, it proved impossible to limit increases in wages in view of the social program, whose working-hours and holiday arrangements provided for full wage adjustment. This goal has probably also been thwarted by overtime work. The rise in wages only slowed-down in 1979. It is remarkable that in two of the four years wages have risen more quickly than GNP—a new development in the GDR, where the increase in wages and salaries has always been lower than the increase in GNP.

The overall development of net monetary incomes was therefore not in line with medium-term planning.

An aggravating factor was the remarkable discrepancy between domestic supply and demand. In 1977 incomes rose by 5.4 percent,

¹⁶ Günter Mittag, Contribution to the discussion at the 8th Congress of the SED Central Committee, Neues Deutschland, Mar 27–28, 1978, p. 3.

¹⁷ Joint decision of the Politbureau of the SED Central Committee and the Ministerial Council to increase the effectiveness of investments in order to further increase the economic capability of the GDR, Neues Deutschland, November 10–11, 1979, p. 3.

¹⁸ Official Gazette of the GDR, Part I, 1979, No. 42, p. 393 f.

TABLE 4.—SELECTED DATA ON GERMAN DEMOCRATIC REPUBLIC PRIVATE HOUSEHOLD INCOMES AND THEIR USE

	Bill on mark						Annual growth rate (percent)	
	1970	1975	1976	1977	1978	1979 ¹	1975/ 1970	1979/ 1975
Net money incomes ²	79,3	99,8	104,0	109,7	113,5	116,6	4,7	4,0
Of which:								
Net wages and salaries.....	50,2	63,9	67,0	69,9	73,0	75,6	4,9	4,3
M per working employee.....	(6 760)	(8 020)	(8 310)	(8 590)	(8 880)	(9 150)	3,5	3,3
Social income.....	9,0	12,5	12,7	12,1	14,3	14,5	6,8	3,8
Other receipts.....	20,1	23,4	24,3	25,5	26,2	26,5	3,1	3,2
Savings.....	4,1	5,1	4,9	5,9	6,0	-----	4,4	5,4
Retail trade turnover, total.....	64,1	81,9	85,7	89,4	92,5	95,5	5,0	3,9
Of which:								
Food and fine foodstuffs.....	35,8	42,5	44,0	45,7	47,3	48,6	3,5	3,4
Industrial goods.....	28,3	39,4	41,7	43,7	45,2	46,9	6,9	4,4

¹ Provisional.

² Except contributions to the voluntary supplementary pension funds.

Source: German Democratic Republic Statistical Yearbook 1973, pp. 218,254; Neues Deutschland, Jan. 17 1980 p. 3; DIW calculations and estimates.

trade turnover, however, by only 4.3 percent. The difference, which amounted to more than 1,000 million M. was partly caused by increased savings. It was known from earlier pension increases (in 1971–72) that households of pensioners add to their savings after an increase in their incomes.¹⁹ As increases in deposits in savings banks demonstrated, this pattern was repeated in 1977, but there was also a lack of supplies so that quickly rising demand could not always be met.

In all, the whole five-year period was marked by shortages on the domestic market. The improvement in the supply of manufactured goods, which had been successfully carried out during the 1971–1975 period was gradually reduced (annual growth in percent) :

	1971–75	1976	1977	1978	1979
Retail trade turnover, total.....	5.0	4.6	4.4	3.4	3.2
Food and fine foodstuffs.....	3.5	3.5	4.0	3.4	3.2
Manufactured goods.....	6.8	5.8	4.8	3.4	3.7

Source: For 1971–78: Statistical Yearbook 1979, p. 218. For 1979: "Neues Deutschland," Jan. 17, 1980, p. 4.

In addition there are complaints about insufficient supply of many consumer goods. In 1979, the 30th anniversary of the GDR, of all years, serious shortages occurred. Some goods disappeared completely from the market and many goods were offered in smaller quantities than demanded. Hoarding purchases aggravated the critical shortages. The establishment of "Exquisit-" and "Delikat"-shops, in which import goods and high-quality domestic goods are sold at considerably higher prices, was probably a reaction to these shortfalls. The expansion of these shops was announced in the autumn of 1977.²⁰ At the end of 1978

¹⁹ Hans Jürgen Kerstan, "First results of the effects of the pension measures of 1976 on the general structure of expenditure in pensioners' households," *Markforschung*, Vol. 3/1978, p. 31 et seq.

²⁰ Erich Honecker when opening the Party study year 1977/78 in Dresden. See *Neues Deutschland*, September 17, 1977, p. 4 f.

it was announced that these shops had achieved a turnover of 1,485 million M, which represented at that time 1.5 percent of the overall retail trade turnover.²¹ In connection with the new price policy (see below) it was presumably planned to expand supply still further.

TABLE 5.—PER CAPITA CONSUMPTION OF SELECTED FOODSTUFFS AND PRODUCTS OF THE DRINK AND TOBACCO INDUSTRY

[In kilograms]

	1960	1970	1975	1978
Meat and meat products.....	55.0	66.0	78.0	86.0
Of which:				
Pork.....	33.0	39.0	48.0	53.0
Poultry.....	4.0	5.0	8.0	9.0
Eggs and egg products.....	197.0	239.0	269.0	284.0
Butter.....	14.0	15.0	15.0	15.0
Margarine.....	10.0	11.0	11.0	11.0
Flour, wheat.....	46.0	52.0	54.0	57.0
Flour, rye.....	50.0	40.0	35.0	32.0
Potatoes for human consumption.....	174.0	154.0	142.0	139.0
Fresh vegetables.....	48.0	61.0	61.0	65.0
Fresh fruit.....		34.0	32.0	29.0
Southern fruits.....	7.0	12.0	19.0	20.0
Sugar and sugar products.....	29.0	34.0	37.0	39.0
Coffee beans, roasted.....	1.1	2.2	2.4	2.7
Tea (grams).....	88.0	91.0	101.0	124.0
Cigarettes (pieces).....	1,069.0	1,257.0	1,451.0	1,683.0
Spirits (liters).....	3.5	6.6	8.6	10.3

Source: German Democratic Republic Statistical Yearbook 1979, p. 275.

TABLE 6.—STOCKS OF SELECTED DURABLE CONSUMER GOODS

[Number per 100 households]

	1960 ¹	1970 ²	1975 ³	1978	1979	1980 ⁴
Private cars ⁵	3.2	15.6	26.2	34.1	36	-----
Radio receivers ⁶	89.9	91.9	96.3	98.2	-----	-----
TV receivers ⁶	16.7	69.1	81.6	86.5	90	97
Electric domestic refrigerators.....	6.1	56.4	84.7	98.6	99	100
Electric domestic washing machines.....	6.2	53.6	73.0	78.8	80	80

¹ 30.6.

² 30.3.

³ Since 1975, the figures refer to the year end.

⁴ Planned target.

⁵ Excluding vehicles used predominately for business journeys.

⁶ Licensed receivers.

Source: GDR Statistical Yearbook 1979, p. 276, Neues Deutschland dated Jan. 17, 1980, GBI, DDR 1/1976, Nr. 46 p. 529.

It should not be forgotten that the improvement in the standard of living of the population continued in this five-year plan period, although at a slower pace. Per capita consumption of important foodstuffs is almost the same as in the Federal Republic of Germany, and the equipping of households with durable consumer goods has gradually improved.

Foreign Trade Development

Since 1975 only foreign trade turnover data (exports plus imports) have been published. The regional sub-division, separated by imports and exports, is no longer published. A picture of foreign trade develop-

²¹ Joachim Herrmann in the report of the Politbureau to the 9th Congress of the SED Central Committee. See Neues Deutschland, December 14, 1978, p. 3.

ment can be obtained only by fitting the data of partner countries and other CMEA countries into existing GDR statistics.²² The foreign trade turnover of the GDR amounted to almost 110 million Valutamark (VM)²³ in 1979. The average annual growth of turnover since 1975 has been 10 percent with considerable fluctuations in imports and exports. Taking into consideration all individual values within the period of reporting, imports and exports grew by an average of 10 percent. The trade deficit, which amounted to 4,200 million VM in 1975, reached its highest level in 1977 with 8,000 million VM. The cumulative trade deficit since 1974, when price increases became effective, amounts to more than 30,000 million VM. This corresponds to more than 60 percent of 1979 exports.

Within these overall data there are clear regional differences. GDR exports to Western industrialized countries²⁴ are hampered by the lack of competitiveness on Western markets and ongoing delivery commitments to the other socialist countries. In the case of imports, fluctua-

TABLE 7.—GERMAN DEMOCRATIC REPUBLIC FOREIGN TRADE BY GROUPS OF COUNTRIES¹

	Billion valuta-mark ²					Percent		
	1975	1976	1977	1978	1979 ³	Percentage share		Annual growth rate ⁴
						1975	1979	
Imports, total.....	39.29	45.92	49.89	50.71	57.3	100.0	100.0	10.7
Socialist countries ⁵	28.16	29.11	34.21	35.45	37.3	66.6	65.1	10.8
Of which:								
CMEA countries ⁶	24.94	27.93	32.70	34.03	35.7	63.5	62.3	11.0
Of which: U.S.S.R.....	(14.09)	(14.91)	(17.66)	(18.60)	(19.7)	(35.9)	(34.4)	(9.4)
Western industrial countries.....	11.41	14.62	13.16	12.90	16.3	29.0	28.4	9.1
Developing countries.....	1.72	2.19	2.51	2.36	3.7	4.4	6.5	18.7
Exports, total.....	35.11	39.54	41.84	46.17	51.3	100.0	100.0	9.9
Socialist countries ⁵	25.69	28.22	31.25	34.40	38.5	73.2	75.1	18.4
Of which: CMEA countries ⁶	24.32	26.71	29.54	32.58	36.5	69.3	71.2	19.4
Of which: U.S.S.R.....	(12.45)	(12.89)	(14.79)	(16.31)	(18.1)	(35.5)	(35.3)	(9.6)
Western industrial countries.....	7.88	9.50	8.60	9.10	9.8	22.4	19.1	6.6
Developing countries.....	1.54	1.73	1.90	2.67	3.0	4.4	5.8	17.6
						Balance 1976-79		
Balance, total.....	-4.18	-6.38	-8.04	-4.54	-6.0			-24.96
Socialist countries ⁵	-4.7	-8.0	-2.96	-1.05	+1.2			-3.70
Of which: CMEA countries ⁶	-6.2	-1.22	-3.16	-1.45	+8			-5.03
Of which: U.S.S.R.....	(-1.64)	(-2.03)	(-2.87)	(-2.29)	(-1.6)			(-8.79)
Western industrial countries.....	-3.53	-5.03	-4.56	-3.90	-6.5			-18.80
Developing countries.....	-1.18	-4.6	-5.2	+3.1	-7			-1.37

¹ At current prices f.o.b.

² Provisional.

³ VM—Valuta-mark is a statistical unit of account used in GDR foreign trade returns; its value is fixed at 4.667 VM to the ruble.

⁴ Annual growth rate in respect of the yearly volume 1976-79.

⁵ CMEA countries and other socialist countries.

⁶ Albania, Bulgaria, Cuba, Czechoslovakia, Hungary, Mongolia, Poland, Rumania, U.S.S.R., Vietnam (admitted in 1978).

Source: German Democratic Republic Statistical Yearbooks DIW calculations and estimates based on Statistical Yearbook of Poland, the CMEA Statistical Yearbooks, and foreign trade statistics of the OECD countries.

²² See also articles in the Weekly Reports of the DIW, especially Nos. 47/1977, 6/1980, 7/1980.

²³ A statistical accounting unit which the GDR has been using in its foreign trade since the mid-1960s. Its rate of exchange results from a certain relation to the transfer ruble. Up to now this relation has been constant: 1 transfer ruble=4,667 Valutamark. The rate of exchange with Western currencies fluctuates with the parity changes between rouble and convertible currencies. Value in 1978: 0.634 DM=1 Valutamark.

²⁴ The statistical situation for trade with the West is critical. The GDR statistics are contradictory and do not agree with those of the partner countries. There are grave deviations in trade balance deficits. See Horst Lambrecht, "Trade of the GDR with the West," Weekly Report of the DIW, No. 39/1975. See also Maria Haendcke-Hoppe, "The GDR's foreign trade statistics and their informative value," in FB-Analysen 3-1978.

tions have been enormous (changes compared with the previous year in percent): 1975, -0.4; 1976, +28.1; 1977, -10.0; 1978, -2.0; and 1979, +34.9.

Thus the basic problem of trade with the West—almost unlimited requirements for Western products but only small possibilities of financing them by exports—is revealed. Actual or latent imbalances between exports and imports can obviously not be eliminated by expanding exports but only by denying import requests. Any relaxation will lead to a steep rise in imports again.

The commodity structure of trade with the West has remained almost unchanged for years. GDR imports consist mainly of investment goods (e.g. machines, equipment, means of transport). Imports of raw materials, pre-products and semi-finished products are astonishingly high. The same applies to agricultural goods and foodstuffs which account for about one-fifth of all imports. On the export side, investment goods are of lesser importance than in the case of imports. Consumer goods with a share of $\frac{1}{4}$, however, are of a greater importance. The most important buyer of consumer goods is the Federal Republic of Germany.

Growing at about 10 percent annually, trade with the CMEA countries has developed more strongly and more evenly than trade with the West since 1975. It is evident, however, that the GDR's import policy with respect to inter-CMEA trade became more careful. The reason for this is probably the trade deficit, which developed after years of surpluses in the course of price adjustments. The deficit probably also induced the GDR to make great export efforts in recent years. Trade with CMEA had a slight surplus again in 1979.

Half of GDR imports from CMEA countries consist of raw materials. More than 75 percent of its exports are finished products—notably investment goods and industrial consumer goods. Trade with the smaller CMEA countries as, for instance, the CSSR, Hungary and

TABLE 2.—COMMODITY STRUCTURE OF GERMAN DEMOCRATIC REPUBLIC FOREIGN TRADE PERCENTAGE SHARES

	All countries			Socialist countries			Industrial countries		
	1973	1975	1978	1973	1975	1978	1973	1975	1978
Imports:									
Machines equipment means of transport.....	33	31	34	41	37	30	20	20	26
Fuels mineral raw materials metals.....	24	31	30	29	34	35	16	20	15
Other industrial raw materials.....	11	11	11	7	8	8	19	16	16
Agricultural raw materials and foodstuffs.....	16	13	12	10	7	7	19	20	22
Chemical products.....	8	6	5	3	3	2	13	16	13
Industrial consumer goods.....	8	6	5	7	6	5	12	5	5
Exports:									
Machines equipment means of transport.....	51	51	55	61	61	64	16	14	17
Fuels mineral raw materials metals.....	11	12	10	8	8	7	21	27	22
Other industrial raw materials.....	6	6	6	5	5	5	11	9	10
Agricultural raw materials and foodstuffs.....	6	5	4	1	2	1	19	16	14
Chemical products.....	9	10	9	9	9	9	10	11	11
Industrial consumer goods.....	17	16	15	16	14	13	23	24	25

Source: German Democratic Republic Statistical Yearbooks, DIW calculations and estimates.

Poland, however, has been of a substitutive nature in recent years. Trade in finished products could be extended.

Trade with the Soviet Union plays a special role²⁸ and has never lost its complementary character. In the exports of the GDR engineering products play a dominant role (70 percent in 1978). Soviet deliveries include a large raw material portion. Due to price increases this portion has even increased in recent years, according to quantities supplied it should have decreased instead. Imports of oil, for instance, increased by about 20 percent between 1975 and 1978 whereas their value doubled.

The importance of the price changes is also shown by the fact that in 1970 the GDR could finance its oil imports with only 7 percent of its exports to the Soviet Union, but that this figure will rise to 25 percent by 1980, assuming that trade with the Soviet Union is in balance. In spite of the delay in the full impact of price changes, this markedly high percentage of oil-related trade did occur. The delayed adjustment of price increases on the world market, which is applied in CMEA trade, diminished the foreign economic burden.

However, the difficulties that the Soviet Union is having in increasing its raw material production will also have an effect on the GDR in the next five-year plan period. For the first time in the history of trade with the GDR the USSR will no longer increase deliveries of important energy materials. Trade volume planned for the years 1981-1975²⁹ averages out to an annual increase of only 2.2 percent.

Summary

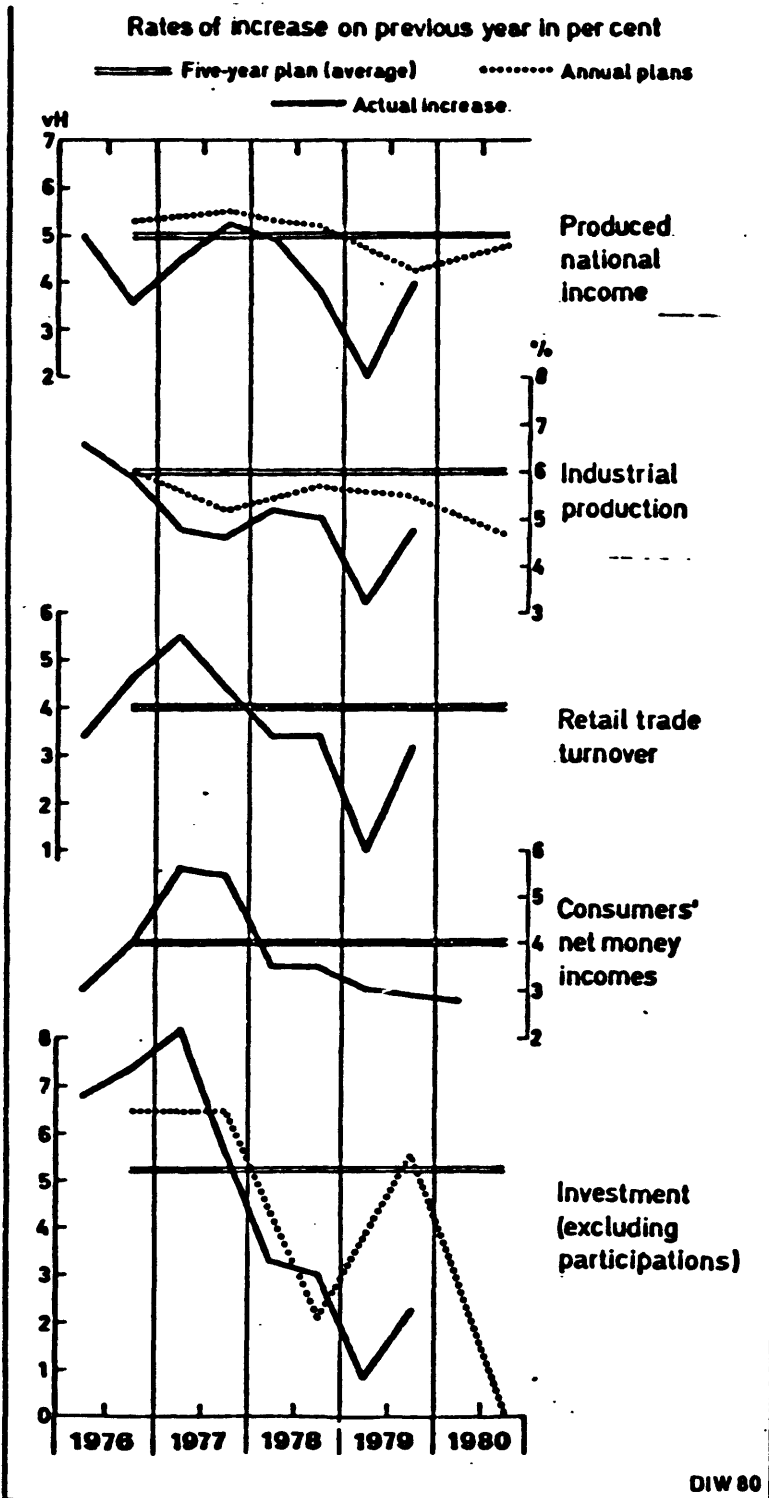
In all, the five year plan 1976-1980 did not work out as expected. There has been no acceleration in growth, and the overall growth planned for the whole period cannot be achieved. The average rate of growth of GNP will probably be less than 4.5 percent. At the same time considerable progress has been achieved in foreign trade. Nominal increases in exports remained only a little behind the rate of imports. Export and import price data published until 1976 show that the GDR was able to obtain some price increases for its exports. Import prices have been higher, though, and the almost parallel development of exports and imports since 1975 means that exports have risen more than imports in real terms. Thus, the rate of growth of the national output utilized was smaller than that of production—a fact which is also in line with the pattern of growth rates in the five-year plan.

Consumption and investments remained generally within the scope of the plan. Reduced growth has thus primarily affected the planning estimates for foreign trade, in which stronger improvement had probably been envisaged. Consequently, the trade deficit has been higher over the whole period than planned. The reduction of the overall deficit, which developed in the meantime, will still require a long period of intensive efforts.

²⁸ Jochen Bethkenhagen and Horst Lambrecht, "Trade GDR—USSR under the indications of reduced growth," *Weekly Report* 7/80, p. 69 ff.

²⁹ See *Neues Deutschland*, December 14, 1979.

FIGURE 1.—Planning and Implementation of Main GDR Economic Indicators, 1976 to 1980



4. REFORMS ²⁷

The politico-economic task of the eighties will be to accelerate or consolidate growth, to slow-down the increase in imports and to strengthen exports. These tasks place even more importance on the as yet incomplete process of "intensification" in planning and development. The productivity of labour and capital is lower than in Western countries; consumption of energy and material is generally too high. It will be necessary to organize production, planning, accounting and prices in such a way that available reserves will be freed up. The reforms already implemented and those expected can be seen in this context. They include changes in economic organization, improvements in performance assessment and revisions in the price policy.

Changing Economic Organization by Forming Combines

DEVELOPMENT AND AIMS OF COMBINE-FORMING

Until recently the system for steering industry consisted in principle of three levels. Between the top managerial level (Ministerial Council, State Planning Commission, and industrial ministries), and the enterprises (combine, people-owned enterprise (VEB)) there was an intermediate level consisting of the Associations of People-owned Enterprises (VVB), which managed, coordinated and controlled the enterprises placed under them. This tripartite structure was recently changed. Most of the VVBs were dissolved and large combines were formed at the level of enterprises.²⁸ In early 1980 there were 129 combines in industry and construction. About 90 percent of the industrial work force and of the scientific-technical resources was concentrated in 110 combines.²⁹ The combines consist, as a rule, of 20 to 40 enterprises, whose work force ranges from 5,000 to 70,000. The average work force is about 25,000. The three-level principle—Ministry, VVB, Enterprise—and the two-level system—Ministry, Enterprise—have alternated previously in the GDR. Combines have also been formed before, especially at the end of the 1960s within the framework of "structure-defining planning." However, at that time some sectors of industry remained almost unaffected while the recent forming of com-

²⁷ Summary of a contribution for the NATO Colloquium in Brussels in April 1980.

²⁸ Manfred Melzer, Angela Scherzinger, Cord Schwartzau. "Will the economic system of the GDR become more efficient by increased forming of combines?" In *Vierteljahrshefte zur Wirtschaftsforschung des DIW* (Quarterly Review of Economic Research), No. 4/1979.

²⁹ Günter Mittag. "Socialist Planning Economy to the benefit of the People and to strengthen our Republic." "Einheit" (Unity), No. 9/10, 1979, pages 931 f.

biners covers all industrial sectors. The evolution of economic organization between 1973 and 1979 has been as follows:

	Number of combines and VVB	
	Until 1973	Until 1979
Industrial combines.....	137	90
Construction combines.....	12	19
Total of combines.....	49	109
VVB:		
In industry.....	53	13
In the building trade.....	4	
Total of VVBs.....	57	13
Combined and VVBs.....	106	122

¹ About 50 percent of these were formed as "structure-defining" combines in 1968/70.

² About 50 percent of these were formed in 1978-79. With a few exceptions the VVB were dissolved simultaneously.

³ Early 1980: 129 combines.

Source: Manfred Meizer, Angela Scherzinger, and Cord Schwartau, "Will the economic system of the GDR become more efficient through increased forming of combines?" in "Vierteljahreshefte zur Wirtschaftsforschung, No. 4, 1979, p. 368.

According to Honecker, the forming of combines is "at present the most significant step in perfecting management and planning"³⁰ because "in the combine the decisive phases of the reproduction process—from research and development, construction of means of rationalization to the production proper, including the supply of quality-determining material and the sale of products on the domestic and foreign markets, are economically comprised."³¹

The following results are generally expected of the combines: Growth of productivity through better coordination; a better solution of supply problems, especially by the affiliation of the enterprises in question; acceleration of scientific-technical progress by incorporating research facilities; more efficient investment through better adaptability; and increased exports through reorientation of foreign trade administration.

At the same time, by reducing the number of levels in the managing system of the national economy, the efficiency of transmitting and processing information is to be increased. Bureaucracy and superfluous reporting are to be reduced and the central authority is to be freed to concentrate on essential questions.

IMPLICATIONS FOR THE ORGANIZATION OF PRODUCTION

The combines have considerably reduced the number of supply relations between sectors. Supplying firms have been affiliated or newly established. Individual enterprises have been amalgamated into larger production units. General engineering and tool-making combines, for instance, have their own foundries, while shoe industry combines have their own leather production.

Producers of Diesel engines have been affiliated with agricultural machinery and shipbuilding combines, mining machinery firms have

³⁰ From the report by the Politbureau to the 8th meeting of the Central Committee of the SED, Neues Deutschland, May 25, 1978, p. 4.

³¹ Günter Mittag, "To exploit the advantages of Socialism for Higher Effectivity," Neues Deutschland, August 26-27, 1978, p. 3.

been affiliated to the potash industry and arc-welding equipment firms to the copper mining industry. In the metalworking industry whole power plants have been affiliated.³² The constant difficulties with supplies, which have almost become a characteristic bottleneck in the GDR are to be at least reduced in this way.

The forming of combines is expected to accelerate technical progress in industry. Experiments to include the dynamic element of "technical progress" efficiently in planning have been made for many years. The insufficient number of development projects; terms of reference and especially the difficulties in putting research results in to production were constantly criticized. A great number of the joint research facilities of the enterprises (especially the VVBs) have now been incorporated in the combines. At the beginning of the 1970s two-thirds of industry's research and development capability was available at the enterprise level; ³³ now 90 percent is.

It is emphasized that the combines have the special capability of being able to plan the research process in a comprehensive manner because research and development and its practical application in production is in one place and is closely connected with production. Great improvement is expected, especially during the phase of application, e.g. by providing development capacities, supplies and equipment.

The recent forming of combines was accompanied by efforts to improve the efficiency of foreign trade organization and to bring the combines into closer contact with the world market. To this end, the division between production and sales—by the foreign trade enterprises, which are mostly specialized by branch—is to be modified to a certain extent. A small number of combines has been given wide-ranging foreign trade functions which are executed by a foreign trade enterprise, which has the status of a combine enterprise, as a rule. A large number of combines is to be authorized to do "independent business" in the export sector, i.e. they are entitled to conclude foreign trade contracts on their behalf and their own account, and this not only—as before—for spare parts but also for finished products.³⁴ However, they are still not given any share in their foreign currency earnings.

THE COMBINE WITHIN THE ECONOMIC MANAGEMENT SYSTEM

Following the dissolution of the VVBs, the combines and their managing bodies have been given a considerable part of the decision-making privileges of the former middle management level for the time being.³⁵ The greater economic potential and the greater authority of the combine directors to assert their will in their relations with the

³² See details in Melzer, Scherzinger and Schwartau, op. cit. p. 369.

³³ Angela Scherzinger, "Planning, Organization and Control of Research and Development in the GDR—Aspects of Scientific-Technical Progress," Special Review of the German Institute for Economic Research (Sonderheft des DIW) No. 116/1977, page 148.

³⁴ Cf. First Implementing Instruction on the ordinance regarding the control and implementation of foreign trade—Enterprises' Independent Business—dated 17 November 1978, Official GDR Gazette, Part 1/1978, pages 443 f. as well as Hermann Engler and Dietrich Maskow, "The Realization of the Foreign Trade Monopoly and Simultaneous Implementation of Foreign Trade Tasks by the Combines," *Wirtschaftsrecht (Economic Law)*, No. 1/1979, page 21 f.

³⁵ Directive on People-owned Combines, Combine Enterprises and People-owned Enterprises, November 8, 1979, Official GDR Gazette, Part 1, No. 38, November 13, 1979, p. 355.

subordinated enterprises also give the combines more power vis-a-vis the industrial ministries. However, the formulations about the so-called "grown margin of decision-making" of the combines in the GDR are very flexible. For instance, the statement that the ministers should now concentrate on the "main problem" allows many interpretations. The content of the decisions³⁶ on the related changes in the work of the ministries and the State Planning Commission is unknown.

The GDR's economic leadership expects that the combines will provide for a "visible improvement of rationalization." In principle, the re-organization will create favorable conditions for rationalization. Tight and uniform control of the entire production process can reduce the discontinuities in the production process which restrain productivity and the continuous supply bottlenecks. In certain cases it can permit better diffusion of innovations. However, success cannot be expected automatically. To achieve this, the combine directors and other senior executives must show a willingness to innovate. Such willingness does not automatically flow from the forming of combines.

Moreover, the speed and scope of combine-forming in 1978-79 shows that the reorganization was not preceded by thorough calculations of the optimal enterprise size. This is particularly apparent in the many cases in which VVBs were merely converted into combines of the same name. Independent VEBs, regardless of whether they are small or large, frequently continue to exist, and genuine mergers between enterprises within a combine are rare. There are however, exceptions, especially in the microelectronics sector (e.g. the combines of Robotron, Micro-electronics). Moreover, the disadvantages of a high degree of concentration should not be overlooked: There is no compulsion to utilize the results of research and development for improving procedures and innovating products. Furthermore, the monopoly position of many combines as well as of individual combines' enterprises makes efficiency comparisons between enterprises impossible, thus limiting the possibilities for director generals to obtain information on the optimum capabilities of production.

Considerations on Performance Assessment

In connection with the targets for saving material, increasing quality and improving production according to requirements, assessment of performance in planning and accounting becomes the "key problem," as Honecker asserted.³⁷

As long as performance is primarily assessed on the basis of gross production, the enterprises are inclined to fulfill the plan by using larger quantities of material and relying on material-intensive supplies. Hence the demands to reverse the trend of increasing material intensiveness. So-called "ineffective cooperation within and outside the combines" has also been pointed out. A further criticism is that the premium fund depends on overfulfilling the indicator "goods production" which gives the collective enterprises a material interest in increasing quantity produced to the neglect of quality and meeting

³⁶ Erich Honecker "The next task of the Party in implementing the decisions of the 9th Party Congress of the SED," (East) Berlin 1980, page 42.

³⁷ *Ibid.*, p. 41.

of requirements. The priority given to meeting planned goals in the indicator "industrial goods production" also leads to contract backlogs and stocks in excess of plans.³⁸

Although it is regularly stated that "industrial goods production" will continue to be one of the decisive index numbers of socialist planning, there apparently have been experiments with additional indicators and discussions about their use.

Following a Ministerial Council decision, the usefulness of the indicator "final product" is being tested in planning and accounting.³⁹ Since January 1, 1979 the combines directly subordinate to the industrial ministries have been planning and calculating final product index for their production. In simple terms, final product is the industrial goods production of a combine less consumption of materials. The use of this indicator as a criterion for performance assessment is supposed to prevent the inflation of goods production by turnovers within the combine.

However, since it is limited to relations within the combine, the indicator "final product" reflects only partially the efforts to reduce material consumption. The Ministerial Council has therefore decided, starting from March 1980, to use the indicators "net production" and "basic material costs per 100 M production of goods" for the purpose of management, planning, accounting and for the measurement of output.⁴⁰ This is intended to effect a reduction of total costs, i.e. not only within the sphere of the combine. The USSR's new planning and innovation policies are, of course, discussed in the GDR.⁴¹ Guided by the Soviet experience in particular, the introduction of the indicators "production according to contract" as an essential yardstick for assessing performance has been proposed. The trend seems to be the use of a whole system of indicators to assess performance. No doubt this is the right thing to do in view of the different elements of efficiency, but this system is complex and clumsy when the priorities for individual and overall economic targets have to be established.

Price Policy Measures

CHANGES IN INDUSTRY PRICES ACCORDING TO THE PLAN

Since 1973-74 the GDR has had to decide whether to shield its economy from the effects of the price increases for raw material imports as well as domestic raw materials by paying subsidies. A decision in favor of price increases has been taken with the declared objective of thereby inducing enterprises to economize in their consumption of raw materials.⁴² The processing industry was not allowed to pass on the higher prices for production material to consumers. Higher prices for inputs were to be offset by savings and—where this was not pos-

³⁸ See Manfred Melzer and Angela Scherzinger, "Re-organization of the economic system of the GDR? The Economic leadership tolerates more discussions," *Vierteljahrshefte zur Wirtschaftsforschung des DIW*, No. 4/1978, pages 379 f.

³⁹ Peter Hoos, "What is the final product—How is it planned?" *Die Wirtschaft* (The Economy), No. 1/1979, page 18.

⁴⁰ *Die Wirtschaft*, No. 3/1980, p. 1.

⁴¹ See Hans-Joachim Beyer and Hilmar Schmidt, "Intensification under changed conditions," *Die Wirtschaft*, No. 2/1980.

⁴² See Fred Matho, "The development of industrial prices furthers intensification," *Einheit*, No. 9/1978, pages 1012 f.

sible—were to be balanced by reducing profit payments to the state budget or even by subsidies.

If one looks at the resolution on price increases according to plan in industry, it is apparent they have been made in a logical sequence:

Industrial price increases according to plan in the GDR

January 1, 1976—Raw materials and raw material-intensive products: Oil, electric energy, gas, solid fuel, building material, metallurgical products, dead-mould casting products, potassium products, leather products, raw material for the glass and ceramics industries.

January 1, 1977—Semifinished products and spare parts: Metallurgical products, chemical products, wood, building material, wool, cotton, glass ceramics, engineering products, projecting works.

January 1, 1978—Special chemical products, machines and equipment, spare parts, i.e. pharmaceutical products, paints, fibres, tissues, leather products, plastic products, machines and equipment.

January 1, 1979—Construction and assembly works, finished products, i.e. building material, construction works, products of the textile and clothing industry, artificial leather and leather products, furs, ceramics.

January 1, 1980—Raw materials and raw material-intensive products: Oil, electric energy, gas, thermal energy, solid fuel, products of primary oil processing, synthetic coal processing, iron and steel metallurgy.

Source: Doris Cornelsen, "Burden of foreign trade reduces the chances of growth: On the condition of the GDR's Economy at the end of the years 1970/1980," The Weekly Report of the German Institute for Economic Research, No. 6/80.

In 1976 price increases were limited to raw materials and raw material-intensive products, followed a year later by semi-finished products of the first stage of processing. By the beginning of 1979 the wave of industrial price increases had reached finished products.

Throughout these years, the changes in industrial prices according to plan applied only to certain consumer goods sectors as a result of the principle of constant consumer prices. Detailed directives precluded price increases affecting the population.

The extent of the price increases is not known. However, the wave of increases was reflected in the accounting results of the state budget.⁴² In 1976, the first year of the price changes by plan, net profit transfers by the enterprises decreased. At the same time a price balancing mechanism in the form of a new expenditure item was created for those enterprises which were unable to offset their cost increases by saving material or by reducing their profit transfers. Moreover, consumer subsidies were increased in 1976 and the 1979 budget plan.

The most recent directives on industrial price changes according to plan show that a further price round has already begun. Higher prices for raw materials and raw material-intensive products became effective on January 1, 1980. Almost the same group of goods as those which led the first price round in 1976 were affected. A continuation of price increases is probable with no foreseeable end. It is likely that the raw material prices established in 1979 for the period beginning January 1, 1980 are no longer in line with world market prices.

For the production sector, the switch to price increases according to plan is in keeping with the urgent necessity of adapting the distorted cost structure of the GDR's economy to conditions of shortage. However, the likelihood of reduced material consumption is limited by

⁴² Budget calculations until 1978 in the Appendices to the Parliamentary (Volkskammer) publications of the GDR. See also Maria Elisabeth Ruban and Heins Vortmann, "Reduced expansion of the state budget of the GDR," Weekly Review of the DIW, No. 6/1979, p. 58 f.

the alternative possibility of reduced profit transfers or of subsidies which exists for at least some products.

PRICE POLICY AT THE CONSUMER LEVEL

Until recently the principle of constant consumer prices was predominant.⁴⁶ In what seems to have been the most important economic policy decision for a long time this principle was modified in 1979.

In the autumn of 1979 prices for some manufactured goods—especially textile and clothing industry products—were abruptly and, in some cases, substantially increased. Some extremely high price increases were rapidly cancelled, however. A new pricing policy for basic consumer goods was announced at the 11th meeting of the Central Committee of the SED in December 1979: “Prices for basic consumer goods would remain stable; however, prices for new products with a higher consumption value will be established in relation to costs. Even in the past, when a policy of constant consumer prices was pursued, price changes for consumer goods were made. However, they were justified by product changes and changes in the range of goods. Now, the extent of price increases justified in this way will probably grow.

The change in pricing policy was presumably the result of the planned price increases at the enterprise level. In 1979 the wave of price increases reached finished products. To balance this, higher subsidies were required and some of the products no longer yielded the tax income formerly received from their sale. Therefore, the ensuing discussion about a long-term price policy came as no surprise. Moreover, the price changes were almost certainly connected with the problem of final use, which will confront the GDR in the long run: In view of the necessity of using production increases primarily for increasing exports, price increases siphon off purchasing power.

The effects of these decisions on the consumer price level are still uncertain. Up to now necessities were not only sold at constant but also at low subsidized prices. To this category of goods and services belonged basic foodstuffs (bread, potatoes, meat), solid fuel, children's clothes and basic services (rents, transport fees, laundry services). Sophisticated goods, on the other hand, have always been relatively expensive (especially television sets, cars, washing machines, refrigerators and luxury foodstuffs).⁴⁶ Most consumer goods and fine foods are subject to a differentiated consumer tax, the “product-bound tax”. From the revenue of the state and the related retail trade turnover it can be concluded that the tax is high—on average more than 100 percent of factory prices.⁴⁷

In view of the high price level, it is doubtful whether further price increases can be applied without seriously annoying the population. It seems that the special high price shops (“Delikat” for foodstuffs

⁴⁶ See Walter Halbritter “The price policy of the socialist state to realize the policy of the 9th Party Congress of the SED,” “Sozialistische Finanzwirtschaft,” No. 9/1979, pages 10 f.

⁴⁷ Erich Honecker. Report by the Politburo to the 11th meeting of the Central Committee of the SED, Neues Deutschland, December 14, 1979, p. 5.

⁴⁸ See also Charlotte Otto-Arnold, “The Relation of the Purchasing Power between D-Mark and Mark (GDR). A recalculation.” Sonderhefte des DIW, No. 129/1979.

⁴⁹ See, Maria Elisabeth Ruban and Heins Vortmann, “The state budget of the GDR under foreign trade stress” Weekly Report by the DIW, No. 5/1978, pages 53 f.

and "Exquisit" for manufactured consumer goods) are to be extended, thus generally maintaining a dual price system. Some figures show that the share of these special shops in retail trade went up considerably.

5. PERSPECTIVES FOR THE 1980'S

At the 11th meeting of the Central Committee of the SED in December 1979 the Secretary General of the SED, Erich Honecker, stated in the Politbureau's report ". . . We are not only facing a further aggravation of an already complex situation. We are confronted with a new situation." His statement was motivated by the increases in world market prices in 1979 and by the realization that price increases would probably continue. Therefore, increasing exports and reducing the increase in imports remain necessities.

To estimate long-term growth and GNP use strategy under these conditions, assumptions about the foreign component must be made first. It has been estimated that the sudden price increases in 1973/74 imposed an annual burden of between one and two percent on the GDR.⁴⁶ Under these conditions, GNP would have to grow 1.5 percent faster than the domestic use of GNP in the 1980s.

The only method of estimating potential economic growth is to extrapolate from present trends. In this regard, it should be noted that economic growth during the 1980s can be achieved to a smaller degree than before by an increased work force. During the coming decade the increase in the work force is likely to slow down markedly due to the adverse age structure of the population :

Expected increase in the work force per 1,000 people

	<i>Number</i>
1976 to 1980.....	310
1981 to 1985.....	235
1986 to 1990.....	65

Source: Heinz Vortman. "Presumable development of the population and the work force in the GDR until 1990," Weekly Review of the DIW, No. 23/76, page 228.

Thus the decisive ingredient in economic growth continues to be productivity gains. However, forecasts in this field meet with considerable difficulties. In the past, the GDR's labor productivity developed unevenly. Years of disturbances and bottlenecks as well as difficulties due to weather conditions alternated with years of relatively undisturbed growth. Assessment of the current five-year plan is difficult because reductions in working time have shortened the working volume to an unascertainable extent. Worker productivity increased by only 4 percent; but when taking the reduced working time fully into account (without considering special shifts and overtime) productivity increased by 4.5 percent.

Contributions to growth from increased quality and quantity of capital are uncertain on the basis of available GDR data. Capital stocks increased by an average of 5.5 percent from 1976 to 1978, so capital intensity increased by 5 percent. Thus, capital intensity increased more than did productivity because the capital coefficient (the

⁴⁶Jochen Bethkenhagen and Heinrich Machowski. "Consequences of the new foreign trade prices in CMEA." Weekly Review of the DIW, No. 17/1975, p. 131 f.

relation between capital and output) increased due to structural reasons (high investments in the basic products sector).

In general the current five-year plan has been characterized by falling growth rates. On the optimistic assumption that improvements in economic organization will put an end to the trend of falling growth rates and assuming no further reductions in working time, future productivity increases can be estimated at 4 percent and GDP growth at 4.5 percent. But this would require an increase in gross investment of 5 percent in order to sufficiently boost capital stocks.

After deducting for the foreign trade burden, an annual increase of 3 percent is left for domestic uses. Thus, the increase in private and public consumption has to fall to about 2.5 percent. A conservative incomes policy will be necessary. Therefore, costly social-policy programs are hardly probable. Perhaps supplies will be shifted to the "Exquisit" and "Delikat" shops with their considerably higher price levels in an attempt to absorb some purchasing power.

The economic leadership of the GDR is, in fact, confronted with a very complicated situation. In view of the necessary increase in productivity, it is very doubtful whether the real standard of living can be limited to such an extent. It is more probably that the GDR will have to accept an even higher foreign trade indebtedness.

GDR TRADE WITH THE INDUSTRIAL WEST SINCE 1975: PERFORMANCE AND PROSPECTS

By Ronald G. Oechsler*

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I. INTRODUCTION

Trade between the German Democratic Republic and the West expanded rapidly during the first half of the 1970s, prompted by a series of political and economic factors. These included:

Long awaited recognition of the GDR by most Western governments in 1973-74, leading to a broadening of economic, commercial, and scientific-technical contacts;

A heightened emphasis in the 1971-1975 GDR Five Year Plan (FYP) on upgrading consumer living standards—especially meat and dairy supplies—thereby necessitating stepped-up agricultural imports from the West;

More extensive use of foreign trade as an instrument of economic growth in the Plan, chiefly through increased imports of advanced Western capital equipment; and

Stagnating Soviet fuel and raw material deliveries to the GDR, requiring the GDR to develop alternative sources of supply lest economic growth grind to a halt.

As a result, GDR trade turnover with the West rose from \$2.5 billion in 1970 to \$6.3 billion in 1975 (see table 1). However, since imports grew considerably faster than exports, by the mid-1970s the GDR suffered a growing trade imbalance with the West—reaching nearly \$1.1 billion in 1975—requiring heavy borrowing on Western financial markets.¹

*Office of East-West Policy and Planning, U.S. Department of Commerce.

¹As of end-year 1975, the GDR net hard currency debt had risen to \$3.5 billion, nearly three times as large as in 1970.

TABLE 1.—GDR TRADE WITH THE WEST,¹ 1970-79

(Millions of U.S. dollars)

Year	Turnover	Imports	Exports	Balance
1970.....	2,456	1,378	1,078	-300
1971.....	2,600	1,455	1,153	-302
1972.....	3,395	1,970	1,425	-545
1973.....	4,726	2,776	1,950	-826
1974.....	6,207	3,549	2,658	-891
1975.....	6,335	3,704	2,631	-1,073
1976.....	7,796	4,626	3,170	-1,456
1977.....	7,372	4,365	3,007	-1,358
1978.....	8,008	4,622	3,386	-1,236
1979.....	10,412	6,167	4,245	-1,922

¹ Defined by GDR as "industrialized capitalist countries."

Source: GDR Statistical Handbook and CMEA Statistical Yearbook. Data on FRG-GDR trade were converted to dollars using DM/US dollar exchange rate.

Alongside mounting trade deficits with the West, the GDR also faced a deterioration in its trading position with the USSR, owing to sharp price rises in intra-CMEA trade beginning in 1975. These drastically raised the cost of imported fuels and raw materials from the USSR, and increased pressures to divert additional quantities of capital goods and machinery for export to the Soviet Union.

The combination of these factors forced the GDR to adopt a high priority campaign to trim the growth in imports from the West, while spurring exports to Western markets. These steps led to a modest decrease in the deficit in 1976-78, as the value of imports fell slightly while exports expanded 7 percent. However, sharp increases in the value of fuel, grain, steel, and machinery imports of 1979—up 33 percent from 1978—once again pushed the deficit to a record \$1.9 billion, despite an impressive 25 percent rise in exports to the West.

This paper analyzes GDR trade performance with the West since 1975 in order to ascertain the underlying causes for the persisting GDR deficits and also to assess the prospects for an improvement in the GDR trading position vis-a-vis the West over the next several years. Owing to the absence of comprehensive GDR statistics, the paper relies almost exclusively on data published by fifteen leading Industrialized Western (I.W.) countries, which together have accounted for 80-85 percent of GDR trade with the West during the past decade.² Despite the inevitable statistical problems involved in using partner country data—which in this case show a considerably lower trade deficit than indicated by GDR statistics³—these data provide the best available means of identifying trends in GDR import needs and export capabilities, and assessing future growth prospects for GDR-Western trade.

² Austria, Belgium-Luxembourg, Canada, Denmark, Federal Republic of Germany (FRG), France, Italy, Japan, Netherlands, Norway, Sweden, Switzerland, United Kingdom (U.K.), and United States.

³ Between 1970 and 1974, the last year for which the GDR published import and export data, GDR statistics show a deficit of \$2.1 billion with the fifteen I.W. countries, compared with \$1.3 billion as indicated by partner country data. The largest discrepancy was in GDR imports, where GDR figures show imports of \$1.1 billion more than reported by the partner countries. In GDR exports, the discrepancy was \$342 billion in 1970-1974. The most convincing explanation for this discrepancy is provided by Marer, who stresses the role of middleman trade. This involves purchases of goods from third countries—generally LDCs—through a Western agent or "middleman." The CPE reports these as imports from the Western country, whereas they are generally not treated as exports by the Western side. See, Paul Marer, "Toward a Solution of the Mirror Statistics Puzzle in East-West Commerce," in F. Levick, ed., *Internationale Wirtschaft, Vergleich und Interdependenz*, 1978.

Given the paucity of data on invisibles (i.e. insurance, interest, transfer payments, etc.) the paper will focus entirely upon merchandise trade. However, the GDR is generally considered to have an overall balance with the West in these other items of the current account.⁴ Thus, an examination of the merchandise trade balance should provide an adequate indication of the overall state of GDR commercial relations with the West.

The bulk of the analysis is contained in Section II. Following a brief overview of recent GDR-I.W. trade, GDR import needs and export capabilities are examined in each of the six major trading sectors: Food and Live Animals, Mineral Fuels, Chemicals, Basic Industrial Goods, Machinery and Transport Equipment, and Miscellaneous Manufactures. The analysis is based on disaggregated data for the fifteen I.W. countries, arranged according to one-digit and two-digit SITC categories. The tabulations provided herein were derived by converting FRG statistics on inner-German trade (reported according to a domestic "Industrie Statistik"; to an SITC format, and combining these with U.N. data covering trade between the GDR and the remaining fourteen I.W. countries. This permits a unified assessment of recent GDR trade performance with the I.W. on a sector-by-sector basis. Section III summarizes the major findings of the paper and discusses implications for the future.

II. ANALYSIS OF GDR TRADE WITH THE INDUSTRIALIZED WEST, 1970-79

A. Overview

The development of GDR trade with the fifteen I.W. countries is shown in table 2. From under \$2 billion in 1970, two-way trade rose to more than \$5 billion by 1975, with average increases of nearly 30 percent per year registered in 1972-74. This was twice as fast as the growth in overall GDR foreign trade during this period. Although world market price rises were responsible for some of the growth, the real volume of trade also rose substantially, reflecting sharply higher GDR purchases of food, industrial goods and capital equipment from the West.

TABLE 2.—GDR TRADE WITH THE INDUSTRIAL WEST,¹ 1970-79

[Millions of U.S. dollars]

Year	Turnover	Imports	Exports	Balance
1970	1,951.5	1,042.5	909.0	-133.5
1971	2,213.5	1,158.1	1,045.4	-122.7
1972	2,729.2	1,517.7	1,211.5	-306.2
1973	3,498.9	1,913.1	1,585.8	-327.3
1974	4,626.5	2,518.3	2,108.2	-410.1
1975	5,169.1	2,928.7	2,240.4	-627.3
1976	5,697.6	3,216.5	2,481.1	-735.4
1977	5,811.7	3,115.1	2,696.6	-418.5
1978	6,796.9	3,657.7	3,139.2	-518.5
1979	8,736.0	4,805.9	3,930.1	-875.8

¹ Austria, Belgium-Luxembourg, Canada, Denmark, Federal Republic of Germany, France, Italy, Japan, Netherlands, Norway, Sweden, Switzerland, United Kingdom, and United States.

Source: U.N. trade data, magnetic tapes; Federal Republic of Germany statistical office, "Warenverkehr mit der DDR," Reihe 6.

⁴ This reflects a substantial surplus with the FRG, owing to large FRG transfer payments for road, post, rail, water and sewer services, and a large GDR deficit in invisibles with the other Western countries (principally interest, insurance, and freight charges).

During this period the GDR was willing to tolerate sizable trade deficits with the I.W., in the expectation that these could be made up for by future export growth, especially after new industrial facilities purchased from the West came on stream. However, these expectations suffered a major blow in 1975, when exports—hit hard by the Western recession—expanded by just 7 percent, less than half the rise in imports, and much slower than the 30 percent average growth achieved the preceding two years. Consequently, the GDR deficit with the I.W. jumped to over \$625 million—50 percent higher than in 1974.

Coinciding with a sharp deterioration in trade with the USSR,⁵ this prompted the GDR to take measures to reduce its growing imbalance in trade with the I.W. These efforts, however, achieved only a short-term improvement. Thus, from 1975 through 1977 imports grew only a third as fast as exports (7 percent versus 20 percent), thereby narrowing the deficit to roughly its level prior to 1975. Subsequently, however, imports have accelerated, while exports have barely kept pace.⁶ As a result, by 1979 the deficit had jumped to \$0.9 billion, significantly above the previous peak in 1975–1976.

The following sections examine recent GDR trade with the I.W. in six major commodity categories, accounting for over 90 percent of the trade. After describing the principal products in each category, analysis focuses upon the effects of recent import restraints and export expansion efforts, and examines prospects for the future.

B. Analysis by Major Commodity Sectors

1. FOOD AND LIVE ANIMALS (SITC 0)

Since the early 1970s, the GDR leadership has placed major emphasis on expanding meat supplies to the population as a cornerstone of its consumer welfare policy. This has entailed heavy investments in domestic agricultural production and also sizable imports of grain and livestock feed. Throughout the seventies, the GDR imported an average of about 3.0–3.5 million metric tons (MT) of grain and another 0.7–1.0 million MT of oilseed cake and meal annually. These imports—over half of which have come from the I.W.—have been instrumental in raising per capita meat consumption to 84 kg in 1977, the highest in Eastern Europe.

Since 1975, GDR imports of food products from the I.W. have ranged from \$400–\$700 million annually, while food exports have held steady at \$300–\$350 million per year (see table 3). This has resulted in a net GDR deficit in this category of roughly \$150–\$300 million, compared with a small positive balance which had existed in 1971.

Cereals (corn, wheat, and barley) have been by far the largest food imports from the I.W. since 1975, followed by livestock feed (chiefly

⁵ Beginning in 1975, GDR trade with the USSR swung sharply into deficit after years of positive GDR balances. In 1975–1977, the GDR deficit totalled 1.4 billion rubles, 7.5 percent of total GDR-USSR trade turnover. See Martin Kohn, "Soviet-Eastern European Economic Relations, 1975–78," in *Soviet Economy in a Time of Change*, Joint Economic Committee (Washington: 1979), pp. 246–262.

⁶ During 1978 and 1979, imports grew 54 percent, compared with a 46 percent rise in exports to the I.W.

TABLE 3.—FOOD AND LIVE ANIMALS (SITC 0)

[Millions of U.S. dollars]

	1971	1975	1976	1977	1978	1979
Total, GDR imports from I.W.-----	130.4	481.1	612.0	405.8	524.2	698.2
Meat and meat preparations-----	15.6	16.3	16.9	17.6	21.6	23.3
Cereals-----	24.5	298.8	432.9	182.0	263.8	372.9
Sugar, sugar products-----	0	15.5	28.5	27.5	48.2	58.2
Coffee and tea-----	7.0	14.0	17.8	24.8	27.2	28.5
Livestock feeding stuff-----	61.1	35.4	95.4	143.9	128.4	198.2
Other-----	22.2	29.8	28.5	18.0	37.0	41.1
Total, GDR exports to I.W.-----	158.4	358.0	363.5	293.9	358.3	378.7
Live animals-----	48.9	112.0	131.7	108.9	138.8	155.8
Meat and meat preparations-----	25.7	72.7	88.0	47.9	67.7	29.2
Cereals-----	44.9	102.7	82.3	68.5	97.8	112.4
Sugar, sugar products-----	21.6	28.1	29.5	31.5	38.8	51.8
Other-----	11.3	36.5	31.0	44.1	18.2	21.5
Balance-----	+20.0	-131.1	-248.5	-111.9	-164.9	-327.5

Source: U.N. trade data, magnetic tapes and Federal Republic of Germany, "Warenverkehr mit der DDR", Reihe 8, converted to SITC.

soybean meal). Cereals imports reached an all-time high of \$430 million in 1976, 13 percent of total GDR imports from the I.W. This was the result of a severe drought in 1975 and 1976, which sharply reduced production of wheat, potatoes, and corn silage. In order to maintain livestock feed supplies, the GDR was forced to make massive grain purchases of Western—chiefly U.S.—grains. Imports of livestock feeds, meanwhile, have climbed to \$190 million in 1979; substituting to some extent for more costly corn and wheat imports.

In addition to cereals and livestock feed, and GDR also imports some \$50-\$60 million of meat, coffee, tea, and sugar products. These imports have generally remained stable since 1975.

The principal GDR food exports have been live animals, meat, and cereals. The FRG and France are the main consumers of GDR live animals and meat, with the FRG taking nearly all the GDR's cereals exports. Italy had been an important food market for the GDR prior to 1976, but by 1978 exports to Italy had fallen off sharply, apparently due to competition from other suppliers as well as increasingly stringent Italian import controls.

Given the GDR's heavy reliance on imported cereals and feedgrains as a means of boosting meat production, imports of food products from the I.W. are likely to remain substantial for the foreseeable future. The GDR has long pursued the goal of self-sufficiency in food, but has made slow progress towards this end. It is also unlikely that its other CMEA suppliers—the USSR, Poland, and Hungary—could boost food shipments to the GDR sufficiently to permit a decline in imports from the I.W.⁷

⁷ GDR imports of grains from the USSE have declined dramatically since 1970. In 1966-1970, the USSE provided 64 percent of GDR grain imports. This percentage fell to 39 percent in 1971-1975, and to only 4 percent in 1976. See Jo-hen Beth'enhaeren and Horst Lambrecht, "GDR-USSE Trade Under Shadow of Slackened Growth," *DIW Wochenbericht*, Vol. 47, No. 7 February 14, 1980 (translated in JPBS, 75377, March 26, 1980).

Likewise, a major expansion of GDR food—particularly meat—exports to the I.W. can probably be ruled out, given tight domestic supplies, and the small number of markets in which GDR food products have found acceptance. The outlook for the future, then, is for continued sizable GDR deficits in food and live animals, with the actual size of the deficit in any given year mainly a reflection of domestic agricultural conditions and availability of supplies from other—principally CMEA—sources.

2. MINERAL FUELS (SITC 3)

As one of the two sectors in which the GDR has a positive trade balance with the I.W., mineral fuels have been extremely important in helping to pay for recent GDR imports of food, industrial goods, and machinery. This is principally a result of highly profitable exchanges of crude oil and oil products between the GDR and the FRG. In addition, the GDR purchases hard coal and coke from the FRG in exchange for deliveries of brown coal briquettes.

From 1975 through 1979, GDR imports of crude oil from the FRG averaged 1.0–1.25 million MT per year (20–25,000 b/d), while exports of gasoline, diesel fuel, and heating oil—mainly to West Berlin—averaged 1.7–2.1 million MT per year (34–42,000 b/d). From \$150–\$200 million previously, the value of fuel imports rose to \$360 million in 1979, due to sharply higher crude oil prices and a \$100 million increase in coal imports from the FRG. Escalating western prices also resulted in a sharp rise in earnings from petroleum product exports to the FRG and other I.W. markets, widening the GDR's surplus in mineral fuels with the I.W. to \$440 million in 1979, 3.5 times higher than in 1975.

TABLE 4.—MINERAL FUELS (SITC 3)

[Millions of U.S. dollars]

	1971	1975	1976	1977	1978	1979
Total, GDR imports from the I.W....	51.6	148.7	193.2	211.3	194.4	363.5
Coke, coal, and briquettes.....	13.4	51.6	52.2	53.0	58.8	158.5
Crude petroleum.....	31.8	90.7	130.2	149.8	121.8	190.3
Petroleum products.....	4.5	6.4	10.8	8.5	13.7	14.7
Other.....	1.9	0	0	0	.1	0
Total, GDR exports to the I.W.....	67.0	273.9	339.8	371.7	430.6	799.1
Coke, coal, and briquettes.....	29.8	44.5	51.7	58.9	61.8	55.5
Gasoline, diesel fuel, and heating oil.....	37.0	228.2	283.6	302.0	359.1	730.1
Other.....	.2	1.2	4.3	10.8	9.7	13.3
Balance.....	+15.4	+125.2	+146.6	+160.5	+236.2	+435.6

Source: U.N. trade data, magnetic tapes; and Federal Republic of Germany Statistical Office, "Warenverkehr mit der DDR", Reihe 6, converted to SITC.

In the future, trade in oil and oil products will continue to provide appreciable net earnings for the GDR, as indicated by the recent bilateral energy agreement with the FRG.⁸ According to this agreement, covering 1980–1985, the GDR is to receive 1.0–1.1 million MT of crude oil from the FRG in return for deliveries of 1.8–2.2 million MT

⁸ *Financial Times*, September 5, 1978.

of refined oil products to West Germany. In addition, the GDR is to import DM 250 million (about \$140 million) of hard coal from the FRG each year. Assuming a 10 percent annual rise in crude oil prices, and a somewhat faster rise in prices for petroleum products, the GDR trade surplus with the I.W. in this category could reach \$700 million or more by 1985. This will help pay for a considerable share of machinery and industrial goods imports and help reduce indebtedness. On the down side, oil earnings could evaporate quickly if the GDR is forced to import larger quantities of crude from the FRG and elsewhere to make up for stagnating Soviet deliveries. Given its disastrous impact on the trade balance, this step is likely to be taken only as a last resort.

3. CHEMICALS (SITC 5)

The GDR is East Europe's largest chemicals producer, with output currently growing at a substantial pace as a result of an ambitious ongoing development program. Since the mid-1960s the raw materials base of the industry has been largely shifted from domestic lignite to petroleum and natural gas from the USSR. The GDR also imports significant quantities of feedstocks and advanced chemicals products from the West, while exports of basic and intermediate chemicals to the West have provided a major source of hard currency earnings in recent years. On balance, however, GDR chemicals trade with the I.W. has consistently been in deficit, with imports generally amounting to more than twice the value of exports to the I.W. (see table 5).

TABLE 5.—CHEMICALS (SITC 5)

[Millions of U.S. dollars]

	1971	1975	1976	1977	1978	1979
Total, GDR imports from the I.W.	149.3	501.8	471.0	475.9	600.0	743.1
Chemical elements and compounds	54.2	247.5	257.8	267.5	315.6	425.1
Organic chemicals	(34.0)	(174.4)	(195.6)	(188.3)	(199.7)	(296.7)
Inorganic chemicals	(19.3)	(66.9)	(57.4)	(73.2)	(103.6)	(128.4)
Dyes and tanning products	21.0	51.6	55.7	47.6	71.2	70.9
Medical and pharmaceutical products	7.4	28.0	25.0	24.5	33.4	49.7
Oils and perfumes	4.6	14.4	15.7	13.4	29.1	28.6
Fertilizers, manufactured	8.3	60.0	24.9	21.2	25.7	32.6
Plastic materials	30.6	72.7	70.8	70.5	97.0	125.4
Other	23.2	29.6	21.1	25.2	28.0	12.8
Total, GDR exports to the I.W.	87.8	228.4	233.6	250.5	298.2	389.5
Chemical elements and compounds	43.0	120.5	124.0	124.7	135.9	181.7
Organic chemicals	(20.3)	(56.3)	(58.4)	(62.2)	(78.9)	(108.2)
Inorganic chemicals	(11.5)	(54.7)	(50.3)	(47.9)	(30.5)	(73.5)
Dyes and tanning products	1.6	4.7	6.7	8.7	10.2	14.1
Fertilizers, manufactured	19.3	43.7	43.7	51.2	68.4	95.0
Plastic materials	12.8	22.6	31.4	40.8	51.3	64.7
Other	11.1	30.9	27.8	34.1	31.4	34.0
Balance	-61.5	-273.4	-237.4	-216.4	-301.8	-353.6

Source: U.N. trade data, magnetic tapes; and Federal Republic of Germany Statistical Office, "Warenverkehr mit der DDR", Reihe 6, converted to SITC.

As part of the GDR's recent program to trim its trade deficit with the West, imports of chemicals from the I.W. were cut 15 percent between 1975 and 1977, while exports were boosted 14 percent. This brought about a \$60 million reduction in the chemicals deficit with the I.W. by 1977. However, satisfaction of pent up industrial demand

pushed imports up nearly 60 percent to \$740 million in 1979, surpassing a healthy 50 percent export growth.

As shown by table 5, the principal imports from the I.W. have been organic chemicals (hydrocarbons, alcohols, organic acids), and inorganic chemicals (metallic oxides, salts, and carbides). Imports of dyes and tanning materials and plastics have also been appreciable in recent years. The major chemicals exports to the I.W. were organic chemicals, fertilizers (chiefly potassium chloride), and plastics (PVC, polyethylene). Since 1976, exports of inorganic chemical to the I.W. have fallen sharply, reflecting a decline in ammonia exports from \$30 million in 1975 to under \$5 million in 1978. This was apparently due to slumping ammonia demand in the major importing countries, as well as expanded fertilizer production in the GDR.⁹

Over the next five-year plan the GDR is likely to continue to seek above-average growth rates in chemicals production (targeted to grow 5.7 percent in 1980). Despite intensive efforts to exploit domestic carbide-chemical resources, however, the industry's raw material situation will become increasingly tight, particularly in view of the expected leveling off of Soviet oil and gas deliveries in 1981-85. This will almost certainly require stepped-up chemicals imports from the I.W., with growth in value terms likely to average 10-15 percent per year through 1985. In view of the importance of these imports for production of a whole range of finished goods (including textiles, clothing, paints, etc.) sustained import cut backs in this sector would be highly damaging to production and export growth, and therefore unlikely.

On the export side, growth prospects are fairly good, especially in view of recent compensation arrangements concluded with Western suppliers of chemical plants and equipment to the GDR. Included in these deals are exports of polyvinyl chloride from a Hoechst (FRG)-built facility at Schkopau, and large shipments of benzene, butadiene, and butylene, produced at the huge Schwedt aromatic complex, under construction by Mitsui (Japan). A large, multi-year exchange agreement with Dow Chemical, concluded in 1978, also provides for substantial shipments of propylene in exchange for polypropylene. These shipments, plus anticipated increases in exports of fertilizers, dyes, and other plastic products should boost chemicals exports to the I.W. appreciably over the medium-term. However, given the GDR's heavy export commitments to CMEA—which accounts for over 70 percent of total GDR chemicals exports—export growth is not likely to exceed growth in imports from the I.W., and there the outlook is for a continued large trade deficit with the I.W. in this sector.

4. BASIC INDUSTRIAL GOODS (SITC 6)¹⁰

Products in this category—including iron and steel, non-ferrous metals, textiles, glassware, porcelain, rubber, and paper—have accounted for over a fourth of GDR-I.W. trade, more than any other one-digit SITC category. Rapid growth in imports of these products

⁹ Ammonia imports by Denmark, Sweden, France, and the FRG—the major importers of ammonia from the GDR in 1974-1975—fell sharply in 1976 and were still significantly below their 1975 peak as of 1979.

¹⁰ Manufactured Goods Classified by Chief Material.

from the I.W. was a key factor enabling the GDR to compensate for stagnating deliveries of industrial goods from the USSR, traditionally its major foreign supplier.¹¹ Through the 1970s, the GDR consistently ran a deficit with the I.W. in SITC 6, although the magnitude of the deficit (\$100-\$300 million) was small compared with the large value of GDR imports—\$1.2 billion in 1979. This is a reflection of the GDR's traditional export strength to the West in intermediate manufactured goods.

As with chemicals, imports of basic industrial goods were scaled back in 1975-77, but grew sharply (40 percent) in the last 2 years, showing their importance to meeting plan targets in a range of key industries. Since 1977 exports have expanded by 25 percent.

The major share of GDR trade with the I.W. in SITC 6 is accounted for by three products—iron and steel, non-ferrous metals, and textile yarn and fabrics.

TABLE 6.—MANUFACTURED GOODS CLASSIFIED BY CHIEF MATERIAL (SITC 6)
(Millions of U.S. dollars)

	1971	1975	1976	1977	1978	1979
Total, GDR imports from the I.W.	317.7	849.3	814.1	855.3	1011.9	1,194.2
Rubber manufactures.....	8.4	37.7	32.4	32.1	43.0	44.5
Paper, board, and paper products.....	10.9	37.8	24.1	37.4	44.7	61.3
Textile fibers, yarn, fabrics.....	59.2	174.6	182.8	187.7	203.1	249.4
Nonmetallic mineral manufactures.....	8.5	29.6	27.5	35.0	40.2	51.0
Iron and steel.....	108.0	329.3	297.8	277.0	334.0	361.2
Nonferrous metals.....	85.9	137.6	108.9	152.2	173.4	202.1
Metal manufactures, NES.....	20.1	46.5	58.2	65.3	103.4	136.2
Other.....	16.7	26.5	82.4	68.6	70.2	88.5
Total, GDR exports to the I.W.	263.3	555.5	639.7	751.9	824.1	946.1
Rubber manufactures.....	8.0	14.3	14.8	19.8	22.8	24.1
Paper, board, and paper products.....	14.2	30.1	40.2	42.1	45.0	55.8
Textile fibers, yarn, fabrics.....	62.7	166.6	196.4	202.3	235.3	177.5
Nonmetallic mineral manufactures.....	43.0	76.9	82.7	95.3	113.1	134.3
Iron and steel.....	63.8	162.5	165.2	182.1	207.1	285.2
Nonferrous metals.....	45.5	43.7	55.0	103.3	115.9	180.8
Metal manufactures, NES.....	17.0	32.1	32.5	38.8	47.9	59.4
Other.....	9.1	29.3	52.9	68.2	34.0	29.2
Balance.....	-54.4	-292.3	-172.3	-96.2	-179.6	-248.1

Source: U.N. trade data, magnetic tapes; and Federal Republic of Germany Statistical Office, "Warenverkehr mit der DDR," Reihe 6, converted to SITC.

In iron and steel, the largest of these, GDR imports from the I.W. totalled \$300-\$350 million per year since 1975, while exports amounted to \$150-\$250 million per year. Over two-thirds of this trade reflects shipments between the GDR and the FRG. By and large, the GDR is an importer of high quality products such as steel pipe and coils, alloy and high carbon steel sheets and plates, and an exporter of basic iron and steel ingots, bars, and plates.

Over the next several years, substantial new steel-making capacity—much of it supplied by Western firms—will come on stream in the

¹¹ Import slowdowns from the USSR have been especially pronounced in ferrous and non-ferrous metallurgy. For example, GDR imports of the following products have all shown volume cutbacks over the past decade: structure steel (down 10 percent in 1971-1975); steel plate (down 15 percent); steel bar (down 13 percent in 1976-1978); rolled non-ferrous metals (no growth in 1971-1975); and aluminum sheets (down 2 percent in 1971-1975). These cutbacks have had a major impact on the GDR metalworking industry, which accounts for about two-thirds of its non-farm exports.

GDR.¹³ Thus, import needs should moderate somewhat, while shipments of steel under recent compensation deals should boost exports to the I.W. appreciably. This should enable the GDR to trim its deficit with the I.W. further, thereby reducing pressure on limited hard currency reserves. Barring substantially larger deliveries from the USSR, however, the GDR is unlikely to become a net exporter of iron and steel to the I.W.

Non-ferrous metals—chiefly copper, aluminum, and silver—is another category where imports from the I.W. have eased GDR material supplies in the face of slumping deliveries from the Soviet Union. However, this has imposed a heavy financial burden on the GDR, due to large import volume increases and escalating world market prices. These caused the GDR non-ferrous metals deficit with the I.W. to top \$100 million in 1975, versus only \$40 million in 1971. Since then the GDR has coped reasonably well with this situation, largely due to sharply higher exports of silver to the U.K., which jumped from \$9 million in 1975 to \$75 million in 1979. These have more than offset further growth in imports of aluminum, copper, zinc from the FRG. It is uncertain however, whether the GDR can continue to boost exports by the same pace over the medium-term future. The GDR is not known to possess sizable reserves of silver or other non-ferrous metal ores. Moreover, the GDR itself consumes sizable quantities of these metals for production of electronics goods and other products. Therefore, future earning prospects will largely depend on price movements in Western markets rather than volume increases.

Prior to 1979, the GDR ran a trade surplus with the I.W. in textile fibers, yarn and fabrics. However, a sharp drop in fabrics exports to the FRG in 1979—probably reflecting increased competition from Third World suppliers—and a surge in GDR textile imports from the I.W., opened up a \$70 million GDR deficit in the category. The FRG is by far the largest export market for the GDR—taking over 75 percent of exports to the I.W.

Given further expansion of synthetic fibers output, plus improvements in quality and product mix, the GDR may be able to recapture its earlier market share in the FRG over the next few years. However, import controls may limit further earnings potential in the FRG, requiring penetration of other I.W. markets to provide the bulk of future export growth.

A final product worth noting is non-metallic mineral manufactures. Unlike other categories, this is a net hard currency earner for the GDR, with exports generally twice the value of GDR imports from the I.W. in recent years. In 1979, this yielded an \$83 million surplus for the GDR. GDR imports of mineral manufactures consist mainly of building and construction materials (refractory brick, ceramic tiles, insulation, etc.), while exports are dominated by glassware and porcelain ware. Western demand for these high quality GDR products has been fairly strong, suggesting additional export potential if supplies can be increased at a sufficient rate.

¹³ These purchases include: a \$90 million rolling mill for the Brandenburg steel works; a \$135 million steel plant at Ilsenburg; and a \$175 million reconstruction project at the Marx Huette steel plant.

5. MACHINERY AND TRANSPORT EQUIPMENT (SITC 7)

The GDR has made large purchases of Western machinery, equipment, and complete industrial plants in recent years in an effort to boost output and improve efficiency in a wide range of industrial sectors. These imports—totalling \$1.3 billion in 1979—were relatively unaffected by the slowdown in imports elsewhere, indicating the high priority devoted to this task. GDR machinery imports, however, have exceeded exports to the I.W. by a wide margin, resulting in the largest deficit of any trading sector—reaching \$860 million in 1979 (see table 7).

TABLE 7.—MACHINERY AND TRANSPORT EQUIPMENT (SITC 7)

(Millions of U.S. dollars)

	1971	1975	1976	1977	1978	1979
Total, GDR imports from the I.W.	358.6	641.8	790.1	786.9	908.8	1,286.5
Nonelectric machinery	272.4	426.5	513.5	577.2	678.6	855.6
Electric machinery	39.4	87.1	90.5	121.2	129.8	198.2
Transport equipment	46.8	129.2	191.1	86.1	100.5	234.6
Total, GDR exports to the I.W.	176.3	264.0	311.2	340.5	415.0	432.8
Nonelectric machinery	85.9	111.7	115.2	131.6	153.4	198.1
Electric machinery	42.8	103.9	121.5	144.0	163.0	186.9
Transport equipment	47.5	48.4	57.5	65.2	98.6	47.8
Balance	-182.3	-337.8	-478.9	-446.4	-493.8	-857.3

Source: U.N. trade data, magnetic tapes; Federal Republic of Germany Statistical Office, "Warenverkehr mit der DDR," Reihe 6, converted to SITC.

Non-electric machinery has consistently been the largest and most rapidly growing segment of GDR machinery imports, doubling since 1975. Included here are large turnkey plants for the chemical, metallurgical, and automotive industries,¹³ as well as large quantities of pumps, compressors, machine tools, and other machinery. These imports have been only partially offset by GDR exports of non-electric machinery, totalling \$200 million in 1979.¹⁴ Export performance over the past few years, moreover, has been sluggish, reflecting the generally greater difficulty which the GDR has encountered in marketing its products to countries other than the FRG. (West Germany accounts for under 40 percent of GDR non-electric machinery exports to the I.W.)

Electric machinery imports (power equipment, telecommunications gear, computers, electronic controls, medical equipment) have also outpaced exports to I.W. markets since 1975, reflecting lags in GDR technology and heavy export commitments to CMEA. Imports of transport equipment, on the other hand, have fluctuated widely due to large orders of railway freight cars from France, which topped \$165 million in 1979 after slumping in 1977-78. Exports of locomotive parts and subassemblies to France have also been sizable in recent years. These

¹³ The largest of these contracts were: the \$350 million Schwedt aromatics complex; a \$300 million fertilizer plant for Rostock; and a \$340 million plant for a front wheel drive axles at Zwickau.

¹⁴ These include machine tools, printing and textile machinery, office machines, lifting and loading equipment, etc.

exports appear tied to GDR imports of freight cars from France, indicating a potentially fruitful form of industrial cooperation. The GDR has also made large sales of ships and boats to Norway, France, and Sweden, totalling \$70 million in 1978.

Over the medium-term future, machinery and transport equipment will likely remain the largest deficit sector for the GDR. The leadership appears to have accepted that imports of advanced Western plants and equipment must continue if output and productivity goals are to be met. This all but rules out a sizable slowdown or cutback in machinery imports over at least the next 3-5 years. This, unless exports pick up, the deficit is likely to increase further. Given the relatively sluggish performance of non-electric machinery exports in recent years, however, as well as the heavy commitments to CMEA, an abrupt improvement in exports appears unlikely.

6. MISCELLANEOUS MANUFACTURED GOODS (SITC 8)

Miscellaneous manufactured goods have been a bright spot in recent GDR trade with the I.W. This reflects strong export performance in consumer goods—clothing, furniture, toys, musical instruments, etc.—which provided the GDR with a trade surplus of over one-half billion dollars with the I.W. in 1979.

TABLE 2.—MISCELLANEOUS MANUFACTURED GOODS (SITC 8)

[Millions of U.S. dollars]

	1971	1975	1976	1977	1978	1979
Total GDR imports from the I.W.	42.3	109.2	107.8	125.5	173.7	196.6
Clothing	9.7	31.0	21.3	24.5	48.9	44.9
Prof., sci. instruments photo/optical goods, watches and clocks	9.4	25.1	22.4	24.5	34.2	53.2
Miscellaneous manufactured articles	12.4	48.1	46.5	53.6	66.1	70.6
Other	10.8	5.0	17.6	22.9	24.5	27.9
Total GDR exports to the I.W.	222.5	453.7	465.9	510.1	650.7	772.7
Furniture	40.8	96.8	93.5	118.9	154.7	188.2
Clothing	87.6	192.6	199.5	221.8	260.9	311.6
Prof., sci. instruments photo/optical goods, watches and clocks	22.1	38.2	48.6	45.8	53.8	58.4
Miscellaneous manufactured articles	50.0	109.2	114.5	124.6	153.2	170.6
Other	22.0	16.9	9.8	0.0	28.1	43.9
Balance	+180.2	+344.5	+358.1	+384.6	+482.6	+576.1

Source: U.N. trade data, magnetic tape; Federal Republic of Germany Statistical Office, "Warenverkehr mit der DDR," Reihe 6, converted to SITC.

Clothing has been the most successful GDR consumer goods export to the I.W. Since 1975, clothing exports have risen 60 percent to \$311 million seven times the value of GDR clothing imports from the I.W.¹⁵ Ninety percent of these exports have gone to the FRG, although sales to other I.W. countries have risen steadily over the past few years. Underlying the recent export growth has been a shift in GDR clothing

¹⁵ Clothing was thus the second largest two-digit GDR export to the I.W. in 1978 (behind refined petroleum products).

exports from the Soviet Union to Western market.¹⁶ Given a continuation of this trend, as well as further improvements in style and quality, GDR clothing sales could show further strong gains in the future.

GDR export performance to the I.W. has also been impressive in furniture and miscellaneous manufactured articles (i.e. musical instruments, sporting goods, toys, etc.) In both categories exports topped \$170 million in 1979, resulting in sizable net hard currency gains. (GDR furniture imports from the I.W. were negligible, while imports of miscellaneous manufacture—probably destined for sale in hard currency shops—totalled \$71 million in 1979). These high quality exports products have also found ready markets outside the FRG, and thus should post further gains in the future.

Also important were a variety of precision manufactured goods used for science and industry, including instrumentation, photographic and optical goods, and watches and clocks. These products have been the focus of a major promotional campaign, stressing the advanced technical capabilities of GDR firms such as Carl Zeiss Jena and Jenoptik. Although the GDR has achieved some headway in boosting exports of precision goods to the I.W., these products have not yet become a significant net hard currency earner. This apparently reflects the difficulty of breaking into highly competitive Western markets, as well as uncertainty over service and spare parts. Another factor is the heavy GDR export commitments to CMEA, which account for 80 percent of exports by Carl Zeiss Jena, for instance.¹⁷ Sales to the I.W. however, have far from exhausted their potential, and thus given further patient market development efforts these exports could pick up noticeably in years to come.

Based on the foregoing, the GDR appears almost certain to retain a large positive balance in miscellaneous manufactured goods over the medium-term future. Imports appear to be generally under control, despite an acceleration since 1977, while export prospects look very good in each of the three consumer goods categories. In addition, instruments, optics and other precision products must be regarded as potentially important future hard currency earners which may further strengthen the GDR's position in this trading category.

III. CONCLUSIONS

Analysis of recent GDR trade with fifteen leading Industrialized Western (I.W.) countries¹⁸ shows that the GDR has consistently accumulated large deficits with the I.W. in:

Food and live animals—\$329 million in 1979.

Chemicals—\$354 million.

Basic industrial goods—\$248 million.

Machinery and transport equipment—\$860 million.

¹⁶ The share of GDR clothing exports going to the USSR fell from 90 percent in 1970 to 67 percent in 1978; over the same period the FRG share of several important export products rose significantly. In men's outerwear, for instance, the FRG market share went from 9 to 25 percent.

¹⁷ "Zeiss Under the Magnifying Glass," Financial Times, April 15, 1980.

¹⁸ Identified in footnote 2.

On the other hand, the GDR has achieved a substantial positive trade balance in:

Mineral fuels—\$436 million in 1979.

Miscellaneous manufactured goods—\$576 million.

On a more disaggregated basis, the GDR is shown to be a heavy net importer of machinery, grain, steel, textiles, and organic chemicals from the I.W., and a net exporter to the I.W. of refined petroleum products and consumer goods—especially clothing, furniture, musical instruments, sporting goods, etc. However, GDR exports to the I.W. have been sufficient to cover only 75–85 percent of recent import needs, necessitating sizable borrowings from Western financial institutions—chiefly commercial banks and official export credit agencies—to help finance major equipment and agricultural commodity purchases from the West.

The analysis also shows that steps taken since 1975 to reduce the size of the deficit have only been partially successful. Through a combination of import cutbacks in grain and industrial goods, and stepped up exports of oil products and manufactured consumer goods the GDR did manage to trim its deficit by about \$200 million between 1975 and 1977. (Significantly, machinery and equipment imports were relatively unaffected by these import restraints). During this period, imports grew only one-third as rapidly as exports to the I.W. (i.e. 6.6 percent versus 19.9 percent). However, the GDR was apparently unable to maintain these lower levels of imports beyond 1977, for fear of choking off economic growth. In order to relieve pent-up industrial demand, imports of iron and steel, chemicals, textiles, non-ferrous metals and a range of other products all accelerated sharply in 1978 and 1979. This widened the 1979 GDR deficit to \$875 million, well above the previous record of \$735 million in 1976.

Given continued slowdown in Soviet raw materials deliveries to the GDR—particularly oil shipments—the GDR will likely become even more reliant on the West for imports of raw materials and intermediate goods in the future. Grain and livestock feed requirements will also remain high, while large purchases of Western machinery and capital goods will be needed in order to achieve targeted output and efficiency goals. Over the medium-term future, therefore, import growth promises to remain strong, with little likelihood of a prolonged period of import restraint.

Barring major efficiency-inducing reforms,¹⁹ export growth, on the other hand, will probably barely keep pace with rising imports. Exports to the West may even decelerate if the GDR is forced to divert additional resources for export to the U.S.S.R.—or perhaps OPEC—in order to obtain needed oil supplies.²⁰

¹⁹ The on-going reorganization of most industrial enterprises into large-scale, vertically oriented *kombinate* is a step in the right direction, although it is too early to gauge its impact on export performance. The *kombinate* combine production, supply, research and development, and in most cases foreign trade operations in one organization. The directors-general of these *kombinate* enjoy expanded powers over subordinate enterprises, which is expected to help improve product quality and delivery schedules to foreign and domestic customers.

²⁰ A recent analysis by the DIW, for instance, projects that by 1985 the GDR will have to use one-third of its exports to the Soviet Union to pay for crude oil imports, even if these level off at the present 19 million MT per year. See Jochen Bethkenhagen and Horst Lambrecht, "GDR-USSE Trade Under Shadow of Slackened Growth," *DIW Wochenbericht*, Vol. 47, No. 7, February 14, 1980 (translated in JPRS, 75377, March 26, 1980).

For a discussion of East European-OPEC trade see the article by Ronald Oechler and John Martens in the companion volume.

We conclude, therefore, that the GDR will continue to suffer sizable imbalances (probably \$600-\$1,000 million or more) in its trade with the I.W. over the next 3-5 years. It should be noted, moreover, that in addition to its direct merchandise imports from the I.W., the GDR apparently purchases large amounts of raw materials from third world countries through Western European middlemen, with payment to the Western agent in hard currency. These imports do not appear in our tabulations based on Western data.²¹ when these are added to direct imports from the I.W., the GDR deficit balloons even further, requiring additional hard currency borrowings. Over time, the pressures arising from this situation may be a compelling factor arguing for further structural reforms in the economy. For this and other reasons, developments in GDR trade with the West bear close scrutiny in years ahead.

²¹ A partial discussion of this question is provided in footnote 2.

THE ECONOMIC DIMENSIONS AND POLITICAL CONTEXT OF FRG-GDR TRADE

By Arthur A. Stahnke*

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SUMMARY

FRG-GDR economic relations are a significant case of East-West interactions which have been particularly effected by political considerations. As a result of the FRG's constant position that trade with GDR is not "foreign" commerce, and because it has sought to utilize this trade relationship in the promotion of its *Ostpolitik*, special arrangements have been developed and special advantages have been offered which have usually been accepted by the East Berlin regime. At the same time, GDR-FRG economic ties are essentially similar in character to those typically obtaining between Centrally Planned and Market economies.

In economic terms, FRG-GDR trade is an important component part of the East-West trade ties of each partner. It is also important to the GDR in terms of its total foreign trade. Trade levels have grown at an uneven though substantial rate to a 1979 total of over 9 billion West marks. Trade has also been unbalanced, with a cumulative GDR net trade deficit at this writing of nearly 4 billion West marks. This is so despite a continuing, significant GDR trade surplus with the city of West Berlin. The structure of FRG-GDR trade has diversified and stabilized, with a very significant flow of raw materials and semi-finished products taking place in both directions. Additionally, consumer goods and agricultural products comprise im-

*Department of Government, Southern Illinois University. The author wishes to thank the Southern Illinois University Graduate School, the American Philosophical Society, Der Deutscher Akademischer Austauschdienst (Bonn), the U.S. National Academy of Sciences, and, Die Akademie der Wissenschaften der DDR for their generous support for this and related research. Of course, views expressed are those of the author.

portant shares of all GDR deliveries, while on the other hand, FRG deliveries of investment goods have been particularly significant.

In political terms, Bonn has consistently linked its trade policy toward the "other Germany" to broader strategic objectives. Initially this resulted in an FRG posture of trade denial or at least severe restrictions on trade, as Bonn sought to hinder the consolidation of East Berlin's political position and the reconstruction of its economy. Perpetuation of the GDR's weaknesses was seen as supportive of West German hopes for political reunification. With the passage of time, this policy was modified as GDR consolidation proceeded in any case, and concerns about increasing people-to-people contact came to the fore. By the late 1960s, the FRG had extended very substantial economic advantages to the GDR which contributed to dramatic increases in FRG-GDR trade. Nevertheless, trade promotion did not result in broader political successes *vis-a-vis* the GDR, and following the 1969 formation of the Brandt Government, the FRG sought and obtained the normalization of its relations with the GDR by conceding most of the essential political demands of the East Berlin Government. In this departure, trade policy played an important but subordinate role.

The special characteristics of "Inter German Trade" (as characterized by the FRG) have impacted upon Bonn's ties to the Common Market. When the EEC was established, the FRG obtained an exception which placed its trade with "the German territory not under FRG control" outside EEC jurisdiction. Subsequently, Bonn also argued successfully in Common Market forums that the GDR was not a "third country," a move designed to restrict East Berlin's contact with the EEC and EEC members. Though this latter contention has since been dropped, concern still is often expressed that the GDR has improper and potentially dangerous access to the Common Market through its special economic ties to the FRG. While the advantages are clear, it appears that the concerns are excessive, and that GDR penetration of the Common Market through the FRG will continue only at roughly present levels.

Indications as to future developments are mixed. Trade expansion has been limited since the mid-1970s, and constraints on the GDR economy appear to preclude much change in the foreseeable future. On the other hand, knowledgeable observers on both sides profess some optimism about the years ahead. The post Afghanistan East-West political climate further complicates attempts at prediction.

I. INTRODUCTION

If trade between the Federal Republic of Germany (FRG) and the German Democratic Republic (GDR) were a perfectly "normal" example of East-West economic relations, the volume involved alone would make it worthy of note. FRG statistics for 1978 show the GDR to be its second most significant trading partner among the Centrally Planned Economies (CPEs), with a total value of 8.82 billion West German Marks (U.S. \$4.4 billion), below its trade with the USSR (\$5.8 billion), but well above third place Poland (\$2.4 billion).¹ By

¹ Der Bundesminister fuer Wirtschaft, "Bericht ueber den innerdeutschen Handel und den Aussenhandel der DDR," (13. Bericht), Bonn, November 28, 1979.

comparison, 1978 U.S. trade with the USSR, its leading CPE partner, was \$2.8 billion; British trade with the USSR was \$2.2 billion; French trade with the same country amounted in 1978 to \$2.7 billion; and, Japanese trade for that year with China was \$5.1 billion and \$1.0 billion with the USSR.²

However, FRG-GDR economic relations have not been entirely "normal." They have been heavily politicized, even by the usual standards of East-West trade.³ In one form or another, they have consistently been linked by the several successive Bonn Governments to the questions of German reunification and the right of access to West Berlin. Additionally, FRG spokesmen have regularly claimed responsibility for the welfare of Germans living in the East, and have attempted to devise trade policies toward the "Soviet Occupation Zone"/GDR which would improve living standards in the Eastern part of their "divided" country.

The leadership of the GDR, to be sure, has had sharply different views on all these questions. It has opposed German reunification, at least as envisaged by the West and without qualification for the past two decades. It has similarly objected to FRG claims that it alone legitimately speaks for all Germans, and that Bonn has responsibility for the welfare of the GDR population. Finally, it has to accept the legitimacy of linking trade to broader political considerations. Nevertheless, East Berlin has been forced to view its economic ties with the FRG in the broader political context, both because of Bonn's approach to the "Inter-German" relationship, and also because the FRG has been its fundamental external problem.

This is not to say that FRG-GDR economic relations do not share many of the characteristics of East-West trade. After all, the GDR is a rather good example of a CPE, while the FRG clearly has a market economy. Moreover, the legal context of that trade as the administrative procedures by which goods and services are exchanged between them are quite similar to those governing, says, FRG-USSR or French-Romanian economic relations.

In the pages below, both the unique features of FRG-GDR economic relations (stemming largely from the intense political context in which they have taken place), as well as their more usual aspects will be outlined. First, the economic dimensions will be surveyed, after which the political context and resulting trade policies it has spawned will be examined. Next, the interplay between the FRG's Common

² All dollar figures in the above paragraph, except for FRG-GDR trade, are from IMF, *Direction of Trade Yearbook*, 1979.

³ The highly charged political atmosphere in FRG-GDR relations even extends to conflict over the terminology to be used in describing matters of joint interest. Thus, the FRG considers its economic relations with the GDR as "domestic" commerce and describes the flow of goods in each direction as "deliveries to" and "supplies from," rather than as "exports" and "imports". For the GDR, its FRG trade is "foreign" commerce, and it therefore uses the latter terms. The GDR also objects to the phrase "Inter German Trade," which is the standard FRG designation for its GDR commercial tie.

The author has no interest in offending the sensitivities of either party. Yet, clarity in presentation is also highly desirable, particularly when these differences are likely to be confusing to the uninitiated reader. GDR-FRG trade will be treated as foreign commerce, since, apart from political considerations, that is what it clearly is. Otherwise, the divided parts of the city of Berlin will be referred to as either East or West Berlin, despite the GDR's preference for "West Berlin" and "Berlin." And, contrary to the usage of either party, references to Deutsche Mark and Mark will be given as West German and East German Marks respectively. In several tables drawing from GDR sources, the term Valuta Mark is used as given. This is the unit of reckoning used in GDR foreign trade, where prices have no necessary relationship to those set for domestic commerce.

Market tie with its special relationship and with the GDR will be considered, followed by a final section in which current problems and future prospects will be the focus.

II. ECONOMIC DIMENSIONS OF FRG-GDR TRADE

a. General Observations and Characteristics

As geographically small, industrialized states with extensive raw material needs, both Germanys are significantly dependent upon foreign trade. Each exports over 20% of its produced national income, and each is critically dependent upon key raw materials from foreign sources.⁴

Some dependencies materialized only with the division of Germany following World War II, for traditionally the country was composed of highly interdependent regions. Thus, in 1936, the territory presently comprising the GDR delivered 49% of its produced goods to the other parts of the Reich, and obtained 55% of its needs from those same areas in return.⁵ In 1938, what is now GDR territory produced only 6% of Germany's iron ore, 1.3% of its pig iron and 6.6% of its crude steel.⁶ *Mitteldeutschland* relied heavily upon the regions presently comprising the FRG for these and other basic industrial goods, and supplied lighter goods and products in exchange.

Though present FRG-GDR trade levels are relatively high as East-West commercial relations go, interdependence between the two German states is much less than it was in pre-war days, and is really quite marginal for the FRG. Tables I and II show FRG-GDR trade in the context of their East-West and total trade.

⁴ According to the calculations of the FRG Bundesminister fuer innerdeutsche Beziehungen, the 1975 figures for the part of total "Social product" exported by each was 21.5 percent (FRG), and 24.0 percent (GDR). In: *Zahlenspiegel*, Bonn, 1978, p. 27.

⁵ Bruno Gleitze, *Die Industrie der Sowjetzone unter dem gescheiterten Siebenjahrplan*, Berlin (West), 1964; cited in: Siegfried Kupper, "Politische Aspekte des innerdeutschen Handels," in: C. D. Ehlermann et al., *Handelspartner DDR—Innerdeutsche Wirtschaftsbeziehungen* (Baden-Baden: Nomos Verlagsgesellschaft, 1975) pp. 18-19.

⁶ Figures cited in: Horst Lambrecht, "Entwicklung der Wirtschaftsbeziehungen zur Bundesrepublik Deutschland" In: Hans-Adolf Jacobsen et al., *Drei Jahrzehnte Aussenpolitik der DDR* (Munich: R. Oldenbourg Verlag, 1979) pp. 453-472.

TABLE I.—FEDERAL REPUBLIC OF GERMANY TOTAL TRADE, TRADE WITH EUROPEAN CMEA MEMBERS AND WITH THE GERMAN DEMOCRATIC REPUBLIC

[In million West marks and percent]

	1955	1960	1965	1970	1971	1972	1973	1974	1975	1976	1977	1978
Federal Republic of Germany total trade ¹	51,340	92,751	144,566	239,294	260,948	283,075	329,465	417,234	413,068	486,961	517,085	537,038
Federal Republic of Germany Trade ²	2,140	5,283	6,838	12,346	13,896	16,470	20,403	27,078	28,727	34,009	34,272	33,574
Federal Republic of Germany-German Democratic Republic trade.....	1,151	2,082	2,467	4,412	4,818	5,308	5,652	6,823	7,266	8,146	8,293	8,424
Federal Republic of Germany/CMEA trade as percent of Federal Republic of Germany total trade ³	4.2	5.7	4.7	5.2	5.3	5.8	6.2	6.5	6.9	7.0	6.6	6.3
Federal Republic of Germany/German Democratic Republic trade as percent of Federal Republic of Germany/CMEA trade.....	53.8	39.4	36.1	35.7	35.0	32.2	27.7	25.6	25.3	24.0	24.2	25.1
Federal Republic of Germany/German Democratic Republic trade as Percent of Federal Republic of Germany total trade.....	2.2	2.2	1.7	1.8	1.8	1.9	1.7	1.7	1.8	1.7	1.6	1.6

¹ Includes Federal Republic of Germany/German Democratic Republic trade. Federal Republic of Germany statistics show Federal Republic of Germany/German Democratic Republic trade as "inter German" rather than foreign trade.

² Only European members of CMEA: Bulgaria, Czechoslovakia, German Democratic Republic, Hungary, Poland, Rumania, and the U.S.S.R.

Source: "Statistisches Bundesamt" Fachserie F (1976-78 Fachserie 6); Fachserie G, "Statistisches Jahrbuch fuer die Bundesrepublik Deutschland" (various years).

TABLE II.—GERMAN DEMOCRATIC REPUBLIC TOTAL TRADE, TRADE WITH "CAPITALIST COUNTRIES" AND WITH FEDERAL REPUBLIC OF GERMANY

[In 1,000 valuta marks and percent]

	1955	1960	1965	1970	1971	1972	1973	1974	1975	1976	1977	1978
German Democratic Republic total trade.....	10,389	18,487	24,693	39,597	42,241	46,782	53,502	64,013	74,394	85,456	91,726	96,870
German Democratic Republic trade with "capitalist" countries.....	2,592	3,879	5,346	9,656	10,268	12,049	14,904	19,791	19,295	24,208	21,758	22,005
German Democratic Republic-Federal Republic of Germany trade ¹	1,132	1,911	2,432	4,050	4,295	4,828	4,935	5,997	6,475	7,360	7,751	7,973
German Democratic Republic "capitalist" trade as a percent of total trade.....	25.0	21.1	21.7	24.4	24.3	25.8	27.9	30.9	25.9	28.3	23.7	22.7
German Democratic Republic-Federal Republic of Germany trade as a percent of "capitalist" trade.....	43.7	49.3	41.5	41.9	41.8	40.1	33.1	30.3	33.6	30.4	35.6	36.2
German Democratic Republic-Federal Republic of Germany trade as a percent of German Democratic Republic total trade.....	10.9	10.3	9.5	10.2	10.2	10.3	9.2	9.4	8.7	8.6	8.5	8.2

¹ Includes trade with West Berlin, which German Democratic Republic lists separately.

Source: "Statistisches Jahrbuch der DDR," 1978, 1979.

As can be seen from the above tables, FRG-GDR trade has been and is relatively much more important for the smaller East German economy (approximately 10% of GDR total trade as against about 2% for the FRG). In fact, the FRG has been the third or fourth most important GDR trading partner overall (in terms of total value), well behind the USSR, but about on a par with Czechoslovakia and Poland. The trend in the German trade, however, has been for each to have a reduced percentage of the other's total turnover.

The tables also show, not surprisingly, that each has held a very significant share of the other's total East-West trade. Until the 1970's, the FRG share of total GDR "Capitalist" trade was consistently above 40%. Then, following the GDR's general acceptance into the international political community, the FRG percentage dropped to just above 30%. However, it has again risen to approximately 35%. On the other side, the GDR's percentage of FRG trade with European CMEA members has dropped in recent years from its initial highs in the 1950s and 1960s (when it was consistently above 35%). Even so, the share has remained relatively constant at about 25% since the mid 1970s.

If we look at the pattern of growth in FRG-GDR trade over time, we get the following picture (table III) :

TABLE III.—GROWTH RATE IN FEDERAL REPUBLIC OF GERMANY-GERMAN DEMOCRATIC REPUBLIC TRADE
 [Percent change from previous year]

	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964	1965	1966
Federal Republic of Germany exports.....	23.8	24.3	21.0	-5.4	34.8	-11.0	-9.0	-2.3	.8	33.9	4.8	34.8
German Democratic Republic exports.....	30.7	11.2	25.1	5.0	3.9	26.2	-16.2	-2.8	11.8	.5	22.7	6.7
Combined.....	27.2	17.6	23.0	-3	18.8	5.5	-12.9	-2.6	6.5	15.8	13.2	20.4
	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978
Federal Republic of Germany exports.....	-8.8	-3.4	58.6	6.3	3.4	17.2	2.4	22.4	6.8	8.9	1.7	4.2
German Democratic Republic exports.....	-6.1	13.9	15.1	20.5	16.2	2.7	11.7	22.3	2.8	16.2	2.0	-1.5
Combined.....	-7.5	4.5	36.8	12.3	10.4	10.2	6.6	22.4	5.0	12.1	1.8	1.4

Note: These figures are based upon current prices, and therefore do not take the inflation of prices into account. According to the "Deutsches Institut fuer Wirtschaftsforschung," the adjusted annual increase in Federal Republic of Germany-German Democratic Republic trade for the years 1970-75 was approximately 3 percent. (DIW-Wochenbericht October 10, 1976.) According to the same source, the adjusted increase for 1976 was about 7 percent. (DIW-Wochenbericht, September 10, 1977.) Shortly after this manuscript was completed (February 1980) the DIW published its calculations for

1979: although in current prices Federal Republic of Germany exports to the German Democratic Republic rose by 4.1 percent and German Democratic Republic exports to the Federal Republic of Germany rose by 14.5 percent—together an increase of 8.9 percent—in adjusted prices deliveries in each direction declined by about 5 percent. (DIW-Wochenbericht, September-October 1980).

Source: Compiled from data in "Statistisches Bundesamt" Fachserie F (6).

Overall, the growth rates have been substantial, but hardly constant. For example, growth rates in FRG exports for the years 1963–1965 rose from .8% for 1963 to 33.9% for 1964 and then dropped back down to 4.8% in 1965. During the years 1968–1970, the rates of increase were: -3.4%, 58.6% and 6.3%, while for 1973–1975, the swing was from 2.4% to 22.4% to 6.8%.

The figures for GDR exports also show considerable though smaller fluctuations. Thus, for the years 1959–1961, the rates of increase were 3.9%, 26.2% and -16.2%. For 1964–1966, they were .5%, 22.7% and 6.7%, and for 1975–1977, the figures were 2.8%, 16.0% and 3.2%.

If we average annual rates of growth for five year periods, we see a still considerable variation from one term to the next (see table IV).

TABLE IV.—AVERAGE ANNUAL CHANGE IN FEDERAL REPUBLIC OF GERMANY—GERMAN DEMOCRATIC REPUBLIC TRADE FOR 5-YR PERIODS

(In percent)

	1956-60	1961-65	1966-70	1971-75	1976-78
Federal Republic of Germany exports: Annual percent change.....	12.7	5.6	17.5	10.4	4.9
German Democratic Republic exports: Annual percent change.....	14.3	3.2	10.0	11.1	5.6
Combined.....	12.9	4.0	13.3	10.9	5.1

Note: Calculated from previous table.

High average annual rates of growth for 1956–1960 (12.7% for FRG exports and 14.3% for those of the GDR) are followed by much more modest figures for 1961–1965 (FRG Exports—5.6%; GDR Exports—3.2%). For 1966–1970, when politically inspired FRG trade restrictions were replaced by trade supporting policies, annual growth rates jumped to an annual average of 17.5% (FRG Exports) and 10.0% (GDR Exports), followed by “average” growth for 1971–1975. Finally, the last years for which figures are available show a tendency toward stagnation.

Beginning in the 1970s, dramatic increases in East-West trade have often occurred despite comparatively weak CPE export expansion. Trade growth in those cases has been driven by the extension of Western credit, and trade figures have then typically shown significant imbalances. FRG-GDR trade has been consistent with this typical pattern, and as shown in table V, it in fact has not been in balance since the mid 1960s.⁷

⁷ For the first six months of 1979, the GDR showed a slight surplus in its FRG trade. Shortly thereafter, its purchases expanded more rapidly than its sales so that as of this writing, it showed a deficit for the year. (Mimeographed statistics obtained from the FRG Economics Ministry.)

TABLE V.—CUMULATIVE FEDERAL REPUBLIC OF GERMANY SURPLUS

[In million VE/West marks]

	1960	1961	1962	1963	1964	1965	1966	1967	1968	1969
Federal Republic of Germany exports.....	1,030	911	901	907	1,193	1,225	1,681	1,491	1,450	2,078
Federal Republic of Germany imports.....	1,007	917	899	1,029	1,111	1,249	1,324	1,256	1,451	1,656
Federal Republic of Germany surplus.....	23	-6	2	-122	82	-24	357	236	8	422
Accumulated Federal Republic of Germany gross surplus ¹	23	17	19	-103	-21	-45	312	548	556	978
Accumulated Federal Republic of Germany net surplus ²	103	123	164	47	128	92	382	553	492	1,043
	1970	1971	1972	1973	1974	1975	1976	1977	1978	
Federal Republic of Germany exports.....	2,484	2,652	2,960	2,938	3,662	4,028	4,470	4,595	4,754	
Federal Republic of Germany imports.....	2,064	2,582	2,396	2,680	3,256	3,391	3,938	4,071	4,066	
Federal Republic of Germany surplus.....	420	70	565	250	406	637	532	524	688	
Accumulated Federal Republic of Germany gross surplus ¹	1,399	1,468	2,033	2,283	2,689	3,326	3,858	4,382	5,070	
Accumulated Federal Republic of Germany net surplus ²	1,352	1,202	1,731	1,747	1,914	2,391	2,588	2,960	3,681	

¹ Figures determined by aggregating the annual Federal Republic of Germany surplus.² Figures provided in the cited report. The difference between net and gross is primarily the result of German Democratic Republic hard currency payments on the special cash account.

Source: Bundesminister fuer—Wirtschaft, "Bericht ueber den innerdeutschen Handel und den Aussenhandel der DDR" (No. 13) Nov. 28, 1979. The figures here (as calculated by the Federal Republic of Germany Economics Ministry) are slightly different from those calculated by the Statistisches Bundesamt and used in earlier tables.

The two sets of figures show both the raw accumulated trade imbalance and the net, which largely reflects the subtraction of GDR payments in hard currency on a special cash account. Though the figures should not be taken as a measure of GDR debt, they do show that East German export performance is and will continue to be a key and limiting factor in further GDR-FRG trade expansion.

The political importance of West Berlin to the entire "German Question" is well known, and as will be shown, this importance has at times spilled over into the trade policies of each German state toward the other. In economic terms, West Berlin has also been of some significance in FRG-GDR commercial relations. Depending on whose statistics one uses, West Berlin's part in FRG-GDR trade has ranged around 15% of total turnover (according to West German calculations), or between 14% and nearly 27% (using GDR statistics).

TABLE VI.—WEST BERLIN IN FEDERAL REPUBLIC OF GERMANY-GERMAN DEMOCRATIC REPUBLIC TRADE: FEDERAL REPUBLIC OF GERMANY SOURCES

[In million West marks]

	1966-70 ¹	1971-75 ¹	1975	1976
Federal Republic of Germany-German Democratic Republic trade (including West Berlin).....	3,384.2	5,994.2	7,263.9	8,145.4
West Berlin-German Democratic Republic trade.....	458.1	882.2	1,151.2	1,386.5
West Berlin percent of total.....	13.5	14.7	15.8	17.0

¹ Average annual trade turnover for the periods 1966-70 and 1971-75.

Source: Calculated from tables in "Innerdeutscher Handel weiterhin auf Expansionskurs?" DIW Wochenbericht (West Berlin) Mar. 10 1977.

TABLE VII.—WEST BERLIN IN GERMAN DEMOCRATIC REPUBLIC-FEDERAL REPUBLIC OF GERMANY TRADE: GERMAN DEMOCRATIC REPUBLIC SOURCES

[In million Valuta marks]

	1960	1965	1970	1971	1972	1973	1974	1975	1976	1977	1978
German Democratic Republic-Federal Republic of Germany trade (without West Berlin).....	1,585.9	1,781.1	3,428.6	3,707.7	4,142.5	4,017.6	4,909.9	4,989.5	5,441.5	6,166.7	6,329.5
German Democratic Republic-West Berlin trade.....	325.5	560.6	621.4	586.9	685.2	917.6	1,087.4	1,485.1	1,589.5	1,584.3	1,643.2
Total.....	1,911.4	2,341.7	4,050.0	4,294.6	4,827.7	4,935.2	5,997.3	6,474.6	7,431.0	7,751.0	7,972.7
West Berlin percent of total.....	17.0	23.9	15.3	13.7	14.2	18.6	18.1	22.9	26.8	20.4	25.9

Source: Statistisches Jahrbuch der DDR, 1978, 1979.

Both sets of figures show West Berlin's percentage as increasing.

When the figures for West Berlin are broken down into export and import categories, a significant imbalance is shown in the form of an export surplus for the GDR.

TABLE VIII.—TRADE BALANCE IN WEST BERLIN-GERMAN DEMOCRATIC REPUBLIC TRADE

[In million West marks and percent]

	1966-70 ¹	1971-75 ¹	1976	1976
West Berlin imports.....	333.6	674.1	863.7	1,038.3
Percent of total Federal Republic of Germany imports from German Democratic Republic.....	(21.7)	(24.2)	(25.8)	(26.8)
West Berlin exports.....	124.5	208.1	287.9	348.2
Percent of total Federal Republic of Germany exports to German Democratic Republic.....	(6.8)	(6.5)	(7.3)	(8.2)
German Democratic Republic surplus in its West Berlin trade.....	209.1	466.0	576.2	690.1

¹ Figures for 1966-70 and 1971-75 are annual averages.

Source: "Innerdeutscher Handel weiterhin auf Expansionskurs?" DIW Wochenbericht (West Berlin), Mar. 10, 1977.

Without that surplus, which for the 11-year period 1966-1976 amounted to slightly more than 4 billion (West) German Marks, the GDR negative trade balance would be roughly twice as great as it in fact has been. Thus, the West Berlin has been an important market for GDR products, and therefore a stimulus to the expansion of the GDR-FRG trade that has heretofore taken place.

While West Berlin has played an important role in FRG-GDR economic relations, it is also noteworthy that the city is essentially integrated into the West German (and Western) economic system(s). Only about 5% of West Berlin's foodstuffs are obtained from the GDR, and the percentages are even lower for other types of goods. Only in the cases of certain specific products does the city depend heavily upon GDR deliveries. For example, almost all of its coal, about half of its sugar and a third of its pork are obtained from the surrounding countryside.⁸

⁸ See: Horst Lambrecht, "Innerdeutsche Handel—Entwicklung, Warenstruktur, Wirtschaftliche Bedeutung," in: Ehlermann op. cit., pp. 117, 122.

b. Composition of FRG-GDR Trade

During the 1950s, the level and composition of the German trade were much influenced by politics, particularly the policies of the West. West German trade with "the Zone," as it was derisively called, was subject to the limitations of the Western strategic embargo. Beyond that, trade was permitted only under conditions of rather strict matching of product types, and with equal values flowing in each direction. Also, FRG administrative regulations devised for *Inerzonehandel* (Inter Zone Trade) were so complex as to discourage all but the most persistent prospective traders. Whatever the GDR's commitment to and need for expanded commercial ties with the FRG, it too was sometimes responsible for trade limitation; it was not always able to make prompt deliveries.

Given these restrictive circumstances and conditions, trade between the two Germanys could only be modest in amount, limited in product range, and simple commodity exchange in form. The most important products exchanged for the years 1950, 1955 and 1960 are shown in table IX.

TABLE IX.—MAJOR PRODUCTS IN FEDERAL REPUBLIC OF GERMANY-GERMAN DEMOCRATIC REPUBLIC TRADE IN THE 1950'S

(Percent of total value)

GERMAN DEMOCRATIC REPUBLIC EXPORTS

	1950		1955		1960
Textiles.....	15.6	Coal.....	28.0	Coal.....	23.4
Mineral oil and coal.....	14.2	Textiles.....	15.4	Foodstuffs.....	16.1
Machinery.....	11.0	Chemicals.....	12.3	Gasoline and diesel fuel.....	15.8
Chemicals.....	7.6	Mineral oils.....	10.4	Textiles.....	13.1
Glass and ceramic products.....	5.3	Machinery.....	9.9	Chemicals.....	6.9
Other.....	46.3	Other.....	24.0	Other.....	24.7
Total.....	100.0	Total.....	100.0	Total.....	100.0

FEDERAL REPUBLIC OF GERMANY EXPORTS

Iron and steel.....	25.8	Plant and animal products.....	17.7	Iron and steel.....	16.4
Iron and steel products.....	23.2	Iron and steel products.....	15.5	Machinery and vehicles.....	14.9
Chemicals.....	18.3	Chemicals.....	14.7	Chemicals.....	14.2
Foodstuffs.....	6.8	Iron and steel.....	14.7	Steel tubing, cable, etc.....	11.2
Textiles.....	4.8	Foodstuffs.....	11.1	Foodstuffs.....	11.2
Other.....	21.1	Other.....	26.3	Other.....	32.1
Total.....	100.0	Total.....	100.0	Total.....	100.0

Source: Statistisches Jahrbuch fuer die Bundesrepublik Deutschland (various years).

As can be seen, by 1955 there was a rough equivalence in value between GDR energy producing goods (coal and gasoline) and FRG steel, steel products and machinery. The remaining trade showed similarities in the flow each way, with chemical products, foodstuffs and textiles being the most important components.

The table also gives some indication of the effect of the strategic embargo: 1950 FRG exports of steel and steel products reflect both GDR needs and pre-embargo trade opportunities. Thereafter, both the relative and actual value importance of these goods showed a sharp decline. GDR 1950 and 1955 exports also show an interesting

omission—agricultural products and foodstuffs—which became important elements in its deliveries from 1960 on.

The decade of the 1960s began with the last major politically induced trade disruption, and ended with a series of significant trade liberalizations, which were initiated in 1967 by the Kiesinger/Brandt Government. These had the effect of promoting trade expansion generally, and specifically of making the sale of FRG complete plant and machinery feasible. They also opened the FRG market considerably to GDR goods. The composition of trade for this period is shown in tables X and XI.

TABLE X.—FEDERAL REPUBLIC OF GERMANY DELIVERIES TO THE GERMAN DEMOCRATIC REPUBLIC IN THE 1960's
[In percent of total value delivered]

	1960	1962	1964	1966	1968	1970
Plant and animal product: foodstuffs.....	12.1	16.2	18.1	19.5	13.1	12.0
Coking coal and coke.....	3.5	4.6	6.8	1.6	1.1	2.5
Iron and steel products.....	19.9	30.5	15.3	15.1	8.9	10.5
Nonferrous products: Metals and semifinished goods.....	2.8	3.5	3.1	2.8	9.0	11.7
Machinery and land vehicles.....	14.8	7.7	13.6	14.1	13.4	20.8
Electrotechnical and fine machinery.....	9.2	4.3	3.8	2.9	4.7	3.6
Chemicals and fertilizers.....	14.2	8.4	17.9	20.5	23.8	15.8
Other.....	18.4	21.4	17.5	18.6	26.0	17.7

Source: "Statistisches Jahrbuch fuer die Bundesrepublik Deutschland" (various years).

TABLE XI.—GERMAN DEMOCRATIC REPUBLIC DELIVERIES TO THE FEDERAL REPUBLIC OF GERMANY IN THE 1960's
[In percent of total value delivered]

Year.....	1960	1962	1964	1966	1968	1970
Product:						
Foodstuffs.....	16.1	11.4	14.7	22.7	15.1	15.5
Brown coal.....	23.4	26.1	24.1	12.1	7.5	5.2
Gasoline and diesel fuel.....	15.8	19.2	4.1	3.6	-----	2.1
Chemicals.....	6.9	5.7	7.4	6.2	6.6	5.5
Light machinery and electrotechnical products.....	7.1	6.0	7.7	6.9	7.6	9.1
Textiles.....	13.1	11.3	17.6	18.2	20.1	17.4
Other.....	17.6	20.3	24.4	30.3	43.7	46.0
Total.....	100	100	100	100	100	100

Source: "Statistisches Jahrbuch fuer die Bundesrepublik Deutschland" (various years).

The striking features of FRG exports to the GDR for this period were: (a) deliveries of agricultural products and foodstuffs as well as coking coal and coke were expanded significantly during the mid 1960s, but they then dropped in importance to earlier and lower (percentage) levels by the end of the decade; (b) non-ferrous products and machinery became increasingly important toward the end of the decade; and (c) chemical products and fertilizers fluctuated up and down throughout the period.

The figures for GDR deliveries show that: a. foodstuffs, chemicals and light machinery held important and consistent shares of total GDR exports; b. low grade coal suffered a steep drop in relative importance, while the export of gasoline and diesel fuel was virtually halted; c. textile shipments expanded, and d. new product areas increased markedly as FRG quota restrictions were reduced. This last development is shown in the great increase in the residual category.

As can be seen from *tables XII and XIII*, during the most recent decade, trade between the two Germanys became so substantial and diverse as to require reporting of transactions by sector.

TABLE XII.—FEDERAL REPUBLIC OF GERMANY EXPORTS TO THE GERMAN DEMOCRATIC REPUBLIC BY SECTOR
[In percentages of total value exported]

	1970	1971	1972	1973	1974	1975	1976	1977	1978
Plant and Animal products: Foodstuffs.....	12.8	14.8	15.6	12.2	9.9	8.5	8.9	9.9	10.4
Mining products and energy.....	3.8	4.1	5.9	4.0	3.1	9.4	11.2	11.2	8.2
Raw materials and producers goods.....	47.4	43.9	42.9	41.2	53.0	48.9	40.7	38.5	39.9
Investment goods.....	26.5	26.6	21.0	29.3	22.1	23.3	29.3	30.7	31.6
Consumer goods.....	8.4	9.3	13.3	12.3	11.3	8.6	8.6	8.4	8.7
Other.....	1.1	1.3	1.3	1.0	.9	1.3	1.3	1.3	1.2
Total.....	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Source: Statistisches Jahrbuch fuer die Bundesrepublik Deutschland (various years).

The most important categories of FRG exports have been: (a) raw materials and producers' (semifinished) goods; and (b) investment (finished) products, which comprised about 40–50% and 25% of total FRG sales respectively. Agricultural products and foodstuffs, and consumer goods each comprised roughly 10% of the total value delivered, while mineral products were the least important (but expanding) category.

Trends in each sector have included: (a) a significant drop in the relative importance of raw materials and producers' goods (from 47.7% to 39.9%), but with a high point of approximately 50% for the years 1974–1975; (b) fluctuations between 20–30% in investment goods, before they finished the period with three stable years at around 30%; (c) a modest decline in agricultural products and foodstuffs (from 12.8% to 10.4%), though with higher shares in 1971 and 1972; and (d) a constant share for consumer goods (8.7% to 8.4%), with a temporary rise to above 11% for the years 1972–1974.

The most important single product areas in FRG exports were machine construction equipment (15–22% of total sales), chemical products (15–21%), iron and steel (6–12%), non-ferrous and semi-finished metals (4–12%), and textiles and clothing (4–8%). Together, they typically comprised roughly 60% of total FRG Sales, a concentration no doubt reflecting the GDR's centrally determined import preferences.

TABLE XIII.—GERMAN DEMOCRATIC REPUBLIC EXPORTS TO THE FEDERAL REPUBLIC OF GERMANY BY SECTOR
[In percentages of total value exported]

	1970	1971	1972	1973	1974	1975	1976	1977	1978
Plant and animal products: Foodstuffs..	22.3	19.5	21.5	22.7	17.0	17.9	17.1	16.3	14.8
Mining products and energy.....	5.5	3.8	4.1	3.3	3.5	2.7	3.0	3.3	2.9
Raw materials and producers goods.....	24.6	29.6	28.0	33.7	39.4	36.4	38.5	38.5	38.4
Investment goods.....	17.2	13.9	11.8	10.0	9.9	10.2	10.0	11.4	11.0
Consumer goods.....	29.6	32.5	33.9	29.7	29.6	32.2	30.0	29.9	32.0
Other.....	.8	.7	.7	.6	.6	.6	.5	.6	.9
Total.....	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Source: Statistisches Jahrbuch fuer die Bundesrepublik Deutschland (various years).

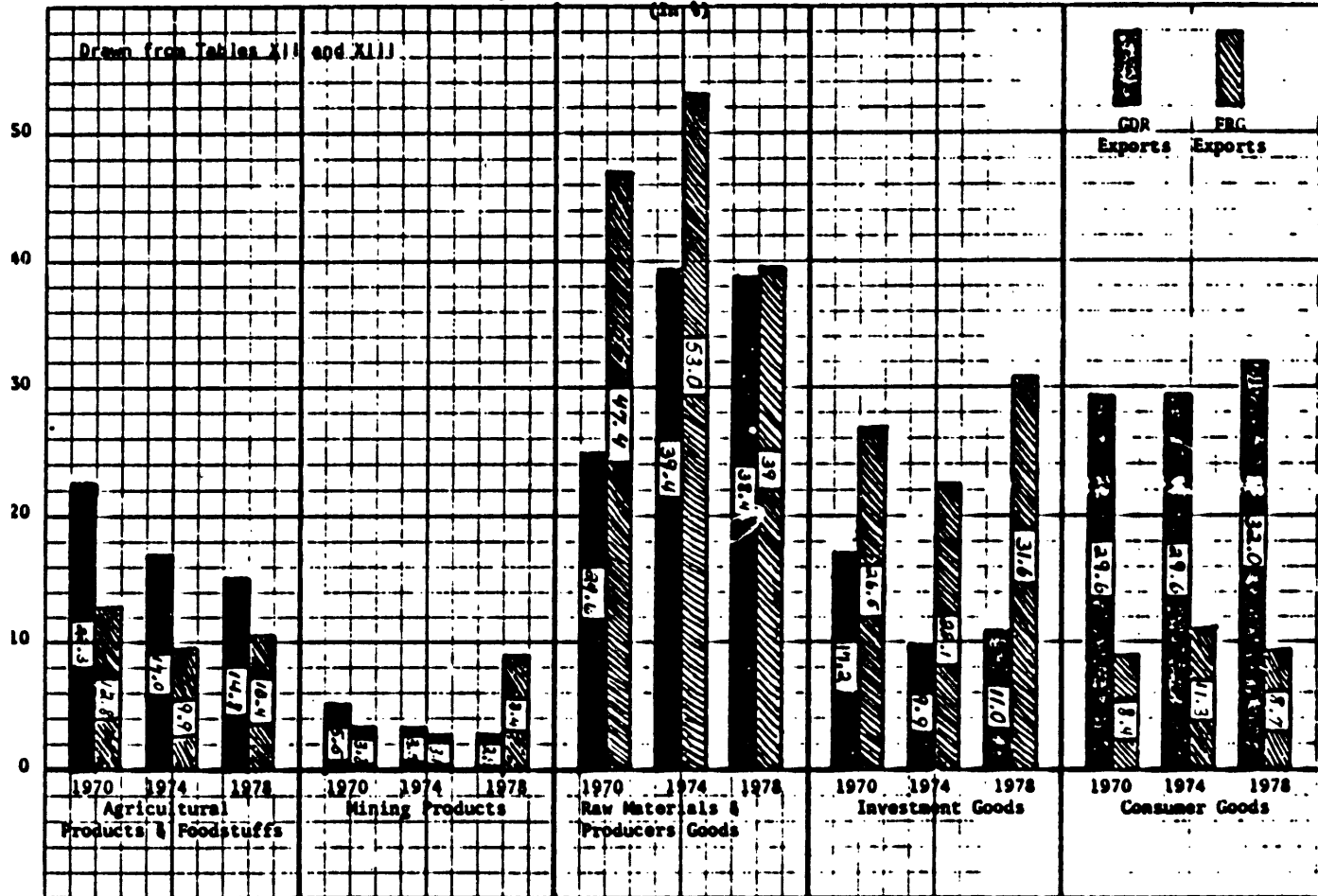
Turning to GDR exports, we see that for the 1970s: (a) raw materials and producers goods were the most important sector, with a range of about 25–40% of total value delivered; (b) consumer goods comprised a second very significant sector (approximately 30% of total sales); (c) agricultural products and foodstuffs maintained about a 20% share; (d) investment goods averaged slightly better than 10%; and (e) mining products were a relatively insignificant 5% or less.

As to trends in the several sectors: (a) raw materials and producers' goods expanded very substantially from just under 25% in 1970 to more than 39% in 1974, and then held relatively constant; (b) consumer goods remained consistently around the 30% figure; (c) agricultural products and foodstuffs held rather constant at around 21% from 1970–1973 and then fell to around 17% thereafter; (d) investment goods and machinery dropped significantly from just over 17% in 1970 to approximately 10% in 1974 and then increased slightly to 11+ % by 1977; and (e) mining products, which started the decade at slightly better than 5% of total value delivered, dropped to about 3% by the end of the period.

The most important products exported by the GDR were: textiles and clothing (17–20% of total value), mineral oil products (4–15%), chemical products (4–9%), and iron and steel (5–8%). If one compares the importance of these products with those most important for FRG deliveries, it is clear that GDR sales have been considerably less concentrated in a few product areas. This is partially a reflection of the fact that while GDR purchases have been in comparatively large units (whether for complete plant, Volkswagens or Salamander shoes), their sales have typically been for smaller amounts, and often to small and medium sized firms or businesses. More than 6,000 FRG businesses are involved in purchases of GDR goods in any given year, and most of the 50,000 annually concluded contracts covering FRG–GDR trade are for GDR exports.

If we compare the relative importance of the several sectors as shown in tables XII and XIII, we find elements of both complementary and substitutional types of trade (see figure I).

FIGURE I
Composition of FRG-GDR Trade in the 1970s



The greatest disparities between the deliveries of the two sides is shown to be in the consumer goods area, where GDR sales have averaged about three times those of the FRG (again as a percentage of total value delivered). Significant, too, is the much greater flow of FRG investment goods over those from the GDR, a difference which increased over the period shown both because of expanded deliveries from the FRG and also due to reduced shipments from the GDR. Foodstuffs is a third sector of unmatched exchange, though the trend has been toward equalization. Raw materials, the most significant category of trade in both directions, has moved toward virtually equal percentages of the total value each partner delivered, while mining products have also, at least until recently, been exchanged in about equal value. Thus, substitution trade has been most pronounced in the raw materials and foodstuffs categories, where imbalances have been at least greatly reduced. On the other hand, GDR consumer products surpluses have "complemented" those from the FRG investment goods area.

Summarizing the above, it is clear that FRG-GDR trade, though sharply down from the prewar levels of exchange when they were politically united, is relatively significant when compared with other instances of East-West commerce. Even in absolute terms, the FRG is an important GDR trading partner. Second, though the trading relationship has become somewhat less significant for each partner as a percentage of its total trade, trade levels have expanded at significant if uneven rates, at least until recently. Third, trade expansion has not been equal on both sides, but rather has followed the rather typical pattern in East-West commerce, i.e., there have been persistent Western export surpluses, funded in part with medium and long term credit. Fourth, this trade imbalance would have been considerably more were it not for the relatively heavy import surpluses of West Berlin.

As to trade composition, we find that there has been a considerable expansion in the range of products exchanged and an increasing stability and continuity in the flow of goods in each direction. The basic foundation of GDR deliveries has become products for consumers (whether foodstuffs or clothing and textiles) as well as raw materials and producers' goods. Most disappointing for the GDR has been its inability to expand its sales of finished goods to the FRG, and a reversal of this pattern is generally seen as necessary if a further expansion of FRG-GDR trade is to take place. On the other hand, FRG deliveries have always most importantly included the elements required for the construction of basic industrial capacity, from coke and steel to complete plant and machinery. GDR demand for these goods appears to be limited primarily by its own export capability and by FRG willingness to license and provide credit for such sales. The availability of competing products from other sources has also played some role. Future prospects for trade expansion will be considered in the concluding section of this paper.

III. THE POLITICS OF FRG-GDR TRADE

a. The Feasibility of "Linkage"

When assessing the nature and significance of political factors in FRG-GDR economic relations, it is important to note that the economic advantages for each partner in that relationship have not been symmetrical. The GDR has had much to gain from trade, but, particularly in the first years after its creation, it has had relatively little to offer for the benefits it would like to obtain. Initially, the gap between GDR import needs and export capabilities was especially great, since its own capacity in basic industrial goods was practically nil, its agricultural production hardly matched its needs, and its manufacture of products to exchange for those needed was hampered by very significant reparations obligations to the USSR.

After Stalin's death, thanks in part to changes in Soviet reparations policy, the GDR economy entered a period of sustained economic growth. Even so, its economic integration into the relatively less advanced Socialist bloc (in technological terms) has meant that some of its needs could (and can) be met only through purchases from the West.

On the other hand, by the early 1950s the FRG had no particular economic incentive to promote its GDR trade. By then, it had been integrated into the Western/world economy and it shortly embarked on a period of remarkable economic growth. While initially criticism had been voiced over the shift away from its traditional economic ties to Eastern markets, almost no one by the mid-1950s asserted that the FRG's economic well-being required ties to the Socialist world. More recently, FRG economic benefits from its GDR trade have assumed some real importance. Perhaps 100,000 jobs are derived from production for export to the GDR, while West German purchases of goods produced in East Germany are often at very advantageous prices. However, in general it is still fair to say that the FRG is less in need of "Inter German Trade" than is its partner.

Given these basic considerations, the FRG would seem to have been and to be in a better position to place trade with the GDR in the service of political objectives, while the GDR on the other hand "should" have been and should be interested in promoting trade without regard to political differences with the FRG. Also, the same considerations which would seem to encourage the GDR to seek trade with the FRG would also tend to make it vulnerable to West German trade policy manipulation.

But if economic conditions have been favorable for the use of trade by the FRG to achieve political objectives *vis-a-vis* the GDR, the translation of that advantage into political successes has not been easy or automatic. For one thing the "German Question" has not been an isolated problem in which only the Bonn and East Berlin Governments have had a vital interest. Rather, it has been at the heart of East-West controversy, at least until recently, and therefore subject to super power decisions and priorities. As a result, FRG attempts to use trade leverage against the GDR could only succeed to the extent that its Western allies were supportive, and only in-so-far as the GDR

was free to respond as desired and unable to activate counter-leverage from Moscow. It has also been true, at least since the early or mid-1950s, that economic leverage could achieve only limited results at best. That is, trade denial could and cannot bring about the collapse of the East German regime, since it has had the capacity as a member of the Socialist bloc to sustain itself and even to develop. Similarly, trade promotion or trade advantages have not been and are not so urgently needed as to force East German leaders into making whatever concessions are asked for.

A problem surfaces, moreover, as soon as one attempts to determine if trade leverage is sufficient—by itself or as part of a package—to achieve a certain end. Thus, though the threat of trade denial could hardly force the GDR into an unwanted reunification, whether such a ploy would be sufficient to preserve access to West Berlin has typically not been clear, at least prior to its being tried. The result has been that a continuous debate has gone on in the FRG over the utility of one trade move or another in obtaining political concessions from the GDR (or indeed from any of the other Socialist states).

A third barrier to effective FRG use of its economic position to secure political objectives *vis-a-vis* the GDR has been its own vulnerability on one very important matter. The presence of West Berlin well inside GDR territory has made access to the city dependent upon at least a modicum of GDR (and Soviet) good will, a point made particularly clear to West Germans by the 1948–1949 Berlin Blockade and by the 1958 Khrushchev ultimatum. Trade denial could bring about the at least partial or temporary isolation of West Berlin in retaliation.

Finally, effective use of economic leverage has at times been thwarted by internal inconsistencies in the FRG political objectives themselves. On the one hand, Bonn has opposed the very existence of the GDR, and has in some ways pursued trade policies designed to impede its stabilization. On the other hand, the FRG Government has also been committed to helping the German people living in the East. How it would be possible to aid the population without also contributing to GDR regime stability has not always been clear, nor has it been obvious that opposition to the GDR Government would have no adverse effect on the population subject to its control.

All of these considerations suggest that Bonn's use of economic leverage would require sophisticated judgments and would not likely lead to easy successes. The historical record would seem to bear out that expectation.

b. The Initial Years: Negative Linkage

The present system of FRG–GDR trade—“Inter-German Trade” is the terminology used by the FRG—has its roots in the Potsdam Agreement of July, 1945, when the Allied Powers decided that the zones of occupation, pending reunification, were to constitute a single economic area. Though that decision was in fact never fully realized, it was consistent with the interests of all German political leaders at the time. Initially, the traditional inter-dependence of the several zones implied that the exchange of goods between them was necessary

for reconstruction. Later, when the Western zones were united and began to show signs of revitalization, the by then fiction of economic union was seen in the West as an important reality which contributed to keeping the idea of reunification alive. The same consideration no doubt was also important in the East, but there continued economic need also dictated a policy of seeking the maintenance of existing ties with the Western zones.

The fact that the several occupied areas were formally integrated economically never resulted in the free and unimpeded flow of goods across zonal boundaries. Exchanges of goods were to take place only with the approval of the appropriate occupational authorities, though illegal trade no doubt was substantial.⁹ However, from the Potsdam Agreement was born the idea that trade within Germany was internal, and therefore not subject to the regulations controlling the country's foreign trade. Later after the formation of the FRG, Bonn continued (and continues) to treat its trade with the GDR (earlier the Soviet Occupation Zone) as internal commerce, and it has devised a separate set of regulations, procedures and institutions solely for that relationship. The GDR, on the other hand, has long considered its economic relations with the FRG as "foreign," though it has not refused to accept all advantages which flow from the FRG conception.

The logic of the Western viewpoint (that FRG trade with the GDR is domestic commerce) would seem to imply that the flow of goods between East and West German regions should generally be permitted if not promoted. However, as the "Cold War" took form and the two German states were proclaimed, mutual hostility largely—but not entirely—negated that implication. In particular, Bonn urged that it alone was a legitimate German government, and that only it could speak for Germans on both sides of the "Iron Curtain," all of whom desired reunification. That, in turn, could best be achieved by establishing and holding to a "Policy of Strength," which meant firmly resisting further "encroachment" by the Soviet Union (Containment) and by opposing the stabilization of the East German Government by all possible means short of war, including severe limitations on *Interzonenhandel*. This posture, as is well known, fit nicely with the strategy of the Western Alliance.

On the other hand, by assuming responsibility for the fate of all Germans and by seeking their betterment even before reunification, Bonn was limited in the extent to which it could oppose the Soviet installed government, for efforts designed to bring down the latter could well adversely affect the welfare of the people under its control.

Given these not entirely compatible considerations, the Adenauer Government pursued a middle course on "Inter-Zone Trade." Consistent with the "Policy of Strength," Bonn supported the U.S. inspired strategic embargo and in general took the view that all exchanges of goods were to be subject to strict controls. It also stipulated that the benefits of any trade must be mutual so as to

⁹ Initially, this was possible because of the general chaos which obtained, and because the relatively free flow of people between the "zones" provided an opportunity for them to carry small amounts of goods with them (termed *Rucksackverkehr*). Later, even as controls were more systematically imposed, illegal trade continued into the early 1950's, and estimates of the value of goods so exchanged range from 40-200 percent of the value of legal trade. See: Siegfried Kupper, *Der Innerdeutsche Handel* (Cologne: Markus-Verlagsgesellschaft, 1972), p. 8.

preclude the delivery of basic industrial goods eastward for less desirable consumer or luxury items in return. Further, agreements establishing the procedures and conditions of trade could not imply recognition of the government in the East.

On the other hand, within the limits of these conditions, trade with the "Zone" was to be supported to keep alive the idea of reunification, to contribute to the well-being of the people living there and to assure the preservation of the status of West Berlin. It was a measure of the great needs of the regime in the East that it was willing to trade with the FRG despite the limits attached, though particularly after 1951 not without continued protests.

The first agreement between the two Germanys, the so-called *Frankfurter Abkommen*¹⁰ of October, 1949, was consistent with FRG imposed conditions. To circumvent the problem of recognizing the "Soviet Zone" the agreement was negotiated between the "competent authorities of the West German Mark and East German Mark currency areas."¹¹ West Berlin's inclusion in the "West German Mark currency area" was specifically mentioned, which the West took to mean that agreement on the right to unimpaired access to the city had been obtained. Further stipulated was the condition that trade could only take place in goods and amounts as agreed to in implementing protocols, and that separate accounts for "hard" and "soft" goods were to be kept and individually balanced.

The *Frankfurter Abkommen* also established the procedures for making payments and maintaining accounts. No currency was to be exchanged, but rather, each partner to a transaction would make or receive payment to or from the bank of his own currency area.¹² Within the limits allowed for temporary imbalances (the so-called "Swing") payments to sellers by each bank were to match those received from buyers of the same currency area and to the same account, and were in any case not to exceed the value limits set in the protocols. The problem of setting an exchange rate was solved by establishing a special unit of reckoning (*Verrechnungseinheit* or *VE*) which in practice meant that all goods were priced in West Marks, while the fiction that East and West Marks were of equivalent value was maintained.

In actual practice, the Bonn government initially tilted more toward trade denial than toward trade promotion to aid the people living in the East. Legal trade, in fact, diminished during the early 1950s, though this was also partly a consequence of occasional delays in the delivery of GDR goods and because of recurrent political conflicts. Nevertheless, FRG leaders seemed convinced that trade denial best served their interests.

¹⁰ Earlier agreements had been reached between the individual Western Zones of Occupation and the Soviet Occupation Zone, and between the combined U.S. and British Zones and the Soviet Occupation Zone (The Mindener Abkommen of Jan. 1, 1947-Mar. 31, 1948). The Frankfurter Abkommen was followed by the Berliner Abkommen which went into force on May 4, 1952 and remains the basis of FRG-GDR trade to the present time.

¹¹ In 1949, the Bonn Government sponsored the formation of a quasi-public organization of the German Economic and Trade Council, to which it gave the competence to negotiate on all questions relating to trade with the East German Mark Currency Area. The organ, called the Treuhandstelle fuer den Interzonenhandel, was established in November of that year, and it continues its competence to the present time.

¹² In the Frankfurter Abkommen, the FRG bank was identified as "Die Bank deutscher Laender." Later, in the Berliner Abkommen, the Bundesbank replaced it.

There were, however, signs which almost immediately suggested that Bonn's strategic posture, including negative linkage, was not having the desired effect. Cut off from Western supplies of basic industrial goods, the GDR progressively increased its trade dependency on the Soviet Union and other socialist states. Far from bringing about the collapse of "the Zone," its Government, despite Western hostility, seemed increasingly in control. Already in 1951, the East German regime refused to accept a "Berlin Clause" (e.g., the explicit inclusion of West Berlin in the West Mark currency area) in the agreement being negotiated to replace the lapsing *Frankfurter Abkommen*, and by the mid-1950s, the GDR was insistently calling for a significant liberalization of FRG trade restrictions, actively encouraging West German businessmen to apply pressure on their own government toward the same end, and demanding that future agreements be reached between the two Governments themselves. On Bonn's domestic front, West German businessmen were becoming more and more impatient with the numerous impediments to trade, and the opposition Social Democratic Party became increasingly critical of government trade policy toward "the Zone."¹³

In the face of these pressures, the Adenauer Government reaffirmed the correctness of its policy.¹⁴ At the same time, a perceptible change in its emphasis also became apparent, a change which stressed trade expansion with East Berlin, so long as that was consistent with Bonn's other long standing conditions. Value limits on permitted trade were enlarged and in some cases eliminated, and licensing procedures were streamlined. The "swing," i.e., the imbalance permitted in the Banks' accounts for inter-German trade, was considerably expanded, from 20 million *Verrechnungseinheit* (West Marks) in 1950, to 200 million in 1959, and its use by the GDR as a quasi-permanent interest-free credit was permitted. In 1957 a new account was established to permit the GDR to make specified purchases for cash payments in hard currency. Finally, a special agreement to permit the exchange of GDR coal for iron and steel was concluded in 1958.

Nevertheless, the Bonn Government remained adamantly opposed to any basic modification of its policy. And, because East Berlin continued to assert the need for general trade liberalization, and after 1958 to hint that the status of West Berlin was under review (to say nothing of super power conflict on the matter), the decade drew to a close with considerable tension.

Tension grew into near crisis proportions when in 1960 the GDR began to require that West German visitors in East Berlin obtain passes prior to their entry into the Eastern sectors of the city, and refused any longer to give such passes to residents of West Berlin who held FRG passports. In protest, the Bonn Government on October 1 announced its intention to terminate, as of the end of the year, the agreement governing "Inter-German Trade."¹⁵

Though almost all political leaders in the FRG agreed with the decision, as the termination date neared it became apparent that the

¹³ On pressures from the business community see: *Der Tagesspiegel* (West Berlin) Nov. 14, 1951 and *Handelsblatt*, eDec. 5, 1955. On SPD attitudes see: *the Economist* (London) Nov. 12, 1955; and *Handelsblatt*, same date.

¹⁴ *Bulletin des Presse und Informationsdienstes der BRD*, Bonn, Nov. 24, 1955 and Feb. 27, 1957.

¹⁵ *Der Tagesspiegel* and *Die Welt*, Oct. 1, 1960.

threat of a trade cut-off could well result in greater damage to FRG interests than to those of the GDR, for access to and from West Berlin remained, as always, subject to East Berlin's whims.¹⁶ As one commentator noted, the East, not the West, held the longer lever.¹⁷ Hesitantly but inevitably, Bonn began to backtrack on its announced policy, and by the end of the year, the two sides quietly decided to extend the agreement. The FRG continued to assert that "Inter-German Trade" could take place only so long as the free access to West Berlin was assured, while the GDR contended that the two questions were unrelated.

c. Reconsideration and the Beginnings of Change

The 1960 crisis rather brought to the fore the whole question of the FRG's policy of total hostility toward the GDR. While initially after the founding of the FRG it was confidently assumed that time was on the side of the west, and that reunification would come with the progressive deterioration of the position of the East, it now seemed that time might well be on the side of the Soviet Bloc and that the division of Germany was progressively becoming more total and final. When in August 1961 the "Berlin Wall" was constructed and the West was powerless to stop it, the conclusion seemed inescapable that a shift in FRG *Ostpolitik* was necessary.

For many, the apparent need for change was particularly clear in the area of trade policy. Though it remained true that the GDR had the greater economic interest in trade with the FRG, it was also clear that trade denial or the threat of trade denial could effectively be countered by holding West Berlin "hostage" in one way or another.

Nevertheless, the movement away from earlier views in Government circles was slow. The Bonn Government in early 1961 introduced the so-called "*Widerrufsklausel*" (Revocation clause) to its regulations governing "Inter German Trade." This stipulated that licenses on "Hard Goods" (e.g., machinery) could be revoked when free access to West Berlin was impeded. And, while Bonn's spokesmen indicated a willingness to offer trade concessions (such as credit), the conditions they attached were unacceptable to the GDR.

The truth is that the leaders in East Berlin felt themselves to be less and less susceptible to FRG leverage in the form of trade restrictions. Supported by the USSR, they were increasingly confident of their own long term political prospects, whatever FRG trade policy happened to be. In fact, they even saw political advantage in minimal contact with West Germany and costs in an expansion of those contacts. Consequently, while the GDR wanted trade expansion with the FRG, it was not prepared to pay a significant price for it, and it rejected the linking of trade to political concessions as "immoral."¹⁸

In the end, while some trade promotion policies were undertaken by Bonn, most notably the granting of medium term credits, and East Berlin reciprocated with minimal political concessions (e.g., the release of some 10,000 prisoners, including those being punished for

¹⁶ *Die Welt*, December 21, 1960.

¹⁷ Quoted in: Kupper, *Der Innerdeutsche Handel*, p. 28.

¹⁸ See speech by Secretary Ulbricht at the VI: Sozialistischen Einheitspartei Deutschlands Congress as reported in: *Neues Deutschland* (East Berlin), January 16, 1963.

political crimes), the period was one of continuous dispute over commercial relations. The GDR demanded a state to state trade agreement, revocation of the *Widerrufsklausel*, elimination of FRG imposed quotas and other administrative restrictions, and the decoupling of trade from political objectives.¹⁹ Bonn in each case refused to concede the demands.

d. From Trade Promotion to Entspannung

In late 1966, the so-called "Grand Coalition" headed by Chancellor Kiesinger and Vice Chancellor Brandt came to power in the FRG, and immediately articulated a policy of seeking improvement in relations with Socialist bloc states, and a reduction in tensions *vis-a-vis* the GDR. Since political concessions to the GDR were excluded, trade advantages were seen as a major vehicle for this conciliatory move toward East Berlin, which, it was hoped would at least lead to agreements on technical non-political matters and to increased opportunities for people to people contacts.

In the succeeding months and years, Bonn unilaterally introduced a series of actions supporting trade expansion with the GDR, both as a show of good faith, and also to obtain political concessions in return. These included:

(1) Extension of government credit guarantees to the sale of investment goods (March, 1967) and support for the establishment of a credit-granting corporation to provide bank credit for such sales (May, 1967);

(2) Withdrawal of the controversial *Widerrufsklausel* (August, 1967);

(3) Elimination of the separate accounts for hard and soft goods, thereby permitting any and all GDR deliveries to be balanced against its purchases (August, 1967);

(4) Expansion of the quotas for machinery, motor vehicles and electrical products (August, 1967 and December, 1968);

(5) Exemption of FRG deliveries to the GDR from the Value-Added Tax imposed on all other goods sold on the "domestic" market, and a reduction in the rate of the same tax on GDR deliveries (September, 1967);

(6) Simplification of the licensing procedures and in some cases making general licenses available (May, 1968);

(7) Expansion of the special cash payment account from 100 million to 200 million West Marks (September, 1966); and

(8) Further expansion of the "Swing" from 200 million *VE* (West Marks) to the equivalent of 25% of the value of FRG deliveries for the previous year, and dropping the requirement that the accounts be balanced each year (Summer, 1968 and December, 1968). By any measure, these were significant concessions, and they no doubt account in good part for the mammoth jump in FRG exports in 1969 (58.6% over 1968) and following.

Nevertheless, the years of the "Grand Coalition" were marked by no reduction in political tension between the two German states. If anything, East Berlin became more critical and intransigent in its posture

¹⁹ For catalogue of GDR demands, see: *Die Volkswirt* (Frankfurt a/M, July 5, 1963).

toward the FRG and made no counter concessions either to relax restrictions on contact between East and West Germans, or to give assurances of FRG access to West Berlin.²⁰

It is tempting to assume that the "Inter German" trade policy of the Kiesinger Government shows the futility of positive linkage, since such significant concessions brought no tangible beneficial results. However, another explanation probably has more validity. Though Bonn sought only limited objectives from its trade moves, its strategic posture remained basically hostile to the GDR. As Chancellor Kiesinger made clear in his December 1966 speech to the Bundestag, there was still, in his view, only one legitimate German government, and only the people in the West were free.²¹ Isolation of the GDR, if not the intent behind the policy of the Grand Coalition, clearly was its logical consequence, and the Ulbricht Government was hardly acting irrationally when it responded with some venom.

In retrospect, the reasons for the GDR response to Bonn's trade concessions are not difficult to identify, nor were they insubstantial. East Berlin's demand was for recognition as a legitimate second German state, and its allegation was that Bonn was attempting to isolate the GDR from other CMEA countries by offering them trade concessions and recognition while still not recognizing the GDR. Its fear was that Bonn might succeed, particularly when Romania agreed to exchange ambassadors in 1967 and Czechoslovakia under Dubcek also responded favorably and vigorously to the new FRG *Ostpolitik*. Against these dangers, trade expansion was a trivial matter.

In September, 1969, elections in the FRG resulted in the formation of a coalition government headed by Social Democrat Willy Brandt and Free Democrat Walter Scheel. Together, they fashioned an *Ostpolitik* which was sharply different from that of their predecessors. It led to major agreements with the USSR, Poland, Czechoslovakia and the GDR. Nevertheless, trade concessions to the GDR and the other Socialist states remained an integral part of the new initiative.

Brandt set the tone almost immediately in his statement to the Bundestag in late October, when he acknowledged that two German states in fact existed, and implied that FRG policy must be based upon the acceptance of that reality. Shortly thereafter, he called for a relationship between the two German states which would be governed by such "normal" principles as mutual respect by each party for the territorial integrity of the other, the commitment to settle outstanding issues by peaceful means, and the mutual non-involvement in the internal affairs of the other party. The Chancellor also insisted, however, that GDR-FRG relations were special and unique, since their peoples indisputably comprised one nation. Hence, Bonn could not consider the GDR as a "foreign" country.²²

The complex strategy of Brandt's *Ostpolitik*, as well as the difficult process of its implementation cannot be considered here in any comprehensive fashion. It must be noted, however, that Brandt was offering the GDR (and the Socialist bloc) most if its (their) demands.

²⁰ For a fairly typical GDR analysis of FRG-GDR relations at that time, see October 13, 1967 speech by Secretary Ulbricht as reported in: *Neues Deutschland*, October 13, 1967.

²¹ See: "Regierungserklärung" in: *Bundesministerium fuer Gesamtdeutsche Fragen, Texte Zur Deutschlandpolitik* (Volume I), pp. 20-21.

²² In: *Texte zur Deutschlandpolitik*, Vol. IV, pp. 11-13.

In return, he required a satisfactory guarantee of the special status of West Berlin, including the right of access to it over GDR territory, the mutual commitment to the promotion of contact between the peoples of the two Germanys, and the acknowledgment (or tacit acceptance) of Bonn's hope for an eventual peaceful German reunification.

Behind this set of proposals was a sober appraisal of Bonn's bargaining position. While reunification remained the ultimate objective—the Basic Law or Constitution itself calls for it—Germany was clearly divided and would remain so for the foreseeable future. With the passage of time, the division was becoming more and more permanent and complete, a trend to which the longstanding position of FRG hostility toward the GDR was unfortunately contributing. Bonn's only hope was that the existing partition of Europe into hostile camps would ultimately break down and that in an improved political atmosphere, German reunification would cease being a threat to either the East or the West. A policy of *Entspannung* or detente would best promote that favorable evolution.

Trade promotion with the GDR (as well as with other Socialist states) was an important though subsidiary aspect of Brandt's *Ostpolitik*. Economic ties were a form of practical contact which was advantageous to the GDR (and other CMEA states) and would therefore provide an inducement for the East Berlin regime and its allies both to accept Bonn's new general posture and to reach agreement on other specific outstanding issues. Trade expansion would also give content to a more amicable relationship which might over time evolve along desired lines. Finally, economic interaction would increase contact between Germans on both sides of the border, and could also benefit the people living in the East. Thus Brandt, very soon after his installation as Chancellor, hailed the previous expansion of "Inter German Trade" and called for its further development.

Since trade promotion had been the policy of the Grand Coalition, Brandt's *Ostpolitik* brought no significant technical or administrative changes in that area. In fact, most possible steps had already been taken. Nevertheless, the range of products sold to the GDR under general licenses was increased (November, 1969), and quotas on GDR deliveries were in most cases removed or progressively enlarged. In addition, in a move designed to promote a better balance in FRG-GDR trade, Bonn imposed a 6% Value Added Tax on FRG non-agricultural deliveries and services to the GDR, and gave an 11% rebate on GDR services and non-agricultural exports purchased in the FRG (May, 1970). Later in the year, these figures were slightly adjusted. Moreover, a number of agreements providing FRG hard currency payments for such things as highway construction and railway bed maintenance and improvement were concluded.

In the years since Brandt's *Ostpolitik* was articulated, it has been subjected to considerable domestic criticism.²³ The thrust of that criticism is that too much was conceded for too little in return. In the specific area of FRG-GDR trade, the charges have been basically the same.²⁴ Though no attempt will be made here to judge such criticisms

²³ For a comprehensive set of debates over *Ostpolitik* see the entire series of *Texte Zur Deutschlandpolitik*, which is presently comprised of Volumes 1-12 and 11-1-11-5).

²⁴ For a particularly good presentation of a conservative critique of present FRG trade policy, see: Karl C. Thalheim "Die Bedeutung der 'neuen Ostpolitik' fuer die Wirtschaftsbeziehungen zwischen der Bundesrepublik Deutschland und der DDR," in: Stefan Graf Bethlen, *Osthandel in der Krise* (Munich: Guenter Olzog Verlag, 1976), pp. 29-64.

on their merits, it is appropriate to note that out of the debate a number of calculations have been made which attempt to ascertain the scope of the financial benefits received by the GDR as a result of its special economic ties with the FRG. In 1970, the *Industriekurier* published the following estimates: ²⁵

	<i>Million West Marks</i>
Annual savings on the interest-free "Swing"-----	15-25
Annual gain from agricultural sales at subsidized prices-----	150
Annual savings on nonassessment of tariffs-----	140
Annual savings on nonimposition of value-added tax-----	130

Presumably these benefits have increased commensurately with the expansion of trade. The figures do not include transit, visa and other fees received by the GDR (estimated by the Government at about 4.5 billion West Marks for the years 1970-1977),²⁶ or under-the-table payments for the release to the West of GDR political prisoners (reported to have totaled 1 billion West Marks by late 1977).²⁷ Though these are rough estimates, at least in some cases, they give a clear indication that the economic advantages the GDR has received in good part from its special relationship have been very substantial.

The GDR has never officially admitted that it has received special trade considerations or advantages from the FRG. Nevertheless, East Berlin agreed to a normalization of relations with Bonn without obtaining its longstanding demand for full recognition, and it is difficult to conclude that the economic advantages it would preserve through the maintenance of its special ties were unimportant in its calculations. On the other hand, there is also evidence that the USSR encouraged East Berlin to accept the package as offered, and that that encouragement had some effect. Finally, it is also probable that GDR leaders calculated that Brandt's offer gave them most of their demands and that a refusal would set their quest for international recognition back, at least for a time.

In any case, a protocol to the Basic Treaty (between the GDR and the FRG) stipulated that "Trade between the Federal Republic of Germany and the German Democratic Republic should be developed on the basis of existing agreements,"²⁸ and Party General Secretary Honecker acknowledged shortly thereafter that his government was willing to agree to this "special wish" of the Bonn government since it too had no desire to reduce trade with the FRG.²⁹

It is much too early to determine the overall success of the Brandt-Schmidt *Ostpolitik*, either in its entirety or as it relates to the GDR. The record is still sketchy and mixed. On the one hand, East Berlin has pursued a general policy of maintaining a certain distance from the FRG (*Politik der Abgrenzung*), and the 1970s have not been without conflict and tensions between the two German states.³⁰ Reunification

²⁵ *Industrie Kurier* (Duesseldorf), April 21, 1970. It should be noted that estimates such as the one cited have political implications. High estimates of the benefits received by the GDR, particularly by sources usually critical of the SPD's *Ostpolitik*, lay the basis for contending that the FRG pays off the GDR endlessly, while it receives nothing significant in return (e.g., the "Berlin wall" remains an obstacle to the free flow of East Germans westward).

²⁶ As reported in: *Tagesspiegel*, March 1, 1978.

²⁷ See: *Die Welt*, September 20, 1977.

²⁸ Published in: Press and Information Office of the Government of the Federal Republic of Germany, Documents relating to the Federal Government's Policy of Détente, p. 76.

²⁹ Interview with New York Times Columnist C. L. Sulzberger, printed in: *Neues Deutschland*, Nov. 25, 1972.

³⁰ For a recent GDR evaluation of FRG policies in the 1970's, see: Hans Teller, *Der kalte Krieg gegen die DDR* (East Berlin: Akademie-Verlag, 1979), pp. ix-xiv.

as envisaged in the West remains but a distant dream. On the other hand, agreements have been reached and implemented which have vastly improved access to and from West Berlin, and have greatly increased the possibilities of contact between East and West Germans.³¹ Whether such contacts will keep alive the idea of "One German Nation" is not clear at this writing.

IV. FRG-GDR TRADE AND THE COMMON MARKET³²

To this point, FRG-GDR economic relations have been considered as essentially a bilateral matter. The fact is, of course, that each state belongs to an international economic organization, and that the ties of each—the FRG to the European Economic Community (EEC) and the GDR to the Council of Mutual Economic Assistance (CMEA)—have been complicated by this special inter-German relationship. At least on the basis of the available evidence, the GDR's advantages *vis-a-vis* the FRG have caused it no serious problems within the CMEA; resentment among the "unprivileged" CMEA members has been expressed, but that has been a small price to pay for the economic benefits East Berlin has received. For the FRG, on the other hand, reconciliation of its ties to the Common Market with its economic and political policies toward the GDR has not been easy, as the following discussion will make clear.

Tensions between the FRG and other EEC members have been of two sorts. On the one hand, the special privileges accorded East Berlin have raised a generalized EEC-wide concern that the GDR in fact is a ninth (earlier a seventh) "member" of the Common Market and that Bonn has opened a breach in the Common Market wall through which otherwise restricted or dutied goods can "freely" pass. On the other hand, as part of its policy of keeping the GDR isolated internationally, the FRG, until recently, attempted to restrict contacts between East Berlin and the EEC and/or its individual members. These efforts have not always been favorably received in other West European capitals.

a. The GDR as "Member" of the EEC

When the EEC was founded in 1957, the inter-German relationship was already fully in place and generally accepted in the West. Though some opposition to making an exception to the normal EEC regulations and limitations on commerce with non-members was voiced,³³ a special protocol was attached to the Rome Agreement which provided that the system of "Inter-German Trade" would remain unaffected by Common Market regulations. For example, EEC quota or tariff restrictions were not to apply to GDR deliveries to the FRG. In addi-

³¹ According to FRG figures, more than six million West Germans have visited the GDR annually over the past five years, not including one day visitors to East Berlin. This is up from about 1,200 in 1970 and 1971. GDR visitors in the FRG have risen from none in 1970 (not including retirees who may freely travel to the West) to approximately 40,000 for each of the past five years. See: *Zahlenspiegel*, p. 97.

³² Much of the material for this section is drawn from the excellent contribution by Claus-Dieter Ehlermann in: *Handelspartner DDR* entitled: "Innerdeutsche Wirtschaftsbeziehungen und Europäische Gemeinschaft," pp. 205-262. A second important, though somewhat polemical, source is: Reinhold Biskup, *Deutschlands offene Handelsgrenze* (Frankfurt a/M: Verlag Ullstein GmbH, 1976).

³³ See: *Die Frankfurter Allgemeine Zeitung*, March 4, 1957.

tion, the FRG was free to determine the conditions under which its trade with the GDR would take place without obtaining EEC concurrence, so long as the "existing system" remained intact.

Over the year, many complaints have been raised about the granting of this special exception. One problem identified has been that of restricting "free" entry into the FRG only, and for only GDR-produced goods. Since the GDR is after all a relatively small state with limited economic capacity, its shipments to the FRG ordinarily ought not to be particularly disruptive of the entire Common Market area. If, however, the GDR were to become a funnel for goods produced throughout the CMEA, and were the goods then circulated throughout the Common Market, the impact could be far more serious. Moreover, other CMEA members would then have little incentive to seek trade agreements with the EEC itself.

To guard against the more serious possibility, the FRG Economics Ministry established procedures to determine the origin (place of production) of GDR deliveries, and to make certain the goods received were for FRG end-users. Nevertheless, with bulk goods like sugar or potatoes, their origin might not be easy to determine, to say nothing of cases in which GDR goods produced for home use might be replaced by foreign substitutes, thus making them available for the FRG market. Similarly, their subsequent distribution throughout the EEC would be difficult to monitor. Periodic reports of such cases in which the GDR acted as middleman have appeared in newspaper accounts. Thus, speculation that the practice is or can become widespread continues.

Another complaint centers on the allegation that the GDR benefits unduly from tariff-free access to the FRG market for its non-agricultural goods, and from the subsidized price levels the Common Market maintains for agricultural products. These opportunities not only make GDR sales particularly profitable—perhaps so profitable as to encourage the practice of substitution just described—but also they could reduce marketing chances in the FRG for other EEC members. With agricultural goods, GDR sales thus "subsidized" could add to surpluses within the EEC. One can even envisage the possibility of the GDR delivering goods such as butter for higher than world market (EEC) prices and then buying the same product back from an EEC source at lower (world market) prices.

Whatever the merits of these arguments, and however significant the adverse impact of the inflow of GDR products on the EEC, the Common Market was committed to making the exception at the time of its creation in 1957. However, when the two German states signed and ratified their Basic Treaty of 1972, it would seem that Bonn's claim to its special GDR tie would have lost its validity. After all, Bonn had "recognized" the GDR—though not as a foreign state to be sure; both Germanys entered the UN, and East Berlin soon exchanged ambassadors with most of the countries of the world. Even the Basic Treaty itself provided that FRG-GDR ties would be based on the principle of mutual equality. In short, the GDR was no longer considered by Bonn to be the "Soviet Occupation Zone."

Nevertheless, political reality does not necessarily correspond with common sense appraisals. In this case, neither Chancellor Brandt nor

his successor Helmut Schmidt was willing to give up his stated view that "Inter German Trade" was unique, that the system continued unchanged by the signing of the Basic Treaty, and that it was so recognized in the agreement itself. Had the other EEC members not accepted this view, a serious crisis in the Community would surely have resulted.

Apparently no one thought the issue was of sufficient importance to raise a serious objection, though some members would have preferred the "normalization" of FRG-GDR trade over time.³⁴ Consequently, Bonn was successful in asserting that the existing framework for FRG-GDR economic relations had been unaffected by the Basic Treaty. Thus, the extent to which GDR goods are advantaged and EEC domestic producers are damaged is still an open question.

Assertions abound that the advantages are significant and that they could and probably will further increase. At least one study has attempted to measure the benefits accrued by the East Germans,³⁵ and another has shown that the structure of GDR-FRG exchanges has been shaped in part by the special advantages the GDR receives.³⁶ Yet, both because it is technically very difficult to determine and then apportion the specific dimensions of what clearly have been mutual benefits, and because the issue is politically sensitive, clarification of the matter has been elusive, and the fears have persisted.

Comparisons of FRG-GDR trade with GDR-EEC trade strongly suggest that the special GDR access is significant. This is particularly the case with GDR exports of textiles (an EEC protected area) where FRG imports are well above those of all other Common Market countries combined. On the other hand, the GDR has not been able to take comparable advantage of its access to the FRG market in its sales of machinery and finished products, as is shown in the figures in table XIV.

TABLE XIV.—GERMAN DEMOCRATIC REPUBLIC EXPORTS IN TEXTILES, AGRICULTURAL PRODUCTS AND MACHINERY/FINISHED PRODUCTS TO THE FEDERAL REPUBLIC OF GERMANY AND SELECTED EEC MEMBER STATES

[In percent of total German Democratic Republic exports to each respective state]

	Textiles					Agricultural products					Machinery/finished goods				
	1973	1974	1975	1976	1977	1973	1974	1975	1976	1977	1973	1974	1975	1976	1977
France.....	4	5	5	6	8	36	27	37	38	23	34	34	21	22	29
Great Britain.....	4	3	5	4	NA	NA	7	6	3	6	14	16	14	15	12
Italy.....	3	3	2	5	6	51	42	44	34	4	13	12	15	15	20
Netherlands.....	11	13	10	9	9	9	9	8	7	8	27	30	30	28	24
Federal Republic of Germany.....	18	18	20	19	19	23	17	18	17	16	10	10	10	11	11

Source: "Bericht ueber den innerdeutschen Handel und den Assenhandel der DDR" (12. and 13. Bericht). "Statistisches Jahrbuch fuer die Bundesrepublik Detuschland" (various years).

But while the GDR has benefited by its access to the FRG market, it is also important to note that relatively insignificant and stable amounts have been involved. After all, the extent of the GDR "membership" in the Common Market can be no greater than the total turn-

³⁴ Ibid., January 9, 1973.

³⁵ See: Deutschlands offene Handelsgranze.

³⁶ Sighart Nehring, "Praeferenzen und DDR-Exportstruktur in Innerdeutschen Handel" Weltwirtschaftliches Archiv. (Band 114) Heft 2, 1978.

over in its FRG trade, which, it will be remembered, has recently been less than 2 percent of West Germany's total foreign trade. In the controversial area of textiles, the GDR's share of FRG total imports is only about 5 percent. To date, the Common Market has not been saturated with GDR (or CMEA) products.

For the foreseeable future, the importance of the GDR advantage and the threat of consequent disruptions within the EEC are not likely to increase. For one thing, the FRG is not likely to expand its percentage of the GDR's total trade in the medium run. East Berlin's terms of trade within CMEA have significantly deteriorated in recent years, which in turn has necessitated the expansion of its exports in that direction. An increase in its trade with third world countries is also planned.³⁷ Consequently, the segment of total trade remaining for the FRG and the West is very probably going to be less rather than more, so that increases in GDR/FRG trade can materialize only as a function of overall economic growth and/or general trade expansion.

Second, the GDR has had and maintains a real interest in diversifying its economic ties with "Capitalist" countries. It has feared economic dependency on the FRG and has moved toward expanding the trade shares of other market economies. In fact, one continuing source of irritation expressed by FRG government officials stems from the fact that hard currency payments to the GDR by both the Bonn Government and FRG citizens have largely been used to expand purchases from other Western suppliers.³⁸

Third, even with its privileged status, GDR opportunities to increase its exports to the FRG have been and are likely to remain limited. The already important deliveries of agricultural goods can only be further expanded as productive capacity is increased and domestic needs are met. Increased sales of textiles and clothing are limited by FRG-imposed quotas or the threat of their reimposition, and West German textile interests have been particularly fearful of the further deterioration of their market position. They have also been politically active in the protection of their existing sales opportunities. Finally, even with the absence of tariffs, and in fact, even with FRG buyers being given rebates on their purchases, GDR sales of finished products have not been a smashing success. As noted earlier, their importance has declined significantly over the last decade, with only a very small reversal of that trend coming in the past two or three years. Thus, it is difficult to see where dramatic increases in GDR sales might come, especially in EEC controlled or protected product areas.

Fourth, though some would deny it, Bonn has been and is nearly certain to remain sensitive to the adverse impact of sudden or significant changes in FRG-GDR trade levels. West German Government officials are well aware that their special GDR ties are only grudgingly accepted by the other members of the Common Market, and that toleration exists in part because other EEC members are not significantly damaged thereby. Should the level of disadvantage increase, grudging acceptance might change to opposition and then result in political ten-

³⁷ Most GDR economists with whom the author met in May-June, 1979 predicted that trade with "Developing" countries would double in importance within the next five years. It presently is approximately 5.2 percent of GDR total trade.

³⁸ FRG estimates are that the GDR obtains from $\frac{1}{2}$ to one billion West Marks annually from these sources.

sion. On the home front, competing producers are also ready to protest loudly and effectively about "market disturbances."

If this analysis is correct, a complex but rather stable equilibrium has been achieved between the FRG-GDR tie and Bonn's EEC connection. Involved is implicit understanding between the FRG and the other Common Market members that the GDR's advantages will not be further expanded in ways detrimental to their interests. That understanding is supported by the limits to which the GDR could effect a change, and by East Berlin's fundamental political and economic interest in promoting normal trade relations with the other EEC member states.

b. The GDR as a "Third Country"

As noted earlier, the FRG not only sought EEC recognition and acceptance of its special economic relationship to the GDR, but also it attempted to restrict or even prohibit direct Common Market-GDR economic ties. Moreover, it generally attempted to discourage trade relations between the GDR and other Common Market members, or at least to be assured that GDR commercial opportunities with them would not be provided under advantageous conditions. Though this facet of Bonn's policy has recently been superseded, a brief description of what transpired prior to 1974 is in order.

Bonn's concerns about EEC and EEC member ties with the GDR first became active in the early 1960s, when the process of transferring authority over trade matters from individual members to the Community began. Thus, when in 1961 the EEC Council decided that Community members could conclude agreements with CPEs running through the end of 1965 (but no longer), the FRG was able to obtain the exclusion of the "Soviet Occupation Zone" from the (unpublished) list of countries affected, thus receiving Community concurrence on the special status of the GDR. On the other hand the Federal Republic had no objection to the GDR's *de facto* inclusion under the provisions of the decision, since that resulted in limiting East Berlin's ability to establish and preserve bilateral ties with EEC members.

The more controversial question, however, related to the sale of agricultural products to the GDR. In 1961, as the EEC developed an area-wide agricultural policy, it created an organ to regulate the flow of agricultural products between the Community and "third countries." The regulations it was empowered to execute stipulated that agricultural imports from "third countries" were to be assessed an excise tax (since EEC prices were protected at higher than world levels) and that exporters of such goods to "third countries" were to be subsidized to compensate for the lower prices they received. Funds for the subsidy were to be partly contributed by the member states.

In 1965, Bonn announced that in its view the "Soviet Occupation Zone" was not a "third country," as that term was used in the EEC regulations. Consequently, sales from the Common Market area to it could not be EEC subsidized. When the Community organ initially refused to accept this interpretation, the FRG declared that it would withhold its contribution to the subsidy fund, thus forcing a com-

promise. The compromise ruling that resulted stated that the "Soviet Occupation Zone" was not a "third country," and that its agricultural purchases could not be EEC subsidized. However, EEC members, in consultation with Bonn, might adopt their own system of compensatory payments to their own exporters of such goods.

As with the 1961 exclusion noted above, the FRG also objected on other occasions to the explicit mention of the "Soviet Occupation Zone" in Common Market Regulations when that mention would indicate that the GDR was to be treated in a "normal" manner. Thus, in a supplement to a 1966 EEC resolution which effected the transfer of authority to levy tariff and import taxes from individual members to the EEC itself, the GDR was not included on any of the lists which set the Community wide tax or tariff levels. Similarly, in 1969, general regulations covering EEC imports from CPEs again excluded the GDR from the list of those covered by its provisions. As with agricultural subsidies, individual members were faced with the need to develop their own controlling machinery, though the extent to which Bonn acted as an interested party in those developments is not clear.

In at least one instance, Bonn sought and obtained an understanding from other EEC members as to the conditions of their own bilateral trade ties to the GDR. That was over the matter of credit policy, where Bonn reached an explicit understanding that such guarantees would not be given for periods of more than five years.

It is clear then, that, prior to the signing of the *Basic Agreement*, the FRG sought to impede the recognition of the GDR as a "third country" as well as the development of trade ties between the other members of the Common Market and the GDR, and that it was often able to obtain the desired results, at least formally and publicly. Though trade losses to the GDR were probably not very significant, it is understandable that East Berlin's leaders were incensed by such apparently hostile actions.³⁰

With normalization of FRG-GDR relations, Bonn dropped its objections to GDR-EEC ties. By 1974, the Common Market determined that the GDR was indeed a "third country" so that subsidies on the sale of agricultural goods to it would be given, tariffs and import taxes on GDR deliveries would be imposed, and the EEC could assume sole competence to negotiate trade agreements with the GDR as with other states. For a time, France contested this interpretation, apparently because it was considering the prospect of negotiating a trade accord of its own with East Berlin. However, within a year, it withdrew its objection, and at least this problem was laid to rest.

V. CONCLUSION AND PROSPECTS

The protocol on the framework for the relations between the FRG and the GDR which the two German states attached to the Basic Treaty of December 21, 1972, stipulates that: "The FRG and the GDR

³⁰ In 1970, on the occasion of the Erfurt meeting of Chancellor Brandt and Premier Stoph, the latter asserted that the FRG's Wirtschaftskrieg (economic warfare) had placed an estimated burden of 100 billion (East) marks on the GDR. Of course, only a small part of that "cost" resulted from Bonn's efforts to keep the GDR isolated from EEC contacts. See: Neues Deutschland, March 20, 1970.

will conclude long term agreements with a view to promoting a continuous development of economic relations, adapting outmoded arrangements and improving the structure of Trade." ⁴⁰ Since that time, however, trade between them has expanded at disappointing rates, particularly over the past three years, and a brisk debate over the reasons for that stagnation has been taking place.

The GDR position is that the prospects for trade expansion would be good (10% annual increase, according to one Foreign Ministry of Trade source) ⁴¹ if the FRG obstructions to trade would be removed. Partly, these obstructions are said to be the quota limitations retained by the Bonn Government. "Though the Government in Bonn crows about the fact that it has 'liberalized' (i.e., removed quotas) on over 90% of the kinds of goods it imports from the GDR," said one informed GDR observer to the author, "the fact is that approximately 30% of our exports to the FRG by value are still under quota restrictions." ⁴² Part of the responsibility is also said to be the inflexibility of West German buyers, who too often are unwilling to consider seriously the purchase of GDR industrial machinery. Finally, some blame falls on the nature of the Western market, where inflation and cyclical fluctuations create uncertainty in the market-place. ⁴³

The FRG explanation for the recent stagnation in its GDR trade stresses the increasing constraints on the GDR's ability to deliver marketable goods to West German buyers. This, it is said, is a function of greater GDR intra-CMEA obligations and of a diminishing rate of its economic growth. A third element is said to be inferior East German product quality, particularly in the sector of finished goods. As to the oft heard charge that protectionism is still a problem, Bonn's spokesmen repeat that all but a few products are "liberalized" and that it is simply not realistic, politically, to expect further "liberalization" on such sensitive items as textiles, and iron and steel. The GDR "should" be flexible enough to expand their export capabilities in the unrestricted product areas. ⁴⁴

No doubt both sides are at least partially correct. FRG quota restrictions are a continuing limitation on trade, and GDR successes in the sale of some industrial products to other EEC countries, despite tariffs, suggests that their finished goods might be more competitive than is often thought in the FRG. On the other hand, the GDR's domestic economic and intra-CMEA problems which are real and in fact admitted in East Berlin, can only impinge negatively on FRG-GDR trade. Also, "liberalization" has been comprehensive if not complete, and it seems not entirely reasonable to charge the West Germans with protectionism; developing increased export capabilities in unrestricted product lines would seem a more useful and appropriate strategy.

For the future, the signs are somewhat mixed as to the opportunities for significant trade expansion. On the one hand, given the near certainty that the GDR will face continuing economic problems because of the high cost of petroleum and the raw materials it requires, and

⁴⁰ In: Documents Relating to the Federal Government's Policy of Detente, p. 76.

⁴¹ As reported in: Ost-West—Kooperation Aktuell (West Berlin: Informationsdienst des Internationalen Zentrums fuer Ost-West Kooperation e.V.), November 29, 1979.

⁴² Interview with author on June 7, 1979.

⁴³ See: Neues Deutschland, March 29, 1978.

⁴⁴ Interview with author, June 19, 1979.

because lower than heretofore GDR growth rates seem to be in the offing, low rates of trade expansion with the FRG are apparently in prospect. The same conclusion would also seem to obtain from the fact that further "liberalization" of restricted products as well as expanded credit opportunities for East Berlin are not likely.

On the other hand, spokesmen for both sides are currently expressing a guarded optimism about the medium run future. An official from the GDR Foreign Trade Ministry in October 1979, took hope from a generally "more positive" West German posture. The signs seen as significant included greater FRG willingness to purchase industrial products, to enter into compensation deals, and to cooperate in joint projects in third countries. Also noted with approval was the enlargement of quota limits on some restricted goods.⁴⁵

Economics Ministry representatives in Bonn cite the apparently good prospects for the prompt conclusion of several large deals in 1980-81 as the basis for their optimism; such agreements, when added to the stable flow of goods in both directions, could promote a phase of expansion for several years to come.⁴⁶ Both sides note as potentially very significant a September 1979 agreement in the energy area: under its provisions, the GDR will receive petroleum and coal in exchange for gasoline and similar products for delivery to West Berlin. The advantages to both sides are obvious; the GDR will obtain petroleum without parting with hard currency, while the FRG has assured West Berlin of much needed supplies.⁴⁷

This mildly optimistic outlook for the future assumes a stable political relationship between the two German states, and between the East and the West as well. With the recent heightening of tensions between the U.S. and the U.S.S.R., that assumption has become somewhat more questionable.

It has been a thesis of this paper that political relationships between the FRG and the GDR have been closely linked to their mutual economic and commercial ties. Yet, that linkage has become very complex and inexact, and a worsening political environment will probably not lead automatically to a sharp drop in trade between the two German states. Both parties now have an important stake in the preservation of their economic ties, and for both political and economic reasons. Short of truly crisis conditions, neither is likely to assume it has an alternative to continuation of the existing commercial relationship.

At the same time, East-West tensions can hardly contribute to FRG-GDR trade expansion. The fact that present trade levels have been achieved in part by special FRG trade concessions. Further expansion will require a continued benevolence on Bonn's part. That posture, however, could well be eroded by a combination of U.S. pressure and a shift in public attitudes in this FRG election year.

For its part, GDR developmental strategy must also take account of the long term political outlook. East Berlin is unlikely to plan for and seek trade expansion and economic cooperation with the FRG in the face of a collapsing détente. Rather, its leaders in that case would

⁴⁵ See: Ost-West Kooperation Aktuell.

⁴⁶ The author is indebted to Mr. Ronald Oechaler, Bureau of East-West Trade, U.S. Department of Commerce, for providing résumés of interviews he conducted with FRG Economics Ministry officials in December 1979, from which this information was derived.

⁴⁷ See: Ibid., and Ost-West Kooperation Aktuell.

likely allow FRG-GDR economic ties to continue on their own momentum. Trade levels would then probably stagnate or even drop as new major contracts would in that case not actively be sought.

It remains, finally, to comment on the utility of a linkage strategy as shown in the FRG experience. A number of generalizations seem warranted:

It should be noted initially, that official and/or public rejection of linkage might nevertheless simply conceal its *de facto* acceptance. For example, while the GDR consistently refused formally to guarantee FRG access to West Berlin as a part of FRG-GDR trade agreements, it is almost certain that the conditional threat to cut off trade (e.g., by invoking the *Widerrufsklausel*) had some deterrent effect as East Berlin considered its options in dealing with the "Berlin problem." More generally, while the GDR has always denied receiving special economic advantages in its FRG trade in return for political concessions, in practice it appears that such trade-offs have been tacitly and consciously accepted. In fact, the author was told on more than one occasion by knowledgeable East Germans that their government's strategy *vis-a-vis* the FRG was to extract maximum economic advantage for minimum political costs.

As to the question of utility itself, it seems clear first of all that the use of trade policy and/or practice to achieve other political ends is not likely to succeed when the ends sought menace the fundamental interests of the other party involved. In the FRG-GDR case, whatever the content of West German trade policy, so long as its purpose was to obtain (or to contribute to) the reunification of the two Germanys on Bonn's terms, it was bound to fail. It could hardly have been otherwise, given the imbalance between the concession sought and the inducement offered. Trade with the FRG has been important for the GDR, but not vital. Successful linkage, then, would normally seem to require a balance between what is given (or threatened) and what is to be obtained in return.

Second, even when the linkage decided upon is roughly symmetrical (e.g., trade expansion for assured FRG access to West Berlin), the trade partner to whom the *quid pro quo* is offered is likely to consider the general state of mutual relations as it decides on its response. This was most obviously the case in the German trading relationship in the late 1960s, or during the period the Kiesinger-Brandt Government was in power. Though dramatic improvements in trade opportunities were given by Bonn in the hope of obtaining GDR concessions and cooperation in technical and non-political areas, East Berlin gave no positive response and chose instead to propose a linkage of its own: increased contacts and reduced tension could only come about when the FRG recognized the existence of two German states and stopped its discriminatory and hostile actions toward the GDR.

Finally, FRG experience in the 1970s seems to show that under ideal conditions, linkage can lead to positive results. Such conditions include, most importantly, the development of a general policy/strategy which itself is basically acceptable to the party toward which it is directed, as well as the inclusion of a trade policy as one of its integral parts. By themselves, economic inducements from the FRG

were insufficient to obtain significant and desired concessions from the GDR. As part of a more general and fruitful posture, they have more recently given substance and content to Bonn's *Ostpolitik*.

It was noted earlier that the GDR obtained most but not all of its demands as a price for reaching an accommodation with the FRG. But, the FRG also obtained important objectives in return: contacts between East and West Germans were greatly increased, access rights to West Berlin were formalized, and a number of Government-to-Government agreements were subsequently concluded. No one say *how* important the trade factor was in East Berlin's calculations as it made these "concessions," but it no doubt was considered as a part of the larger issue. To the extent it was, it surely contributed to the East German willingness to sign the Basic Treaty and to proceed with normalization in the years since.

In the end, our assessments of the utility of linkage must remain indefinite and therefore not entirely satisfactory: under *some* conditions, trade has been of *some* value as an inducement to bring about desired responses. A more categorical pronouncement might be useful, but it is not warranted from the record.

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CZECHOSLOVAKIA

CZECHOSLOVAKIA: ECONOMIC PERFORMANCE IN THE POST-REFORM PERIOD AND PROSPECTS FOR THE 1980's

By Friedrich Levčík*

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1. INTRODUCTION: SUMMARY OF CONCLUSIONS

When after the Soviet intervention in 1968 a new leadership managed to establish itself in power, the foremost task in the economic field was to reverse most of the measures introduced during the reform period. The traditional type of directive central planning with binding quantitative plan targets and input limitations imposed on enterprises, with a new growing network of material balances and with strictly controlled prices, was reintroduced. By strengthening the authority of the central plan the "period of crisis" was to be overcome and the economy was to be led back to "normalcy".

For quite a time it seemed that the medicine prescribed by the new healers of economic ailments was working. The economy grew again and there were some advances in the standard of living. But under the surface of quantitative growth some of the old ailments of inefficiency, waste of resources, and production for production's sake reappeared. More and more distinctly it is now recognized that the system of management and planning, developed essentially in the early fifties by

*Vienna Institute for Comparative Economic Studies.

taking over indiscriminately the Soviet type of planning, ceased to serve under changed conditions as early as the end of the fifties. Cautious reform proposals developed at that time to make the system more flexible were soon abandoned when some inconsistencies in the plan targets led to disproportions, and the more far-reaching reform measures of the second half of the sixties had to be revoked as incompatible with the type of "socialism" recognized as such by the Soviet Union.

It is now officially admitted that "the mere renewal of the principles of socialist planned management—notwithstanding partial improvements—does not effectively help and does not solve the most important of the aims of the XIV Party Congress, namely "consistently to link the economic and social development with a continuous improvement of the efficiency of social production, with a more effective application of intensive factors of economic growth".¹ But this insight comes only after it has become evident that the current five year plan (1976–1980) cannot be fulfilled and that more difficulties are piling up for the years to come.

The current five year plan for 1976–1980 anticipated a noticeable decrease in economic growth compared with the first half of the 1970s. The actual development of the economy in the past four years shows that the cautious expectations of the Czechoslovak authorities regarding the growth of the economy were only too well founded. In none of the last four years could the quantitative targets of the current five year plan be attained and in 1979 growth of the economy was the lowest since the early sixties. It has been obvious for some time that the original five year plan targets are already unattainable even if the yearly plan for 1980 would be met in full (Table 1, 1a, 1b).

Czechoslovakia's terms of trade have deteriorated both in trade with the West and also with the Soviet Union. Since 1974, Czechoslovakia incurred a trade deficit in every year, both in trade with the Western industrialized countries and vis-à-vis the CMEA countries. In the last 3 years attempts were made to reduce the trade deficit especially by means of a curb on imports from the Western industrialized countries with the effect that the deceleration of economic growth was accentuated.

However, the slow-down of economic growth in recent years is primarily due to internal factors. The decrease in efficiency during the second half of the seventies pervaded all branches of the economy, production as well as distribution and the use of national income. Most of the shortcomings can be traced back—as will be documented—to the revocation of the reform measures and the reintroduction of an inflexible directive planning and management system after 1968.

The main limiting factors, insufficient supplies of fuels and energy and a lower rate of labour supply, together with continuing adverse trends in the external economic relations will enforce a slow growth of the economy also for the eighties, accompanied by an even more marked deceleration of consumption and investment growth.

¹ Lubomír Štrougal, Premier of Czechoslovakia, at a meeting introducing "A system of measures for improvement of the system of planned management of the national economy after 1980," *Rudé Právo*, 17 March 1980.

Only a limited range of policy options is left open by the economic constraints. There will be an attempt to adjust the industrial structure by imposing growth limitations on industries heavily dependent on imported energy and raw material inputs. But there are limits to such a policy in view of the international commitments which Czechoslovakia has made in relation to its CMEA partners and especially in relation to the USSR. Closer links with the USSR may be another path to be followed by Czechoslovak policy makers. But such a policy poses as many new problems as it attempts to solve. The commodity composition of trade with the USSR and with the West implies a further continuous worsening of the terms of trade, which could be counteracted only if the quality of Czechoslovak products for export could be markedly improved to make them fully competitive with products of Western provenience.

This brings us back to the management and planning system. Only a profound change in the motivation structure of workers and managers alike in production and distribution could release the so-called "intensive" factors of growth which Czechoslovak economists are evoking in their writings. A new "Set of measures for the improvement of the system of planned management of the national economy after 1980" adopted recently by the Czechoslovak government seems to indicate that the policy makers are aware of the fact that the challenges of the eighties can not be resolved with the old and discredited planning system. But an economic reform requires certain political preconditions and has political consequences. An economic reform can develop positively only in a climate of discussion and not under conditions of repression. It also presupposes a certain loosening of the all pervading apron strings of Party apparatus control. It is more than doubtful if the necessary conditions for a profound change in economic management have been created, still less are there any signs that the government would dare to yield some of its powers to release the initiative of the enterprise work force and management. Even if one were to assume that the new planning and management measures will bring some positive impulses for the economy, the other internal and external constraints will still exert a negative influence, impeding any easy solution of the economic problems looming ahead.

2. THE FIRST HALF OF THE SEVENTIES: BACK TO ECONOMIC "NORMALCY"

Some Transient Positive Factors In the Early Seventies, Harvesting Gains From the Reform Period

Adverse tendencies had already become noticeable in the first half of the 1970s, although initially they were not fully apparent because of a number of superimposed favourable factors. True, the expansion of the national product had proceeded visibly more slowly between 1971 and 1975 than it did in the second half of the 1960s—a period characterized by the introduction of economic reform measures—but the average annual increase of the NMP of 5.7% was actually quite respectable in comparison with the performance of other CMEA countries and in view of the high degree of maturity of the Czechoslovak economy (Table 1).

TABLE 1.—CZECHOSLOVAKIA: MAIN INDICATORS OF ECONOMIC DEVELOPMENT

[Average annual change in percent]

	1971-75	1976	1977	1978	1979		1980 (plan)	1976-80 (plan)
					Plan	Actual		
National product: ¹								
Produced.....	5.7	4.1	4.2	4.1	4.3	2.6	3.7	4.9
Distributed.....	6.1	3.1	1.5	2.8	.....	2.0	2.2	.....
Industry:								
Gross production.....	6.7	5.5	5.6	5.0	4.5	3.7	4.0	5.9
Persons employed.....	.7	.6	.9	.7	1.7	1.8	.....	.6
Labor productivity.....	6.0	4.9	4.7	4.3	3.8	2.9	.....	5.3
Agriculture, gross production, total.....	2.6	-2.4	9.1	2.6	3.8	-1.9	7.2	12.7
Crops.....	2.2	-6.3	15.6	2.8	.....	-9.2	16.5	.....
Animal.....	2.8	.7	4.2	2.5	.....	.4	1.2	.....
Grain (million tons).....	9.4	9.17	10.31	10.95	11.35	9.2	11.0	.....
Percent.....	.....	-1.3	+12.5	+6.2	+3.7	-15.6	.....	.....
Gross capital investments ²	8.2	4.4	5.7	4.1	2.4	1.6	2.4	6.4-8.7
Living standard:								
Personal consumption.....	4.8	2.8	2.8	3.5	.....	1.2	1.3	.....
Retail trade turnover—								
At current prices.....	5.4	3.8	3.9	5.5	.....	3.6	3.4	.....
At constant prices.....	5.3	2.0	2.4	3.7	2.8	1.6	1.5	1.3-4.6
Retail prices.....	.....	1.0	1.6	1.7	.....	.....	.....	.....
Consumer prices.....	.....	.1	.8	1.3	.....	3.0	.....	.....
Cost of living.....	.....	.9	1.4	1.6	.....	3.0	.....	.....
Money incomes at current prices.....	5.2	4.9	4.45	3.5	4.3	3.6	5.3	4.6
Population increase.....	.....	.8	.75	.7	.7	.64	.7	.7
Per capita money income at current prices ³.....	.....	4.1	3.7	2.8	3.6	2.9	4.6	3.9
At constant prices.....	.....	3.2	2.3	1.2	.....	-1	1.6	.....
Average nominal wage.....	3.5	2.8	3.2	3.0	2.7	2.5	2.8	1.5-2.9
Average real wage.....	3.4	1.9	1.8	1.4	.....	-5	-1	.....
Foreign trade:								
Exports.....	11.3	11.8	11.7	9.2	6.3	10.3	8.9	.....
Imports.....	13.8	10.4	12.9	7.7	5.7	11.3	7.3	.....
Trade with the West:								
Exports.....	10.7	2.7	13.0	6.8	.....	10.9	19.4	.....
Imports.....	.....	11.7	6.6	6.3	.....	15.3	15.2	.....

¹ Net material product (NMP), with the so called nonproductive sectors excluded. The NMP distributed to accumulation (net) and consumption differs from the NMP produced by the inclusion of economic losses and the trade balance.

² Calculated.

³ Compared with the preceding 5-year period.

⁴ Up to and including 1975 at 1967 prices, as from 1976 at 1977 prices.

⁵ Exports c.i.f., imports f.o.b.

⁶ Non-Socialist countries (OECD and developing countries together).

Source: Statistical yearbooks of Czechoslovakia, Plan Fulfillment Report for 1979, "Rudé Právo," 25 January 1980; V. Hula (Chairman of State Planning Commission), "O hlavních úkolech rozvoje národního hospodářství v roce 1980," "Rudé Právo," December 12, 1979, and V. Hula, "Hlavní úkoly rozvoje, cs. ekonomiky v roce 1980," "Plánování hospodářství," Nr. 1/1980, law of 6th 5-year plan, "Sbírka zákonů" (Collection of Laws), Nr. 69/1976; "Statistické problémy," Nr. 3/1980; "Zahraniční obchod," Nr. 1/1980.

Note: Western estimates of GNP growth differ from official figures of NMP released by the Czechoslovak Statistical Office. This study is based on official Czechoslovak figures. For respective Western data see tables 1a and 1b.

TABLE 1A.—CZECHOSLOVAKIA: GNP BY SECTOR OF ORIGIN

[Average annual growth rates in percent]

	1966-70	1971-75	1976	1977	1978	1979
Total, GNP.....	3.4	3.4	1.5	4.7	1.4	0.7
Industry.....	4.2	3.9	2.7	4.3	2.1	2.5
Agriculture.....	3.2	2.4	-5.0	13.3	-4.7	-6.0
Forestry.....	1.2	1.8	4.4	-1	5.2	2.8
Construction.....	3.3	3.9	3.0	-4	2.1	1.2
Transport.....	2.5	3.8	4.8	3.2	3.6	.8
Communications.....	1.3	3.1	3.5	2.3	4.2	2.0
Trade.....	6.2	5.6	2.6	1.8	3.7	3.4
Finance.....	.6	.0	.5	.3	.2	.2
Housing.....	.9	1.5	2.0	1.6	1.5	1.4
Communal, other services.....	4.8	0	1.4	1.5	1.2	1.8
Government.....	2.0	2.4	1.0	2.5	2.8	1.7
Administration, justice.....	1.6	3.3	.9	1.5	2.9	.7
Education, culture.....	2.5	2.1	3.4	3.7	2.7	1.8
Health, welfare.....	4.8	4.0	1.9	3.1	1.8	1.8
Science, research.....	2.3	1.2	.4	.6	1.7	1.8
Social organizations.....	8.2	-1.4	9.6	7.4	16.0	1.9
Internal security.....	1.6	3.3	.9	1.5	2.9	.7
Defense personnel.....	-5.5	1.6	-13.6	.4	2.7	4.1

Source: Thad P. Allen, Research Project on National Income in East Central Europe, March 1980.

TABLE 18.—CZECHOSLOVAKIA: MAIN INDICATORS OF ECONOMIC DEVELOPMENT

(Average annual growth rates in percent)

	1971-75	1976	1977	1978	1979
National product:					
A.....	5.7	4.1	4.2	4.1	2.6
B.....	3.4	1.5	4.7	1.4	.7
Industry:					
A.....	6.7	5.5	5.6	5.0	3.7
A ¹	6.1	5.1	1.6	4.9	.....
B.....	3.9	2.7	4.3	2.1	2.6
Agriculture:					
A.....	2.6	-2.4	9.1	2.6	-3.9
A ¹	1.5	-6.7	14.1	-6.2	.....
B.....	2.4	-5.0	13.3	-4.7	-6.0

NOTES

- A—Official figures, industry and agriculture gross production.
 A¹—Official figures, net production.
 B—Estimates of Alton.

Source: See tables 1 and 1a.

Among the transient positive factors making that economic growth possible was the favourable development of agriculture. The Agricultural Production Cooperatives (APCs) which, in conjunction with their members' private plots, produce 70% of gross agricultural output, had already been freed from too restrictive plan targets as early as 1966, and had remained bound to the central plan in the main by supply contracts vis-à-vis the State Purchasing Organisations. The increased economic independence that had been granted the APCs, created in the climate of the economic reform movement before 1968 and giving the cooperative farmers a material interest in increasing production, was kept more or less intact also during the first half of the 1970s, whereas at this time directive planning, involving binding plan targets, was reintroduced in the other sectors of the economy. The agricultural enterprises used their greater decision making powers to apply, to a growing extent, modern technologies. More comprehensive types of mechanization were brought into play and the use of chemical fertilizers, of herbicides, and biological products in animal production was also increased. Since the official procurement prices for agricultural products increased at a faster pace than did the cost of the agricultural means of production (machinery and tractors, artificial fertilizers, animal feed, seed stock),³ profitability rose in agriculture. To this should be added a number of successive years with favourable climatic conditions for crop production. All this led to a not inconsiderable increase in agricultural production, exercising a favourable influence on the growth of the national product, and in addition lessening the strain on the balance of trade.

Another positive influence on the development of the economy had been the changes in the structure of fixed assets in Czechoslovak industry in the first half of the 1970s. They were the result, in the main, of investment decisions taken towards the end of the 1960s at the time of the economic reforms. Total fixed assets in industry increased by 31% (at constant prices) between 1970 and 1975, machinery and equipment

³ Between 1967 and 1976 procurement prices increased by 11.4 percent, prices of agricultural inputs by 6.5 percent. *Statistická ročenka ČSSR 1979*, p. 244.

increasing by as much as 41%. After the one-sided preference given heavy industry, and especially extended to the primary industries in the preceding decade, fixed assets in manufacturing increased faster than in the primary industries during the first half of the 1970s. The quickest growing fixed capital stock between 1970 and 1975 was that of the wood processing industry, followed by paper and pulp, clothing and building materials (Table 2).

TABLE 2.—INCREMENTS OF FIXED CAPITAL ASSETS IN INDUSTRY 1971-75

[By branches of industry, in percent]

	1971-75	
	Total	Machinery and equipment
Industry, total.....	31.2	41.1
Woodworking.....	57.8	88.4
Paper and cellulose.....	55.8	75.3
Building material.....	48.8	56.1
Clothing.....	46.6	67.4
Chemicals.....	45.9	61.5
Leather processing.....	39.6	53.8
Printing.....	44.1	44.5
Textiles.....	39.7	52.1
Energy.....	36.7	37.8
Machinery.....	34.0	41.6
Glass, porcelain, ceramics.....	31.8	40.6
Fuels.....	31.0	42.3
Fuels.....	22.7	37.1
Iron, steel.....	15.6	18.1

Sources: "Statistická ročenka CSSR 1979," pp. 221, 222.

Naturally, as in previous years heavy industry had in 1975 still a greater share of fixed capital than did light industries; but the pattern of growth had changed considerably. The share of the traditionally favoured branches of heavy industry—including machinery—in capital stock decreased from 56% to 54% during the first half of the 1970s while the share of manufacturing industries rose from 44% to 46%. If additions to capital stock during this period only are considered, then other manufacturing industries obtained more fixed capital in these years than the traditional branches of heavy industry (Table 3).

TABLE 3.—CHANGES IN THE STRUCTURE OF FIXED CAPITAL ASSETS IN INDUSTRY¹

[Percentage shares]

	1970	1975	Additions to
			fixed capital stock between 1970 and 1975
Heavy industry (fuels, energy, metallurgy, engineering and metal goods).....	55.7	54.2	49.3
Other manufacturing.....	44.3	45.8	50.7
Of which: Chemicals.....	6.8	7.5	10.0
Industry, total.....	100.0	100.0	100.0

¹ At constant 1967 prices.

Source: "Statistická ročenka CSSR 1979," p. 221.

The speedy restoration of global equilibrium of the economy by a set of restrictive measures must be counted yet another transient fa-

avourable factor. The new leadership blamed reformers for the inflationary process in the so-called "period of crisis" in 1968–69. However, the inflationary development manifested itself since the Soviet intervention in Czechoslovakia by depletion of stocks, severe shortages of many consumer goods, growing queues in front of shops and under-the-counter sales for privileged customers rather than by excessive price increases. The official price index of consumer goods and services advanced between January 1968 and January 1969 by 2.4% only.³

The containment of the inflationary pressure was achieved mainly by curbing the growth of personal incomes, especially by reestablishing tight control of wages, and by increasing the state controlled consumer prices towards the end of 1969. The officially imposed price hikes were concentrated on industrial commodities and services leaving the prices of basic foodstuffs largely unchanged. Between January 1969 and January 1970 the overall consumer price index advanced by 5.3%, foodstuffs, however, by 0.7% only, while prices of industrial goods increased by 9% (of these shoes and leatherware by over 11% and household appliances by 22%). Among services, transport and postal charges increased by 19%.⁴ The effect was a marked slow-down of sales, especially of industrial commodities, which gave the opportunity to build up depleted stocks. At the same time savings which had slowed down in the wake of the Soviet occupation in 1968 and 1969—the moneys withdrawn from the banks were used for panic purchases—were building up again in 1970. The extent and effect of the restrictive measures can be judged from Table 4.

TABLE 4.—INCREMENTAL INCOMES AND EXPENDITURES OF THE POPULATION IN 1969 AND 1970

[In billions Kcs at current prices]

	1969	1970	Difference
Incomes:			
Wages and salaries.....	13.0	5.5	-7.5
Income from cooperative farms and sale of agricultural products.....	1.0	.3	-.7
Health insurance and social security benefits.....	6.9	2.7	-4.2
Other personal income.....	2.2	1.4	-.8
Net income from abroad.....	-.9	0	+ .9
Total incomes.....	22.2	9.9	-12.3
Expenditures:			
Retail purchases.....	16.0	2.5	-13.5
Charges for services.....	2.8	1.7	-1.1
Other outlays.....	4.4	1.2	-3.2
Savings.....	-1.0	4.5	+5.5
Total expenditures.....	22.2	9.9	-12.3

Source: "Statistická ročenka ČSSR 1972," p. 459.

The restrictive measures could be applied without apparent resistance only under the specific conditions of Soviet occupation after the defeat of the reform leaders, the widespread purges and dismissals from jobs of potential opponents, and the intimidation of large sections of the population. On the other hand it is true that the sudden limitation of incomes together with the substantial price increases of industrial consumer goods restored the equilibrium in the consumer

³ Statistická ročenka ČSSR 1974, p. 487.

⁴ Ibid.

market and thereby improved the availability of consumer supplies. "Queuing in front of shops as a mass phenomenon, the hunting for basic kinds of commodities, sales under the counter, the fear of further price increases, panic purchases, etc. disappeared."⁵ While the restrictive measures encompassed also investments, and all factors taken together slowed down the growth of the economy somewhat, by moving the economy back to equilibrium they contributed, as short term measures, considerably to the consolidation of the economy.⁶

Still another feature influencing the economy in a positive way in the early seventies was the development of the terms of trade particularly in relation to the so-called capitalist countries (in the official terminology of the Czechoslovak Statistical Office this denotes the Western developed market economies and the developing countries taken together). Export prices developed favourably in relation to import prices vis-à-vis the capitalist countries in 1970 and 1971, again in 1974, and even as late as 1975. In this way foreign trade made additional resources available for the development of the internal economy in the first part of the seventies (Table 5).

TABLE 5.—DEVELOPMENT OF THE TERMS OF TRADE IN CZECHOSLOVAK FOREIGN TRADE (1967-1978)

	Foreign trade		
	Total	With capitalist countries ¹	With socialist countries ²
1967	100.0	100	100
1968	100.7	102	100
1969	98.7	99	100
1970	105.9	111	99
1971	105.0	111	96
1972	102.8	107	97
1973	101.7	101	99
1974	100.8	103	98
1975	95.7	104	89
1976	93.2	97	88
1977	95.6	91	87
1978	93.9		

¹ Developed market economies and developing countries together.

² CMEA countries, Yugoslavia and non-European Socialist countries.

Note: The authors have tried to reconcile various export and import price indexes published in different parts of the "Czechoslovak Statistical Year Book." They recalculated and presented a more consistent time series from 1948-78. The year book "Statistická ročenka CSSR" stopped publishing disaggregated export and import price indexes for capitalist and socialist countries since 1976. The authors of the article evidently intended to present the price indexes and terms of trade for both regions as can be judged from the following quotation: "For these reasons we consider it useful to present in this study relatively long-term time series alike of aggregate indexes of Czechoslovak export and import prices as well as of price indexes disaggregated according to the two prices of the basic regions, i.e., indexes of Czechoslovak import and export prices with capitalist and socialist countries." The analysis of the statistical results and the statistics themselves were evidently censured but two diagrams indicating the development of export and import prices and of the terms of trade separately for each region escaped the censorship. The above table gives the approximate numerical values reconstructed from the diagram for the period 1967-77.

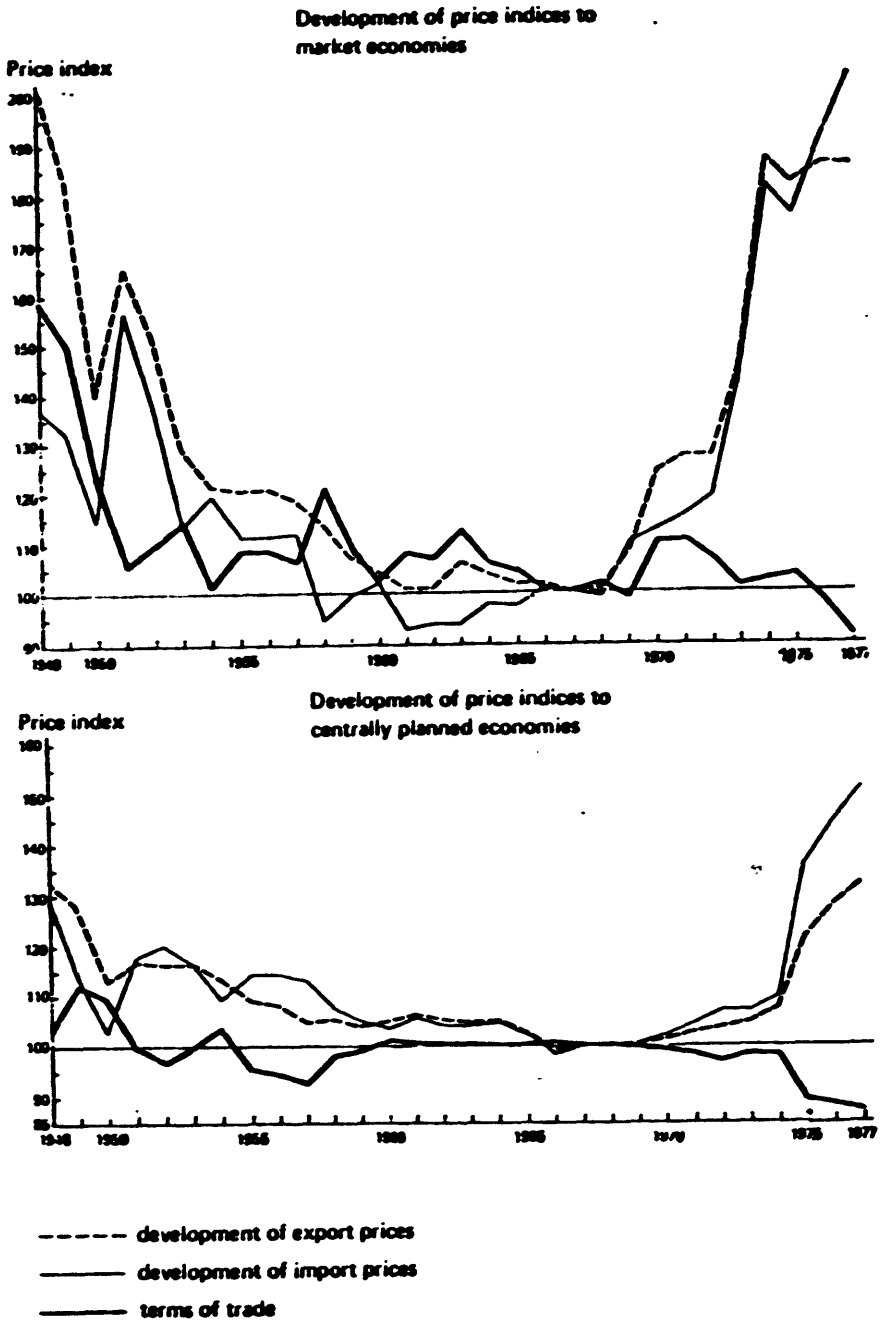
Source: K. Dyba, K. Koflík, *Agregační cenové indexy v čs. zahraničním obchodu a čs. režimní směrné relace 1948-78* (Aggregate Price Indexes in Czechoslovak Foreign Trade and Czechoslovak Terms of Trade 1948-78), "Statistika" Nr. 8-9 1979 pp. 376-378.

In this connection it must be noted that Czechoslovakia had and still has a favourable balance of trade with developing countries with many of which it conducts trade in freely convertible currencies. While in the first part of the seventies roughly half of the foreign trade turn-

⁵ Josef Goldman, *Makroekonomická analýza a prognóza*, Academia, Prague 1975, p. 61.

⁶ *Ibid.*, p. 62. See also Alexj Bálek, "Nové jevy v reprodukčním procesu čs. ekonomiky v 70. letech" *Politická ekonomie* Nr. 11/1979, p. 1128.

Graph 1: Development of Czechoslovak exports and imports, by regions
(1967 = 100)



Source: See Table 5.

over with developing countries was still settled by clearing account, the *trade surpluses* were achieved mainly with those of them which settled their foreign trade transactions with Czechoslovakia in con-

vertible currencies. In this way already at that time the surpluses could be used to narrow the trade gap incurred in relation to the Western industrialized countries⁷ (Table 6).

TABLE 6.—CZECHOSLOVAKIA'S FOREIGN TRADE WITH THE DEVELOPING COUNTRIES BY MODE OF PAYMENT
(In million foreign exchange Kcs)

Total	1960	1965	1970	1971	1972	1973	1974
Export.....	1,768.0	1,901.0	2,462.0	2,801.0	2,706.0	2,681.5	4,224.0
Import.....	1,279.0	1,507.4	1,628.9	1,653.4	1,868.6	2,336.0	3,222.2
Balance.....	489.0	393.6	833.1	1,237.6	917.4	345.5	1,002.6
Turnover.....	3,047.0	3,408.4	4,090.9	4,544.4	4,654.6	4,987.5	7,447.0
Of which:							
Clearing:							
Export.....	770.0	904.3	1,473.0	1,379.3	1,548.4	1,250.4	1,857.9
Import.....	709.0	975.2	913.4	977.0	1,214.6	1,283.5	1,873.0
Balance.....	61.0	19.1	559.5	401.5	333.8	-24.1	-15.9
Turnover.....	1,479.0	1,908.5	2,387.4	2,357.1	2,763.0	2,541.9	3,731.7
Convertible currencies:							
Export.....	998.0	906.7	988.1	1,511.7	1,237.6	1,403.1	2,364.7
Import.....	570.0	532.2	715.4	675.6	654.0	1,052.5	1,348.4
Balance.....	428.0	373.8	272.7	836.1	583.6	350.6	1,016.3
Turnover.....	1,568.0	1,438.9	1,703.5	2,187.3	1,891.6	2,455.6	3,713.1
Share of convertible currencies in turnover, in percent.....	51.5	42.2	41.6	48.1	40.6	48.1	48.9
Share of convertible currencies in export, in percent.....	56.8	47.7	40.1	52.3	44.4	52.3	56.0
Share of convertible currency in total balance, in percent.....	87.5	95.0	32.7	67.6	63.6	101.5	101.6

Source: Svat hospodárství, Nr. 68/1975, quoted from P. Simerda, "Stand und neue Tendenzen in den ausseiwirtschaftlichen Beziehungen der CSSR zu den Entwicklungsländern", "Ost-Europa-Wirtschaft", Nr. 4/1979.

The factors mentioned above, which had a favourable influence on the economic development of Czechoslovakia during the first half of the 1970s proved to be of a passing nature.

Reemergence of Long-Term Negative Structural Tendencies

But even in the first half of the 1970s certain long-term negative tendencies have made their appearance below the surface of the favourable quantitative growth indicators and these became fully effective in the second half of the 1970s. Already at the beginning of the sixties it had become apparent that the Czechoslovak economy is extremely material intensive, i.e., that far too much is consumed in the way of energy, raw materials and intermediate goods per unit of production. This is due to the unfavourable industrial structure, as well as to the prevailing rigid directive planning system which in turn is reproducing the industrial structure with its preponderant weight of extractive and heavy industries. Each per cent of additional output had to be gained at the expense of an excessive increase in investment and material cost. Directive planning involves mandatory plan targets—expressed in physical magnitudes (e.g. quantities of steel, cement etc.)—or, especially in manufacturing, in the value of gross production. Since the managers' premiums and the staffs' prospective wage increases depend on the fulfillment of the plan according to its main indicators this leads to a specific behaviour in the enterprises—one that encourages the growth of the value of production irrespective

⁷ F. L. Altmann, J. Sláma, *Strukturentwicklung der tschechoslowakischen Wirtschaft und ihre Rückwirkung auf den Außenhandel*, Working Papers, Osteuropa-Institut München, December 1979.

of the cost of inputs. Going further: by increasing the value of the intermediate inputs it is easier to achieve the plan target expressed in the value of gross production.⁸ Under such circumstances material costs will keep increasing despite all the efforts of the central administration to the contrary.

A realization of this state of affairs had led the economic reformers in the sixties to break away from binding centrally determined plan indicators and to consider the economic returns of the enterprise as the main criterion of its success. As a result the relation between the growth of the global product, of net product and of intermediate inputs did change at the time of the reform (1966 to 1969), improving in favour of the net product. In 1970, with the re-introduction of mandatory plan targets, the enterprises reverted to their former pattern of behaviour, and again inputs started to rise more quickly than net production (Table 7).

TABLE 7.—RELATION OF GROWTH OF OUTPUT AND INPUT

(Average annual compound growth rate in percent)

	1961-65	1966-69	1971-75	1976-78
Global output ¹	1.7	6.5	6.1	4.4
Material inputs.....	5.1	5.9	6.3	4.7
Net material product ²	2.0	7.2	5.7	4.1

¹ Global output equals NMP and material inputs.

² Net material product excludes nonmaterial services and is net of depreciation.

Source: *Statistická ročenka CSSR 1971*, pp. 165, 166, 167; "*Statistická ročenka CSSR*" 1979, pp. 133, 134, 135.

A similar picture emerges when we consider the development of the sales structure of industrial goods delivered by producing firms and wholesale organisations. At the time of the reform the share of sales for final use (for the domestic market, for investment and for exports) rose as high as 40%, at the cost of sales for intermediate use taking 60% of all deliveries. The share of sales for final use decreased considerably at the beginning of the 1970s and despite a certain degree of stabilization in the mid-seventies did not regain the level of the end-1960s and by 1978 was down to 35% of total sales. While the percentage shares of deliveries for investment, and to a lesser extent for exports remained fairly stable, it is especially the share of final deliveries for the domestic market which diminished by 3½ percentage points during the seventies. On the other hand, deliveries for intermediate use increased their share by almost 5 percentage points implying an increasing tendency of the well known production for production's sake⁹ (Table 8).

The high consumption of material can be documented by examining per capita consumption of primary energy. In 1977 Czechoslovakia's per capita consumption of primary energy was the highest in Europe, with 7397 kg of hard coal equivalent. Highly developed industrialized countries in Western Europe as well as the GDR and the USSR had

⁸ The indicator "value of gross production" as a criterion of the success of enterprises has been severely criticized by the Czechoslovak premier Lubomír Strougal on occasion of introducing a "Set of measures for improving the system of planned management of the national economy after 1980," *Rudé Právo*, March 17, 1980 (see section 5).

⁹ B. Korda, "A decade of economic growth in Czechoslovakia (1962-78)" "*Soviet Studies*", Nr. 4/1976.

TABLE 8.—STRUCTURE OF SALES OF INDUSTRIAL GOODS

(Percentage shares)

	Sales					
	Total	For inter- mediate use	For final use ¹	Of which		
				For invest- ment	For domestic trade	For exports
1968.....	100.0	68.1	38.9	4.6	18.0	13.5
1970.....	100.0	63.6	36.4	4.2	16.0	12.6
1971.....	100.0	64.5	35.5	4.2	15.6	12.2
1972.....	100.0	63.7	36.3	4.3	15.7	12.6
1973.....	100.0	63.6	36.4	4.4	15.6	12.6
1974.....	100.0	63.5	36.5	4.7	15.6	12.6
1975.....	100.0	63.6	36.4	5.0	15.5	12.2
1976.....	100.0	63.8	36.2	5.0	15.0	12.6
1977.....	100.0	65.8	34.2	4.3	14.5	12.0
1978.....	100.0	64.8	35.2	4.6	14.6	12.4

Notes.—Deliveries from producing enterprises and wholesale organizations; computed from absolute data of current wholesale prices.

Source: Statistická ročenka CSSR 1978-79.

a lower per capita consumption, and of the countries outside Europe only the USA and Canada consumed more primary energy per inhabitant. This becomes even more glaringly apparent if we compare energy consumption and national product: in Czechoslovakia almost 2 kg of primary energy were consumed per one US \$ of GNP, whereas most of the Western industrialized nations used considerably less than 1 kg. Even in the United States, whose energy consumption is exceptionally high, the energy consumption per unit of GNP is lower than in Czechoslovakia (Table 9).

TABLE 9.—GNP AND ENERGY CONSUMPTION 1978

	GNP per capita in U.S. dollars	Energy consumption per capita in kg/coal equivalent	Energy consumption per \$1 GNP in kg/coal equivalent (2):(1)
	(1)	(2)	(3)
Czechoslovakia.....	4.720	7.531	1.6
Other CMEA countries:			
Bulgaria.....	3.200	5.020	1.6
German Democratic Republic.....	5.660	7.121	1.3
Hungary.....	3.450	3.451	1.0
Poland.....	3.660	5.596	1.5
Romania.....	1.750	4.042	2.3
Eastern Europe.....	3.677	5.557	1.5
U.S.S.R.....	3.700	5.582	1.5
CMEA.....	3.683	5.575	1.5
Yugoslavia.....	2.380	2.036	0.9
Western industrial countries:			
United States.....	9.700	11.374	1.2
Canada.....	9.170	9.930	1.1
United Kingdom.....	5.030	5.212	1.0
Italy.....	3.840	3.230	0.8
Netherlands.....	8.390	5.327	0.6
Belgium.....	9.070	6.078	0.7
Finland.....	6.820	5.205	0.8
Japan.....	7.330	3.825	0.5
Austria.....	7.030	4.048	0.6
Sweden.....	10.210	5.954	0.6
Spain.....	3.520	2.405	0.7
Federal Republic of Germany.....	9.600	6.015	0.6
France.....	8.270	4.368	0.5
Switzerland.....	12.100	3.680	0.3

Notes.—The estimates of GNP per capita are evidently undervalued in Romania and Yugoslavia. They allow these countries to be eligible for development credits from the World Bank.

Sources: "The World Bank, Atlas 1979"; U.N. "World Energy Supplies 1973-78," New York 1979.

In view of the lower degree of motor-car usage, and of the lower equipment of households with energy-consuming durables, the high primary energy consumption in Czechoslovakia obviously has its origin in the industrial use of energy. The high level of energy consumption can be explained partly by the industrial structure of the country. Energy-intensive branches like iron and steel, non-ferrous metals, mining, heavy engineering and basic chemicals have a preponderant weight in comparison with other branches of manufacturing. Nevertheless, West European countries with a similar industrial structure such as the U.K. and Belgium, have a lower energy consumption per unit of GNP.

Another important reason is certainly the unfavourable energy-mix, with a high percentage of solid fuels, especially low grade coals, and conversely with a low percentage of oil and gas (see section 4). Some of these factors show up in high energy losses when comparing effective use of energy with primary energy resources.

The Czechoslovak Federal Statistical Office estimates the losses incurred in the course of production, processing and refining of fuels, in energy and heat production and in the distribution of electric power to absorb 30% of total primary energy consumption.¹⁰ Considerable savings could be effected by reducing the specific fuel consumption in caloric power stations. In recent years particularly, it was however hardly possible to improve specific fuel consumption, although it is still much higher than in the Western industrialized countries. Power cuts and gas supply failures are a frequent occurrence in plants and factories—the population has so far been spared such cuts, by and large. The enterprises that were unable to fulfill their obligations in terms of the plan as a rule name irregular energy supplies and faulty materials procurement as the main reasons for their failure.

The apparent success in lowering the consumption of primary energy per unit of NMP by roughly 2.5% p.a. during the first half of the seventies was of a short term nature, following the rapid improvement in the energy-mix thanks to increased crude oil imports from the Soviet Union and the concomitant reduction of the share of solid fuels. The price increases of crude oil and the limited availability of Soviet supplies in the second half of the seventies slowed down the further improvement of the energy-mix, and in this connection also further improvements of energy consumption per unit of MNP decelerated accordingly (see section 4).

The specific consumption of ferrous and non-ferrous metals is exceptionally high in the Czechoslovak machine building industry. It is well known that the products of the Czechoslovak machinery industry are as a rule much heavier in weight than comparable Western products. In this field it was possible to achieve some success and to lower, between 1975 and 1977, the specific consumption of ferrous metals (tons per 1 million Kcs of machinery product value in constant prices) by more than 7%, and of non-ferrous metals by more than

¹⁰ Federální statistický úřad. *Číslo pro ka dého 1979*, Prague 1979, p. 78. According to B. Kordá. "Energy consumption in the Soviet Block". *Forschungsberichte WIIW*, Nr. 41, August 1977, Table 6, these losses amounted in the case of Czechoslovakia to 41% in 1974. When the primary energy input given by Kordá as 100 million tce for 1974 is lowered to 88 million tce in accordance with later statistical evidence (see Table 21) the losses amounted still to 38% compared with less than 25% in the EEC countries at that time.

5%. Attempts to reduce the amount of metal wastage in machine building proved less successful. In 1970, 73.8% of ferrous metals used in production could be utilized; the rest was wasted. In 1975, the degree of utilization rose temporarily to 76.1% but in 1977 it fell back to 73.8%.¹¹

3. THE LATE SEVENTIES: DIFFICULTIES ARE PILING UP

All these tendencies, which had already become apparent in the economic developments of the first half of the 1970s, were coming out into the open in the second half of the decade and exerted their deleterious effects on the growth and on the efficiency of the economy. The national product increased during 1976–1979 by a mere 3.7% annually, as against 5.7% during the last five-year plan period, and industrial production too increased more slowly than it did in 1971/75, i.e. by almost two percentage points annually (see Table 1).

Agricultural performance deteriorated in the second part of the seventies for a number of reasons, including adverse climatic conditions, but mainly because the imposition of merger and integration measures from above on unwilling cooperative farms largely destroyed the farmers' motivations. The investment decisions of recent years seem to indicate that the changes observed in the pattern of fixed capital formation in Czechoslovak industry may also have been of a temporary nature. Under the influence of the decisions of the latest sessions of the CMEA, Czechoslovakia will revert to a forced pace in the development of her capital intensive industries—fuels, energy, mining and processing of nonferrous metals, heavy machinery for nuclear power stations and electrical engineering. Consequently manufacturing industries, and consumer goods in particular, may hardly count on preferential treatment in the allocation of investments, the volume of which is, anyway, hardly growing recently.

Nor can a new round of redistribution in favour of accumulation and at the expense of consumption, as it happened between 1969 and 1970, be repeated, because "the increments of incomes of the population are relatively small and it is hardly possible to curtail them further significantly."¹² The favourable trade balance in hard currencies with the developing countries, especially the countries of the Middle East, can hardly be expected to continue when further increases in crude oil supplies from the Soviet Union will no longer be possible. And the terms of trade in general in the second part of the seventies turned into a highly adverse factor.

Despite an accelerated growth of capital intensity (fixed capital per person employed) a slowing-down of growth of labour productivity is observed. Capital productivity (output per unit of fixed capital) is falling as against the period 1971 to 1975, and even more so compared with the preceding period 1966 to 1970. Total factor productivity deteriorated continuously during the seventies compared with the reform years in the sixties with the rate of deceleration speeding up in recent years (Table 10).

¹¹ Federální Statistický úřad, *Účely pro každého 1978*, Prague, 1978, pp. 107–109.

¹² A. Bálek, *op. cit.*, p. 1127.

TABLE 18.—FACTORS OF ECONOMIC GROWTH

[Annual percentage compound rates of growth]

	Net material product			Industrial production ¹		
	1962-70	1971-75	1976-79	1966-70	1971-75	1976-79
(1) Output.....	6.9	5.7	3.7	6.2	6.1	3.9
(2) Employment.....	1.2	.9	.5	1.2	.7	.8
(3) Fixed capital stock.....	4.4	5.8	6.4	4.3	5.6	6.6
(4) Output per person employed.....	5.6	4.8	3.2	4.9	5.4	3.1
(5) Output per unit of fixed capital.....	2.4	-.1	-2.9	1.8	.9	-2.4
(6) Fixed capital per person employed.....	3.2	4.9	5.9	3.1	4.9	5.7
(7) Factor productivity ²	4.7	3.3	1.4	4.1	3.9	1.4

¹ Net value added.² Estimate based on 1976-78.³ Assuming a capital elasticity $\alpha = 0.3$, and labour elasticity $(1-\alpha)$.

Source: "Statistická ročenka CSSR 1972, 1973," Planfulfillment report for 1973, Rudé Právo, Jan. 25, 1980.

The less favourable conditions of the economic development resulted in a pronounced deceleration of consumption. In the second half of the 1970s private consumption increased at an annual average of 2½%, and by considerably less than 2% per capita even according to official statistics. Wage increases, too, decelerated considerably in comparison with the first half of the decade. In view of the officially reported price increases, real wages rose during 1976-1979 by just over 1% per annum. This computation leaves hidden price increases, which did not find expression in the price index, out of consideration.

Two Areas With Specific Problems: Agriculture and Foreign Trade

The decrease in efficiency during the second half of the seventies pervaded all branches of the economy, production as well as distribution and the use of national income. Adverse developments were especially pronounced in two areas: in agriculture and foreign trade. Here the worsening situation has a striking significance, for agriculture and foreign trade had in the early part of the seventies contributed substantially to the consolidation of the economy in the aftermath of economic disruption connected with the intervention of the Soviet Union.

As to agriculture, recurrent adverse weather conditions in the second half of the seventies have certainly contributed to the slow-down in this sector. But there are other reasons for the unfavourable development which emanate partly from outside the agricultural sector and are partly connected with the changing character of agricultural management. During the seventies a strategy of industrialization of this sector was vigorously followed by party leadership and government, involving a process of concentration through mergers of agricultural production cooperatives into bigger units, and their closer control by county and district agricultural administrative bodies. This process involved a new division of labour between the agricultural units and other branches of the economy which had to supply them with tractors and machinery, with compound fertilizers and other chemical and biological products. Some 60% of all costs of agricultural production are industrial inputs of other branches of the economy.¹³

¹³ M. Jakoš, "K. současným úkolům zemědělství", Rudé Právo, Jan. 25, 1980.

The deterioration and loss of efficiency registered in other parts of the economy was reflected in insufficient or delayed deliveries, in unsuitable assortments or simply in products of poor quality. A special session of the Central Committee of the Communist Party of Czechoslovakia in the March 1979¹⁴ was devoted to the difficult problems of agriculture and a considerable part of the proceedings dealt with the woes of a sector that only a few years before was considered the backbone of economic development. On this occasion, shortfalls in the deliveries of tractors and machinery, alike from domestic firms and also from other CMEA countries, were severely criticized. These purchases had been contracted for in the five-year commercial agreements and in the yearly protocols. In the last three years, engineering firms delivered 4,000 tractors less than was planned; other, especially high-powered machinery was likewise not delivered in sufficient quantities or was supplied in unsuitable assortment. Also the quantity of trucks available for agriculture is insufficient so that tractors, which use far more petrol than trucks, have to be used for transport purposes. Especially machinery for sugar beet and potato production is unsuitable, of poor quality, or delivered in insufficient quantities. The shortage of spare parts is a permanent difficulty. Many tractors and machines are not in use because they cannot be repaired because of the lack of spare parts. On the other hand, some of the more up-to-date and more complex aggregates are insufficiently put to use and are only in operation at 50 to 65% of capacity. Similar complaints were voiced as to the deliveries from the chemical industry. The amount of artificial fertilizers used per ha is impressive in comparison with other countries with a similar type of intensive agricultural production: with 240 kg pure nutrients of fertilizers per ha a higher application level is being achieved than in countries like Austria or France, but the yields per ha are considerably lower than in these countries:

TABLE 11

	Chemical fertilizers ¹	Average yields per hectare (in tons)		
		Cereals	Potatoes	Sugar beet
1977:				
Czechoslovakia.....	240	3.85	16.1	38.4
Austria.....	100	4.09	22.6	48.6
France.....	157	4.07	27.5	44.6
Federal Republic of Germany.....	257	4.09	28.4	47.8

¹ In kilograms of pure nutrient per hectare.

Source: "Ekononická revue", Nr. IV, summer 1979, p.30.

One of the reasons given is that the artificial fertilizers are not up to agrotechnical requirements as to quality, mix and nutrient content and as to timing of deliveries. Next, the application of the fertilizers on unprepared soil gives poor results. Finally, other agrochemical products, herbicides and pesticides, biofactors etc. are either not available in sufficient quantities and assortment, or the quality is poor.

¹⁴ Rudé Právo, 13th Session of the Central Committee of the Czechoslovak Communist Party, Mar. 22, 23, and 28, 1979.

Similar complaints connected with those just mentioned are made with reference to concentrates, grain mixtures and roughage required for the expanding animal production.

One of the typical disproportions is the uneven development of crop and animal production. Between 1970 and 1975 crop production increased by 11.7%, animal production by 15%. Between 1975 and 1979 the disproportion of development increased considerably. Animal production increased on the basis of imported fodder purchases by over 8%, while crop production advanced by just over 1%. Domestic sources are increasingly unable to produce sufficient fodder crops for the animal herds, so that more and more feed stuff must be imported from abroad for hard currencies.

The main obstacle, however, seems to be within agriculture. The motivational structure, which developed favourably in the second half of the sixties and which still had a positive effect in the first years of the following decade, was successively destroyed by a process of excessive concentration imposed on the cooperatives and on the state farms from outside (see Table 12) without the necessary conditions being created in the form of up-to-date management which in large scale enterprises is far more demanding than in smaller-sized farms, in suitable technology, and especially in appropriate motivations. Especially the degree of specialisation which would be one of the consequences of large scale production is wanting. Hand in hand with the drive for bigger agricultural units, the importance of the household plots for the production for home consumption of food of the rural population, and for the supplementary supply of the market with fruit and vegetables, as well as with meat and milk was grossly underestimated, and the plots were directly discouraged (Table 13). While at the end of the sixties household plots accounted for a quarter of the production of slaughter pigs, this contribution had at the end of the seventies fallen to 10%. The number of cows held on the private plots diminished from 176,000 in 1968 to 59,000 in 1978, the number of pigs from 646,000 in 1968 to 341,000 in 1978.¹⁵ Ten years ago 10% of the milk consumed was produced and consumed within agriculture, but at the end of the seventies only 3.5%.¹⁶ The increasing participation of the rural population as customers of agricultural food products in retail trade clearly put an appreciable additional strain on the delicate balance of demand and supply in this market.

TABLE 12.—AVERAGE SIZE¹ OF STATE FARMS AND AGRICULTURAL PRODUCTION COOPERATIVES

(in hectares)

	1970	1974	1978
State farms.....	4,265	5,694	7,706
Agricultural production cooperatives ²	638	1,343	2,426

¹ Agricultural land.

² Without individual plots of cooperative farmers.

Source: "Statistická ročenka ČSSR 1971", p. 337; 1977 p. 294; "1979", p. 305.

¹⁵ Statistická ročenka ČSSR 1971, p. 231 and 1979, p. 295.

¹⁶ Ekonomická revue, summer 1979, Nr. IV.

TABLE 13—AGRICULTURAL AND ARABLE LAND AVAILABLE TO HOUSEHOLD PLOTS OF APC FARMERS

	Unit (in hectares)	1970	1975	1978
Agricultural land.....	1,000	284	171	125
Arable land.....	1,000	206	92	49
Agricultural land per 1 permanent APC farmer.....	1	0.42	0.26	0.20

Source: "Statistická ročenka CSSR 1979", p. 305.

The difficulties of the agricultural sector have forced the government to reconsider some of the steps taken earlier. First of all, the drive for concentration and mergers of cooperative farms was halted. The emphasis is now on strengthening the organizational structure and the management of the newly created large-scale units.¹⁷ The holding and fattening of cattle and pigs on household plots for slaughter on a contract basis is to be encouraged. Incentives are to be reorientated by changing the price relatives between main agricultural products. Cattle breeding, which can utilize domestically produced roughage will be supported by price increases of more than 16%. The price increases will also pertain to calves and heifers as well as to bulk fodder. The breeding of sheep will likewise be encouraged by price rises. On the other hand, pig fattening which depends to a large extent on imported concentrates, will be less attractive with respect to price relatives. While the price per 1 kg of live weight will increase by 0.50 Kčs, the costs of producing 1 kg will increase by more than 1 Kčs so that the profitability will be lowered. Similar changes in sales prices and costs of inputs will make poultry keeping and egg production less attractive, because these lines of production also depend on imported fodder grain.

In crop production, greater differentiation of prices of wheat according to quality should encourage production of high quality grain. The prices of processed feed and of fertilizers will be increased by 18% and 15% respectively, because the considerable increase of prices for the imports in the last years were so far subsidized from budget funds. It is hoped that the price increases will encourage a more economical use of these largely imported inputs.¹⁸ At the same time new measures as to taxation and social insurance contributions, but also of differentiated bonuses, for APCs were introduced from the beginning of this year, which should play the role of a differential rent, and equalize the opportunities of agricultural producers working under different natural conditions. By and large, the profitability of agricultural enterprises working in areas with best natural conditions will be lowered while that of enterprises working under worse conditions will be improved.¹⁹

The measures introduced may perhaps halt the adverse development in agriculture of recent years, but one should remember that most of the other adverse conditions, like insufficient or faulty deliveries of machinery and of products of the chemical industry, and

¹⁷ M. Jakeš, op. cit.

¹⁸ J. Kočí, "Změny v soustavě ekonomických nástrojů v zemědělství" "Zemědělské noviny," Oct. 27, 1979.

¹⁹ "Zdokonalení soustavy ekonomických nástrojů v zemědělství" "Život Strany", Nr 22, October 1979, pp. 15-17; J. Kočí, op. cit.

the limits to increasing imports of necessary agricultural inputs due to the balance of trade difficulties will continue and hamper the consolidation of the agricultural sector.

Foreign trade is another area where the loss of efficiency during the seventies became especially pronounced. Throughout the sixties Czechoslovakia managed to run a positive trade balance, a trend which continued till 1972. These trade surpluses are necessary in the case of Czechoslovakia to balance the deficits regularly incurred on the service account.²⁰ Even so the trade surpluses achieved in the latter part of the sixties were insufficient to match the negative items on service account and the current account balance turned into the red. But in the years 1970 to 1972, increasing trade surpluses, in connection with favourable price developments in foreign trade, improved the current account balance so that some surplus on the balance of payments could be accumulated.²¹ But since 1973 trade deficits became a permanent feature of Czechoslovakia's foreign economic relations. Though import controls and restrictions became tighter in the subsequent years, trade deficits increased permanently, reaching in 1979 a total of some 6 billion "valuta crowns" or 1.1 billion US \$ in relation to all trading areas taken together (Table 14).

TABLE 14.—FOREIGN TRADE
(In millions of U.S. dollars)

	Exports	Imports	Balance
Annual average:			
1961 to 1965.....	2,393.1	2,271.1	122.0
1966 to 1970.....	3,145.3	3,096.5	48.8
1971 to 1975.....	5,941.1	6,101.8	-160.7
1970.....	3,792.4	3,696.1	97.3
1971.....	4,192.4	4,021.6	170.8
1972.....	4,914.0	4,661.4	252.6
1973.....	5,848.4	5,928.3	-80.0
1974.....	6,883.9	7,345.1	-461.2
1975.....	7,866.8	8,552.4	-685.6
1976.....	9,034.8	9,706.3	-671.5
1977.....	10,302.6	11,186.8	-884.2
1978.....	11,746.7	12,564.4	-817.7
1979.....	13,672.2	14,208.5	-536.3

Source: 1961-75, J. Varouk, "Project CMEA, Forfram Data Bank of foreign trade flows balances of CMEA Countries 1950-1975", Vancouver 1977, from 1976-79 Statistické Průhledy No. 3/1980 (Foreign exchange Kcs values converted to U.S. dollars using official conversion factors).

As in the case of agriculture, one can also blame developments outside the control of the Czechoslovak authorities for the adverse turn of developments. Certainly the commodity composition of the trade flows does not work in favour of Czechoslovakia in view of the disparate development of prices of fuels and raw materials on the one hand and of manufactures on the other in recent years. Over 70% of exports but only about half of the imports are finished products. On the other hand, about half of the imports are fuels, raw materials and materials for production but only somewhat over a quarter of all exports consist of these products. But again, as in the case of agricul-

²⁰ "New Trends in Czechoslovak Economics," No 8/1968, p. 20 (quoted in *Economic Bulletin for Europe*, Vol. 21, No. 1, UN New York, 1970, p. 31).

²¹ "In cumulation for the years of consolidation and the following years considerable (foreign) assets were created which are serving as reserves for the further period", J. Goldman, *Makroekonomické analýzy a prognózy*, Prague 1975, p. 60.

ture, adverse outside developments cannot explain the full extent of the losses incurred in foreign trade in recent years. Till the early seventies Czechoslovakia managed to develop trade surpluses in finished products which were larger than the trade deficits incurred in fuels, raw materials and materials for production. But already before the price explosion in fuels, exports of machinery and equipment started to lag behind the growth of exports of other industrially developed countries including CMEA countries.

While the adverse trade balance in fuels, raw materials and materials for production exploded between 1970 and 1975 from 3.5 billions of foreign exchange Kčs to 9.5 billions f.e. Kčs, the net proceeds from trade in machinery and equipment decreased from Kčs 4.8 billion in 1970 to Kčs 3.7 billions by 1975. And though net proceeds from trade in machinery and equipment in the following years could be stepped up, the deficit from trade in fuels and materials increased even faster. In the attempt to contain this adverse development, which was accentuated by the mounting bill for net imports of food (including raw materials for food) and other agricultural raw materials, the export of industrial consumption goods was stepped up, often at the expense of meeting the effective demand for them on the domestic market. By 1978 industrial consumer goods already provided a bigger positive trade balance than machinery, although the trade turnover in consumer goods does not represent even a quarter of the foreign trade turnover in machinery (Table 15, 16).

TABLE 15.—BALANCE OF FOREIGN TRADE OF CZECHOSLOVAKIA BY MAIN COMMODITY GROUPS

[In million foreign exchange Kčs (s.b.)]

Commodity groups	1960	1965	1970	1975	1978
I. Machinery, installations, and tools.....	3.431	3.627	4.841	3.697	6.232
II. Fuels and raw materials.....	-2.872	-3.505	-3.454	-9.540	-13.883
Of which:					
(a) Fuels, minerals, metals.....	-887	-1.360	-1.159	-5.464	-10.507
(b) Chemical products, fertilizers, rubber.....	-813	-730	-1.077	-2.068	-2.095
(c) Building material and construction parts.....	92	53	200	502	851
(d) Raw materials of vegetable and animal origin (without foodstuffs).....	-1.265	-1.468	-1.498	-2.510	-2.142
III. Food, including raw materials and breeding stock.....	-2.132	-2.195	-2.941	-2.687	-3.307
Of which:					
(a) Raw materials for the food industry, breeding stock.....	-1.183	-1.089	-1.117	-1.302	-1.615
(b) Food.....	-949	-303	-940	-1.385	-1.692
IV. Nonfood goods for consumption.....	2.393	2.188	2.254	4.465	6.503
Finished products (I, III(b), IV.).....	4.875	4.700	5.271	6.777	11.043
Raw materials, fuels, materials for production, including raw materials for the food industry (II, III(a)).....	-4.055	-4.594	-4.571	-10.842	-15.508
Total.....	870	115	700	-4.065	-4.465

Sources: Calculated on the basis of "Statistické ročenka CSSR," 1971, pp. 424, 425; *ibid.* 1978, pp. 454, 455; "Jahrbuch des Außenhandels der Tschechoslowakei, 1964," pp. 65, 68; 1978, pp. 36.

TABLE 16.—DEVELOPMENT OF CZECHOSLOVAK FOREIGN TRADE BALANCES BY REGIONS AND BY COMMODITY GROUPS 1950-79

(In million U.S. dollars (balances: exports minus imports))

Year	Regions								Commodity groups—annual balances			
	CMEA Europe		Industrial West ¹		Developing countries		Socialist countries ²		Machinery	Raw materials	Food (including raw materials for feedstuffs)	Industrial consumer goods
	Annual balance	Cumulated from 1950	Annual balance	Cumulated from 1950	Annual balance	Cumulated from 1950	Annual balance	Cumulated from 1950				
1950	68	68	46	46	27	27	-1	-1	146	-120	-61	175
1951	-19	49	-16	30	-5	22	-12	-13	143	-207	-143	155
1952	5	54	-15	15	5	27	3	10	189	-166	-131	107
1953	60	123	15	30	17	44	14	4	298	-111	-180	168
1954	10	143	7	37	17	61	28	32	276	-102	-224	123
1955	48	190	25	63	41	102	10	42	371	-103	-232	86
1956	87	277	-13	50	105	207	22	64	355	-140	-189	176
1957	-132	146	-17	34	73	280	46	110	295	-276	-229	181
1958	61	207	-10	24	57	336	48	159	403	-272	-207	232
1959	52	259	-2	22	51	367	44	203	435	-346	-271	305
1960	65	324	-22	0	36	403	36	238	477	-399	-297	332
1961	53	377	-61	-61	26	429	-5	233	447	-480	-246	311
1962	115	491	-30	-92	55	484	-17	216	509	-438	-277	230
1963	233	724	6	-76	25	509	37	254	624	-407	-285	359
1964	80	804	-44	-119	82	561	58	312	528	-385	-338	353
1965	5	810	-43	-162	55	616	-1	311	504	-487	-305	304
1966	-3	807	-71	-234	75	691	8	319	478	-435	-341	306
1967	64	870	3	-231	60	751	58	377	573	-455	-311	377
1968	-148	722	-77	-308	94	844	60	437	519	-674	-344	328
1969	-151	571	-17	-325	123	967	71	507	639	-821	-348	255
1970	102	673	-133	-458	116	1,082	13	521	672	-480	-408	313
1971	115	788	-147	-605	172	1,255	30	550	747	-612	-403	439
1972	222	1,010	-122	-727	138	1,393	14	565	848	-748	-405	557
1973	73	1,083	-229	-955	54	1,447	21	586	718	-989	-498	589
1974	-131	952	-304	-1,259	56	1,503	-3	583	533	-1,170	-414	589
1975	-363	589	-547	-1,806	202	1,706	22	605	623	-1,609	-453	753
1976	-119	470	-750	-2,556	169	1,875	51	656	952	-1,865	-662	823
1977	-329	141	-897	-3,453	103	1,978	88	744	881	-2,082	-714	1,077
1978	-428	-287	-731	-4,183	343	2,321	67	811	1,950	-2,340	-560	1,109
1979 ³	-768	-1,056	-516	-4,699	296	2,617	185	966	1,118	-2,623	-603	1,274

¹ OECD countries.

² Other than CMEA Europe.

³ Estimated.

Notes.—The data differ somewhat from table 18 also using dollar values. The differences can be explained: (a) by the conversion factors used, (b) the data for 1979 are estimates from incomplete coverage while in table 18 information for the complete year was available.

Source: Computed following J. Vancov, "Project CMEA, Fortram Data Bank of Foreign Trade Flows Balances of CMEA Countries 1950-75," Vancouver 1977, from foreign trade Annals of the CSSR for the years 1976, 1977, 1978 and from the Monthly "Statistické přehledy", 1979/1-10.

Quoted from F. L. Altmann, J. Stama, "Strukturentwicklung der tschechoslowakischen Wirtschaft und ihre Rückwirkung auf den Außenhandel," Osteuropa-Institut München, Working Paper, December 1979 p. 53.

The unfavourable development in machinery exports pertains practically to all trading areas. Czechoslovakia's share in world exports in machinery dropped from almost 3% in 1960 to 1.6% in 1976. Within the CMEA its share in machinery exports dropped from over 17% to 10% in the same period. Even in exports of machinery to the developing countries, where Czechoslovakia had a long standing tradition going back to prewar days, the share diminished to less than half between 1960 and 1976. The main problems are that the technical level of most machinery products is lagging behind the world standard, there are insufficient innovations and improvements of the technical parameters, deliveries are often behind agreed schedules, there are not sufficient spare parts, and the service of delivered machines is poor or not existent.²³

The main consequence is the continuously unfavourable development of prices achieved for machinery products in foreign markets.²⁴ In 1979 export prices of machinery and equipment lost 2 percentage points relative to machinery import prices. If we add the structural disadvantage mentioned before which necessitates trading finished products against fuels and materials, one can explain the accelerating losses in the terms of trade during the second half of the seventies (see Table 5). Between 1974 and 1978 Czechoslovakia's foreign trade incurred an annual loss in terms of trade of 3.1%, while in the first part of the seventies the losses could be kept to an annual rate of 1.2%.²⁵ The unfavourable price developments during the seventies imply—taking into account the traded volumes in 1978—a concrete loss of almost 11 billion foreign exchange Kcs, or nearly US \$2 billion. It is remarkable that some of the Western industrial countries which have to cope with similar structural problems in price developments in their foreign trade, did not experience anything like these continuous losses through adverse developments in the terms of trade²⁶ (Table 17).

TABLE 17.—TERMS OF TRADE OF SELECTED COUNTRIES

Year	CSSR	Austria	Belgium	Switzerland	Federal Republic of Germany	France
1970.....	100	100	100	100	100	100
1971.....	99.21	100	104	104.44	103.85	101.88
1972.....	96.21	100	98.30	108.23	107.23	103.29
1973.....	96.20	107.77	99.72	102.97	103.33	105.26
1974.....	96.50	100	104.0	97.55	95.51	91.42
1975.....	98.39	100	104.0	104.44	101.96	97.83
1976.....	87.98	97.97	106.00	109.76	108.94	90.96
1977.....	85.50	97.32	107.81	104.44	101.96	95.23
Percentage change, 1970-77.....	-14.41	-2.68	+7.81	+4.44	+1.96	-4.77

Source: Terms of trade calculated from data in "International Financial Statistics," May 1978 by R. Zukal, "Ekonomická Revue III," spring 1979.

²³ M. Mikeš (on the staff of the Central Committee of the Communist Party of Czechoslovakia), *Hospodářské noviny*, No. 6, p. 2.

²⁴ A. Barták, Minister for Foreign Trade, "Rozvíjet naše exportní schopnosti," *Rudé Právo*, Nov. 22, 1980, "products of average or underaverage quality are eliminated from the market or can be sold with substantial price reductions only".

²⁵ Calculated from table 5.

²⁶ R. Zukal, *Ekonomická revue*, No. III, 1979, quoted by J. Šlampa and F.-L. Altmann, Osteuropa Institut, Munich.

Another consequence are the mounting trade deficits mentioned before especially in relation with the industrialized West where the balance has to be settled in convertible currency. Notwithstanding ever tighter controls on imports, deficits are steadily increasing exceeding US \$800 million annually in recent years (Table 18). Solely for the years 1975 to 1979 the cumulated negative trade balance with the industrialized West amounted to US \$3.7 billion. If the estimated debt in convertible currencies by the end of 1979 amounted to "only" US \$3.3 billion and net liabilities vis-à-vis Western banks to under \$2 billion,²⁶ then the relatively smaller amount—compared with the cumulated trade deficits with the industrialized West—can be explained by the still favourable trade balance with developing countries. As explained before (see Table 6) the largest part of the surplus is achieved with countries also trading in convertible currencies. However, since Czechoslovakia is delivering mainly machinery, equipment, and especially complete plants to these countries under medium and long term credit conditions coupled with special compensation deals, it is doubtful how much of the surplus can be effectively used for meeting commitments incurred in the industrialized West.²⁷

As the terms of trade in recent years vis-à-vis the CMEA countries (see table 5) worsened even more than in relation to the West, and especially the fuel and raw materials imported from the USSR carried consistently rising prices, the balance of trade with the USSR also developed unfavourably. In volume terms, Czechoslovakia shipped increasing amounts of goods, machinery and consumer goods to the Soviet Union; but since 1975 trade with this country could not be balanced with exception of 1978. (In this year the USSR included the value of the Orenburg deliveries of her CMEA partners into the current trade statistics). But again in 1979 the passive trade balance with the USSR amounted to US \$254 million (see Table 18).

TABLE 18.—CZECHOSLOVAK EXPORTS, IMPORTS AND TRADE BALANCES WITH WESTERN INDUSTRIALIZED COUNTRIES¹ AND WITH THE U.S.S.R.²

(In millions of U.S. dollars)

	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979
With the West:										
Exports.....	771.5	846.4	962.0	1,316.9	1,698.3	1,657.8	1,646.6	1,898.6	2,115.8	2,585.6
Imports.....	904.7	992.5	1,084.0	1,556.9	2,085.8	2,236.9	2,428.3	2,633.8	2,918.2	3,403.4
Balance.....	-133.2	-146.1	-122.0	-240.0	-385.5	-579.1	-773.7	-735.2	-802.4	-817.8
With the U.S.S.R.:										
Exports.....	1,233.9	1,338.0	1,655.2	1,909.1	2,006.7	2,622.3	2,948.3	3,304.9	4,474.2	4,821.0
Imports.....	1,203.0	1,352.9	1,521.3	1,838.0	1,996.8	2,798.4	3,077.9	3,638.8	4,394.8	5,075.0
Balance.....	30.9	-14.9	133.9	78.1	9.9	-177.1	-129.6	-334.9	79.4	-254.0

¹ OECD countries.

² According to Soviet trade statistics, converted to U.S. dollars with conversion factors applicable for individual years.

Source: B. Askanas, F. Levčík et al., "Die Wirtschaft der RGW-Länder und Jugoslawiens an der Jahreswende 1979/1980," WIIW Forschungsberichte, Nr. 58, May 1980.

²⁶ Jan Stankovsky, "Ost-West Handel 1979 und Aussichten für 1980", WIIW, Forschungsberichte Nr. 58, March 1980, Table 12 and 14.

²⁷ K. Melson and H. Snell, "Estimating East European Indebtedness to the West", JEO Volume, 1977, p. 1288.

Remedies advocated by foreign trade officials include structural adjustments in production where competitive products are not produced in sufficient quantities or whose production is discontinued altogether.²⁰ Organizational changes should encourage trade in complete plants, a field where Czechoslovakia has lost ground in some developing countries in recent years. The commercial activities should be likewise improved and especially better price relatives between import and export prices should be achieved. As in production, this would also demand a profound change in the motivation structure of the foreign trade organizations which so far is mainly oriented to fulfilling the volume targets of the import and export plans.²⁰

4. THE ECONOMIC DEVELOPMENT IN 1979 AND 1980

In 1979 the economic development in Czechoslovakia was especially unfavourable. The plan fulfillment report of the Federal Statistical Office, which was published under the misleading title "In the Main Lines According to the Design of the 6th Five-year Plan", paints a sombre picture of economic development.²⁰

The net material product increased by 2.6–2.8% in 1979, instead of the planned 4.3%. Compared with the average growth rate of 4.9% aimed at for the five-year plan period 1975–1980, the shortfall was even more pronounced. The domestically available volume of goods and services—the so-called distributed national income—increased by only 2%.²¹ Industrial gross production, at a modest 3.7% increase, remained well below the plan estimates for 1979 and way below the plan targets of the five-year plan. Agricultural gross output decreased by 4%, with crop output more than 9% lower than the year before (wheat production being down by 16%).

Construction, too, up by 3.7%, remained well behind planned schedule, with housing construction faring particularly badly. With 120,000 apartments completed, results are well below the actual results of the period 1974–1978. 24,000 fewer apartments were completed than in the record year 1975; and prospective owner-occupiers must wait for more than 10 years for their accommodation despite the fact that they have already paid their down-payment of roughly 30% of the total price. It is typical for the planners' preferences that the binding targets of big industrial construction projects were in the main fulfilled while the more consumer oriented projects like housing remained far below past performance. Total fixed capital investment increased by only 1.6% instead of the modest plan target of an advance by 2.4%. Whereas delivery of machinery and equipment was exceeded by a large margin, buildings remained 4% below the planned target.

²⁰ A. Barčák, *ibid.*

²⁰ A. Barčák, *ibid.*

²¹ *Rudé Právo*, January 25, 1980.

²¹ The distributed national income differs from the produced national product (NMP) mainly by the positive or negative trade balance. Other things being equal, a positive trade balance diminishes, and a negative one enlarges the distributed national product in relation to the produced national product, because the volume of goods and (material) services available for domestic distribution is thereby affected. Likewise, a faster growth of exports than of imports slows down the growth of the distributed national income relative to the growth of the NMP and vice versa. However, even with the same growth of exports and imports (expressed in current prices) the distributed national income can grow slower (at constant prices) than the NMP, if the terms of trade deteriorate. This seems to be the reason for the development in 1979, because the trade balance did not improve.

All branches contributed to the growth of industrial production with the exception of the energy sector: in this sector, performance fell below the level of 1978. Apart from electricity breakdowns at the beginning of 1979, due to adverse weather conditions and insufficient stocks of coal at the power stations, certain positive effects of the strict rationalization measures afterwards introduced made themselves felt. Thus electric power consumption by bulk users decreased by 0.8% despite increases in the users' output. Electric power production amounted to 68.0 million kWh, and 2.1 million kWh, or 3.2% of total current output, originated from the new nuclear power plant of Jaselské Bohunice.

Above average growth was registered in mechanical engineering, in the rubber and plastics industry, in woodworking, in the glass, porcelain and ceramics industry, and in the garments industry. In all other branches of industry growth fell below the average of the industrial sector. Coal mining developed with an increase of only 1.3%, and the food industry, with an increase of 2.0%, remained far below the plan requirements. Heavy machinery making, on the other hand, increased by 6% and general engineering increased by 6.9%. The so-called development programmes within engineering grew at above average rates, at 9.5%; among this group were equipment for nuclear power stations with 95% growth, brown coal open cast mining machinery with 47.8%, semi-conductor technique with 15.2%, numerically controlled machine tools with 22.3%, and lorry production with 9.7%. Against this, it would appear that the output of consumer goods of the mechanical engineering industry was lagging behind; however, no exact performance figures are given. The official report mentions only that consumer engineering products do often not come up to quality requirements, and especially the introduction of new or improved products falls behind schedule.

The shortfalls as against the plan in industrial and agricultural production did of necessity have consequences both for the living standard of the population and for foreign trade relationships. True, retail trade turnover increased by 3.6% at current prices, but taking into account the officially registered retail price increase of 3%, it would be more appropriate to talk of stagnation. There were continuing complaints about the supply of various, even basic commodities like meat and milk products, but also of more sophisticated high quality goods. Average nominal wages rose by 2.5%, and this, even accepting the officially stated increase in the cost of living, amounts to a 0.5% reduction in real wages. But the deterioration of real wages may be nearer 2-3%.

A more pronounced worsening of living standards could only be prevented by increasing imports of fodder and other agricultural products above plan. More than 4 million tons of grain had to be imported from hard-currency countries, a measure which necessitated a tight curb on other imports.²² The plan intention to increase exports faster than imports did not materialize, with exports rising by 9.7 percent while imports increased by 11.3 percent at current prices. Taking into account the price increase in foreign trade, hardly any ad-

²² V. Hula, "O hlavních úkolech rozvoje národního hospodářství v roce 1980" *Euro Práce*, Dec. 12, 1979.

vance in volumes was achieved. In relation to the Western industrialized countries exports grew somewhat faster than imports, but because of a shortfall in the sale of engineering products other commodities, especially consumer goods, had to be exported beyond the plan target, with the result that they were missing in retail trade. Even so the trade deficit vis-à-vis the West remained at the level of the year before (818 mil US \$).³³

The plan for 1980 provides for a slight acceleration of economic growth during the current year. With a planned increase of 3.7 percent, the national product will expand well below the plan target for the current Five-Year Plan, and also less than in any preceding year with the exception of 1979. Since industrial output and the output of the construction industry are scheduled to develop at practically the same rate as during the preceding year, the planned acceleration of growth of the national product is practically based only on the planned increase in agricultural production, which is expected to expand by 7.2 percent in 1980, following the poor harvest of the preceding year. It remains to be seen whether the increase in crop output, with a planned record grain harvest of 11 million t, can really be achieved. (For performance figures in 1979, see table 1.)

Since it is intended to reduce the disequilibrium in foreign trade, it will only be possible for the domestically available volume of goods and services to increase by 2.2 percent, which is but marginally quicker than last year's increase. Investments, at a 2.4 percent increase,³⁴ are to grow a little faster than last year, leaving an even more modest leeway for an increase in consumption. In view of the unshakable precedence of public consumption (+3 percent) (including expenditure for the defence force and police) over private consumption, marginal growth only (1.3 percent) may be expected in this sector.³⁵ Retail trade turnover is to increase by 3.4 percent; but since living costs are to rise in 1980 in consequence of the price increases imposed last year by 2.9 percent, without taking likely price increases during the current year into consideration—it would be more proper to speak of stagnation in retail trade turnover at constant prices. This may be deduced also from the plan data allowing average nominal wage increases of 2.8 percent, this being even below the extent of the expected increase in consumer prices. Only construction of dwellings is to grow appreciably quicker than in the preceding year, with 141,000 apartments to be completed.³⁶

In fixed capital investments special preference will be given to the further development of the fuel and energy sector. Equally favoured fields are CMEA integration projects (mostly to be realized outside the country), the expansion of the domestic minerals and raw materials output and the development of export capacities. Investment in agriculture will also be intensified to a certain extent. The volume of

³³ B. Askanaš, F. Levčík, "Die Wirtschaft der RGW-Länder zur Jahreswende 1979/1980", Monatsberichte WIFO, April 1980. See also Table 18.

³⁴ V. Hula, the planning chief, considers such a growth rate to be the "extreme possible limit" *Rudé Právo*, Dec. 12, 1979.

³⁵ V. Hula, *Plánované hospodářství*, Nr. 1/1980, p. 3.

³⁶ However, this plan figure seems to be abandoned by measures taken more recently. See L. Štrougal, Government Report in National Assembly, *Rudé Právo*, April 10, 1980 "In construction of apartments we count with a smaller number of new flats and with a bigger share of modernized ones".

new investment projects is to be reduced by 20 percent while main attention will be given to the completion of projects in progress.²⁷

As mentioned above, it is also intended to lessen the disequilibrium in foreign trade. Export to the socialist countries is to be increased by 8.6 percent, import is to grow by 8.5 percent. Export of machinery and equipment will expand by 11 percent. Export to the OECD countries and the developing countries, taken together, is planned to expand by 9.4 percent, while import is to grow by 5.2 percent.²⁸ Since the growth rates are considered at current prices this would signify—at best—a modest increase in exports, while the volume of imports would decrease, or, in the most favourable case, stagnate.

Adding the target growth for 1980 to the actual performance figures for 1976–1979 indicates that even under the optimistic assumption that all will go according to plan in 1980, the current Five-Year Plan will remain unfulfilled even in purely quantitative terms (Table 19).

TABLE 19.—BACKLOG AGAINST 1976–80 PLAN

(Index 1975=100)

	1976–80 plan	1976–79 actual	1980 plan	1976–80 probable development ¹	1976–80 expected plan implementation
National product.....	127	116.0	103.7	120.3	94.7
Gross industrial production.....	133	121.3	104.0	126.2	94.9
Gross agricultural production ²	* 114	105.0	107.2	* 103.4	98.0

¹ By adding plan targets for 1980 to actual performance 1976–79.

² As against preceding 5-year period.

Source: See table 1.

5. CONSTRAINTS ON POLICIES IN THE EIGHTIES

The Main Limiting Factor: Fuels and Energy Supply Bottlenecks

Czechoslovak planners faced with the task to shape the outlines of the next five year plan for the period 1981–1985 see in the limited possibilities to procure the necessary volume of fuels and energy the by far most serious bottleneck for future growth. As has been shown in section 3, the Czechoslovak economy is, because of its industrial structure and insufficient motivations at the enterprise level, more energy intensive than other economies at comparable development levels. The fact that it is now faced with continuously rising prices for imported fuels and energy exerts an adverse influence on the external balance of the economy and on the development of the terms of trade. But considering the acute hard currency constraints, the problem of how to procure sufficient quantities of fuel in years to come is even more pressing.

In the past 20 years the share of *imported* primary energy rose continuously and will reach this year (1980) 42.0% of total inland consumption. In the first half of the seventies almost the total incre-

²⁷ V. Hula, *Rudé Právo*, Dec. 12, 1979.

²⁸ M. Bursa, "Některé důležité problémy čs. zahraničního obchodu v roce 1980" *Zahraniční obchod*, Nr. 1/80, p. 1.

ment of primary energy consumption was gained from imports, in the second half till 1980 still 78% of the increase in domestic primary energy consumption will be imported from abroad, while 22% will have to be covered by means of the very costly development of domestic fuel and energy resources. In the next five years it is officially estimated that less than one quarter of the necessary increment in domestic primary energy consumption can be imported and more than three quarters of the needed fuel and energy increments will have to come from domestic resources. (Table 20, 21).

TABLE 20.—DEVELOPMENT OF PRIMARY ENERGY RESOURCES AND USES

	1970	1975	1980	1985
Resources total:				
Million tons of hard coal equivalent.....	88.7	101.1	113.7	124.6-125.9
Percent.....	100.0	100.0	100.0	100.0
From: Domestic resources:				
Million tons of hard coal equivalent.....	65.7	68.3	68.9	77.1-77.8
Percent.....	74.1	65.6	60.6	61.9-61.8
Imports:				
Million tons of hard coal equivalent.....	22.8	34.5	44.6	47.5-48.1
Percent.....	25.6	34.1	39.2	38.1-38.2
Use total:				
Million tons of hard coal equivalent.....	88.7	101.1	113.7	124.6-125.9
Percent.....	100.0	100.1	100.1	100.0
For:				
Domestic consumption:				
Million tons of hard coal equivalent.....	81.2	93.2	106.2	118.1-119.4
Percent.....	91.5	92.2	93.4	94.9
Exports:				
Million tons of hard coal equivalent.....	6.9	7.9	7.1	6.4
Percent.....	7.8	7.8	6.2	5.1

Source: K. Houdek: "Balance, potreby, možnosti," "Hospodářské noviny" Nr. 3, 1980.

TABLE 21.—IMPORT DEPENDENCY OF DOMESTIC PRIMARY ENERGY USE

	1960	1965	1970	1975	1980	1985
Domestic use of primary energy (million tons of hard coal equivalent).....	56.9	71.7	81.2	93.2	106.2	118.1
Increment of domestic primary energy over use in preceding 5 years (million tons of hard coal equivalent).....		14.8	9.5	12.0	13.0	11.9
Imports of primary energy (million tons of hard coal equivalent).....	6.7	14.6	22.8	34.5	44.7	47.5
Increments in imports over preceding 5 years (million tons of hard coal equivalent).....		7.9	8.2	11.7	10.2	2.8
Share of imports in domestic use of primary energy (percent).....	11.8	20.4	28.1	37.0	42.1	40.2
Share of increment in imports in increment of domestic consumption of primary energy (percent).....		53.4	86.3	97.5	78.5	23.5

Source: K. Houdek: "Balance, potreby, možnosti," "Hospodarske noviny" Nr. 3, 1980.

This will have an adverse effect on the structure of the energy resources used in the Czechoslovak economy which even in the past was marked by a predominance of solid, mostly low grade fuels. In the past increased quantities of crude oil and gas imported during the seventies mainly from the Soviet Union improved the structure of energy consumption in favour of liquid and gaseous fuels, the share of which rose from 21% in 1970 to an estimated 36% by 1980.²⁰ In the years 1966-1970 almost 40 mil.t. of crude oil were imported from the

²⁰ For the world total the share of oil and gas in energy consumption reaches now more than 70% (Forecast for 1980 by the IX. World Energy Conference).

Soviet Union, in the first half of the seventies already 65,4 mil.t. and in the current five year period through 1980 over 88 mil.t. will be procured from the USSR.⁴⁰ The contract for deliveries of 19,2 mil.t. of crude oil from the USSR during 1980 which was concluded in Prague on 25 January 1980⁴¹ seems to be the peak reached and deliveries after 1980 are not supposed to increase further.⁴² The share of gas in energy consumption increased rapidly during the current five year plan, especially on completion of the Orenburg pipe line, from 5,5% in 1975 to 9,3% in 1980. Altogether almost 35 billion cubic meters of gas will be imported during 1976-1980. For the coming five year plan period an increment of 19,8% is considered, considerably less than previously planned in view of the fact that the quantities promised in the Iranian gas switch-deal will not materialize.

The limited capability of procuring more oil and gas from abroad in the coming five years will mean that of the needed increment in primary energy of roughly 12 mil.tce only 2.9 mil.tce will be imported, again mainly from the USSR but with a rising share coming from the OPEC countries. It is planned to increase the share of OPEC oil from 4% in 1980 up to 9% in the mid-eighties and to 15% of total oil imports by 1990.⁴³ The main suppliers of oil outside the USSR are at present Iraq and Iran.

Negotiations for additional deliveries of crude oil from Libya, Nigeria and Algeria seem to be well advanced. To safeguard the transport of crude oil from these countries Czechoslovakia participated in the construction of the Adria oil pipeline (together with Yugoslavia and Hungary) leading from Rijeka in Yugoslavia over Sisak and the territory of Hungary to the Czechoslovak border at Tupá where it is linked to the Družba pipeline. The Adria pipeline was put into operation at the end of 1979.⁴⁴ Of course, the quantities of crude oil coming from the OPEC countries will have to be paid for in hard currencies and at the current world prices.

In any event the severe restrictions on purchases of liquid and gaseous fuels from abroad will halt the past improvement of the primary energy consumption during the next five years. According to a recent forecast of an official of the State Planning Commission released in January 1980, the share of liquid fuels in domestic primary consumption will drop from an estimated 26,4% for the current year to 25,5% in 1985. With a concomitant rise of the share of gaseous fuels from present 9,3% to about 10,3% by 1985, gas and oil together will have the same share in primary energy as at the present time. (Table 22 and 23). It is significant that in a forecast prepared likewise by an official of the State Planning Commission at the beginning of 1979 it was assumed that the share of liquid and gaseous fuels in the primary energy use will increase to 39,4% by 1985 and to 41% by 1990.⁴⁵ The scaling down of the expectations of a further improvement of the primary energy structure is essentially connected with the limitations

⁴⁰ J. Suda, "Erdöl—der Grundrohstoff der tschechoslowakischen Chemieindustrie", *Aussenhandel der Tschechoslowakei*, Nr. 1, 1980.

⁴¹ *Rudé Právo*, Jan. 25, 1980.

⁴² K. Houdek, "bilance, potřeby, možnosti" *Hospodářské noviny*, Nr. 3, 1980.

⁴³ J. Suda, op. cit.

⁴⁴ *Ibid.*

⁴⁵ M. Cibula (State Planning Commission), "Energie a rozvoj hospodářství" *Plánování hospodářství*, Nr. 3, 1979.

in securing the necessary quantities of crude oil and gas from the USSR and with the balance of payment constraints precluding a faster stepping up of purchases from the OPEC countries.

TABLE 22.—CHANGES IN THE STRUCTURE OF PRIMARY ENERGY USE
[Percentages (from tons of hard coal equivalent)]

	1960	1965	1970	1975	1980	1985
Domestic consumption.....	100.0	100.0	100.0	100.0	100.0	100.0
Solid fuels.....	83.6	82.9	75.3	68.5	60.7	57.0
Gaseous fuels.....	2.8	1.5	3.3	5.5	9.3	10.3-10.7
Liquid fuels.....	6.7	11.7	17.6	24.5	28.4	25.5-25.8
Other fuels and energy ¹	1.9	3.9	3.8	3.6	3.6	6.0-6.9
Of which: from nuclear powerplants.....					1.1	4.6

¹ Energy from domestic hydro- and nuclear powerplants, and net imports of electricity.

Source: 1960 and 1965—M. Cibula (State Planning Commission) "Energie a rozvoj hospodárství," "Plánované hospodárství," Nr. 3, 1979; for other years—K. Houdek (State Planning Commission), "Balance, potreby, možnosti," "Hospodárská noviny," Nr. 3, 1980.

Note: The structural percentage breakdown according to figures in Statistical Yearbook (Statistická ročenka CSSR) 1979, p. 354 yields slightly different results. For reasons of consistency with the projections, the figures computed by the officials of the State Planning Commission were utilized. A structural breakdown of figures computed by the CIA in "Energy Supplies in Eastern Europe: A Statistical Compilation" December 1979, table B2 for the years 1960-77 gives also very similar results with slightly bigger shares of oil and gas and smaller shares of coal and electricity. The differences can be explained by the coefficients used in converting original figures to barrels per day of crude oil equivalent in the U.S. source.

TABLE 23.—STRUCTURE OF PRIMARY ENERGY CONSUMPTION
[In million tons of hard coal equivalent]

	1960	1965	1970	1975	1980	1985
Total apparent consumption.....	56.9	71.7	81.2	93.2	106.2	118.1
Coal.....	50.4	50.4	61.1	62.0	64.5	67.8
Gas.....	1.6	1.1	2.7	5.1	9.9	12.2
Oil.....	3.8	8.4	14.3	22.8	28.0	30.1
Electricity.....	1.1	2.8	3.1	3.3	3.8	8.0
Of which nuclear.....					1.2	5.3

Source: Calculated from tables 21 and 22.

Altogether there are two ways open to the Czechoslovak economic decision makers to secure at least the minimum necessary increments of primary energy from domestic sources. One is to develop further the overextended brown coal deposits which involves rising costs and deteriorating quality of the coal. It is hoped to increase the level of output by 8-10 mill. tons from its present level of 96 mill. tons. In view of the lower quality of the incremental coal this will bring only an additional 3.3 to 4 mill. tce or an annual average growth of only 1% till 1985. (Table 24).

TABLE 24.—AVERAGE ANNUAL GROWTH OF PRIMARY ENERGY CONSUMPTION
[In percent]

	1961-65	1966-70	1971-75	1976-80	1981-85
Total.....	4.7	2.5	2.8	2.7	2.2
Coal.....	3.3	.6	.3	.8	1.0
Gas.....	-7.2	19.7	13.6	14.2	4.3-4.9
Oil.....	17.2	11.2	9.8	4.2	1.5-1.7
Electricity.....	20.5	2.1	1.3	2.0	16.1-16.3
Of which nuclear.....					34.6

Source: Cf. Table 23.

As to bituminous coal (with a share in the energy structure of 27 to 28%), the best one can hope for is to keep output at the present levels. Even so, sufficient quantities of special machines and equipment for exploiting deep mines with narrow and ridged coal seams will have to be procured. In addition, processing plants will have to be built or reconstructed. Part of the necessary investment will have to be imported from abroad.

The problems facing the economy in developing the brown coal deposits are far more difficult. There is a significant delay in preparatory work, particularly in preparation of the open-cast mining region for excavation rubble etc. The stocks of coal prepared for mining operations have been decreasing steadily from 1975 to 1979 because of the insufficiency of the equipment so far developed by the Czechoslovak engineering industry. There has to be considerable improvement in the construction, the quality of the products and in a sufficient supply of spare parts particularly for the giant excavators working the open-cast mines and for the belt conveyors used for medium distance coal transport in the mines. Besides, there will be rising indirect investment costs because of the necessity to move rail and road communications and entire cities and villages to new sites to make room for new areas for strip mining. The Czechoslovak economists are also starting to recognize the importance of the environmental factors particularly in heavily affected areas of strip-mining and of brown coal fired electric power stations. In comparison to the investment outlays for the coal industry to be expended during 1976 to 1980, investment will be stepped up in the next 5 year plan period by 43%, taking almost 14% of all investment expenditures earmarked so far for the entire Czechoslovak industry. Considering that all these efforts will bring only 3.3 mil. tce additional primary energy sources, it is obvious that the increased role of coal under the specific conditions of Czechoslovakia with deteriorating quality of coal is highly uneconomical. (Table 25).

TABLE 25.—INCREMENTS OF PRIMARY ENERGY USE 1981-1985

	Million ton of hard coal equivalent	Percent
Total.....	11.9	100.0
Coal.....	3.3	27.7
Gas.....	2.3-2.7	19.3
Oil.....	2.1-2.3	17.6
Electricity.....	4.2-4.3	35.3
Of which: nuclear.....	(4.1)	(34.5)

Source: Cf. table 23.

A second way of increasing the domestic primary energy resources is to develop rapidly a net of nuclear electric power stations which ought to add by 1985 4.1 mil. tce towards primary energy consumption (some 13 billions of kWh).⁴⁶ According to this forecast it is hoped to overcome the bottlenecks which so far have led to considerable delays in commissioning new capacities in time. In addition to the al-

⁴⁶ K. Houdek, *op. cit.*

ready working light water pressure reactor block VVER 440 (installed capacity of 440 MW) three more reactor blocks of the same type are to be put into operation by the end of 1980 at the same site of Jaslovské Bohunice in Slovakia. Another nuclear power station with a designated capacity of 4 times 440 MW is planned in Dukovany, South Moravia, about 35 km from the Czechoslovak-Austrian border. Completion date of this plant is projected between 1982 and 1985.⁴⁷ Only if this timetable is kept and the projected power plants will operate according to planned capacity can the forecast primary energy consumption for 1985 be met with nuclear energy taking a share of 4.5% (see Table 22). Delays in this schedule seem to be almost certain because by the end of 1980 only the second reactor block VVER 440 at Jaslovské Bohunice will be in operation. According to the state plan for 1980 this will add some 1.2 bil.kWh to electricity output, implying that the reactor will go on stream by mid-1980 only.⁴⁸

The other two reactor blocks will be in operation after 1980, and delays are likely also to affect the total planned increment of electric energy by 1985. It is therefore more likely that nuclear energy will add by 1985 less than the forecast 13 bil.kWh. In the second half of the 1980s almost the entire increment of electric energy generation is to be covered by nuclear power stations, the total capacity of which is forecast to reach 8,000–10,000 MW by 1990.⁴⁹ Another nuclear power plant with 4 blocks of VVER 440 is being designed at Mochovce in Western Slovakia but only preparatory work has so far begun. This plant could go into operation only well after 1985. For further plants an improved light water pressure reactor with an installed capacity per block of 1,000 MW (the Novovoronezh type VVER 1,000) is to be applied, the prototype of which is nearing completion at Novovoronezh in the USSR. It is still doubtful if this type of reactor will be available in Czechoslovakia before 1990 though Czechoslovak researchers and development engineers are participating in the construction of this type of reactors. As site for a plant with 4 blocks of VVER 1,000 Malevice near České Budějovice in South Bohemia has been chosen and another set of these reactors are to be constructed in Northern Moravia.⁵⁰

However, many problems especially of safety and waste disposal are not yet solved sufficiently. It is well known that nuclear power stations as well as nuclear waste deposits should be located in sites with safe geological conditions. Despite this at least two of the projected atomic power plants are located right in the centre of earth-quake regions, one in Jaslovské Bohunice and one in Mochovce in Slovakia. The necessity to improve on the safety regulations is increasing the cost of construction, which brings new problems also in view of the fact that in the frame of the Long-Range Target Programs of CMEA integration Czechoslovakia should be the chief partner of the USSR in nuclear power stations deliveries—either of complete Soviet designed reactors or of some technological parts of them.

To be able to fulfill these tasks Czechoslovakia is speeding up its nuclear engineering program. 30 percent of the total capital investment

⁴⁷ M. Cibula, op. cit.; J. Neumann, Chairman of the Czechoslovak Commission for Atomic Energy, "Perspektivy čs. jaderné energetiky" *Rudé Právo*, June 27, 1979.

⁴⁸ Václav Hula, Chairman of the State Planning Commission, "Hlavní úkoly rozvoje čs. ekonomiky v roce 1980", *Plánované Hospodářství* Nr. 1, 1980.

⁴⁹ M. Cibula, op. cit.

⁵⁰ J. Neumann, op. cit.

in industry for 1980 has been earmarked for this purpose. Seven reactors including complements and associated turbines for the 440 VVER and VVER 1,000 MW units are to be delivered annually in the period from 1981 to 1985. Five of them go to other CMEA countries and two will be exported to developing countries. These large orders require that a major share of the engineering industry will be oriented towards complementary production of pipes, pumps, automatic controls etc. The Czechoslovak Premier L. Štrougal stressed in his statement to the XXXIII. Council meeting of the CMEA in connection with these intended deliveries that the increased costs because of tightened safety measures ought to be met by the purchasers of the equipment, but the formulation of this demand leaves it open if he succeeded in persuading the partners to accept this point of view.⁵¹

In addition to procuring additional sources of primary energy through imports, development of the solid fuel basis, and of nuclear electricity, detailed rationalization measures are to be introduced to achieve a continuous slow-down of specific consumption of fuels and energy. At first sight it would seem that there is plenty of room for rationalizing the use of fuels and energy in Czechoslovakia. The Czechoslovak economy is extremely fuel and energy intensive. Per capita primary energy consumption and energy consumption in relation to GNP is much higher than in economies at comparable GNP levels. (see Table 9). However, there are several factors preventing a rapid improvement of the situation. The share of the energy intensive branches is extremely high and the structure of investments considered for the next 5 year plan period does not allow for a visible improvement of the branch structure. The outdated technical level of a considerable part of the production capacities and of the technologies applied is another source of the uneconomical expenditure of fuels and energy. Also here the limited investment means do not allow to expect early results. The unfavourable mix with the high share of solid fuels is itself one reason of the extremely high level of fuel and energy consumption. As we have shown no further structural improvement of the energy mix can be expected. If we add that practically all additional imports of crude oil will have to be used for chemical processing and for the expanding road transport, while for the caloric electrical power stations only low grade brown coal of deteriorating quality will be used, then one could expect a reduction rather than an increase in the efficiency of transformation of primary energy into final energy. At best the planners can hope that improved rationalization measures will balance the deteriorating factors so that the elasticity of energy consumption growth to NMP growth will not increase further (Table 26).

TABLE 26.—AVERAGE ANNUAL GROWTH OF NMP AND OF PRIMARY ENERGY CONSUMPTION

(in percent)

	1961-65	1966-70	1971-75	1976-80	1981-85
NMP.....	2.0	6.9	5.7	3.7	3.0
Energy consumption.....	4.7	2.5	2.8	2.7	2.2
Growth elasticity of energy consumption to NMP.....	2.35	.36	.49	.73	.73

Source: NMP growth: "Statistická ročenka CSSR" (Czechoslovak Statistical Yearbook); Primary Energy Consumption, see table 24.

⁵¹ L. Štrougal, Statement of the Czechoslovak delegation to the XXXIII. Council meeting of the CMEA, June 1979, *Zemědělské noviny*, June 28, 1979.

In any event, even under the assumption that all problems of procuring fuels and energy from abroad, the manifold investment problems for the development of domestic fuel and energy resources, and the timely introduction or rationalization measures can be solved and secured, the fuel and energy sector will be a drag on the further development of the Czechoslovak economy.⁵²

The Demographic Trend: Lower Rates of Labor Supply

Another factor with which the Czechoslovak planners have to cope is the unfavourable development of the age structure of the population after 1980, which will severely limit the labor supply. In the long term, the population of productive age (according to Czechoslovak social security legislation only males aged 16-60 and females aged 16-55) will develop faster than total population. Till the year 2000 total population is predicted to grow by 9.6% but population in productive age by 13.8%.⁵³ Till 1990 the trend is still favourable: the total population is to grow by 4.4%, the population of productive age by 5.2%. But because of the considerable oscillations in the demographic development in the past the development will be very unfavourable in the next years to come. Between 1980 and 1985 the numerically strong age cohorts of those born in the twenties are due to retire from work. On the other hand, the youth entering working age dates from the first part of the sixties when birth rates were low. The population of working age will therefore grow in the first part of the eighties only marginally by 0.18% annually or by 0.88% during five years. In absolute numbers an addition of 77 thousand adults only will be available for the labour force compared with 230 thousands in the preceding five year plan period. On the other hand, after 1985 numerically strong age cohorts of young people born in the period of high birth rates after 1970 will enter the labour force adding 377 thousand persons of productive age⁵⁴ (Tables 27 and 28).

TABLE 27.—DEVELOPMENT OF THE POPULATION ACCORDING TO MAIN AGE GROUPS: PROJECTION 1980 TO 1990

	(1,000's)			Index		
	1980	1985	1990	1985/80	1990/85	1990/80
				=100	=100	=100
Population total.....	15,395	15,753	16,077	102.3	102.1	104.4
Population aged 0-15.....	3,767	3,929	3,840	104.4	98.0	102.3
Population in productive age (males 16-60, females 16-55).....	8,729	8,806	9,183	100.9	104.3	105.2
Population in postproductive age (males 61 and more, females 56 and more).....	2,904	3,018	3,045	103.9	108.9	104.9

Source: Relative figures: Czechoslovak Government report to ECE, August 1979. Absolute figures: derived from population forecast as quoted by F. L. Altmann, J. Sláma, op. cit. pp. 66-71 and from relative figures.

⁵² K. Houdek, op. cit. indicates that the increment of the national product (NMP) during 1981-85 in volume terms is likely to be the same as during 1976-80. Added to the expected level of national product in 1980 at constant prices this yields an annual growth rate for 1981-85 of 3%.

⁵³ Population forecast of the Federal Statistical Office of Czechoslovakia released 1979. *Hespedárské noviny*, Nr. 30/1979 and F. L. Altmann, J. Sláma "Strukturentwicklung der tschechoslowakischen Wirtschaft und ihre Rückwirkungen auf den Außenhandel" Osteuropa-Institut München, Working Papers, December 1979, p. 68.

⁵⁴ "On some most important tendencies of the structural development in the Czechoslovak Socialist Republic", paper presented by the Czechoslovak Government to the Senior Economic Advisers to ECE Governments, Prague, Aug. 31, 1979 (mimeographed).

TABLE 28.—AGE STRUCTURE OF POPULATION IN 1960-90

(in percent)

	1960	1985	1990
Population aged 0-15.....	24.4	25.0	24.0
Productive age (males 16-60, females 16-55).....	56.7	55.9	57.1
Postproductive age (males 61 and more, females 56 and more).....	18.9	19.1	18.9
Total.....	100.0	100.0	100.0

Source: Cf. table 27

To compensate in part the unfavorable development of the labour resources due to demographic factors the Czechoslovak Government expects to achieve a further work activation of persons in the post-productive age entitled according to the social security regulations to old age benefits.⁵⁵ On first glance this should be not too difficult taking into account that the retirement age in Czechoslovakia is exceptionally low. However, this source has been tapped before and especially after the adoption of a new social security law with validity from 1st January 1976⁵⁶ which allows under certain conditions to draw old age benefits without reduction side by side with earned incomes, the number of working persons in post productive age increased by some 15 to 20 thousand, however, without an appreciable increase of the age specific activity rate. An increase of the activity rate of persons in productive age is likewise hardly possible, in fact, the activity rate of men has been falling for some time in view of prolonged training and advanced schooling (Table 29). The activity rate of women is exceptionally high compared with other industrially developed countries, and in addition legislation on prolonged maternity benefits and other pronatalist measures enacted to influence positively population trends are running counter to efforts to still further increase the employment of women.⁵⁷

In view of all these facts the assumption of the Czechoslovak Government to be able to add some 140,000 persons to the labour force during the next Five-Year Plan seems to be on the optimistic side.⁵⁸

TABLE 29.—ACTIVITY RATES OF PERSONS IN PRODUCTIVE AND POSTPRODUCTIVE AGE

(in percent)

Year (end December)	Productive age groups			Postproductive age groups		
	Total	Males	Females	Total	Males	Females
1970.....	75.2	79.8	70.1	21.8	27.0	19.0
1975.....	74.6	79.6	69.2	21.3	28.7	16.9
1976.....	74.5	79.3	68.4	21.6	29.4	17.1
1977.....	74.8	79.3	68.8	21.2	28.4	17.2
1978.....	74.8	79.0	70.2	21.8	29.4	17.0

Note: Share of persons in productive age, respectively in postproductive age (see table 28 for definition) in main employment, as percent of all persons in respective age groupings.

Source: Dyna Tesarová, "Pracovní síly v CSSR v prvních třech letech šesté pětiletky," "Práce a mzda," Nr. 12, 13, 1979.

⁵⁵ F. L. Altmann, J. Sláma, op. cit. pp. 69, 70 and V. Seidl, "Ekonomická aktivita osob v poproduktivním věku" *Plánovaná hospodářství*, Nr 8/79.

⁵⁶ Government decree Nr. 135/1975, Collection of Laws amended by Government decree Nr. 7/1978 and edited anew in Nr. 100/1978 Collection of Laws.

⁵⁷ T. Frejka, "Fertility trends and policies: Czechoslovakia in the 1970s" *Center for Policy Studies, The Population Council, New York Working Papers* No. 54/1980, pp. 8-15.

⁵⁸ "On some most important tendencies . . ." Czechoslovak Government statement to ECIE, op. cit.

One more consideration has to be taken into account looking at manpower as one of the conditions of development and growth in the eighties. While compared to developed market economies the tertiary sector in Czechoslovakia is relatively underdeveloped, nevertheless as in other industrialized countries it has expanded during the seventies faster than the so called productive sectors.⁵⁹ In fact, during the second part of the seventies only about a third of the incremental manpower entered employment in the productive sectors while almost two-thirds went to the "non-productive" services. (Table 30)

TABLE 30.—DEVELOPMENT OF EMPLOYMENT DURING THE SEVENTIES

	1970	1975	1979	Increments			
				1970-75		1975-79	
				Thousands	Percent	Thousands	Percent
Employment total	6,871	7,060	7,265	180	2.8	205	2.9
Productive sectors ¹	5,429	5,514	5,587	85	1.5	73	1.3
In Percent	79.0	78.1	76.9	45.0	-----	35.6	-----
Non-productive sectors ²	1,442	1,546	1,678	104	7.2	132	8.5
In Percent	21.0	21.9	23.1	55.0	-----	64.4	-----

¹ Agriculture, forestry, extractive industries and manufacture, freight transport and communications serving the economy, trade, procurement of industrial inputs and procurement of agr. output from farms.

² Passenger transport and communication services for population, communal services, research and development, education and culture, health and social services, banking and insurance, government activities and other services.

Source: "Statistická ročenka CSSR 1979", p.182 and Planfulfillment report, "Rudé Právo," Jan. 25, 1980.

If—as is likely—this trend will continue, then at best some 40 to 50 thousand additional persons will move into employment within the productive sectors, even if the Government prediction of gaining additional 140,000 persons to the labour force should come true. Of course there will be some further shifts from agriculture but in view of the age structure of the agricultural population the possibilities here are limited. The anticipated decrease of the employment share in the primary sector is the effect of withdrawals from the work force (retirement of old persons and demises rather than a shift to other sectors (see Table 31).

In any event, the contribution of additional labor to the growth of the national product will be only marginal so that only the growth of labour productivity can account for a further expansion of output. Also from this point of view an annual growth rate of more than 3% seems to be unlikely unless some completely new "intensive" factors of growth can be mobilized.

TABLE 31.—EMPLOYMENT STRUCTURE ACCORDING TO SECTORS (PERCENTAGE SHARES)

	Sectors		
	Primary	Secondary	Tertiary
1961	24	46	30
1970	18	47	35
1977	15	47	38
1980	13	48	39
1988	11	48	40

Source: Statistická ročenka CSSR quoted according to J. Kosta, "Ziele und Methoden der Wirtschaftspolitik in der Tschechoslowakei (1970-1978)," "Berichte des Bundesinstitutes für ostwissenschaftliche und internationale Studien," Nr. 43-1979 p. 15; for 1980 and 1988 also Czechoslovak Government Report to ECE, August 1979.

⁵⁹ The so-called productive sphere includes in addition to the primary and secondary sector the so called productive services, i.e. mainly freight transport, communications serving the economy and trade.

Adverse External Economic Relations

As to the external economic relations, the Czechoslovak planners are faced with inbuilt trends of a further and continuous worsening of the terms of trade. There is not much hope that the principles of price formation in intra-CMEA trade will change in favour of Czechoslovakia's needs. As is well known, prices in transferable roubles are determined on the basis of five-year moving average price changes⁶⁰ effected in the main world markets and "cleansed" of the adverse effects of speculation and business cycle deviations.⁶¹ However, the actual fixing of concrete contract prices evolves in a process of negotiation between the trading partners where the position of political and economic strength is at least as important for the outcome as the price basis established according to the principles adopted at the IXth meeting of the CMEA.⁶²

Especially in relation to the Soviet Union, the most important trading partner of Czechoslovakia and with whom about 35% of foreign trade is being conducted, the position will become even more difficult than in the past. The Soviet Union is Czechoslovakia's main supplier of fuels, energy and raw materials while Czechoslovakia is exporting mainly machines and other manufactures. With the growing tightness of global energy supplies, the monopolistic price setting procedures of crude oil by the OPEC cartel, the anticipated slow-down of development in the world economy, and the concomitant weaker demand for manufactures, price relatives in the main world markets are bound to turn in favour of fuels and other primary commodities which Czechoslovakia is purchasing from the Soviet Union.

But in addition to these adverse conditions with which also other industrial countries without sufficient indigenous natural resources have to cope, some other specific difficulties of intra-CMEA trade are going to hinder Czechoslovakia's economic development. Mutual deliveries, especially in relation to the Soviet Union, are determined mainly in the course of coordination of the Five-Year Plans, in the long-term commercial agreements, or the agreements on specialization and cooperation in production. These deliveries are being fixed by commodity quotas while the actual concrete contract prices are fixed in the process of negotiation much later in the commercial contracts of individual foreign trade organisations. If the actual development of world market prices—levels and price relatives between commodity groups—in the lapse of time deviates from the assumptions made at the time of the conclusion of the longer term agreements, then the country incurring deteriorating terms of trade may have to export in physical terms far more commodities than previously assumed⁶³ to meet its obligation vis-à-vis the stronger trade partner. These additional ex-

⁶⁰ F. Levelk, "Transferable rouble and convertibility" in: Jean-Luis Gugliemi, Marie Lavigne, editors, *Unités et Monnaies de Compte*, Paris 1978, pp. 67, 68; R. Diets, "Price Changes in Soviet trade with CMEA and the Rest of the World since 1975" in *Soviet Economy in a Time of Change*, JEC, Congress of the US, Vol. 1, Washington 1979, pp. 263, 264.

⁶¹ Comprehensive program for the further deepening and improvement of cooperation and development of the socialist economic integration of CMEA member-countries, Chapter II, part 6, para 25.

⁶² O. Hlaváček, "Kontraktní ceny ve vzájemném obchodě členských států EVHP" *Zahraněční obchod*, Nr. 1/80, p. 11 "Price setting in this market is being carried out on the basis of principles agreed to, and also with regard to a number of other factors of an economic and non economic character".

⁶³ O. Hlaváček, *op cit.*, p. 13.

ports will then not be available for domestic use with the effect that the growth potential will be diminished.

Another difficulty which Czechoslovakia encounters in its trade especially with the USSR is the fact that commodities such as the fuels and raw materials which are being imported from the USSR have an easily assessed world price while it is far more difficult to argue for price increases in the case of machinery or consumer goods. In addition, the Soviet Union is in the position of a near monopoly supplier (who can point out that deliveries are still cheaper than on the world market because of the moving average price basis) while the commodities Czechoslovakia can offer are available from many other sources. Also this aspect works against the terms of trade of Czechoslovakia. If one adds that adverse terms of trade may develop also vis-à-vis many other trading partners, including some traditional commercial partners from the third world, and that the slower economic activity in the western industrialised countries will slow down demand for Czechoslovak products and increase the competition from other potential suppliers, then one can well see that foreign trade is going to be still another formidable constraint to economic development in Czechoslovakia in the coming years.

The Effect of the Constraints on Economic Growth in the Eighties

Other constraints, besides the listed ones, could be added, but energy, labour supply and external relations will certainly be decisive for the economic development in the eighties. The limited fuel and energy supplies, as well as the scant labour resources will slow down the growth rate of national production. The Czechoslovak planners seem to count on a possible annual growth rate of the NMP during 1981-1985 of some 3%.⁶⁴

The likely adverse development of the external relations with continuous terms of trade losses will very likely still further slow down the growth rate of the domestically available volume of goods and services (distributed national income), which may settle around or even below 2% p.a.⁶⁵ This leaves room for only marginal advances in the volume of consumption (with public consumption getting preferential treatment in relation to personal consumption) and of investments. The slow growth in investments in turn will very likely have a decelerating effect on the growth rate in the second half of the eighties.

6. POLICY OPTIONS FOR THE EIGHTIES

The foregoing analysis suggests that there may be no easy solution for overcoming the obstacles to growth which have piled up in the recent past and are looming ahead. Professional economists and policy makers alike seem to agree that the coming decade or at least the first five years in the eighties will be a period of relatively slow growth, of structural adjustments to the new more demanding conditions, of soliciting new motivations for more efficient work and for

⁶⁴ See V. Hula, op. cit., I. Strougal, op. cit., K. Houdk, op. cit. So far no official data for the five year plans have been released.

⁶⁵ See V. Hula, op. cit.

economies in utilizing energy and materials, and of very little improvement—if any—in living standards.⁶⁶

Adjusting Industry Structure

The way out which offers itself as the most congenial for a centrally planned economy with directive objectives and binding planning targets are attempts to *adjust the industrial structure* to the new conditions. And there are indications that just this is the way opted for by the officials of the State Planning Commission. The growth of material and energy intensive industrial branches will have to be severely down-scaled, and their growth will be considerably below the industry average which itself will expand far more modestly than in the past. The tendency will apparently affect especially the development of the chemical industry. On the basis of imported crude oil and natural gas from the Soviet Union, and mainly in the frame of intra-CMEA cooperation and specialization agreements this industry experienced a very dynamic development in the seventies. The industry received an increasing share of investment and its share of fixed capital assets expanded considerably,⁶⁷ though some of the most demanding investment projects are still under construction. But it is just the high capital intensity of this industry, in addition to its complete dependency on imported raw materials at skyrocketing costs, and the imposed limits on imported quantities to be purchased without resort to hard currencies which is forcing the planning authorities to consider a severe retrenchment for this industry in the next five years.⁶⁸

The main emphasis will be on a gradual completion of the petrochemical plants built in the seventies and very likely the very demanding investment costs will necessitate a spreading out of completion time over a longer period than originally assumed. Further expansion will be possible only in light chemistry productions with less demanding fuel and energy inputs. In the frame of the CMEA Long-term Target Programs the material and energy intensive products of the chemical industry like methanol, ammonia, uric acid, dichloroethane, polyethylene, PVC, isoprene-rubber will be produced near the sources of raw materials and energy, mainly on the territory of the Soviet Union. The necessary investments for the new capacities will be financed by the common effort of the interested CMEA member countries, which will also participate in the research and development and construction phase of the program. Czechoslovakia is going to participate in the solution of all related problems of the production of ammonia, methanol, low-pressure polyethylene and of vitamins A and E.⁶⁹ Obviously even with a downscaled program for the chemical industry on its own territory the Czechoslovak investment burden will still be considerable.

⁶⁶ L. Strougal, *Zemědělské noviny*, 28 June 1979; E. Vintrová, J. Kláček, V. Kupka, "Ekonomický růst v ČSSR. Jeho bariery a efektivnost" *Politická ekonomie* Nr. 1/1980.

⁶⁷ See Table 3.

⁶⁸ Czechoslovak Government report to ECE, August 31, 1979.

⁶⁹ Ludmila Semerádová, "Die tschechoslowakische Chemie im Rahmen des EGW" *Außenhandel der Tschechoslowakei*, Nr. 1/1980.

Also the iron and steel industry and the non-ferrous metallurgy depend almost exclusively on imported ores and the industry is likewise very demanding on energy inputs. Here too do the planning authorities consider a marked slowing down of further growth necessary, and the share within industry is slated to fall. Such a development is only feasible if substantial economies in the use of ferrous and non-ferrous metals within the engineering branch—the most important purchaser of metallurgical products—but also in other branches of the economy will be effected. Within the metallurgical industry the share of thin plates, and of special steel (for the production of nuclear energy equipment) is to be increased and the specific consumption of fuels and energy, of heat-resistant materials, and especially of the metal substance itself is to be lowered.⁷⁰ The assortment structure of rolling-mill products and the quality standards should be improved. How this should be achieved when similar demands were made already in the past without much effect is, of course, a different story. Considering that in comparison to other developed countries most efficiency indicators are lagging behind, a considerable improvement in this industry is certainly feasible. But within the existing motivation structure of management and work force alike this seems to be hardly possible.

As to the engineering industry (metal manufactures, machinery, transport equipment and instruments) above average growth is to continue in the eighties. This branch taking at present some 30% of industrial production is to increase its share to 35% by 1985 and should expand it still further till 1990.⁷¹ Structural changes within the industry aim at increasing the share of technically progressive final products. Above-average growth is considered for instruments and steering mechanisms, road vehicle parts and accessories, electric motors, pumps, industrial fittings etc. Special attention will be given to fuel and electric power production equipment, machine-tools, machinery and equipment for the chemical, consumer goods and food industries, and for transport and agriculture.

Another branch which will get preferential treatment is the wood-working and furniture industry as its material base is within the Czechoslovak territory with its extended areas of forests and woods.⁷² Also here the share in the industrial structure is to increase. Some of the investment programs already launched will increase the capacities of the paper and cellulose industry, of fiber board production and furniture manufacture.⁷³ Despite above-average growth in these industries even here the planners expect a somewhat slower growth in the future than hitherto.⁷⁴ The glass and ceramic industry which also manufactures domestic raw materials will keep its share in industrial production with likewise somewhat slower growth rates than in the past.

On the other hand, due to their dependence on imported raw material and its labour intensive nature, the textile and clothing industry

⁷⁰ Czechoslovak government report to ECE, Aug. 31, 1979.

⁷¹ *Ibid.*

⁷² Almost 35% of total area are forests with 183 cubic meters of timber per ha of forest.

⁷³ F. L. Altmann, *Die wirtschaftliche Entwicklung in Osteuropa-Tschechoslowakei. Working papers Nr. 65*, Osteuropa-Institut München, March, 1980.

⁷⁴ Government report to ECE, August 1979.

and the leather and shoe industry will develop below the average of industrial growth.¹⁶

Closer Links with the U.S.S.R.

Considering the worsening external conditions which have hampered Czechoslovakia's economic development in the recent past, as well as the adverse domestic factors analysed before, one of the policy options open to Czechoslovak policy makers is the orientation towards still closer links with the USSR. In a way the situation could be compared to that of a medium sized enterprise which finds itself confronted with the economic power of a huge multinational corporation on which it depends to decisive extent both for the supply of indispensable materials and intermediate inputs, and as a market for a considerable part of its own output. Such a linkage may not be advantageous, but if the smaller enterprise wants to survive it will have to adapt as much as possible to the needs of the mightier partner.

It is therefore understandable that efforts are made to strengthen the ties with the Soviet Union on a long-term basis so as to have a reasonably stable and predictable relationship in a world of uncertainty and of swiftly changing conditions.

In addition to the traditional exchange of merchandise with the USSR, other forms of cooperation have developed especially in the form of object related compensation agreements. Czechoslovakia is exporting, on credit terms, technological equipment and machinery for the development of new capacities in the extractive and manufacturing industries on Soviet soil, thereby creating the conditions for increased imports of fuels and materials. Under such agreements Czechoslovakia is to receive 2.8 billion cubic meters of gas annually for 20 years; further, 7,000 t of asbestos in 1980, 11,000 t in 1981 and 14,000 t annually from 1982 to 1991; over 17 million t of iron ore during a period of 12 years; 25,000 t of fodder yeast from 1982 onward;¹⁶ and also electricity from the Chmelnickij atomic power station to the amount of 0.9 billion kWh in 1984 with successive increases to 3.6 bil. kWh by 1988. According to this agreement, deliveries of electric current are to continue till the year 2003.¹⁷ In exchange for these—partly already effected and partly future—deliveries of fuel, energy and materials, Czechoslovakia has so far participated in the construction of the Sojyus gas pipeline, in the asbestos combine in Kijembajev, in the construction of a plant inside the combine "Phosphorit" of Kingisepp, in the creation of new capacities for the extraction of iron ore, and for production of pellets, and of ferro-alloys, in the construction of the high voltage network of 750 kV, and last but not least in the construction of the Chmelnickij nuclear power station. Within the frame of the agreed plan of multilateral integration measures for the period 1976 to 1980 (but again mainly for delivery in the USSR) Czechoslovakia is committed to produce heavy container trucks with electro-mechanical pick-up and lift equipment, reactor parts and basic equipment for nuclear power plants and cer-

¹⁶ Ibid.

¹⁷ Číslo pro každého 1979, Prague 1979, p. 250.

¹⁸ A. Auderle, "Hospodářská a vědeckotechnická spolupráce ČSSR-SSSR", *Plánované hospodářství*, Nr. 3/1980, pp. 15-19.

tain types of roller bearings (11% of total CMEA production). She has undertaken to increase the assortment of dyes and paints by 50 new types and to expand the production of chemical equipment and of electronic parts and semi-conductors.¹⁸

In addition, Czechoslovakia has already concluded 14 specialization and cooperation agreements with the USSR for the period till 1980, among them those for nuclear power plant equipment, machine-tools and welding machinery, for the production of unified lines of asynchronous high voltage electro-motors (Czechoslovakia specializing in motors from 200 to 400 kW and the Soviet Union from 400 to 1000 kW), machinery and equipment for the light and food industry, for the production of pumps, compressors and cooling equipment, roadbuilding and construction machinery and equipment for producing building materials; for the production of instruments and automation equipment, tractors and agricultural machinery, pulp and paper; and for technology in the chemical and petrochemical industry.¹⁹ It is assumed that mutual deliveries of machinery and equipment during 1976 to 1980 will increase by roughly 67%, compared with the preceding five year period. Within these deliveries those effected on the basis of specialization and cooperation agreements concluded between the two countries amount to 29% and in the case of Czechoslovak exports to the Soviet Union to 32% of total machinery deliveries. Some of these cooperation agreements involved very costly investment outlays. An instance is the cooperation in equipment for nuclear power stations on the basis of an agreement dated 1973 and expanded by a further cooperation agreement concluded in November 1976.²⁰ An important part of all industrial investments during 1976 till 1980 had to be earmarked for this venture which involved the construction of entirely new metallurgical and engineering capacities on the basis of Soviet technological specifications.²¹

During the eighties cooperation with the Soviet Union is to develop on the basis of a "Long-term Program of Development of Specialization and Cooperation in Production till 1990", adopted and signed on 13 March 1980 in Prague by the respective Vice-presidents and Chairmen of the State Planning Boards, N. Bajbakov and V. Hula.²² The initiative for this programme came from the party leaders Brezhnev and Husák on the occasion of their meeting on the Crimea in the summer of 1977. Measures for the elaboration of the program, which concentrates mainly on the engineering industries and on the chemical industry, were adopted at the 18th Session of the Intergovernmental Czechoslovak-Soviet Commission for Economic and Scientific-Technical Cooperation, in December 1977. The work on the program was divided into two phases and the main orientation of the program, time-limits and responsibilities for working out parts of the program were laid down. It was agreed that the program should be based on

¹⁸ Čísla pro každého 1979, Prague 1979, p. 250.

¹⁹ N. Bajbakov and V. Hula, Interview in *Rudé Právo*, Mar. 15, 1980. A. Anderle, op. cit. p. 16.

²⁰ A. Anderle, *ibid.*, p. 16.

²¹ Štrougal, *Zemědělské noviny*, June 28, 1979. "This orientation (on nuclear engineering—F.L.) implies a basic structural change within our engineering industry and its realization is so costly, that it substantially limits the possibilities of development of other engineering branches, even those with an important export program to third countries."

²² *Rudé Právo*, Mar. 15, 1980.

the Long-Term Target Programs of CMEA integration and should serve as their concrete adaptation in bilateral relations between the two countries.

The 19th session of the Intergovernmental ČSSR-USSR Commission convened in April 1979 in Prague reviewed the first phase of the work prepared by the participating ministries for the deliberations of the planning authorities. At that time proposals for 9 sub-programs in the engineering industries and 2 more for the chemical industries were prepared. In February 1980 the 20th Session of the Intergovernmental Commission met in Moscow and among other points on the agenda the Long-Term Program was finalized and prepared for signature in Prague on 13 March 1980.

The Long-Term Program spells out the objectives, forms and main tasks of development of long-term specialization and cooperation in production, and at the same time the main direction of scientific-technical cooperation in the stated fields. New types of equipment, machinery, instruments and materials are to be developed which should conform to the requirements of world standards and should be matched by equally modern technological processing. The newly developed products should be introduced as soon as possible into the industrial production of the two countries. The main orientation is to safeguard the development and the needs of the two economies for fuels, energy and materials by pooling material and technical resources for the construction of capacities in the fuel, other extractive and basic industries.

A further focus of cooperation is the more rational and efficient utilization of raw materials and fuels, and the mutual delivery of specialized items, such as complete plant, machinery and equipment, and other products. The before-mentioned division of labor in the chemical industry, whereby the Soviet Union is going to produce energy-intensive products also for Czechoslovakia in exchange for products in light chemistry, especially in the field of dyes and paints, is likewise part of the Long-Term Program. Altogether the specialization program will eventually embrace 19 sub-programs, 17 thereof in the engineering industries; the chemical industries will have two sub-programs.²³

So far the following sub-programs have already been adopted:

- (1) Heavy transport equipment.
- (2) Machinery for chemical plant, extraction and processing of oil.
- (3) Tractors and agricultural machinery.
- (4) Machinery and equipment for animal production and production of processed feed.
- (5) Electronics.
- (6) Chemical industry.
- (7) Petrochemical industry.

The remaining 10 sub-programs should be ready for adoption by the end of the first half of this year.²⁴ Under the terms of reference of

²³ N. Bajbakov and V. Hula, Interview in *Rudé Právo*, Mar. 15, 1980.

²⁴ Program na deset let. (program for 10 years—leading article). *Rudé Právo*, March 15, 1980; A. Anderle, op. cit. According to V. Hula, Interview, *Rudé Právo*, March 15, 1980, there would be 12 sub-programs still to be completed.

the Long-Term Program the Permanent Subcommittee for Scientific-Technical Cooperation should orient its activities mainly "on an analysis of reasons which cause in some cases a lagging behind the world level and on creating conditions for a substantial elevation of the technological level of machines and equipment, which on the basis of specialization and cooperation agreements are the object of exchange between Czechoslovakia and the USSR".⁵⁵

It seems that the last mentioned conditions are the crux of the matter. Closer ties to the Soviet Union can bring a certain measure of stability to the further planned development of the Czechoslovak economy, but only under the condition that the production process itself as well as the products to be produced will conform to requirements of modern industry. But how is this to be achieved if one knows that the Soviet economy itself seems to be unable to close the technological gap vis-à-vis the industrialized West?

A New Economic Reform?

For some time now the realization is spreading among professional economists and policy makers that even the options available under given conditions will be of little avail if the elements of "extensive" growth generated by the traditional directive planning system are not eliminated. To mobilize the so called "intensive" factors of growth by motivating the producers—managements and workers alike—to husband scarce resources—fuels, raw materials, fixed capital and labor—more economically, involves a profound change in the whole system of planning and management of the economy. The leadership was aware for some time that these changes are indispensable. But at the same time they are afraid that the devolution of responsibilities which would be necessary may weaken their control not only over the economy but also over political developments. Therefore, up to the end of 1979 only very slow and cautious steps were taken to test alternative possibilities of planning and management.

Since 1978, a "comprehensive experiment in the management of efficiency and quality of production" was introduced in industry. The main aim of the experiment was to ensure the longer term stability of the central plan, the orientation of the enterprises involved on increasing the profitability of production and capital used, to improve the technical parameters and the quality of the products, and to meet the export obligations in time, structure and quality of the products. The 150 enterprises participating in the experiment took a share of 16.3 percent of production, 20.5 percent of exports, 16.3 percent of the work force and 15.4 percent of total profits of industry. The evaluation of the experiment did not produce conclusive evidence that the experimenting enterprises achieved better results than total industry in all respects, e.g. in lowering consumption of material inputs per unit of output or in improving the export performance.⁵⁶

Nevertheless, the poor performance of the economy in 1979, the unlikelihood of much improvement in 1980, and the mounting difficul-

⁵⁵ A. Anderle, op. cit.

⁵⁶ J. Vácha, "První rok experimentu řízení efektivnosti a kvality v průmyslu" *Statistika*, No. 8-9/1979; J. Kosta, op. cit.

ties in drawing up the Five-Year Plan for 1981-1985 with similar technical coefficients of inputs to outputs as in the past, forced the leadership to find ways and means to mobilize additional "intensive" factors of growth as soon as possible. In January 1980 the Executive Committee of the Communist Party of Czechoslovakia and the Federal Government of Czechoslovakia therefore adopted a "Set of Measures for the Improvement of the System of Planned Management of the National Economy after 1980" which was only published in full in the second part of March 1980.⁸⁷ The set of measures is a very comprehensive document which embraces practically all economic activities, economic planning, enterprise incentives and the use of economic instruments in enterprise guidance, and changes in the organizational set-up.

At this stage of the study it would appear impossible to give an adequate survey of the measures adopted and to attempt an evaluation of the blueprint which, according to the intentions, will anyway become operative in stages only, after 1980. The best that can be attempted is to highlight some of the most important features and to give some first impressions on the general orientation of the reform measures.

The document stresses the importance in planning of "the long-term target approach", a diction which has been taken over from the Long-term Target Programs of Integration adopted within the CMEA, and it seems that one of the objectives is to link national perspective planning closer to the tasks of CMEA integration. In this respect national target programs are to be worked out with the aim to increase the export potential and to lower the import dependency of the economy by improving the technological level of processes and products, productivity of labor and capital, and by decreasing consumption of material inputs per unit of output.

The basic and most important plan is to be the Five-Year Plan, a postulate which is being repeated regularly these past ten to fifteen years without much success. The document hedges in this respect and stipulates that the yearly plans have to be derived from the five-year plan even if there have been some deviations from the plan intentions in the preceding year. But if the deviations are of an extent that all the subsequent years would be influenced by the disruptions, then the five-year plan itself has to be adapted to those changes.

The plan remains a directive with binding targets of a quantitative and qualitative nature. The principle of "democratic centralism", meaning the hierarchical subordination of enterprises under the control of the directorates of the "Production-Economic Unit" (PEU) (VHJ výrobně hospodářská jednotka—a trust, concern or combine of enterprises), and of the latter under the control of the branch ministries, will be safeguarded and even strengthened. Binding targets will, however, be spelt out by a set of more sophisticated indicators, and the indicator "value of gross production" will be downgraded. Instead, the indicator "value added" is to be used for stating the volume of production and for determining the level of its eff-

⁸⁷ "Set of Measures for the Improvement of the System of Planned Management of the National Economy after 1980" adopted by Government Decree No. 42 of Jan. 31, 1980, Supplements to *Hospodářské noviny* No. 11, March 14 and Nr. 12, March 21.

ciency, productivity of labor, costs and capital intensity. Other indicators include, inter alia, relations between foreign-trade and domestic prices, the kilogram-price of machinery products, profitability, specific consumption, degree of utilization of fixed capital stock, productivity of labor measured by the indicator value added, and price limits of new products.

To safeguard proportions between the several parts of the national plan, the system of economic, and especially of material balances linking producing with purchasing enterprises by prescribed quotas is to be further developed. Enterprises and PEUs are to be encouraged to adopt more demanding plan targets already in the phase of plan construction by conceding them higher rewards than if a plan with a slack would be overfulfilled.

On the level of PEUs and enterprises the principle of financing all requirements by funds created by enterprise activities and by bank credit rather than by allocations from the budget is to be stressed. The planned requirements will be met essentially in dependence on profits made, and by leaving a bigger part of depreciation at the disposal of the PEUs and enterprises. For achieving this aim the system of taxation and deductions will have to be altered to leave more scope for financing most of the expenditures for capital, labor and material inputs from the enterprises' own resources. In addition, bank credits are to be used to supplement the financial needs of the enterprises for investment purposes and for current expenditure. Allocations from the state budget will be bestowed rarely, mainly to correct price relatives in the desired direction, and in exceptional cases as a planned source for financing key investments.

A whole system of specific financial funds is to be created on the level of the PEUs and in the enterprises themselves. A Special Construction Fund is to be created for the most important capital investments of the PEUs and a Turnover Fund for the financing of working assets. In addition to these two funds some other special purpose funds, like the Reserve Fund and the Fund of Technical Development will be created. There will be several funds of Material Stimulation, endowed by allocations from profits, according to a norm set by the center and depending on the fulfillment of other conditional indicators. The profit used for allocations to the stimulation funds should be reduced in lieu of losses due to poor quality of production. Among the several material incentive funds there will be a special place for the Fund for Cultural and Social Requirements and for the Development Fund for the financing of less important, so called limit investments, the volume of which will be determined by the resources accruing to this fund. While investments of this type can only be effected if there are sufficient financial means in the Development Fund, it is expressly stated that the means can be used only in agreement with the plan of the PEUs or enterprises. Within that network of material incentive funds, there is also the Remuneration Fund which can be used according to separate principles set up for the regulation of wages, and the Export Incentive Fund, intended to stimulate export activities according to separate principles set up for the stimulation of foreign trade.

Credits provided by the banks should also be extended to safeguard objectives and targets of the national plan and to support the increase of activities of expanding PEUs, but it should not be automatically granted if there is an insufficiency of own financial resources in badly working PEUs.

Among the economic instruments to be applied in foreign trade, the relation of internal to foreign prices in exports and imports should be strengthened by linking the f.o.b. prices achieved or paid in foreign currency to the national currency, converted with the help of internal conversion factors and adjusted by the mark-up of the foreign trade organization. As to import prices, longer term tendencies changing price relatives in the world market should be reflected also in the internal wholesale prices, especially by means of the plan for the development of prices. Financial economic instruments in foreign trade will have to be worked out later-on in greater detail, but the measures list, as the main purpose of these instruments, support of the growth of export in foreign prices f.o.b., achieved both through a faster growth of export prices in relation to the internal wholesale prices and also through increasing the material volume of exports, expressed in domestic wholesale prices. The PEUs and the FTOs will obtain special incentive awards in relation to the efficiency of foreign trade.

There are also detailed measures to increase the effectiveness of wage payments, and for this purpose the wage fund will be divided into two parts: for the basic components of wages and for the incentive part. The incentive part will be paid out of the Remuneration Fund set up by allocations from profits. Certain other allocations to the Remuneration Fund will come from the Fund of Technical Development and from the Export Incentive Fund in accordance with the fulfillment of the objectives and targets in these fields.

Another part of the "set of measures" deals with the improvement of the system of prices, the price setting for new products and the stimulation of enterprises by means of price advantages and disadvantages in relation to the results achieved in foreign markets. The control of prices will remain in the hands of the center but it is announced that in the coming five-year-plan period the wholesale prices of fuel and energy and of some other raw materials will be increased during 1981/1982, with a further yearly increase of these prices till 1985. At the same time the increase of the overall price level will be limited to the minimum by obliging the enterprises to absorb the fuel and energy price increases within the profit margins, and by increasing pressure to economize on material inputs to lower the cost to the users. Further price changes should reflect changes in the price relatives in the world market and also in the system of domestic wholesale prices. Detailed measures are given for an improvement of the organizational set-up by spelling out rights and responsibilities of the branch ministries, the PEUs as the basic units of management for the enterprise sphere, and of the enterprises themselves.

One of the first impressions one gets in reading the voluminous instructions is the eclectic nature of the set of measures. One will find parts which resemble reform measures introduced in the first economic reform of 1958 to 1960, and also those of the economic reforms introduced in the late sixties. There are features taken over from the

Soviet reform setup, some of them resembling the Kosygin reform in the sixties, some others being closer to the measures adopted in the USSR last year. But there are also parts which resemble some of the features of the Hungarian reform, especially in the field of foreign trade prices. The question is not so much how far the individual measures are appropriate, but rather how consistent they are with each other.

It is then to be doubted if a system will prove workable, that is trying to reconcile more command and more control from the center with more responsibilities and rights at the enterprise level and with the attempt to use economic instruments and appropriate incentives to promote higher efficiency. By trying to link principles and instruments of two or even more different management models the managers of the PEUs and enterprises will very likely get into schizophrenic situations, and their behavior will depend on their expectations regarding likely rewards and punishments to come. In any case, it seems certain that management will find new loopholes for beating the system in order to survive, and to improve the material situation of themselves and of the workforce. As to whether this striving for bettering their own situation will always be in the interest of an efficient development of the economy, remains to be seen.

The introduction by stages of the measures may also mean that according to the development of the internal and the international situation some aspects of the "set of measures" may be strengthened and their introduction accelerated while others may be put off or suppressed altogether. In any case, it seems a step in the right direction that some new management measures will be applied and that the old system of traditional directive quantitative planning has again been debunked as inappropriate for a modern economy.

POLICYMAKING AND PLAN CONSTRUCTION IN THE CZECHOSLOVAK FIFTH AND SIXTH FIVE-YEAR PLANS*

By Josef C. Brada, Arthur E. King, and Don E. Schlagenhauf

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I. INTRODUCTION

During the decade of the 1970's, the Czechoslovak economy was guided by the Fifth (1971-75) and Sixth (1976-80) Five-Year Plans. These plans were quite similar to each other in terms of planned rates

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of growth of broad macroeconomic aggregates and in terms of the investment strategy to be employed in pursuit of plan targets. One objective of this paper is to attempt to uncover some of the considerations which motivated policymakers to adopt the plan targets embodied in the Fifth and Sixth Five-Year Plans. The other objective of this paper is to evaluate these two Five-Year Plans for macroeconomic consistency; that is, to see whether policy instruments, taken here to mean the allocation of investment, were consistent with the stated goals of the plans for economic growth, structural change and improved living standards.

To answer these questions we employ an econometric model of the Czechoslovak economy. In Section II of this paper we briefly sketch those features of the model which are relevant to an understanding of the tasks to which the model is put in this paper. In Section III we discuss the outcomes which Czechoslovak policymakers may have considered in implementing development plans in the 1970's. We do this by comparing actual outcomes with hypothetical outcomes which could have been achieved by the Czechoslovak economy had the planners adopted somewhat different investment strategies. These alternative outcomes are generated by the econometric model and indicate how the economy would have evolved had policymakers in Czechoslovakia followed alternative but not unreasonable investment policies. In Section IV we test the plans for macroeconomic consistency between targets and instruments. Plan consistency is evaluated by applying an optimal control algorithm to the econometric model. By means of the optimal control algorithm we attempt to simultaneously minimize deviations between desired and optimal time paths of targets and instruments. If the Five-Year Plans were macroeconomically consistent, then optimal and desired paths would be identical. However, if the desired paths for the policy instruments are not consistent with the desired time paths for the target variables, then the optimal control algorithm must choose a time path for the instruments which minimizes their deviation and that of the target variables from the desired paths. The greater the sum of deviations, the less macroeconomic consistency the plan is judged to possess. Knowledge about plan consistency enables us to reach some conclusions about planners' understanding of the macroeconomic relations which exist in the Czechoslovak economy and their ability to induce policymakers to adopt Five-Year Plans that are consistent with such macroeconomic realities.

II. AN ECONOMETRIC MODEL OF CZECHOSLOVAKIA

The policy simulations and optimal control exercises reported in this paper were performed with the aid of a linearized version of an econometric model of Czechoslovakia constructed by Brada and King (1979). Since the theoretical underpinnings of that model are set out in Brada (1975), (1980), and the relationships between the theory and the specification of the model in Brada and King (1979), in this section we limit ourselves to a brief overview of the model and a discussion of those of its features which are most germane to an evaluation of our results.

The model consists of 69 equations whose parameters were estimated using, in most cases, official Czechoslovak data for the period 1954–1975. Variable names and parameter estimates are reported in Tables 1 and 2. Within constraints imposed by the data, domestic production and consumption are divided into three sectors: manufacturing, which includes industry, construction and mining; agriculture and forestry; and other, which includes productive and non-productive services. Foreign trade flows are divided between socialist and capitalist countries and are disaggregated according to the CMEA commodity classification nomenclature.

Net output of manufacturing and agriculture are functions of sectoral endowments of capital and labor and of lagged personal savings. This last variable, which has a negative coefficient in both equations, reflects the effects of repressed inflation on the supply of work effort. As workers find themselves forced to increase their savings due to the lack of consumer goods, they respond by reducing the effort they put forth on the job, thus shifting the production function downward in what might be termed a “Schweik shift”.¹ The manufacturing sector is also characterized by a secular decline in aggregate factor productivity as indicated by the negative coefficient for the time trend. In contrast to the output of manufacturing and agriculture, the output of the “other” sector is demand determined. This specification is forced upon us by the fact that the capital and labor resources allocated to this sector may be employed in the production of productive services (e.g. freight transportation) in which case they are counted as part of GNYO, the sector’s contribution to national income in the socialist national income accounting framework. However, the same resources can be employed to produce non-productive services which would not be counted as a contribution to GNYO. Thus the link between inputs of capital and labor in this sector and the output of productive services GNYO, depends in part on the decisions of the planners on the allocation of productive factors between productive and non-productive services. In view of this rather tenuous link between inputs and measurable output, we have chosen to measure the output of productive services as being demand determined.

Although we have estimated equations for sectoral and total investment flows, these play little role in our simulations because investment is treated in these simulations as an exogenous policy variable. For the agricultural and manufacturing capital stocks, investment enters with a one period lag while depreciation is assumed to be a constant fraction of the capital stock. This rather simple lag structure implicitly assumes that there are no bottlenecks in the completion of investment projects and that the mix between plant and equipment has no influence on the time needed to complete investment projects. This lack of realism in the lag structure was dictated by our desire to develop a model with rather simple dynamic properties for the relatively short-term nature of our simulation and optimal control exercises. Although there is no equation for the capital stock in the “other” sector, investment in this sector, IO, plays a pivotal role in the dynamic properties

¹ We owe this term to Thad Alton. Schweik is a character in Czechoslovak literature symbolic of passive resistance to the state bureaucracy. See Háček (1937).

of the model. This is due to the fact that, in the Czechoslovak economy, an important constraint on industrialization is the ability to increase industrial employment through more rapid rural-urban migration, a point more fully explored in King and Brada (1980) and Brada, King, and Schlagenhauf (1979). However, net rural-urban migration, NUMIG, is seen to depend on IO, the extent to which the state is willing to facilitate such migration by increasing the supply of urban housing and services. Thus IO is a key variable in influencing the rate of industrial expansion and structural change in the economy.

The macroeconomic theory implicit in this model is one of an environment characterized by repressed inflation and the efforts of planners to migrate these inflationary pressures or at least to respond to them where possible. Consequently, the consumption of manufactured goods is determined by supply factors: manufacturing output and the net exports of consumer manufacturers. The consumption of agricultural goods, however, involves a more complex form of behavior since consumption and trade in agricultural products are determined simultaneously. This implies that planners do attempt to equilibrate the demand and supply for foodstuffs by using foreign trade as gap-filler to the extent that the general foreign trade situation permits. Similarly, "other" consumption, CO, is demand determined, indicating an effort on the part of planners to respond to demand factors in the provision of services.

Ideally, the model should include some balancing of supply and demand for the three sectors, manufacturing, agriculture and other, so that, for example, an increase in investment would require at constant output either less consumption of manufactures or a decline in net exports of manufactures. Such balances cannot be obtained. First, government purchases are available only for the sum of manufactured and agricultural products. Second, trade flows are measured in foreign trade crowns rather than in domestic crowns, thus making it impossible to measure all elements of the supply and demand balances in common units.³ As a result, the balancing mechanism is modeling only through stochastic relations, such as those linking increased investment to increased imports of machinery and equipment. Such stochastic relationships are quite adequate to the task of maintaining a balance between production and end uses of aggregate output.

As an example, consider the hypothetical case of a 10 percent increase in investment, distributed equally among manufacturing, agriculture and services. In 1976 such an increase in investment amounts to 13 billion 1967 crowns. The increase in investment makes itself felt immediately, causing aggregate consumption and government purchases to fall by 2.25 billion 1967 Kcs. More importantly the trade deficit with capitalist countries increases by 80 million SDR and with the socialist countries by 385 million SDR. Thus whether or not the model actually balances the supply and uses of aggregate output depends on whether or not 465 million SDR of net imports represents 10.75 billion 1967 Kcs. worth of domestic goods. The implicit rate of exchange required to convert this amount of SDRs into the required amount of Kcs. is 23 Kcs./SDR. Although this rate is above the official

³ This is a rather general problem in the construction of econometric models of planned economies. See Shapiro and Halabuk (1976) for a fuller discussion.

rate of exchange, it is, in fact, surprisingly close to what we would calculate the actual rate utilized to convert trade flows into domestic currency units by the Czechoslovak government to be.³ Consequently our model is specified in such a way as to maintain a balance between the supply and uses of aggregate output and to place the brunt of the adjustment process on the foreign trade sector.

III. OBJECTIVES AND CONSTRAINTS IN THE CZECHOSLOVAK FIFTH AND SIXTH FIVE-YEAR PLANS

The study of plan construction can be approached in two ways. One way is to study the sequence of steps and the activities and responsibilities of various units in the economy so as to come to an understanding of how plans are drawn up. Such a study, while it can tell us something about the general nature of plans generated by such a process, cannot tell us anything about why certain goals are chosen for a plan, presumably at the expense of other goals. To understand the process of plan choice, that is why plan targets are set at certain levels and not at others, we need to know about the options among which policymakers believed they could choose and we need to know what were the preferences of the policymakers. It is this second aspect of planning which is the subject of this section.

The first task in understanding policymakers' choices is an exploration of the set of the plan variants from which policymakers may choose the most desirable course of action. Unfortunately, we know very little about the range and the number of alternative plans which East European planners prepare for the policymakers' consideration, although the available evidence suggests that at least the range of options is somewhat limited.⁴ To replicate the set of alternatives available to Czechoslovak policymakers when they chose targets for the Fifth and Sixth Five-Year Plans we employed our econometric model of Czechoslovakia to simulate outcomes which could have been obtained by following slightly different but not unreasonable investment policies. Before discussing these alternative scenarios in detail, the emphasis on investment policy embodied in our approach requires some justification since most discussions of policymaking and planning in planned economies has planners controlling not only investment but also wages, taxes, consumption and foreign trade. While we do not deny that all these activities are indeed planned, it is also evident that they cannot be determined independently of each other. Thus with a given productive potential, once investment is determined, then consumption can be varied only through changes in foreign trade flows. Moreover, much of foreign trade in the case of small countries like Czechoslovakia is determined by the need to feed the population and to provide raw materials and energy for producers and consumers. Similarly, although policymakers may attempt to influence the course of wages, these too have their own dynamics influenced by productivity and the competition of firms and sectors for supplies of labor. Thus because of the general equilibrium nature of

³ See United Nations Economic Commission for Europe (1973) for the conversion method employed in Czechoslovakia.

⁴ See Daniel *et. al.*, (1971).

the problem and because investment decisions are the key to the structural evolution and economic growth of the country, we focus our attention on investment strategy and let the model determine other variables on the basis of physical relations and the historical behavior patterns of consumers and policymakers.

The first two scenarios which we explored involved a reallocation of investment between industry and agriculture. In one case we increased the historical level of investment in manufacturing by 10 percent for each year of the Five-Year Plan period and reduced investment in agriculture by the corresponding amount. In the second case we reversed the procedure, reducing the historical level of manufacturing investment by 10 percent and reallocating the funds thus released to investment in agriculture. The results of these simulations are reported in Table 3 for the Fifth Five-Year Plan and in Table 4 for the Sixth Five-Year Plan. The policy of increasing investment is indicated by IM^{\uparrow} while the policy reallocating investment from industry to agriculture is indicated by IM^{\downarrow} . These two scenarios yield information about the kinds of alternative outcomes that the policymakers faced when they had to make choices about the allocation of investment resources between competing sectors.

The second pair of scenarios involved a change in the aggregate level of investment with no change in the share of investment allocated to each of the three sectors of the economy. In one case total investment was increased by 10 percent and the results are reported in Tables 3 and 4 under IT^{\uparrow} ; in our last scenario total investment was reduced by 10 percent and the corresponding outcomes are reported in Tables 3 and 4 under IT^{\downarrow} . The results of these simulations provide insights into the kind of considerations which influenced Czechoslovak policymakers' decisions regarding the aggregate levels of investment for the Fifth and Sixth Five-Year Plan.

To allow the comparison of the outcomes of these alternative policies to the outcomes of the policies actually chosen for the Fifth and Sixth Five-Year Plans, Tables 3 and 4 also report the "actual" outcomes. These actual outcomes are, however, not what actually occurred in the Czechoslovak economy. Rather they are outcomes generated by the econometric model using historical values for investment and for all exogenous variables. Outcomes generated in this way may be more properly compared to the alternative scenarios since both actual and alternative outcomes are generated by the same process, and differences thus are due entirely to differences in policy rather than to the inability of the model to track the economy perfectly.

Since, as is to be expected in the case of a linear model, the relationship between actual and alternative policies are similar for the Fifth and Sixth Five-Year Plans we will discuss the result for both plans simultaneously. As may be seen from Tables 3 and 4, a policy shifting investment funds from agriculture to industry holds a number of attractions for the policymakers. Among the desirable achievement of such a policy are an increase in national income, GNY, of 4 percent, the result of a 5 percent greater level of manufacturing output and a 6 percent increase in productive services which easily outweigh a 9 percent decline in agricultural output. Not only does aggregate output increase but consumers benefit as well. Disposable income in-

creases by 2 percent, mostly the result of higher wages, and consumption of manufactures, which is supply determined increases by 5 percent, while agricultural consumption increases by 2 percent as planners increase food imports to keep pace with increased purchasing power of consumers. The upshot is a decrease in personal savings which would reflect a decline in inflationary pressures if any existed. Unless one is willing to argue that the manufacturing sector could not have absorbed a 10 percent increase in investment over the course of the Five-Year Plan, it is evident that a higher level of aggregate domestic output could have been achieved. Since the East European economies are often perceived as having overinvested in industry at the expense of agriculture, this finding bears closer scrutiny. There are two main objections that may be raised against our procedure. The first is that, since the output of productive services is demand determined, any increase in manufacturing output will always elicit an increased output of productive services despite the fact that the resources employed in services do not increase. Thus, to the extent that additional productive services could not be produced without additional capital and labor inputs, the model appears to have a pro-industrialization bias. Since there is no way of knowing the extent to which full-capacity levels have been reached in the service sector, we are willing to accept this criticism. However, this pro-industry bias only affects the degree to which a pro-industry investment policy would benefit the Czechoslovak economy. If we hold the output of productive services constant the gain in industrial output resulting from the reallocation of investment from agriculture to industry would still more than offset the decline in agricultural output.

The second objection is that the linear production functions employed in our model are not very appropriate to a study of resource reallocation among sectors because factor productivities are thus assumed to be invariant with changing capital-labor ratios. Moreover the production functions could be improved by utilizing sectoral wage bills rather than employment in order to capture changes in the quality of labor and in hours worked. In order to test whether the use of non-linear production functions would alter our conclusions we estimated the following Cobb-Douglas production functions for manufacturing and agriculture:

$$\ln \text{GNYM} = -4.024 + 0.799 \ln \text{KM} + 0.383 \ln \text{WBM}$$

$$\ln \text{GNYA} = -6.228 + 0.379 \ln \text{KA} + 0.759 \ln \text{WBA}$$

where WBM and WBA are the wage bills in manufacturing and agriculture respectively. Using these production functions we then recomputed the output of the two sectors under the pro-industrialization policy. As may be seen from Table 5 the Cobb-Douglas specification does yield a somewhat smaller net gain in aggregate output than does the linear specification employed in our simulations.⁵ Thus, although the size of the gains in aggregate output to be obtained from a reallocation of investment from agriculture to industry is open to question, the finding that such a reallocation (at least to the extent envisioned

⁵ The simulated outputs for IM \uparrow utilizing the Cobb-Douglas specification are calculated with the sectoral wage bills determined exogenously, and consequently they tend to underestimate the gains to be reaped from shifting resources into industry.

by our scenarios) would have raised aggregate output appears to be firmly based in fact.*

An examination of the consequences of increased industrialization for the foreign trade sector reveals that the need to maintain external equilibrium must have acted as a constraint on the pursuit of the domestic benefits of greater industrialization. The balances of trade with both western and socialist countries improve under the policy which allocates additional resources to manufacturing. The increased level of output of manufacturing permits the net exports of machinery and equipment, N1, and of consumer manufacturers to increase. These gains more than offset the growth of deficits in CTN categories 2 and 3, which are fuels and raw materials and agricultural products respectively. The greater demand for fuel and raw materials is created by the higher levels of industrial production while the higher level of net food imports results both from lower domestic production and higher domestic consumption of foodstuffs resulting from the higher incomes generated by the industrialization policy.

The foreign sector's constraint on an pro-industrialization policy is thus a structural one, represented by the worsened deficit in THGS, the net exports of CTN categories 2 and 3. The bulk of Czechoslovakia's imports of fuels and industrial raw materials come from the other CMEA countries and particularly from the Soviet Union. Thus to view a greater level of industrialization as a viable option, Czechoslovak planners would have to expect to be able to obtain additional deliveries of fuel, raw materials and food from CMEA sources. Given the pressure on CMEA supplies of these goods and Soviet reluctance to increase oil exports, the likelihood that Czechoslovak planners expected that additional imports of hard goods could be obtained is rather low. Consequently it may well be that this structural impact of added industrial expansion rather than the potential improvement in the balance of trade led to a limitation on the volume of investment resources devoted to industry.

While a shift of resources from agriculture to industry at a constant investment to net material product ratio holds some attractiveness for the planners, the same cannot be said for an increase in the investment to NMP ratio. In our second scenario we increased investment in each of the three productive sectors by 10 percent. The only positive result of such an increase in capital formation is an increase in output and in incomes. The expansion of the domestic economy is, however, inflationary because incomes increase more rapidly than consumption, thus creating the potential for inflationary pressures. Moreover, higher domestic production and incomes lead to a deterioration of the trade balance. The net exports of machinery and equipment fall and the deficit in hard goods trade grows. Agricultural output does not grow sufficiently to reduce net imports of foodstuffs and added industrial output creates additional demands for fuels and raw ma-

*This conclusion must be interpreted with care. First of all, it cannot be taken to imply that a policy of increasing investment in manufacturing is an optimal policy. In fact, Brada et. al. (1979) find that an optimal long term policy for Czechoslovakia would have called for an expansion of the manufacturing sector by increasing investment in services but not in manufacturing, thus promoting urbanization and an expansion of the manufacturing labor force. Secondly, increased investment in manufacturing at the expense of agriculture may only be beneficial in the context of the short run. In the long run a policy favoring agriculture may be more desirable. On this point see Klug and Brada (1980).

terials. Overall the policy of increasing the level of investment does not compare very favorably to the policy of shifting capital from agriculture to industry. The former policy creates a foreign trade deficit and the potential for repressed inflation domestically without producing substantially greater gains in output than the latter policy.

From these results, the dilemma facing Czechoslovak policymakers in the 1970's is fairly clear. The fostering of structural change in favor of industry is clearly a highly desirable policy from the standpoint of domestic output and macroeconomic equilibrium. However, the policymakers appeared to be constrained in their efforts to follow this policy by the availability of raw materials in international markets. In light of the results of our simulations, the decision by Czechoslovak policymakers to pursue industrialization appears to be a sound one. As may be seen from Table 6, policies in both the Fifth and Sixth Five-Year Plans called for much faster rates of growth of investment in manufacturing and services and slower growth of agricultural investment. Whether such a policy should have been followed farther we cannot say. Only knowledge of the policymakers' tradeoff between domestic goals and the availability of energy and raw materials can yield that answer.

IV. IMPLEMENTING POLICY IN THE CZECHOSLOVAK FIFTH AND SIXTH FIVE-YEAR PLANS

In the previous Section we have shown that there appears to have been no reasonable alteration of actual Czechoslovak investment patterns which would have yielded results superior to those actually achieved in every aspect of economic performance of likely interest to Czechoslovak policymakers. There existed a clear trade-off between domestic goals and external balance and, without knowing the preferences of the policymakers, we cannot claim that policies better than those actually implemented were available.

In this Section we turn to another aspect of policymaking: the construction and implementation of the Five-Year Plans. This subject is not only of interest in its own right but will also shed some light on our findings in Section III. The construction of the Five-Year Plan should involve the meshing of the policymakers objectives with the policies required to achieve these objectives. If a variety of policies may be employed to achieve the desired outcomes then policymakers are free to select targets for the policies or instruments as well as for the targets. This is precisely what is done in drawing up the Five-Year Plans. Table 6 shows the desired rates of growth of a number of indicators such as national income, retail sales, etc. which were established by policymakers for the Fifth and Sixth Five-Year Plans.⁷ In addition the policymakers established desired values for their policy instruments—the sectoral levels of investment. Thus we have a set of instruments and a set of targets which should be reached if: (a) the plan is implemented, that is if the paths chosen for the

⁷ All growth rates are taken from draft or final versions of the plans. In cases where a range of growth rates was given in the plan documents, the midpoint of the range was adopted. Since our sectoral outputs are net while plan figures are given for gross output, we recomputed sectoral output targets using the historic relationship between the growth rates of net and gross sectional output.

instruments are actually followed; and (b) if the plan is consistent, that is if in fact following the desired paths for the instruments would indeed lead to the desired outcomes given the structure of the economy.

The answer to part (a) can be determined quite simply by computing the extent to which investment targets were fulfilled. The econometric model yields some insight into this question by indicating the extent to which plan targets were not met because the policymakers' paths for investment were not followed and the extent to which faulty plan construction or unforeseen environmental disturbances prevented plan fulfillment. The answer to part (b) is obtained by means of an optimal control algorithm which attempts to fulfill the plan targets as best as possible given the environment actually facing the Czechoslovak economy.

The desired growth rates tabulated in Table 6 were used to generate desired paths for the instruments (investment) and for the target variables. This was done by simply projecting the pre-plan values for each instrument and target over the forthcoming Five-Year Plan period at the planned rate of growth. In reality of course planners do not expect that the tempo of growth will be even over the entire plan period. However, since we are operating with a truncated lag structure for our capital formation equations, the imposition of a uniform growth rate for the entire plan period is not a serious drawback.

Using the relationship between the instruments and the targets embodied in the econometric model and historical values of the exogenous variables the optimal control algorithm attempts to minimize the policymakers' loss function by an optimal selection of values for the instruments. The loss function, L is given by

$$L = \sum_{i=1}^h \left(\sum_{j=1}^m u_j (C_{ij} - \bar{C}_{ij})^2 + \sum_{k=1}^n V_k (t_{ik} - \bar{t}_{ik})^2 \right) \quad \text{Eq. 1}$$

where $i = ih$ year of the plan period

m = number of instruments or controls

n = number of targets

u_j = weight placed by policymakers on the deviation of the j -th instrument from its desired path

C_{ij} = optimal value of instrument j in period i

\bar{C}_{ij} = desired value of instrument j in period i

V_k = weight placed by policymakers on the deviation of the k -th target from its desired path

t_{ik} = optimal value of target k in period i

\bar{t}_{ik} = desired value of target k in period i

Our evaluations of the consistency of Czechoslovak Five-Year Plans employed two sets of weights for the policymakers' loss function. These weights are listed in Table 7. One set weighs the percent deviation of each target and instrument from its desired value by an equal amount. Results based on these weights are labeled as Optimal No. 1, and they reflect a rather agnostic approach to policymakers' preferences. The second set of weights employed is potentially more controversial. It assumes that policymakers are more concerned with attain-

ing some desired paths than others. In our example, policymakers are assumed to place greater importance (and thus larger weights) on goals established for manufacturing output and consumption of agricultural goods. In contrast lower weights, implying a greater willingness to deviate from target, are accorded to communal consumption and to personal income. These weights are of course arbitrary but they do attempt to reflect policymakers' preferences for industrialization, for aggregate growth and for insuring adequate food supplies. Results obtained with this set of weights are labeled Optimal No. 2.

The consistency of desired values of the instruments and of the desired values of the targets can be observed from Tables 8 and 9. A comparison of desired values with the optimal values indicates a very close correspondence. For the Fifth Five-Year-Plan desired and optimal values of investments were quite close, with optimal slightly below desired especially in manufacturing. Optimal policies would have enabled the economy to meet its output targets although the optimal policy falls somewhat short in agriculture and overshoots in the output of services. Wages rise more rapidly than desired, leading to above-plan levels of personal income. Moreover, consumption targets are not met, suggesting that planning was weakest in the consumer sector and that historically policymakers have overestimated their ability to restrain the rise in wages. In all, however, the Fifth Five-Year Plan must be judged a conceptual success. Despite all the adverse effects on the economy of a deteriorating international situation toward the end of the plan period, all the goals of the plan could have been met had the planned paths for investment been adhered to.

The Sixth Five-Year Plan fails to achieve the degree of consistency found in the Fifth. Optimal paths for manufacturing and services investment are appreciably below target. Despite this, sectoral outputs in agriculture and manufacturing are up to target while services and national income are above planned levels. Improved outputs generate higher wages and incomes than planned, while all indicators of consumption save services are below target. Overall, the Sixth Five-Year Plan seems to be less balanced and less efficient than its predecessor. Part of the inconsistency in the Sixth Plan may be due to greater uncertainty on the part of policymakers about the international environment and about ways of coping with the energy crisis.

However well-constructed and consistent the two Five-Year Plans may be, the fruits of this consistency are worth little if actual implementation of the plans deviates from the planned paths for investment. To examine the extent to which the plans were fulfilled, and the reasons and implications of the failure to fulfill the plans, we utilized the actual values of investment to compute the actual performance of Czechoslovak economy in the 1970's. Since not all data for the Sixth Five-Year Plan period were available investment data for the last three years represent our best guess. Consequently, we shall focus more heavily on the implementation of the Fifth Five-Year Plan. As may be seen from Table 8, actual investment differed markedly from desired and optimal; in all cases actual investment exceeded desired. As a result, output in all sectors save agriculture was higher than planned, as was aggregate output. Personal income was 7 percent higher than planned by 1975, mainly the result of increased employment since

wages did not grow much more quickly than planned. Consumption in all sectors was also above planned levels, but personal savings were higher than under the Optimal No. 1 policies, though, to be fair, no worse than under Optimal No. 2 policies. The main consequence of this rather inflationary drift in implementing the plan was a deterioration in the balance of trade with socialist countries and with the West.

The Sixth Five-Year Plan (given our tentative estimates of actual levels of investment) displays a closer congruence between optimal and actual levels of investment than between planned and actual; suggesting that the contradictions in this plan described above forced policymakers to opt for more feasible policies in the course of implementation. Nevertheless, actual levels of output, incomes, wages and consumption save agricultural goods are above plan. The main casualty of this inflationary implementation of the plan is again the foreign trade balance.

Overall, the Fifth Five-Year Plan was a more consistent and feasible plan with little or no inflationary pressures inherent in its targets. In contrast the Sixth Five-Year Plan was less consistent and feasible and more inflationary. Paradoxically, the Fifth Five-Year Plan was not implemented as effectively as it might have been. Table 10 reveals that the planners' loss function for the economy's actual performance was significantly greater than the loss function for the optimal policy. This poor and somewhat inflationary implementation of what was basically a sound and feasible plan had two consequences for the next five year period. First, successes achieved during the Fifth Five-Year plan apparently made the planners overoptimistic, leading to the adoption of a Sixth Five-Year Plan which was clearly overambitious.⁸ Second, the inflationary implementation of the Fifth-Year Plan dissipated the beneficial influence which the balanced state of the economy had bestowed on planners' efforts in the early 1970's.

As may be seen from Tables 9 and 10, the implementation of the Sixth Five-Year Plan followed the optimal paths more closely than was the case for the previous plan. The differences between the optimal and actual planners' loss functions are relatively small. This, however, should not be interpreted as a conscious decision on the part of the planners and policymakers. Rather, given that the plan was in fact infeasible from its conception, planners were forced to deviate from targets rather early and to move to a less ambitious investment policy. Thus, the logic of events rather than belated wisdom forced planners to adopt a more feasible, less expansionary set of policies much like those called for *a priori* by the optimal control algorithm.

V. CONCLUSIONS

In this paper we have examined the preferences and planning skills displayed by Czechoslovak policymakers and planners in the construction of the Fifth and Sixth Five-Year Plans for Czechoslovakia. We

⁸ A large part of the infeasibility was the result of planned levels of investment and exports of machinery and equipment in excess of the productive capacity of the machine building sector. As a result, the capital shortage which we predicted when the plan was first published (Brada and King (1976) pp. 3-4 has forced a slowdown in investment and a greater balance of payments deficit.

have shown that when domestic objectives such as growth, structural change and equilibrium are supplemented by considerations of external equilibrium, the Czechoslovak planners had no investment policy available to them which would have improved performance for all indicators. Second, we have found that the Fifth but not the Sixth, Five-Year Plan was generally consistent and conceived in such a way that its major objectives could have been achieved. The latter plan was not feasible, primarily because investment targets were too ambitious. Both plans tended to be implemented in a way which led to inflationary pressures and to larger balance of payments deficits. Indeed, it seems fair to conclude that plan construction is much more capably carried out in Czechoslovakia than is the implementation of plans once they are promulgated. If this fact is recognized in Czechoslovakia it may become an additional reason for considering some reform of the economic mechanism, though not necessarily toward greater decentralization.

Although our analysis employs a methodology and concepts which differ significantly from those of Friedrich Levčik's contribution to this volume, we come to similar conclusions. In particular, we are in agreement that the Czechoslovak economy progressed quite well in the first half of the decade. Planning was for the most part effective in conception and fortuitous legacies from the reform period and an enlightened industrial investment strategy provided some leeway to enable the economy to survive the ill-effects of the inflationary implementation of the plan.* For the outcome of the Sixth Five-Year Plan our findings complement Levčik's. While Levčik attributes the difficulties encountered under this plan to an accumulation of specific failures and shortcomings we would argue that the plan itself was infeasible. Therefore, if the Sixth Five-Year Plan were to be fulfilled, policies at the sectoral level would have to achieve gains in efficiency and productivity well outside the past performance of the economy. Since, in fact, the implementation of the plan rested on traditional methods, it is not surprising that outcomes in this regard were disappointing.

Czechoslovak policymakers appear to be facing a difficult dilemma. The deterioration of the terms of trade and increasing difficulties in obtaining incremental supplies of energy can be met by either supply side or demand side responses. In Czechoslovakia, as in most industrialized countries (regardless of economic system), the most appealing response was on the supply side: to produce more while using less energy and raw materials. One way to explain the apparent infeasibility of the Sixth Five-Year Plan is to posit that Czechoslovak planners expected large supply side improvements. Since these did not materialize, demand side restraints had to be introduced in 1979 and 1980. However, in light of the evident inability of the planners to restrain investment to planned levels for long periods of time, it is likely that Czechoslovak performance under the Seventh Five-Year Plan will be marked by further cycles of over-plan investment followed by severe cutbacks in investments.

*The only point of substance on which we disagree with Levčik is the source of the deflationary state of the economy at the outset of the Fifth Five-Year Plan. On this point, see Appendix I.

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APPENDIX I

THE ECONOMETRICS OF ECONOMIC REFORM
AND RECENTRALIZATION IN CZECHOSLOVAKIA

Although the Czechoslovak economic reform of 1967 lies outside the scope of this paper, its impact on behavioral equations in the econometric model of Czechoslovakia carries through to the 1970's. Any broad system change such as the 1967 reform is bound to alter a number of the structural equations in even an aggregated model as the one employed in this paper. The traditional way (to the extent that there are any traditions in the macroeconomic modeling of planned economies) of dealing with system change is to introduce a dummy variable into those equations whose parameters might have been altered by the reforms. The reader will note that we have done so for Equations 2, 3, 7, 8, 9, 14, 22, 28, 30, 31, 32, 33, 34, 45, 49 and 56 in Table 2.

The net effect of the economic reform as measured by our dummy variables was deflationary: the demand for goods was decreased, the supply increased (King, forthcoming). This seems to us to be a reasonable finding because the introduction of market oriented reforms requires, if the reform is to have any chance of success, that inflationary pressure be eliminated.

However, a number of knowledgeable observers of the Czechoslovak economy have argued that because the reforms were scrapped after the 1968 invasion, reform dummies are either irrelevant or should be eliminated by 1969 or 1970. Many of these same observers would, however, agree with our finding of a deflationary tendency in the Czechoslovak economy in the early 1970's. This tendency they would attribute not to the carryover of the preparations for reform, but rather to deflationary actions of the Husák regime in 1969 and

the early 1970's. Thus they would also expect to see dummy variables with a deflationary economic impact apply to the 1970's, but they would not expect these dummy variables to be significant for the reform period.

To test whether or not these deflationary dummies should be introduced in 1967 or in 1969-1970 we applied the Quandt test (Quandt, 1958) to those of our equations where the dummy variable was significant. To find the date at which the coefficients of the equation are most likely to have changed their value, a likelihood ratio is obtained for each year. When the likelihood ratio reaches a maximum, we have found the year most likely to be the dividing line between one regression regime (i.e. values of the coefficients) and another. Table A-1 lists the years for which in each of our equations we found a global maximum of the likelihood ratio and also years of local maxima. The results of the Quandt test suggest that the deflation of the 1970's is a carryover from the policies of the 1967 reform and do not appear to be the result of the imposition of austerity measures by the post-Dubček regime. Clearly more observations are needed so that we may search the 1970's re attempt to discover whether these effects of the reform policies will eventually fade away. We would suspect that they will retain their effect for a relatively long time primarily because the effects we have captured with our dummies reflect statutory changes in taxes and payments rather than changes in the behavior of economic agents to new information and incentives.

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TABLE A-1

TESTS FOR CHANGES IN REGRESSION REGIMES
DUE TO THE CZECHOSLOVAK ECONOMIC REFORM

Year of:

Equation	Variable	Global Maximum ^{a)}	Local Maxima ^{b)}
2	IM	1966	
3	IA	1965	1969
7	MEG	1966	1967, 1964
8	TIX	1966	
9	TD	1968	1966, 1967
14	GEO	1970	1968, 1966
22	EA	1970	
28	ALF	1964	1968, 1966
30	WME	1966	1970
31	WAG	1968	
32	WOG	1966	1968
33	TNE	1969	1966
34	TRANS	1970	1968
45	SII	1970	
49	SXI	1965	
56	CI4	1964	1969

a) Tests of significance were not performed since the break in many cases is very near the endpoint of the data series.

b) In descending order of magnitude.

APPENDIX II

THE OPTIMAL CONTROL ALGORITHM

The optimal planning results were obtained by applying optimal control theory to the Czechoslovak econometric model. In particular, the method of dynamic programming was employed to solve the planning problem. In this appendix, a brief review of the algorithm employed is presented. However, before discussing the algorithm some comments are made concerning preparation of the model for the optimal control experiments.

The structural Czechoslovak econometric model employed in the policy analysis can be written in matrix form as

$$(A1) \quad y_t = A_0 y_t + A_1 y_{t-1} + B_1 x_t + B_2 x_{t-1} + C_1 z_t$$

where

y_t is a 65 x 1 vector of endogenous variables.

x_t is a 3 x 1 vector of control variables.

z_t is a 25 x 1 vector of exogenous variables.

A_0 is a 65 x 65 matrix of coefficient in the endogenous variables.

A_1 is a 65 x 65 matrix of coefficients of the lagged endogenous variables.

B_1 is a 65 x 3 matrix of policy coefficients,

B_2 is a 65 x 3 matrix of lagged policy coefficients, and

C_1 is a 65 x 25 matrix of coefficients on the exogenous variables.

In order for the model to be employed in control experiments, two modifications are needed. First, the model must be expressed in reduced form. This is easily accomplished by subtracting the term

$A_0 \ddot{y}_t$ from both sides of (A1), and then multiplying both sides of the resulting equation by $(I-A_0)^{-1}$. The resulting reduced form model is

$$(A2) \quad y_t = (I-A_0)^{-1} A_1 \ddot{y}_{t-1} + (I-A_0)^{-1} B_1 x_t + \\ (I-A_0)^{-1} B_2 x_{t-1} + (I-A_0)^{-1} C_1 s_t$$

or

$$(A2') \quad \dot{y}_t = A y_{t-1} + B_1' x_t + B_2' x_{t-1} + C x_t$$

where

$$A = (I-A_0)^{-1} A_1$$

$$B_1' = (I-A_0)^{-1} B_1$$

$$B_2' = (I-A_0)^{-1} B_2$$

$$C = (I-A_0)^{-1} C_1$$

Secondly, the reduced form model must be rewritten as a first-order system. The general form of such a system is

$$(A3) \quad y_t = A^* y_{t-1} + B^* x_t + C^* s_t$$

It might also be pointed out that this representation is known as the "state-space" form of the model. Our reduced form model is very close to the appropriate form except for the fact that we have a lagged control variable term. To put the model in state-space form, the vector of endogenous variables must be augmented by the three control variables.

Then, the state-space formulation of (A2') is

$$\begin{bmatrix} y_t \\ x_t \end{bmatrix} = \begin{bmatrix} A & B_1' \\ 0 & 0 \end{bmatrix} \begin{bmatrix} y_{t-1} \\ x_{t-1} \end{bmatrix} + \begin{bmatrix} B_1' \\ I \end{bmatrix} x_t + \begin{bmatrix} C_1 \\ 0 \end{bmatrix} z_t$$

which is of the form of equation (A3) if we define

$$A^a = \begin{bmatrix} A & B_1' \\ 0 & 0 \end{bmatrix}$$

$$B^a = \begin{bmatrix} B_1' \\ I \end{bmatrix}$$

$$C^a = \begin{bmatrix} C_1 \\ 0 \end{bmatrix}$$

and y_t to be the augmented vector of dimension 68×1 .

The optimal control problem is simply to find the path of x_1 , x_2 , . . . , x_t that minimizes a quadratic loss function

$$(A4) \quad = \sum_{t=1}^T [(y_t - a_t)' K (y_t - a_t)]$$

subject to equation (A3) and the initial condition, y_0 . The vector a_t represents the desired or nominal values of the (augmented) state variables that the planner would like to achieve, and the matrix K is a symmetric, positive semidefinite matrix of penalty weight.

One interesting property of the "Linear-Quadratic Control Problem" is that a linear policy rule is derived. This rule shows the optimal policy for period t to be dependent on the value of the endogenous

variables in period in $t-1$. That is,

$$(A5) \quad x_t = G_t Y_{t-1} + z_t$$

where

$$(A6) \quad G_t = -(B^0{}' H_t B^0)^{-1} (B^0{}' H_t A^0)$$

$$(A7) \quad z_t = -(B^0{}' H_t B^0)^{-1} B^0{}' (H_t C^0 z_t - h_t)$$

The actual solution of the optimal control problem can be expressed quite simply in an algorithm. In addition to equation (A6) and (A7), the following two equations can be derived in the formal optimization process,

$$(A8) \quad H_{t-1} = K + (A^0 + B^0 G_t)' H_t (A^0 + B^0 G_t)$$

$$(A9) \quad h_{t-1} = K z_{t-1} + (A^0 + B^0 G_t)' (h_t - H_t C^0 z_t)$$

Then, the first step in solving the algorithm is to start in the terminal period, T , and employ (A6) along with the initial condition that $H_T = K$ to solve for G_T . Once G_T is known, H_{T-1} can be solved. This process can be continued backwards recursively until G_1 is obtained. Next, z_T can be calculated by employing equation (A7) in combination with the initial condition $h_T = K z_T = K z_T$. Other values of h_t and z_t can be determined by solving (A9) and (A7), respectively, backward until z_1 is calculated.

The last part of the algorithm is to calculate the optimal policy path and the resulting optimal endogenous variable paths. This is quite simple since we have already calculated the values of G_t and g_t . That is, to calculate x_1 , we substitute G_1 , g_1 , and the initial values of the endogenous variables in equation (A3). Given x_1 , y_0 , and the values of the exogenous variables for period 1, (A3) allows the endogenous variables for $t=1$ to be calculated. Of course, with y_1 known, G_2 and g_2 can be used to calculate x_2 , and so on.

The reader interested in a more detailed explanation of the dynamic programming algorithm, or the derivation of the algorithm is referred to Chow (1975).

Gregory C. Chow, Analysis and Control of Dynamic Economic Systems, (New York: John Wiley and Sons, 1975).

Table 1

List of Variables in the

Czechoslovak Econometric Model

ENDOGENOUS VARIABLES

<u>Symbol</u>	<u>Definition</u>
AGSUR	- Agricultural output net of agricultural consumption (billion 1967 Kcs.) calculated.
ALP	- Economically active population in agriculture. (thousand persons) (2), (13).
BPC	- Balance of payments with capitalist countries. (million SDR) (19).
BPS	- Balance of payments with socialist countries. (million SDR) (19).
CA	- Consumption of agricultural goods and food (billion 1967 Kcs.) calculated from (2), (15).
CHGS	- Net exports of food, fuels and raw materials to capitalist countries, (million SDR) (19).
CI1	- Imports of machinery and equipment from capitalist countries. (million SDR) (19).
CI2	- Imports of fuels and raw materials from capitalist countries. (million SDR.) (19).
CI3	- Imports of food from capitalist countries. (million SDR).
CI4	- Imports of consumer manufactures from capitalist countries. (million SDR) (19).
CM	- Consumption of manufactured goods (billion 1967 Kcs.) calculated from (2), (13).
CO	- Other consumption (billion 1967 Kcs.) calculated from (2), (13).
CS	- Social consumption (billion 1967 Kcs.) (2), (13).
CO1	- Exports of machinery and equipment to capitalist countries. (million SDRs), (19).
CO2	- Exports of fuels and raw materials to capitalist countries. (million SDRs) (19).
CO3	- Exports of food to capitalist countries. (million SDRs) (19).
CO4	- Exports of consumer manufactures to capitalist countries. (million SDRs) (19).

- B • Government deficit or surplus (billion 1967 Kcs.) calculated from (2), (5), (6), (13) and extrapolation by related series.
- DPI • Disposable personal income (billion 1967 Kcs.) calculated from (2), (4), (13) and extrapolation by related series.
- EA • Average annual agricultural employment (thousand persons) (2), (9), (13).
- EM • Average annual manufacturing employment (thousand persons) (2), (9), (13).
- EO • Average annual other employment (thousand persons) (2), (9), (13).
- EIOF • Average annual total employment in the national economy (thousand persons) (2).
- GEWA • Government expenditures on goods (billion 1967 Kcs.) (2), (5), (8), (13) and extrapolation by related series.
- GED • Other government expenditures (billion 1967 Kcs.) (2), (5), (8), (13) and extrapolation by related series.
- GET • Total government expenditures (billion 1967 Kcs.) (2), (5), (8), (13) and extrapolation by related series.
- GNF • Total national income. (billion 1967 Kcs.) (2), (13).
- GNOM • National income created in manufacturing and construction (billion 1967 Kcs.) (2), (13).
- GNIA • National income created in agriculture (billion 1967 Kcs.) (2), (13).
- GNIO • Other national income created (billion 1967 Kcs.) (2), (13).
- IA • Investment in agriculture (billion 1967 Kcs.) (2), (13).
- IM • Investment in manufacturing (billion 1967 Kcs.) (2), (13).
- IO • Investment in other sectors (billion 1967 Kcs.) (2), (13).
- IT • Total investment (billion 1967 Kcs.) (2), (13).
- KA • Capital stock in agriculture (billion 1967 Kcs.) (2), (22).
- KM • Capital stock of manufacturing (billion 1967 Kcs.) (2), (22).
- NOLF • Non-agricultural economically active population (thousand persons) (2), (13).
- MSG • Currency in circulation (billion 1967 Kcs.) (2), (7), (11).
- NXXI • Net exports to capitalist countries of machinery and equipment (million SDR) (19).

- MAG • Net migration to urban areas (thousand persons) (14) and extrapolation by related series.
- ME • Net exports of machinery and equipment (million SDR) (19).
- MF • Net exports of food (million SDR) (19).
- MM • Net exports of consumer manufactures (million SDR) (19).
- GLY • Other miscellaneous income (billion 1967 Kcs.) (2), (13) and extrapolation by related series.
- PS • Personal savings (billion 1967 Kcs.) calculated as residual between disposable personal income and consumption.
- R • Total government revenue (billion 1967 Kcs.) (2), (13).
- RETS • Total retail sales (billion 1967 Kcs.) (2), (13).
- RPOP • Rural population (thousand persons) (1), (6), (10).
- SEXS • Net exports of food, fuel, and raw materials to socialist countries (million SDR) (19).
- SI1 • Imports of machinery and equipment from socialist countries (million SDR) (19).
- SI2 • Imports of fuel and raw materials from socialist countries (million SDR) (19).
- SI3 • Imports of food from socialist countries (million SDR) (19).
- SI4 • Imports of consumer manufactures from socialist countries (million SDR) (19).
- SE1 • Exports of machinery and equipment to socialist countries (million SDR) (19).
- SE2 • Exports of fuel and raw materials to socialist countries (million SDR) (19).
- SE3 • Exports of food to socialist countries (million SDR) (19).
- SE4 • Exports of consumer manufactures to socialist countries (million SDR) (19).
- TD • Direct (wage or income) taxes (billion 1967 Kcs.) (2), (5), (13).
- TOO • Miscellaneous taxes and payments (billion 1967 Kcs.) (2), (5), (13).
- TEGS • Total net exports of food, fuel and raw materials (million SDR) (19).
- TP • Profits taxes (billion 1967 Kcs.) (2), (5), (13).
- TP1 • Total personal income (billion 1967 Kcs.) (2), (13) and extrapolation by related series.
- TRANS • Social and health insurance (transfer) payments (billion 1967 Kcs.) ((2), (13) and extrapolation by related series.
- TIX • Turnover taxes (billion 1967 Kcs.) (2), (5), (13).

- TMB • Total wage bill (billion 1967 Kcs.) computed from employment and wages.
- UPOP • Urban population (thousand persons) (1), (6), (10).
- KAG • Average annual wages in agriculture (thousand 1967 Kcs.) (2), (13).
- MG • Average annual wages in manufacturing (thousand 1967 Kcs.) (2), (13).
- MOG • Average annual wages in the socialist sector (thousand 1967 Kcs.) (2), (13).

EXOGENOUS VARIABLES

<u>Symbol</u>	<u>Definition</u>
OMEA	Sum of the gross national products of Bulgaria, German Democratic Republic, Hungary, Poland, Romania, and the U.S.S.R. (billion U.S. current dollars) computed from (16), (17), (18).
CPIAL	Cost of living (price) index for all goods for all households: an average of two indices, for workers' and employees' households and for cooperative farmers' households, weighted by the non-agricultural wage bill and the agricultural wage bill (respectively) (1967 = 100) (2), (13).
CPIFD	Cost of living (price) index for foodstuffs for all households-- see CPIAL for description of weighted average (1967 = 100) (2), (13).
CPISV	Cost of living (price) index for services for all households-- see CPIAL for description of weighted average (1967 = 100) (2), (13).
DUM	Dummy variable: 1967-1972 = 1, otherwise = 0.
GRPOP	Natural increase in the rural population (thousand persons) (1), (6), (10).
GUPOP	Natural increase in the urban population (thousand persons) (1), (6), (10).
OECD	GDP of European OECD member countries (billion current dollars) (17).
PCI1	Price of CI1 (1970 = 100) (19).
PCI2	Price of CI2 (1970 = 100) (19).
PCI3	Price of CI3 (1970 = 100) (19).
PCI4	Price of CI4 (1970 = 100) (19).
PCX2	Price of CX2 (1970 = 100) (19).
PCX3	Price of CX3 (1970 = 100) (19).
PCX4	Price of CX4 (1970 = 100) (19).
PRWOM	Participation rate of women; ratio of employed women to total working age persons (percent) (1), (2), (9), (13).
PSI1	Price of SI1 (1970 = 100) (19).
PSI2	Price of SI2 (1970 = 100) (19).
PSI3	Price of SI3 (1970 = 100) (19).
PSX3	Price of SX3 (1970 = 100) (19).
PSX4	Price of SX4 (1970 = 100) (19).
T	Time trend: T = 1, ..., 23 for 1953, ..., 1975.

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Econometric Model**

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Table 2

Parameter Estimates for the Czechoslovak Econometric Model

1.	$IT = -13.046 + .345 GNY - .020 THCS_{-1}$ $(1.777) (.021) (.006)$	$R^2 = .996$	$d = 1.38$
	$- .019 NI$ $(.005)$		
2.	$IM = -.776 + .290 IT + .400 IM_{-1}$ $(.803) (.045) (.109)$	$R^2 = .991$	$d = 1.68$
	$-2.589 DLM$ $(.877)$		
3.	$IA = 1.826 + .145 IT + .006 NS_{-1}$ $(1.046) (.014) (.005)$	$R^2 = .933$	$d = .84$
	$-2.527 DLM$ $(.634)$		
4.	$IO = IT - IM - IA$		
5.	$IM = .987 IM_{-1} + IM_{-1}$		
6.	$KA = .972 KA_{-1} + IA_{-1}$		
7.	$MSG = -6.928 + .376 MSG_{-1} + .043 D + .112 TMB$ $(2.222) (.202) (.020) (.032)$	$R^2 = .985$	$d = 1.31$
	$+1.135 DLM$ $(.850)$		
8.	$TIX = 24.010 + .306 RETS - 26.273 DLM$ $(1.559) (.016) (1.318)$	$R^2 = .950$	$d = 2.27$
9.	$TD = -8.129 + .167 TMB + 3.423 DLM$ $(1.012) (.008) (.464)$	$R^2 = .986$	$d = 1.63$
10.	$TIP = -136.733 + 1.110 CPIAL + .626 GNYM$ $(29.610) (.284) (.024)$	$R^2 = .971$	$d = 1.98$
11.	$TIP = -3.907 + 1.043 TD - .378T$ $(1.210) (.243) (.228)$	$R^2 = .917$	$d = 1.59$
12.	$R = TIX + TTD + TIP + TIP$		
13.	$GEMA = 5.772 - 2.164 MSG + .626$ $(6.679) (1.179) (.140)$	$R^2 = .933$	$d = 1.08$
14.	$GEP = -146.144 + 1.151 IP_{-1} - 8.357 MSG$ $(28.201) (.466) (1.775)$	$R^2 = .982$	$d = 1.95$
	$+2.412 TMB + 20.772 DLM - 2.468 T$ $(.426) (10.215) (1.153)$		

15. $GET = GDA + GE\theta$

16. $D = R - GET$

$$17. \quad GNYM = -372.936 + .487 IM + .154 EM - .284 PS_{-1} \quad R^2 = .995 \quad d = .98$$

$$(87.948) \quad (.051) \quad (.038) \quad (.111)$$

$$- 10.458 T$$

$$(2.950)$$

$$18. \quad GNYA = -12.605 + .190 KA + .016 EA \quad R^2 = .794 \quad d = 2.00$$

$$(9.800) \quad (.031) \quad (.004)$$

$$- .106 PS_{-1}$$

$$(.039)$$

$$19. \quad GNY\theta = 9.285 + .142 GE\theta + .279 GNYM \quad R^2 = .982 \quad d = 1.32$$

$$(6.408) \quad (.130) \quad (.036)$$

$$- .175 DPI$$

$$(.124)$$

20. $GNY = GNYM + GNYA + GNY\theta$

$$21. \quad EM = 1044.970 + .454 MOLF - 22.838 PRM\theta \quad R^2 = .997 \quad d = 1.47$$

$$(123.024) \quad (.028) \quad (5.505)$$

$$+ 10.977 IM_{-1}$$

$$(1.522)$$

$$22. \quad EA = 257.460 + .856 ALF - .422 NMIG \quad R^2 = .997 \quad d = 128$$

$$(94.703) \quad (.043) \quad (.214)$$

$$+ 40.127 DUM - 10.916 T$$

$$(15.328) \quad (2.366)$$

$$23. \quad E\theta = 1797.600 + .384 MOLF - 1.517 NMIG \quad R^2 = .996 \quad d = 2.02$$

$$(110.588) \quad (.035) \quad (.376)$$

$$+ 60.927 PRM\theta$$

$$(8.074)$$

24. $ET\theta T = EM + EA + E\theta$

$$25. \quad NMIG = 404.209 - 3.637 CPIFD + .710 I\theta \quad R^2 = 6.86 \quad d = 1.10$$

$$(70.460) \quad (.671) \quad (.212)$$

26. $RP\theta P = RP\theta P_{-1} - NMIG + GRP\theta P$

27. $UP\theta P = UP\theta P_{-1} + NMIG + GRP\theta P$

28. ALF = 5618.480 - .619 - .562 RPQP $\bar{R}^2 = .985$ $d = 1.31$
 (1881.610) (.175) (.287)
 + 1.001 NMIG + 87.194 PRDEM + 65.944 DUM - 43.149 T
 (.608) (14.718) (35.342) (28.824)
29. MBLF = 1991.820 - 1.071 ALF + .147 UPQP $\bar{R}^2 = .996$ $d = .87$
 (653.134) (.174) (.096)
 + 114.648 PRDEM
 (16.416)
30. MAG = -12.167 + .010 EM + .189 MAG₋₁ $\bar{R}^2 = .979$ $d = 1.67$
 (2.865) (.002) (.147)
 - 2.092 DUM
 (.499)
31. MAG = 17.027 + .328 CPIFD + .668 GNYA $\bar{R}^2 = .887$ $d = 1.75$
 (7.146) (.101) (.117)
 - .009 EA - 2.613 DUM
 (.002) (1.254)
32. MAG = 13.606 + .463 GNYB + .359 MAG₋₁ $\bar{R}^2 = .746$ $d = 2.90$
 (5.929) (.154) (.146)
 - .007 EB - 5.803 DUM
 (.005) (2.250)
33. TMB = -222.232 + .041 ETPT + .843 MAG $\bar{R}^2 = .996$ $d = 1.05$
 (82.458) (.021) (.2181)
 + 1.354 MAG + 2.305 MAG - 6.468 DUM
 (1.188) (.610) (3.514)
34. TRANS = .222 + .375 GEB - .101 CS $\bar{R}^2 = .994$ $d = 1.55$
 (.899) (.035) (.075)
 - 2.688 DUM + .445 T
 (1.336) (.142)
35. BLY = -67.163 + .435 GNYA + .008 UPQP $\bar{R}^2 = .931$ $d = 1.00$
 (5.015) (.140) (.001)
36. TPI = TMB + TRANS + BLY
37. DPI = TPI - TD
38. OI = -3.233 + .408 GNYM - .027M4 $\bar{R}^2 = .989$ $d = 1.46$
 (1.375) (.020) (.009)

39.	CA	= -38.828	+	.358 CPIFD	+	.267 DPI	$\bar{R}^2 = .955$	d = 1.35
		(19.670)		(.175)		(.038)		
		- .088 NS						
		(.023)						
40.	CB	= -7.470	+	.070 CPISV	+	.033 DPI	$\bar{R}^2 = .974$	d = 1.40
		(.852)		(.012)		(.003)		
41.	CS	= -64.686	+	.823 CPISV	+	.307 GED	$\bar{R}^2 = .979$	d = 1.59
		(6.252)		(.078)		(.026)		
42.	RETS	= 22.777	+	1.200 CM	-	.253 GNYA ₋₁	$\bar{R}^2 = .998$	d = 1.44
		(3.415)		(.024)		(.137)		
43.	PS	= DPI - CM - CA - CB						
44.	AGSUR	= GNYA - CA						
45.	SI1	= -2459.870	+	18.362 IT	+	19.687 PSI1	$\bar{R}^2 = .967$	d = .99
		(929.919)		(2.262)		(10.832)		
		- 217.569 DUM						
		(68.611)						
46.	SI2	= -868.220	+	3.148 GNYM	+	.426 SX1	$\bar{R}^2 = .984$	d = 1.89
		(305.854)		(2.793)		(.248)		
		+6.718 PSI2						
		(1.454)						
47.	SI3	= -583.147	+	7.040 CA	-	.262SI2	$\bar{R}^2 = .765$	d = 2.05
		(228.066)		(1.718)		(.086)		
		+ 6.407 PSI3						
		(1.985)						
48.	SI4	= -32.509	+	.475 OMEA	-	.212 SX4	$\bar{R}^2 = .966$	d = 1.21
		(14.532)		(.064)		(.116)		
49.	SX1	= 284.710	-	14.557 IT	+	3.311 OMEA	$\bar{R}^2 = .994$	d = 3.00
		(140.569)		(5.442)		(.498)		
		- .494 SHGS ₋₁						
		(.235)		- 105.142 DUM				
				(39.100)				
50.	SX2	= 40.589	+	.721 OMEA	-	.702 OIGS	$\bar{R}^2 = .956$	d = 1.40
		(36.802)		(.055)		(.198)		
51.	SX3	= 402.652	+	.336 AGSUR	+	4.341 PSX3	$\bar{R}^2 = .824$	d = 2.26
		(71.320)		(.391)		(.768)		
		- .078 NS ₋₁						
		(.053)						
52.	SX4	= 427.896	+	2.556 GNYM	+	3.375 PSX4	$\bar{R}^2 = .928$	d = 1.65
		(132.059)		(.243)		(1.421)		

53. $CI1 = -487.842 + 6.869 IT + .265 CHGS$ $R^2 = .982$ $d = 2.34$
 (85.791) (.551) (.188)
 $+ 2.399 PCI1$
 (1.442)
54. $CI2 = -446.460 + 1.792 GNYM + 5.925 PCI2$ $R^2 = .982$ $d = 1.60$
 (33.899) (.248) (.428)
55. $CI3 = 16.366 + 5.847 CA - 1.100 SI3$ $R^2 = .863$ $d = 1.45$
 (62.493) (1.157) (.334)
 $+ .697 PCI3$
 (.350)
56. $CI4 = -213.296 + .716 DPI + .086 CHGS$ $R^2 = .985$ $d = 1.95$
 (20.641) (.150) (.054)
 $+ 1.406 PCI4 + 24.408 FUM$
 (.368) (6.285)
57. $CI1 = -120.444 + 2.246 GNYM - .086 NCI1$ $R^2 = .977$ $d = 1.66$
 (40.852) (.197) (.135)
58. $CI2 = -499.395 + 2.932 GNYM + .286 BPC$ $R^2 = .990$ $d = 1.96$
 (34.033) (.159) (.097)
59. $CI3 = .898 + .078 CI2 + .779 PCI3$ $R^2 = .931$ $d = 2.00$
 (10.786) (.040) (.214)
60. $CI4 = -262.071 + .283 OECD + 1.950 PCI4$ $R^2 = .983$ $d = .82$
 (21.669) (.016) (.271)
61. $SHGS = SX2 + SX3 - SI2 - SI3$
62. $CHGS = CI2 + CI3 - CI2 - CI3$
63. $THGS = SHGS + CHGS$
64. $BPS = SX1 + SX2 + SX3 + SX4 - SI1 - SI2 - SI3 - SI4$
65. $BPC = CI1 + CI2 + CI3 + CI4 - CI1 - CI2 - CI3 - CI4$
66. $N1 = SX1 + CI1 - SI1 - CI1$
67. $N3 = SX3 + CI3 - SI3 - CI3$
68. $N4 = SX4 + CI4 - SI4 - CI4$
69. $NCI1 = CI1 - CI1$

NOTES

1. Foreign trade equations (51) - (66) were estimated over 1959 - 1975 due to the availability of foreign trade price data.
2. Two stage least squares was used to estimate the coefficients. Because the total number of exogenous variables exceeded the number of observations, the exogenous variables were partitioned into a subset for the domestic economy and two subsets for the foreign trade sector. The partitioning was done on the basis of characteristics of a centrally-planned, small-area socialist economy. Briefly, the domestic and foreign trade exogenous variables were separated and then imports and exports were separated by the trading partner, either socialist or capitalist.

Instrument matrix for the domestic equations (1) - (50):
 CPIAL, CPIFD, CPISV, DUM, GUPOP, GRPOP, PRNDM, T, OMEA, OECD.

Instrument matrix for socialist imports and exports, equations (51) - (58):
 OMEA, OECD, DUM, T, PS11, PS12, PS13, PSX3, PSX4.

Instrument matrix for capitalist imports and exports, equations (59) - (66):
 OMEA, OECD, DUM, T, PCI1, PCI2, PCI3, PCI4, PCX2, PCX3, PCX4.

3. Standard errors appear in parentheses below each coefficient estimate.
4. The listed R^2 and Durbin-Watson (d) statistics were computed on the basis of ordinary least squares estimates of the identical specification.

TABLE 3

VALUES OF KEY ECONOMIC VARIABLES UNDER
ALTERNATIVE POLICIES FOR THE FIFTH
CZECHOSLOVAK FIVE-YEAR PLAN (1971-1975)

Balance of Trade with the West (BPC)
(million SDRs)

Simulated

Year	Actual	IM†	IM†	IT†	IT†
1971	15.	15.	15.	-41.	71.
1972	-25.	-4.	-46.	-70.	21.
1973	-153.	-126.	-180.	-203.	-103.
1974	-251.	-215.	-287.	-302.	-200.
1975	-275.	-230.	-320.	-327.	-223.

Balance of Trade with Socialist Countries (BPS)

(million SDRs)

Year	Actual	IM†	IM†	IT†	IT†
1971	99.	99.	99.	-173.	371.
1972	5.	-14.	24.	-340.	350.
1973	22.	17.	27.	-342.	385.
1974	103.	101.	104.	-295.	500.
1975	-456.	-453.	-459.	-886.	-25.

Consumption of Agricultural Goods (CA)

(billion 1967 Kcs.)

Year	Actual	IM†	IM†	IT†	IT†
1971	84.	84.	86.	84.	84.
1972	84.	87.	81.	89.	79.
1973	93.	95.	90.	99.	86.
1974	96.	99.	93.	104.	88.
1975	104.	106.	102.	114.	96.

Table 3 (continued)

Consumption of Manufactured Goods (CM)

(billion 1967 Kcs.)

Year	Actual	IM†	IM‡	IT†	IT‡
1971	72.	72.	72.	72.	72.
1972	77.	80.	75.	80.	75.
1973	80.	83.	76.	83.	77.
1974	88.	93.	83.	92.	85.
1975	94.	100.	89.	99.	90.

Disposable Personal Income (DPI)

(billion 1967 Kcs.)

Year	Actual	IM†	IM‡	IT†	IT‡
1971	197.	197.	197.	197.	197.
1972	206.	211.	201.	216.	196.
1973	221.	227.	215.	235.	208.
1974	242.	248.	236.	259.	226.
1975	260.	268.	255.	280.	241.

Total Employment (ETOT)

(thousand persons)

Year	Actual	IM†	IM‡	IT†	IT‡
1971	7108.	7107.	7108.	7101.	7114.
1972	7156.	7198.	7114.	7191.	7120.
1973	7257.	7300.	7213.	7294.	7220.
1974	7412.	7463.	7362.	7456.	7369.
1975	7513.	7568.	7458.	7560.	7466.

Gross National Income (GNY)

(billion 1967 Kcs.)

Year	Actual	IM†	IM‡	IT†	IT‡
1971	290.	290.	290.	290.	290.
1972	306.	316.	296.	316.	297.
1973	319.	332.	308.	332.	308.
1974	349.	365.	335.	365.	336.
1975	375.	395.	357.	395.	358.

Table 3 (continued)

National Income Created in Agriculture (GNIA)

(billion 1967 Kcs.)

Year	Actual	IM†	IM†	IT†	IT†
1971	30.	30.	30.	30.	30.
1972	30.	29.	31.	30.	29.
1973	31.	29.	32.	31.	30.
1974	32.	29.	34.	32.	31.
1975	32.	29.	35.	33.	31.

National Income Created in Manufacturing (GNMO)

(billion 1967 Kcs.)

Year	Actual	IM†	IM†	IT†	IT†
1971	212.	212.	212.	212.	212.
1972	224.	233.	217.	232.	219.
1973	234.	246.	224.-	243.	227.
1974	258.	273.	245.	270.	249.
1975	278.	297.	265.	291.	267.

National Income Created in Services (GNMO)

(billion 1967 Kcs.)

Year	Actual	IM†	IM†	IT†	IT†
1971	48.	48.	48.	48.	48.
1972	51.	54.	49.	54.	49.
1973	54.	57.	51.	57.	51.
1974	59.	63.	57.	63.	56.
1975	64.	69.	60.	69.	60.

Investment in Agriculture (IA)

(billion 1967 Kcs.)

Year	Actual	IM†	IM†	IT†	IT†
1971	10.	6.	14.	11.	9.
1972	11.	7.	15.	12.	10.
1973	13.	8.	18.	14.	12.
1974	14.	9.	19.	16.	13.
1975	16.	11.	21.	18.	15.

Table J (continued)

Investment in Manufacturing (IM)

(billion 1967 Kcs.)

Year	Actual	IM†	IM†	IT†	IT†
1971	38.	42.	34.	42.	34.
1972	40.	44.	36.	44.	36.
1973	46.	50.	41.	50.	41.
1974	50.	55.	45.	55.	45.
1975	53.	58.	47.	58.	47.

Investment in Services (IO)

(billion 1967 Kcs.)

Year	Actual	IO†	IO†	IT†	IT†
1971	45.	45.	45.	49.	40.
1972	50.	50.	50.	55.	45.
1973	51.	51.	51.	57.	46.
1974	56.	56.	56.	62.	51.
1975	62.	62.	62.	68.	56.

Net Exports of Machinery and Equipment (ME)

(million SDRs)

Year	Actual	ME†	ME†	IT†	IT†
1971	686.	686.	686.	308.	1064.
1972	591.	607.	575.	185.	997.
1973	543.	584.	502.	124.	961.
1974	654.	709.	599.	208.	1100.
1975	447.	515.	379.	-27.	921.

Personal Savings (PS)

(billion 1967 Kcs.)

Year	Actual	PS†	PS†	IT†	IT†
1971	34.	34.	34.	34.	34.
1972	38.	37.	37.	40.	35.
1973	40.	40.	41.	45.	37.
1974	50.	48.	51.	54.	45.
1975	53.	50.	55.	58.	47.

Table 3 (continued)

Net Exports of Hard Goods - CTM2+3 (TMCS)

(million SDRs)

Year	Actual	IM†	IM†	IT†	IT†
1971	-976.	-976.	-976.	-922.	-1029.
1972	-1033.	-1069.	-997.	-1029.	-1037.
1973	-1150.	-1196.	-1103.	-1158.	-1141.
1974	-1328.	-1386.	-1270.	-1349.	-1307.
1975	-1782.	-1849.	-1715.	-1814.	-1750.

TABLE 4

VALUES OF KEY ECONOMIC VARIABLES UNDER
ALTERNATIVE POLICIES FOR THE SIXTH
CZECHOSLOVAK FIVE-YEAR PLAN (1976-1980)

Balance of Trade with the West (BPC)

(million SDRs)

Year	Actual	Simulated			
		IM†	IM†	IT†	IT†
1976	-307.	-307.	-307.	-387.	-228.
1977	-407.	-378.	-436.	-469.	-345.
1978	-500.	-461.	-538.	-563.	-436.
1979	-672.	-578.	-675.	-691.	-562.
1980	-776.	-717.	-835.	-839.	-712.

Balance of Trade with Socialist Countries (BPS)

(million SDRs)

Year	Actual	IM†	IM†	IT†	IT†
1976	-250.	-250.	-250.	-636.	135.
1977	-292.	-318.	-265.	-768.	185.
1978	-353.	-361.	-345.	-836.	130.
1979	-440.	-440.	-441.	-951.	69.
1980	-450.	-353.	-547.	-1082.	0.

Consumption of Agricultural Goods (CA)

(billion 1967 Kcs.)

Year	Actual	IM†	IM†	IT†	IT†
1976	107.	106.	106.	106.	106.
1977	107.	109.	104.	113.	100.
1978	109.	111.	105.	117.	99.
1979	111.	113.	107.	120.	100.
1980	113.	115.	109.	124.	101.

TABLE 4 (continued)

National Income Created in Agriculture (GNYA)

(billion 1967 Kcs.)

Year	Actual	IM†	IM†	IT†	IT†
1976	34.	34.	34.	34.	34.
1977	34.	34.	35.	35.	34.
1978	35.	34.	37.	36.	35.
1979	35.	34.	39.	37.	35.
1980	36.	34.	41.	38.	36.

National Income Created in Manufacturing (GNYM)

(billion 1967 Kcs.)

Year	Actual	IM†	IM†	IT†	IT†
1976	301.	297.	297.	297.	297.
1977	317.	322.	302.	322.	302.
1978	341.	347.	321.	346.	322.
1979	363.	371.	339.	369.	342.
1980	388.	397.	360.	394.	363.

National Income Created in Services (GNYS)

(billion 1967 Kcs.)

Year	Actual	IM†	IM†	IT†	IT†
1976	70.	68.	68.	68.	68.
1977	73.	74.	68.	75.	67.
1978	79.	80.	73.	81.	72.
1979	84.	85.	77.	86.	76.
1980	90.	92.	82.	92.	81.

Investment in Agriculture (IA)

(billion 1967 Kcs.)

Year	Actual	IM†	IM†	IT†	IT†
1976	15.	10.	21.	17.	14.
1977	16.	11.	22.	18.	15.
1978	17.	11.	23.	19.	16.
1979	18.	12.	25.	20.	16.
1980	19.	13.	26.	21.	17.

TABLE 4 (continued)

Consumption of Manufactured Goods (CM)

(billion 1967 Kcs.)

Year	Actual	IM†	IM†	IT†	IT†
1976	99.	99.	99.	99.	99.
1977	105.	106.	99.	106.	99.
1978	112.	114.	105.	113.	105.
1979	118.	120.	110.	120.	110.
1980	125.	128.	115.	127.	116.

Disposable Personal Income (DPI)

(billion 1967 Kcs.)

Year	Actual	IM†	IM†	IT†	IT†
1976	282.	282.	282.	282.	282.
1977	291.	297.	283.	305.	275.
1978	308.	314.	299.	326.	288.
1979	325.	331.	316.	346.	302.
1980	344.	349.	336.	367.	318.

Total Employment (ETOT)

(thousand persons)

Year	Actual	IM†	IM†	IT†	IT†
1976	7563.	7568.	7568.	7568.	7568.
1977	7613.	7670.	7572.	7668.	7574.
1978	7690.	7755.	7646.	7753.	7648.
1979	7758.	7826.	7717.	7823.	7720.
1980	7829.	7902.	7786.	7896.	7790.

Gross National Income (GNY)

(billion 1967 Kcs.)

Year	Actual	IM†	IM†	IT†	IT†
1976	407.	407.	407.	406.	407.
1977	424.	431.	406.	433.	404.
1978	454.	462.	432.	463.	430.
1979	483.	491.	456.	493.	454.
1980	514.	524.	483.	526.	481.

TABLE 4 (continued)

Investment in Manufacturing (IM)

(billion 1967 Kcs.)

Year	Actual	IM†	IM†	IT†	IT†
1976	54.	59.	48.	59.	48.
1977	58.	63.	52.	63.	52.
1978	61.	66.	54.	66.	54.
1979	64.	70.	57.	70.	57.
1980	68.	75.	61.	75.	61.

Investment in Services (IO)

(billion 1967 Kcs.)

Year	Actual	IO†	IO†	IT†	IT†
1976	63.	63.	63.	69.	56.
1977	65.	65.	65.	72.	58.
1978	68.	68.	68.	75.	61.
1979	72.	72.	72.	80.	65.
1980	77.	77.	77.	85.	69.

Net Exports of Machinery and Equipment (ME)

(million SDRs)

Year	Actual	ME†	ME†	IT†	IT†
1976	934.	934.	934.	398.	1469.
1977	1055.	1077.	1032.	496.	1613.
1978	1223.	1281.	1165.	674.	1772.
1979	1381.	1457.	1305.	815.	1948.
1980	1582.	1672.	1491.	992.	2171.

Personal Savings (PS)

(billion 1967 Kcs.)

Year	Actual	PS†	PS†	IT†	IT†
1976	62.	62.	62.	62.	62.
1977	69.	69.	69.	73.	65.
1978	78.	77.	78.	83.	72.
1979	86.	85.	87.	92.	80.
1980	95.	93.	98.	103.	89.

TABLE 4 (continued)

Net Exports of Hard Goods - CIM 2 & 3 (TRCS)

(million SDRs)

Yr	Actual	IM†	IM†	IT†	IT†
1976	-2193.	-2193.	-2193.	-2117.	-2269.
1977	-2543.	-2593.	-2492.	-2540.	-2546.
1978	-2984.	-3050.	-2917.	-3001.	-2966.
1979	-3478.	-3556.	-3400.	-3510.	-3455.
1980	-4064.	-4152.	-3976.	-4109.	-4018.

TABLE 5

COMPARISON OF OUTPUT IN AGRICULTURE AND
INDUSTRY UTILIZING LINEAR AND
COBB-DOUGLAS PRODUCTION FUNCTIONS

AGRICULTURAL OUTPUT
(GNYA)
billion 1967 KCS

Year	Linear Specification		Cobb-Douglas Specification	
	Actual	IM†	Actual	IM†
1971	30.	30.	31.	31.
1972	30.	29.	31.	30.
1973	31.	29.	31.	31.
1974	32.	29.	33.	32.
1975	32.	29.	35.	34.

INDUSTRIAL OUTPUT
(GNYM)
billion 1967 KCS

Year	Linear Specification		Cobb-Douglas Specification	
	Actual	IM†	Actual	IM†
1971	212.	212.	212.	212.
1972	224.	233.	226.	227.
1973	234.	246.	239.	241.
1974	258.	273.	252.	256.
1975	278.	297.	270.	275.

Sources: Linear specification from Table 3. Cobb-Douglas specification computed using the production functions reported in the text and exogenous values for the sectoral wage bills.

TABLE 6

PLAN TARGETS FOR THE FIFTH AND
SIXTH FIVE-YEAR PLANS

VARIABLE	PLANNED RATE OF GROWTH OVER PLAN PERIOD IN PERCENT	
	1971-1975	1976-1980
GNY	28.0	28.0
GNYM	33.6	33.0
GNYA	9.8	10.2
GNYO	15.0	15.0
IM	35.0	40.0
IA	21.0	21.0
IO	36.4	37.0
RETS	29.0	24.0
CM	35.0	25.0
CA	26.0	19.0
CS	23.0	22.5
TPI	27.6	24.0
WAGES	14.3	14.0

TABLE 7

HYPOTHETICAL WEIGHTS ATTACHED BY POLICYMAKERS TO DEVIATIONS
FROM DESIRED PATHS OF INSTRUMENTS AND TARGETS

INSTRUMENTS	WEIGHT ASSIGNED TO PERCENT DEVIATIONS	
	Optimal No. 1	Optimal No. 2
Investment in manufacturing	1.	10.
Investment in agriculture	1.	5.
Investment in services	1.	7.
TARGETS		
National income	1.	10.
National income in manufacturing	1.	8.
National income in agriculture	1.	5.
National income in services	1.	3.
Retail sales	1.	6.
Consumption of manufactures	1.	6.
Consumption of agricultural goods	1.	8.
Consumption of services	1.	1.
Total personal income	1.	4.
Wages	1.	7.

TABLE 8

OPTIMAL POLICIES AND OUTCOMES FOR
THE CZECHOSLOVAK FIFTH FIVE-YEAR PLAN

INSTRUMENTS

Investment in Manufacturing (IM)

Year	Actual	Desired	Optimal No. 1	Optimal No. 2
1971	38.	39.	38.	38.
1972	40.	41.	40.	41.
1973	46.	44.	42.	42.
1974	50.	47.	44.	44.
1975	52.	50.	50.	50.

Investment in Agriculture (IA)

1971	10.	9.	11.	11.
1972	10.	10.	11.	10.
1973	12.	10.	11.	11.
1974	14.	11.	11.	11.
1975	16.	11.	11.	11.

Investment in Services (IO)

1971	45.	44.	45.	45.
1972	50.	47.	47.	47.
1973	51.	50.	50.	50.
1974	56.	54.	53.	53.
1975	62.	57.	57.	57.

TARGETS

National Income Produced in Manufacturing (GNYM)

Year	Actual	Desired	Optimal No. 1	Optimal No. 2
1971	211.	211.	211.	211.
1972	224.	224.	224.	224.
1973	234.	237.	235.	235.
1974	258.	252.	250.	251.
1975	278.	267.	265.	266.

Table 8 (continued)

National Income Produced in Agriculture (GNYA)

Year	Actual	Desired	Optimal No. 1	Optimal No. 2
1971	29.	31.	29.	39.
1972	30.	32.	30.	30.
1973	31.	33.	31.	31.
1974	31.	33.	31.	31.
1975	32.	34.	31.	31.

National Income Produced in Services (GNYS)

1971	48.	46.	48.	48.
1972	51.	48.	51.	51.
1973	53.	49.	53.	53.
1974	59.	51.	56.	57.
1975	64.	52.	60.	60.

National Income (GNY)

1971	290.	290.	289.	289.
1972	305.	305.	306.	306.
1973	319.	320.	320.	320.
1974	349.	337.	338.	339.
1975	374.	354.	357.	358.

Total Personal Income (TPI)

1971	218.	220.	218.	218.
1972	228.	231.	230.	230.
1973	245.	243.	243.	243.
1974	268.	255.	258.	259.
1975	288.	268.	271.	272.

Wages in Manufacturing (WMC)

1971	22.	22.	22.	22.
1972	23.	22.	23.	23.
1973	23.	23.	23.	23.
1974	24.	24.	24.	24.
1975	25.	24.	24.	25.

Wages in Agriculture (WAG)

1971	22.	22.	23.	22.
1972	23.	22.	23.	23.
1973	23.	23.	24.	23.
1974	24.	24.	25.	24.
1975	28.	22.	26.	26.

Table 8 (continued)

National Income Produced in Agriculture (GNYA)

Year	Actual	Desired	Optimal No. 1	Optimal No. 2
1971	29.	31.	29.	31.
1972	30.	32.	30.	30.
1973	31.	33.	31.	31.
1974	31.	33.	31.	31.
1975	32.	34.	31.	31.

National Income Produced in Services (GNYO)

1971	48.	46.	48.	48.
1972	51.	48.	51.	51.
1973	53.	49.	53.	53.
1974	59.	51.	56.	57.
1975	64.	52.	60.	60.

National Income (GNY)

1971	290.	290.	289.	289.
1972	305.	305.	306.	306.
1973	319.	320.	320.	320.
1974	349.	337.	338.	339.
1975	374.	354.	357.	358.

Total Personal Income (TPI)

1971	218.	220.	218.	218.
1972	228.	231.	230.	230.
1973	245.	243.	243.	243.
1974	268.	255.	258.	259.
1975	288.	268.	271.	272.

Wages in Manufacturing (WMG)

1971	22.	22.	22.	22.
1972	23.	22.	23.	23.
1973	23.	23.	23.	23.
1974	24.	24.	24.	24.
1975	25.	24.	24.	25.

Wages in Agriculture (WAG)

1971	22.	22.	23.	22.
1972	23.	22.	23.	23.
1973	23.	23.	24.	23.
1974	24.	24.	25.	24.
1975	28.	22.	26.	26.

Table 8 (continued)

Wages in Services (WUG)

Year	Actual	Desired	Optimal No. 1	Optimal No. 2
1971	20.	20.	20.	20.
1972	21.	20.	22.	22.
1973	23.	31.	23.	23.
1974	25.	22.	24.	24.
1975	28.	22.	26.	26.

Consumption of Manufactures (CM)

1971	72.	72.	72.	72.
1972	76.	77.	77.	77.
1973	79.	81.	79.	80.
1974	87.	87.	85.	85.
1975	94.	92.	89.	90.

Consumption of Agricultural Goods (CA)

1971	83.	85.	83.	83.
1972	84.	88.	84.	84.
1973	93.	92.	92.	92.
1974	95.	96.	91.	92.
1975	103.	100.	97.	97.

Consumption of Services (CS)

1971	58.	59.	58.	58.
1972	60.	62.	61.	60.
1973	65.	65.	63.	63.
1974	71.	68.	67.	68.
1975	77.	71.	70.	71.

Retail Sales (RETS)

1971	159.	160.	158.	158.
1972	169.	168.	169.	169.
1973	174.	177.	174.	175.
1974	190.	186.	185.	185.
1975	202.	196.	193.	194.

Table 8 (continued)

OTHER OUTCOMES

Personal Savings (PS)

Year	Actual	Desired	Optimal No. 1.	Optimal No. 2
1971	34.	---	34.	34.
1972	38.	---	38.	38.
1973	40.	---	40.	40.
1974	50.	---	48.	50.
1975	53.	---	49.	53.

Balance of Trade with Socialist Countries (BPS)

1971	99.	---	47.	51.
1972	5.	---	71.	72.
1973	22.	---	241.	219.
1974	103.	---	497.	478.
1975	-456.	---	-66.	-67.

Balance of Trade with Capitalist Countries (BPC)

1971	15.	---	4.	5.
1972	-25.	---	-14.	-13.
1973	-153.	---	-111.	-114.
1974	251.	---	-199.	-200.
1975	275.	---	-237.	-234.

TABLE 9
OPTIMAL POLICIES AND OUTCOMES
FOR THE CZECHOSLOVAK SIXTH FIVE-YEAR PLAN

INSTRUMENTS

Investment in Manufacturing (IM)

Year	Actual	Desired	Optimal No. 1	Optimal No. 2
1976	53.	56.	49.	49.
1977	57.	60.	51.	51.
1978	60.	64.	53.	53.
1979	64.	69.	56.	55.
1980	68.	74.	73.	73.

Investment in Agriculture (IA)

1976	15.	16.	16.	14.
1977	16.	17.	17.	15.
1978	17.	18.	18.	16.
1979	18.	18.	18.	17.
1980	19.	19.	19.	19.

Investment in Services (IO)

1976	63.	66.	62.	63.
1977	65.	70.	65.	64.
1978	68.	75.	69.	67.
1979	72.	80.	73.	72.
1980	77.	85.	86.	85.

TARGETS

National Income Produced in Manufacturing (GNFM)

1976	301.	298.	304.	304.
1977	317.	315.	313.	313.
1978	340.	334.	332.	332.
1979	363.	354.	351.	351.
1980	388.	374.	372.	370.

Table 9 (continued)

TARGETS

National Income Produced in Agriculture (GNYA)

Year	Actual	Desired	Optimal No. 1	Optimal No. 2
1976	34.	34.	33.	33.
1977	34.	34.	33.	33.
1978	35.	35.	34.	33.
1979	36.	36.	34.	33.
1980	36.	36.	35.	34.

National Income Produced in Services (GNYS)

1976	69.	66.	70.	70.
1977	73.	68.	72.	72.
1978	78.	70.	76.	76.
1979	83.	72.	80.	80.
1980	89.	74.	85.	85.

National Income (GNY)

1976	405.	399.	409.	409.
1977	424.	419.	419.	419.
1978	454.	440.	443.	442.
1979	482.	463.	467.	465.
1980	514.	486.	493.	490.

Total Personal Income (TPI)

1976	310.	302.	313.	313.
1977	323.	315.	320.	319.
1978	342.	329.	335.	333.
1979	361.	343.	352.	348.
1980	383.	358.	371.	366.

Wages in Manufacturing (WMC)

1976	26.	26.	27.	27.
1977	27.	27.	27.	27.
1978	28.	27.	28.	28.
1979	29.	28.	29.	29.
1980	30.	29.	29.	29.

Table 9 (continued)

TARGETS

Wages in Agriculture (WAG)

Year	Actual	Desired	Optimal No. 1	Optimal No. 2
1976	27.	26.	27.	27.
1977	28.	27.	28.	28.
1978	29.	28.	29.	29.
1979	30.	28.	30.	30.
1980	31.	29.	32.	31.

Wages in Services (WOG)

1976	32.	29.	32.	32.
1977	34.	30.	33.	33.
1978	37.	31.	35.	35.
1979	40.	32.	38.	37.
1980	44.	33.	40.	40.

Consumption of Manufactures (CM)

1976	100.	99.	101.	101.
1977	105.	104.	103.	103.
1978	111.	108.	108.	108.
1979	117.	113.	113.	113.
1980	124.	119.	119.	118.

Consumption of Agricultural Goods (CA)

1976	107.	108.	109.	109.
1977	107.	112.	106.	106.
1978	108.	116.	107.	106.
1979	110.	120.	108.	106.
1980	112.	124.	109.	107.

Consumption of Services (CS)

1976	84.	79.	86.	86.
1977	88.	83.	87.	87.
1978	94.	86.	92.	91.
1979	101.	90.	98.	96.
1980	108.	93.	105.	103.

Table 9 (continued)

TARGETS

Retail Sales (RTs)

Year	Actual	Desired	Optimal No. 1	Optimal No. 2
1976	215.	213.	218.	217.
1977	224.	223.	221.	221.
1978	237.	233.	231.	231.
1979	249.	243.	241.	241.
1980	263.	254.	252.	251.

OTHER OUTCOMES

Personal Savings (PS)

1976	62.	—	61.	60.
1977	68.	—	67.	67.
1978	76.	—	74.	73.
1979	84.	—	83.	81.
1980	93.	—	93.	91.

Balance of Trade with Socialist Countries (BPS)

1976	-250.	—	-176.	-212.
1977	-292.	—	-116.	-35.
1978	-353.	—	-147.	-45.
1979	-440.	—	-222.	-111.
1980	-450.	—	-942.	-899.

Balance of Trade with Capitalist Countries (BPC)

1976	-307.	—	-292.	-282.
1977	-407.	—	-392.	-375.
1978	-500.	—	-498.	-478.
1979	-627.	—	-639.	-618.
1980	-776.	—	-932.	-928.

TABLE 10

ACTUAL AND OPTIMAL VALUES OF POLICY MAKERS' LOSS FUNCTIONS FOR THE CZECHOSLOVAK
FIFTH AND SIXTH FIVE-YEAR PLANS

VALUE OF LOSS FUNCTION

Fifth FYP	Actual No. 1 = 6019 Optimal No. 1 = 1956 Optimal/Actual = .32	Actual No. 2 = 32378 Optimal No. 2 = 10063 Optimal/Actual = .31
Sixth FYP	Actual No. 1 = 15431 Optimal No. 1 = 11566 Optimal/Actual = .75	Actual No. 2 = 86181 Optimal No. 2 = 68269 Optimal/Actual = .79

HUNGARY

THE HUNGARIAN ECONOMY: LESSONS OF THE 1970's AND PROSPECTS FOR THE 1980's

By Edward A. Hewett*

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“. . . the roots of the [current economic difficulties] can be seen already in economic policy before 1956; we are guilty of certain inconsistencies, after 1956, and even in the recent past. The equilibrium problems would have surfaced sooner or later even in the absence of large-scale changes in the world economy.”—Ferenc Havasi, Secretary of the Central Committee, Hungarian Socialist Workers' Party.¹

I. INTRODUCTION

Austerity came to Hungary in 1979. For the first time since the recession of the early 1960's planned growth rates of national income fell below 4 percent, and actual growth rates fell below that. Economic policy makers began talking not of increasing the standard of living, but of sustaining it. Plans called for decreasing investment. Economic and political leaders quite clearly stated that austerity would be the policy for at least the first half of the 1980's.

Hungary's economic problems are in part related to the profound consequences of the world economic crisis for the Hungarian economy. The dramatic changes in Hungarian terms of trade with the world economy, the increasingly difficult competitive conditions for Hungarian exports on world (especially European Community) markets, and the dramatic slow-down in increments to primary product supplies from the USSR, all have contributed to a significant deterioration in factors important in determining economic welfare in Hungary. Whatever else might have happened in the last six years, the events of 1974 required that some combination of real consumption, investment, and government spending would have to be lower than otherwise would have been the case.

The economic system itself is another important cause of Hungary's economic difficulties, a point on which the Party is now quite clear. The deteriorating external conditions facing the Hungarian economy have simply hastened recognition of problems which, as Ferenc Havasi has noted, “. . . would have surfaced sooner or later.” These are not minor problems which can be rectified by changing this or that “regulator,” or by tinkering with the economic system. They are fundamental problems, related to the fact that the goals of the 1968 economic reform have, in the main, not been attained.

The ultimate goals of the reform begun in 1968 were to “tilt” the balance of power over resource allocative decisions from planners and the administrative apparatus (the ministries) to the market and enterprises. The plans were to be stripped of their obligatory nature, in lieu of which major economic parameters (interest rates, exchange rates, prices, and so on) were to be used to influence relatively independent, profit-oriented, enterprises in their decisions on production and (to a more limited extent) investment. Prices, closely linked to world market economic conditions, were to serve as the guide to decisions on production and investments. The measures introduced in 1968 did go a long way in the direction of realizing these aspirations, with the clearly stated intention of going still farther in the 1970's as what were called the “brakes” were released. In fact nothing of the

¹ Quoted in (Varga 1980).

sort happened in the 1970's; on the contrary the system "devolved" back in the direction of the old administrative model, a point discussed below. Consequently, while it is true that economic decision-making in Hungary today is far more decentralized than it was two decades ago (and more decentralized than any of the other CMEA countries), this is still a more centralized economic system than (in 1968) the reformers anticipated they would have in 1980.² Indeed in 1979, the Party began once again to reform the system along the lines set out in 1968.

It is extremely important for the Hungarians themselves to understand why they have fallen short of their aspirations, and what they can do about it; and they are in the process of working that out in public fora and, presumably, in many private fora. But it is also quite important for those of us who study Eastern Europe to understand the Hungarian experience. That experience has much to teach us about the impediments to reform processes in general, and about the particular impediments which await other East European governments if and when they are forced to implement serious economic decentralization measures. The focus of this paper will be on those problems which are particularly acute for the Hungarian economy, and which demand resolution if the Party and the Government are to sustain the steady improvements in economic performance which have formed such an important source of their political support among the population. In focusing on the more acute problems which face Hungarian planners at present, I am not implying that the problems are unique to Hungary, or that the regime cannot point to many genuine economic accomplishments in the post-1956 period. Hungary shares its problems with many other countries, both socialist and nonsocialist. Just as in Hungary, so in many countries, has the world economic crisis highlighted weaknesses in political and economic institutions which naturally receive greater attention now because something is wrong. Inside Eastern Europe, Hungary has seemingly far outpaced other countries in its *qualitative* improvements in economic performance (the quality of consumer goods, producer goods, services, and so on), and in the response to the world economic crisis. Nevertheless there are pressing economic issues which face the country now, and in studying those we can learn a great deal about this very important experiment in decentralization, and its prospects for the near future.

The basic features of the NEM as it was introduced in 1968, and the changes throughout the early 1970's are very well known, and will not be discussed here. Likewise there is no need to repeat the useful discussions by Portes (1976) and Hare (1977) covering the system through the mid-1970's, although naturally there is some overlap with these because today's problems have roots reaching back into the 1960's. This paper focuses on the last few years and on the prospects for the economy and the economic system in the next few years. Section II discusses macroeconomic planning in Hungary in recent years, and the problems which have arisen in the 1970's. Section III contains a detailed discussion of the two most important problem areas for

² For a discussion of the initial goals of the Reform, see (Frisz 1969a). The "recentralization" of the 1970's will be discussed in more detail. For other discussions, see, e.g. (Portes 1976); (Hare 1976, 1977).

Hungarian planners: macroeconomic demand management, and micro-economic supply constraints. That, in turn, provides background for Section IV which analyzes policy measures taken in 1979-80. Finally, Section V assesses Hungarian economic prospects for the early 1980's, and discusses briefly the implications of the Hungarian experience for economic reform prospects in other East European countries.

At various points throughout this paper, reference is made to the econometric model HEM-1 (Hungarian Econometric Model #1) which I am constructing to model the interrelationship between Hungarian economic planners and economic performance in Hungary. This paper does not directly discuss that model, but it does draw heavily on the data bank I have constructed utilizing Hungarian official statistics.

II. MACROECONOMIC PLANNING IN HUNGARY IN THE 1970's

The Record in General

Macroeconomic planning in a centrally planned economy involves planning the supply of aggregate output and controlling demand so that, ideally, negative net exports arise only if they were anticipated, and the international financing arrangements were made in advance at the best terms available. In Keynesian terms this assumes the consistent plan:

$$(1) \quad \hat{C} + \hat{I} + \hat{G} + (\hat{X} - \hat{M}) = \hat{Y}$$

where:

\hat{Y} = Planned national income produced.

\hat{C} = Planned consumption.

\hat{I} = Planned investment.

\hat{G} = Planned government expenditures.

$(\hat{X} - \hat{M})$ = Planned net exports.

where $(\hat{X} - \hat{M})$ has as its counterpart in the financial plan a planned net increase (or decrease) in net debt. Unforeseen exogenous events may require short-term financing (or allow short-term accumulations of capital), but one would expect that in a well-planned economy net exports would not systematically come out either above or below planned.³

Judging from the published annual plans, planners in Hungary attempt to satisfy equation (1) for Marxian (i.e. material) national income, hence ignoring most services (these still are most likely part of the plan, although they do not appear to be handled in the national accounts framework). The actual published data only cover the level of planned investment, the growth rate of national income produced, and the planned growth rates for real per capita personal income (obviously closely related to consumption). No plans are published directly

³ This assumes that domestic and international trade prices are close to each other (thus precluding the possibility of a domestic deficit, with a surplus in foreign currency, or vice-versa), which is a legitimate assumption for Hungary in the 1970's.

for G or net exports. For the 1970's there is indirect information available on planned net exports because the annual plans have contained planned growth rates for both national income produced and national income utilized (Y^*), where the latter is defined as:

$$(2) \quad \hat{Y}^* = \hat{Y} + \hat{M} - \hat{X} = \hat{C} + \hat{I} + \hat{G}$$

where \hat{Y}^* = Planned national income utilized

Thus, given growth rates for \hat{Y}^* and \hat{Y} , and the levels for the previous year, one can estimate $(\hat{X} - \hat{M})$.

Table 1 presents the available plan data for the Second Five-Year Plan (FYP II, 1961-65), FYP III (1966-70), FYP IV (1971-75), and FYP V (1976-80); an average of the annual plans covering each five year period; and the average actual performance over those periods.⁴ Annual data are shown in Charts 1-5. For the first three variables, the planned growth rates are in constant prices, and the actual growth rates are in constant (1968) prices from the HEM-1 data bank. Investment plans are only announced for the socialist sector (they do not cover private I, almost all of which is housing), and they are almost always given in Forints. It is assumed here that the FYP data are in prices of the year in which the plan is drawn up, i.e. the year before each new FYP is published, and all three rows of investment data are therefore presented in terms of prices of the year before each FYP.

TABLE 1.—PLANNED AND ACTUAL GROWTH VALUES OF KEY MACROECONOMIC VARIABLES

	Growth rates			
	1961-65	1966-70	1971-75	1976-78
National income produced (Y):				
5-yr plan ¹	6.3	4.1	5.5-6.0	5.4-5.7
Annual plans.....	6.6	4.9	5.5	5.5
Actual ²	4.0	6.3	6.2	5.7
National income utilized (Y*):				
5-yr plan ¹	(9)	(9)	5.5-6.0	4.2-4.6
Annual plans.....	(9)	(9)	4.5	3.1
Actual ²	4.4	6.7	4.9	6.8
Real per capita personal income:				
5-yr plan.....	3.0	2.7-3.0	4.6-4.9	3.4-3.7
Annual plans.....	2.8	3.9	4.8	3.3
Actual ²	4.5	6.3	4.7	3.8
Investment (in billion forints) (I):				
5-yr plan.....	155.0	245.0	480.0-500.0	870.0
Annual plans ³	206.9	286.5	512.0	452.5
Actual ⁴	225.4	315.1	543.7	488.2

¹ 5-yr plan. (5-yr plan II, 1961-65; 5-yr plan III, 1966-70; 5-yr plan IV, 1971-75; 5-yr plan V, 1976-80).

² For 1976-80.

³ From the regression, $\log(X) = a + b \cdot \text{Time}$, where "b" is the growth rate. All data in 1968 prices.

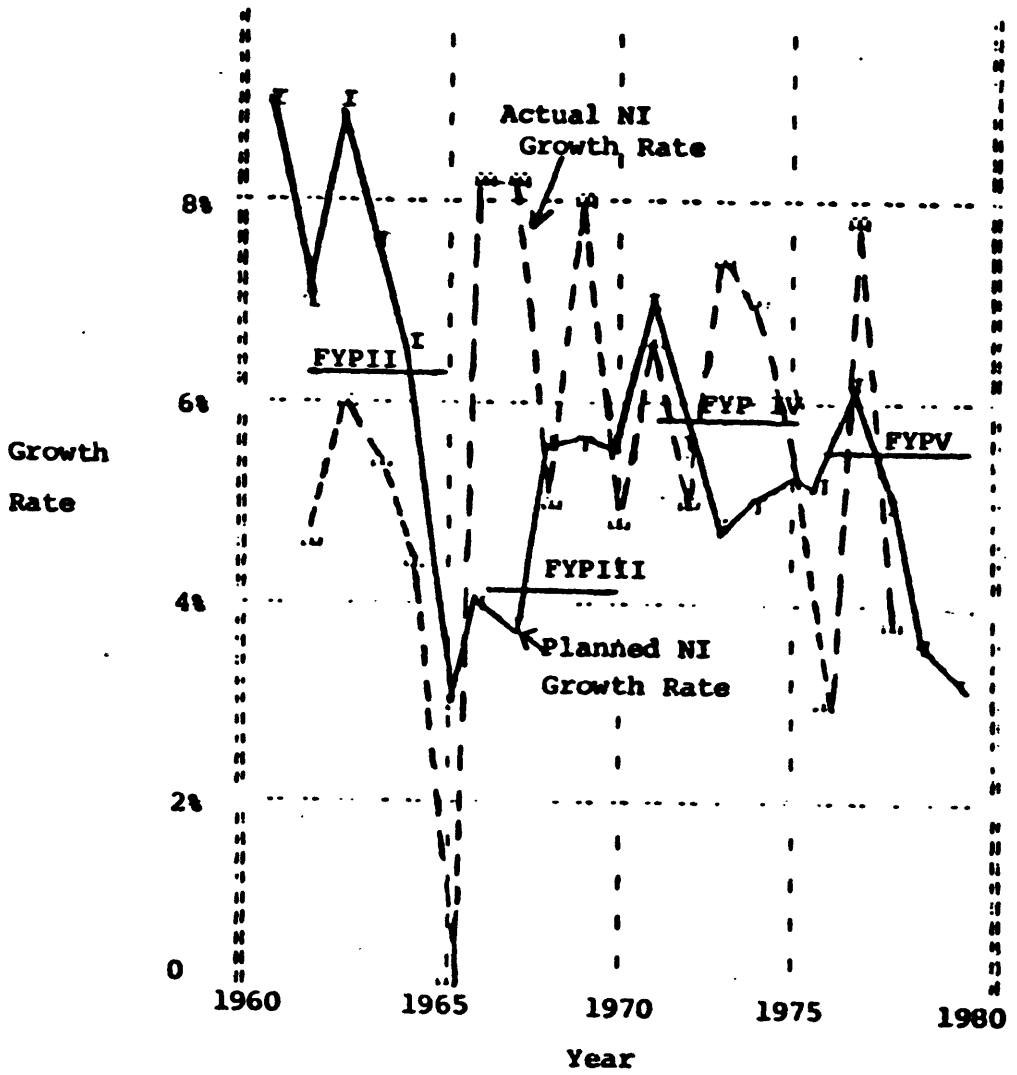
⁴ No data.

⁵ In prices of the last year of the previous 5-yr plan period.

Sources: 5-yr plan data: 1961-65 and 1966-70, (Stark 1973) and (vajda 1962); 1971-75 and 1976-80, official 5-yr plan documents (Magyar Kézöny, No. 85, 1970 and No. 86, 1975). Annual plans data: Official plan documents published annually in the Tervezési évkönyv, in the years where these were not available, the press release on the plan from Népszabadság was used. Actual data: HEM-1 data bank.

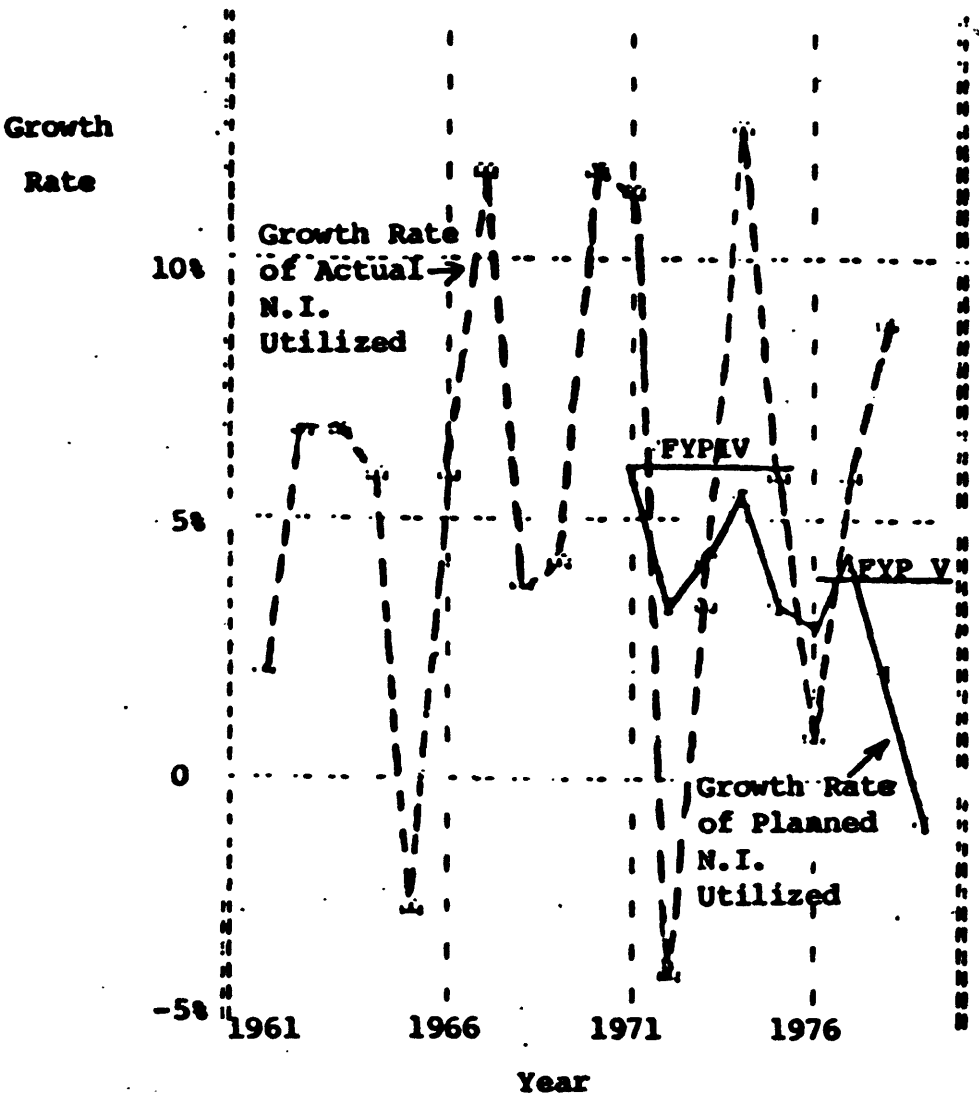
⁶ The growth rates for actual performance are derived from regressions of the log of performance against time in order to minimize potential effects from unusual starting or ending years.

CHART 1.—Planned and actual growth rates of national income produced : 1960-80



Source : HEM-1 Data Bank.

CHART 2.—Planned and actual growth rates of national income utilized: 1961-79



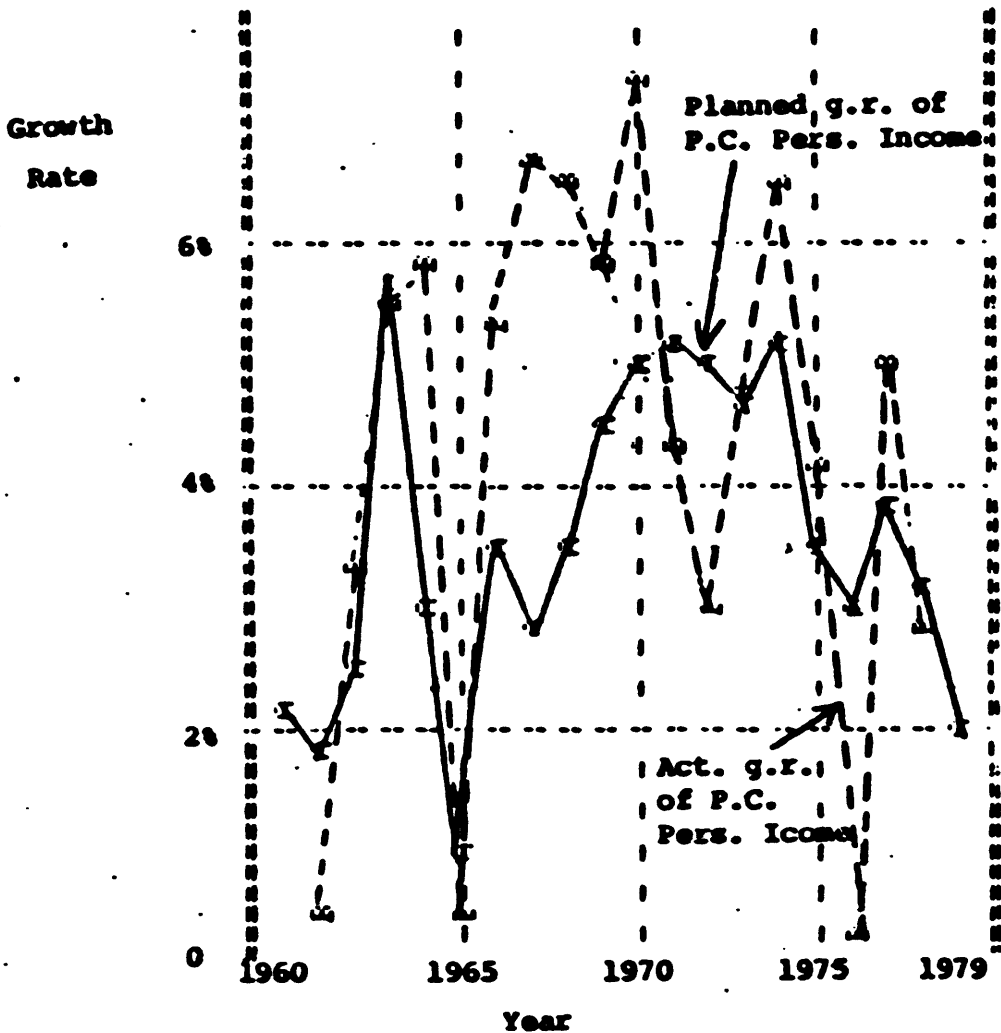
Source: HEM-1 Data Bank.

The annual plans for Y in Hungary have been stable, close to the FYP figures, and typically fulfilled or overfulfilled on average over the entire period. As Chart 1 shows, annual growth rates have fluctuated around those averages. The only period where annual Y plans were underfulfilled was FYP II (1961–65) where in every single year actual performance was below the five year and annual plan figures. This was part of a recession which hit all of Eastern Europe in the 1960's. In Hungary it culminated in a growth rate of Y close to zero in 1965, followed by rapid recovery in 1966–70.

Plans for Y^* , which have only been published for the 1970's, are summarized in Table 1, and the annual data are shown in Chart 2. FYP IV (1971–75) called for an identical range of growth rates for Y and Y^* , hence $X-M$, but the annual plans changed that by decreasing planned Y^* one percentage point below the low end of the five year plan figure for Y , without changing the plan for Y . There were two separate reasons for this change. In 1972 the annual plan set the growth rate of Y^* at 3.5 percent in an attempt to "cool down" the economy after the unanticipated investment boom of 1970–71. In 1975, again, planners lowered the planned growth rate of Y^* in response to the drop in Hungary's terms of trade. Actual utilization during 1971–75 grew somewhere between the original FYP figure and the annual plan figure; and more importantly, it grew more slowly than national income produced.

A comparison of planned and actual values for Y and Y^* growth rates in 1976–78, the first three years of FYP V, show both the intention of the Hungarian Government to increase net exports significantly, and its inability to do so. The five-year plan called for national income produced to grow as it had in 1971–75, and on average, 1976–78 performance fulfills the plan. However, as Chart 1 shows, the averages are somewhat misleading since in fact, planned Y growth rates from the annual plan have fallen over the 1976–78 period to figures lower than any since the mid-1960's. Actual growth rates have fallen even faster. The 1978 plan for a 5 percent growth rate was underfulfilled, and the 1979 plan for a 3.5 percent growth rate was way underfulfilled. At this rate, the planned growth rate for Y in FYP V will not be attained.

CHART 3.—Planned and actual growth rates of per capita personal incomes, 1960-79



Source: HEM-1 Data Bank.

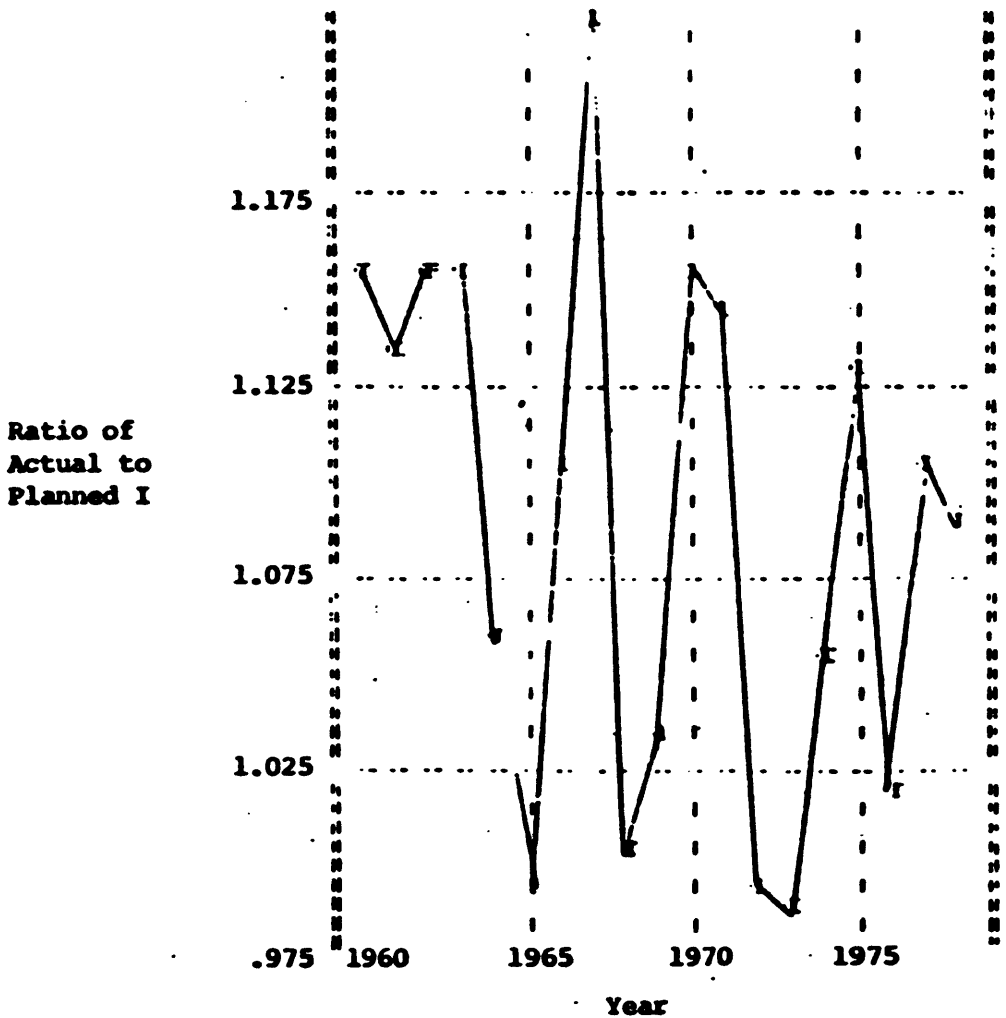
FYP V called for Y^* to grow 1-1.5 percent slower than Y , and the annual plans for the first three years have been even more conservative calling for an average Y^* growth rate of 3.1 percent, 2.4 percent below the Y growth rate in the annual plans. In fact the growth rate of Y^* has steadily increased since 1976. The average, 6.8 percent, has been above the growth rate for Y , which is directly contrary to plan and implies increasing net imports. Even more alarming for planners is the fact that the two growth rates are diverging rapidly; in 1978, the last year for which data are available, Y^* grew by 8 percent, while Y grew by 3.9 percent. Apparently planners are losing control of aggregate demand.

The problems with controlling aggregate demand do not lie in personal income and consumption. As the data in Table 1 and Chart 3

show, planners have maintained control of personal income. There have been no major surprises in the 1970's, although there are some signs of difficulties in 1976-78 where actual personal income growth rates moved in the directions planned, but by far greater amounts than planned. This probably relates to problems in controlling enterprise development (hence incentive) fund formation.

The real problem in aggregate demand management lies in the areas of investment and inventory accumulation. As Table 1 shows, traditionally Hungarian annual plans call for more investment than originally anticipated in the FYP, and actual investment exceeds even the annual plan expectations. Chart 4 shows the ratio of actual to (annually) planned investment over the years 1960-78. The plan has been overfulfilled every year save three, the average level of overfulfillment running about 7.5 percent.

CHART 4.—Actual investment divided by planned investment, 1960-78



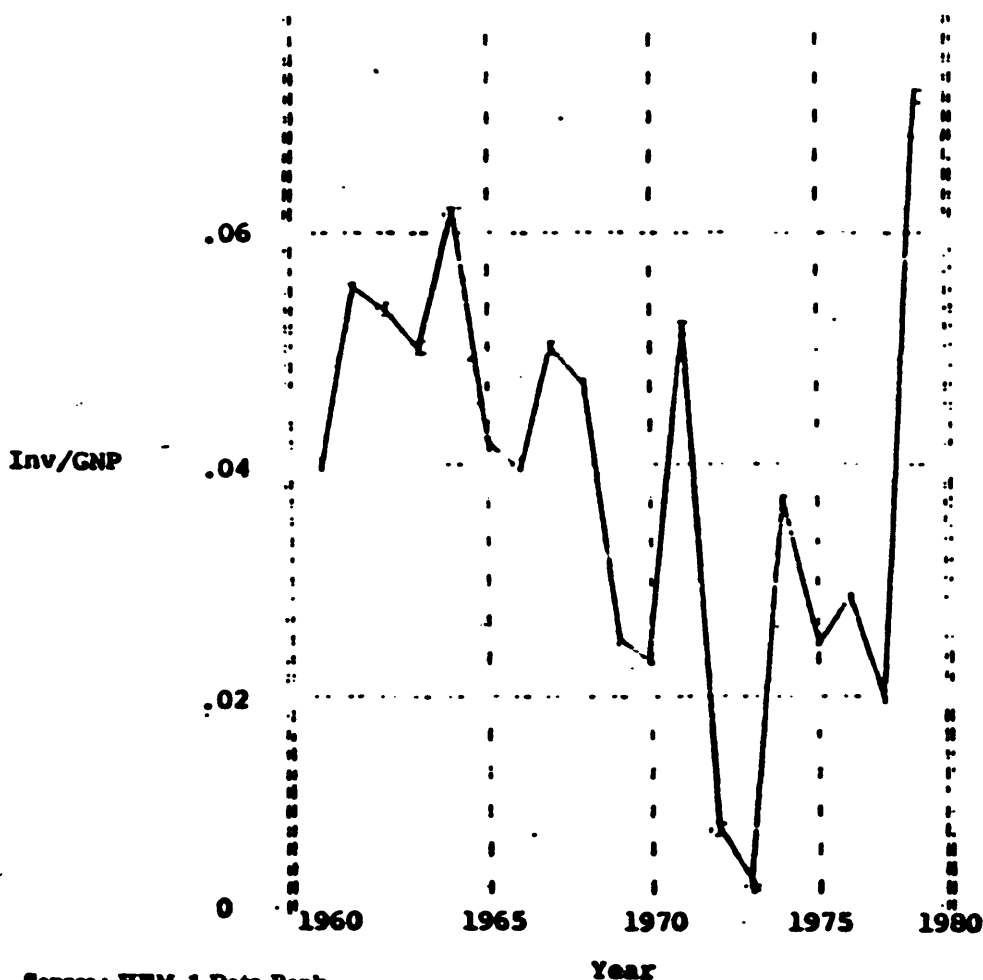
Source: HEM-1 Data Bank.

There are no plan data published on inventory accumulation, thus there is no way of knowing when planners are surprised by changes in that variable. Judging from statements in the annual plan documents

planners find it difficult to control inventory accumulation, which is quite apparent in the actual inventory/GDP ratios depicted in Chart 5. The average ratio of inventory accumulation did fall in the post-reform period, as planners had hoped. But the volatility of inventory investment has increased considerably, reflecting a chronic pattern in the 1970's where enterprises accumulate large inventories, only to have planners suppress inventory accumulation, after which enterprises set off to accumulate yet again, and so on. In 1978 the process got totally out of hand as inventory accumulation rose to an all-time high of 7.2 percent of GDP, and that, combined with the overfulfilled investment plans generated the high Y^* growth rate mentioned above. The high levels of inventory accumulation were evidently a reflection of enterprise fears that new import controls and higher prices were imminent (Havasi 1979a, 4-5).

The Hungarian record on macroeconomic planning is a mixed one. The supply projections seem accurate enough, although recently planners have overestimated their ability to produce Y in the face of import restrictions. Their control over personal incomes and consumption seems to be as tight as one could expect. But the controls over investment and inventory accumulation are only sporadically effective.

CHART 5.—Ratio of inventory accumulation to GDP (1968 Prices), 1960-78

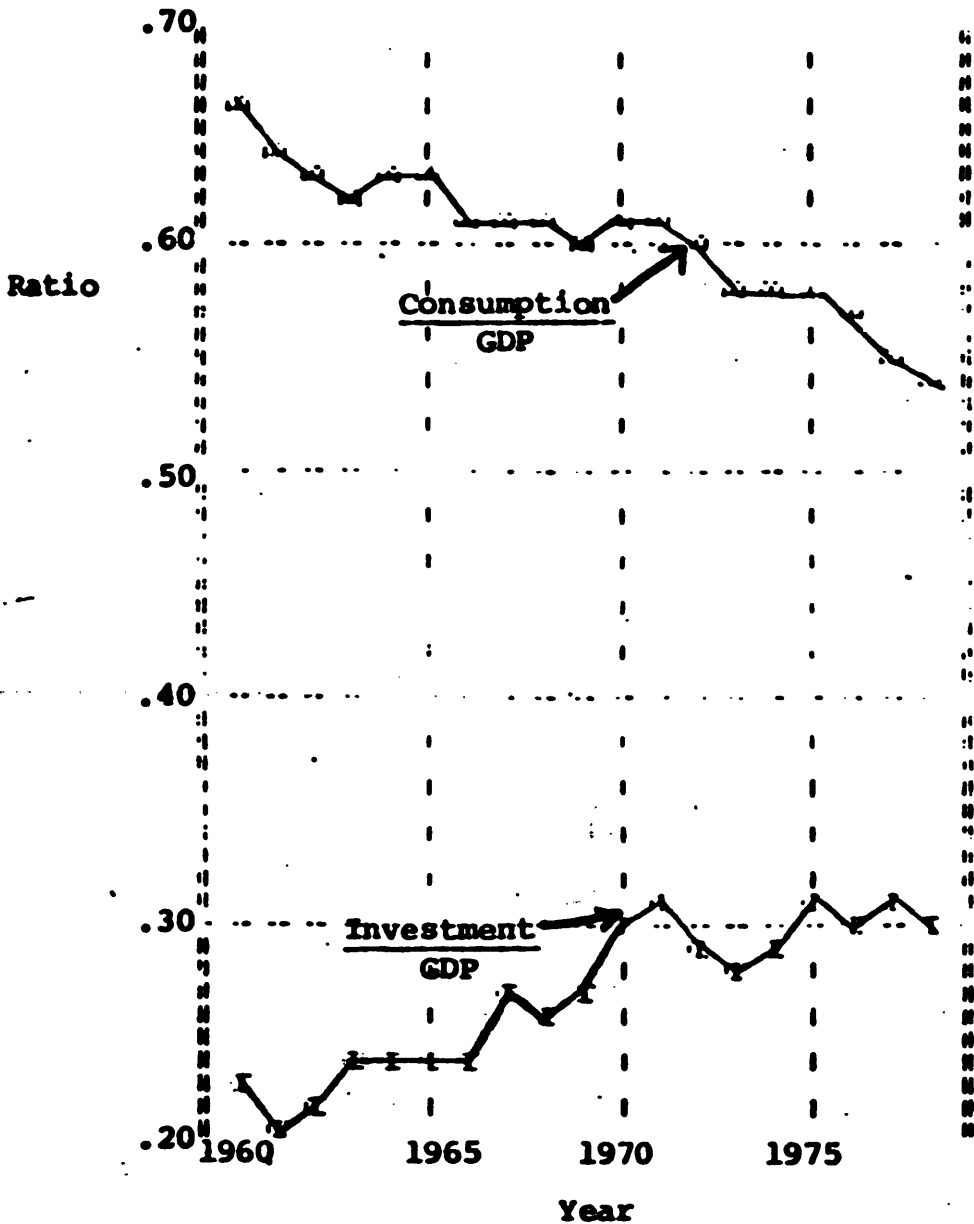


Source: HEM-1 Data Bank.

One of the consequences of this persistent excess demand for investment goods has been that the investment/GDP ratio has risen steadily since the mid-1960's, while the consumption/GDP ratio has fallen. Chart 6 shows these ratios in 1968 prices for the 1965-78 period, where investments are gross, but exclude inventories. The chart suggests that surges in investment, such as occurred in 1970-71, 1975, and 1977-78 have somewhat of a ratchet effect; the ratio never falls all the way back to its old level. The relationship between the investment, and the consumption share is not direct—net exports are also important—but obviously the rising investment share has taken its toll on the consumption share. By the late 1970's, the investment share was about 30 percent, a respectable number even for a traditional centrally planned economy seeking rapid growth rates.

These difficulties with demand management, and with control over the investment/consumption split are symptoms of more general problems with the economic system, which are the subject of the next section. However before that I discuss briefly additional problems planners face arising from the macroeconomic effects of the world economic crisis.

CHART 6.—Ratios of investment and consumption to GDP (1968 Prices), 1960-78



Source: HEM-1 Data Bank.

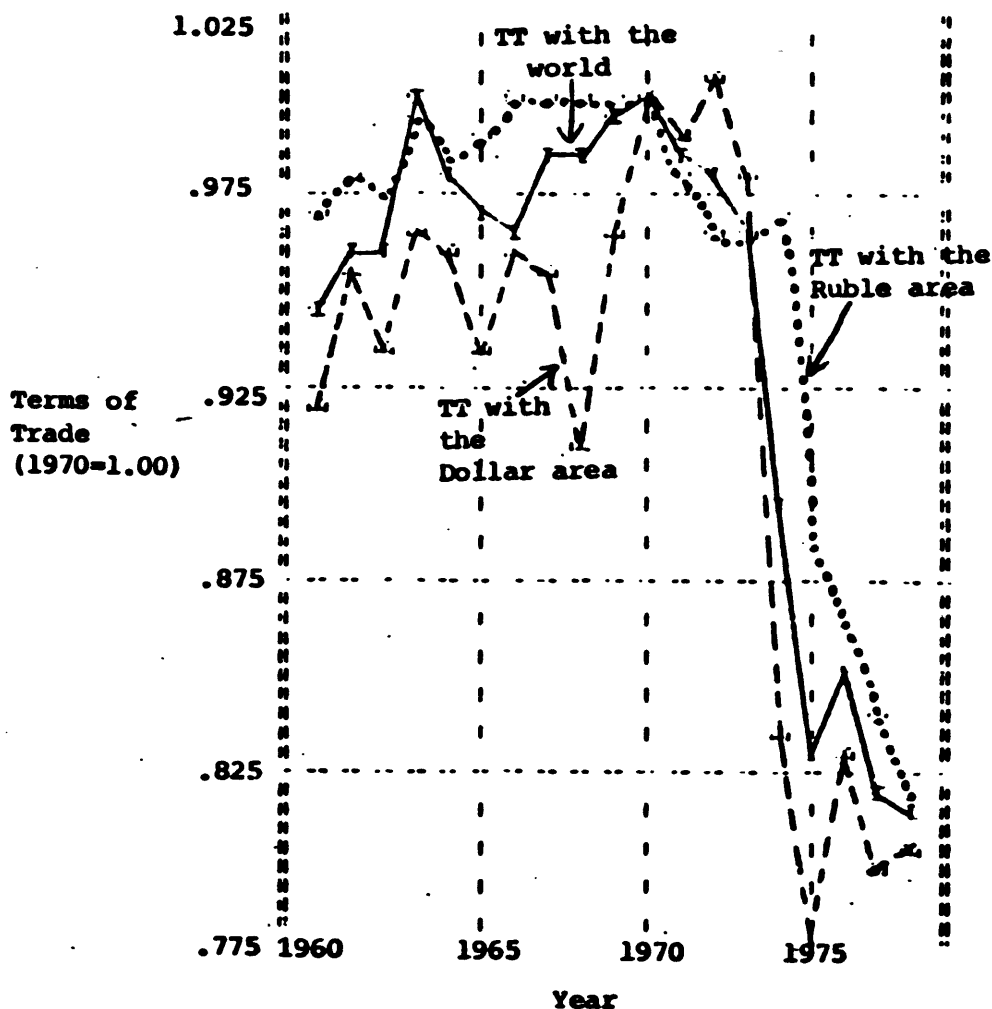
The Effects of the World Economic Crisis on Hungary

The major effect of the world economic crisis on Hungary has been a massive drop in its terms of trade, first with western countries, then with CMEA. Two secondary effects which are less easy to quantify, but nevertheless quite real, are increased protectionism in western countries which has adversely affected Hungary's ability to market its goods for hard currency, and increasing supply problems in CMEA which have increased Hungary's need to use hard currency to acquire primary products. This discussion focuses here solely on the terms of

trade problems which account for some of the more important and subtle challenges to planners.

Chart 7 shows the Hungarian net barter terms of trade (NBTT, the export price index divided by the import price index) for total trade, trade with the Ruble area and trade with the Dollar area. Through 1974 the NBTT displayed some volatility, due almost exclusively to trade with the West, and showed a general upward trend, due primarily to some improvement in the NBTT with CMEA after the 1964-66 price changes. Minor price changes in CMEA pulled the total NBTT down a little bit in 1971-73.⁵ Then in 1974 NBTT with the Dollar area plummeted about 15 percent, and by 1978 had settled down at about 20 percent below the 1970 level. Terms of trade with CMEA have followed with a lag. Hungary's large terms of trade decrease with CMEA (most importantly the USSR) was unusual in comparison with the other East European cases where the Soviets in effect gave more transition aid by not pushing the terms of trade down so precipitously (Hewett 1980).

CHART 7.—Terms of trade with the world, the ruble, and the dollar area, 1960-78

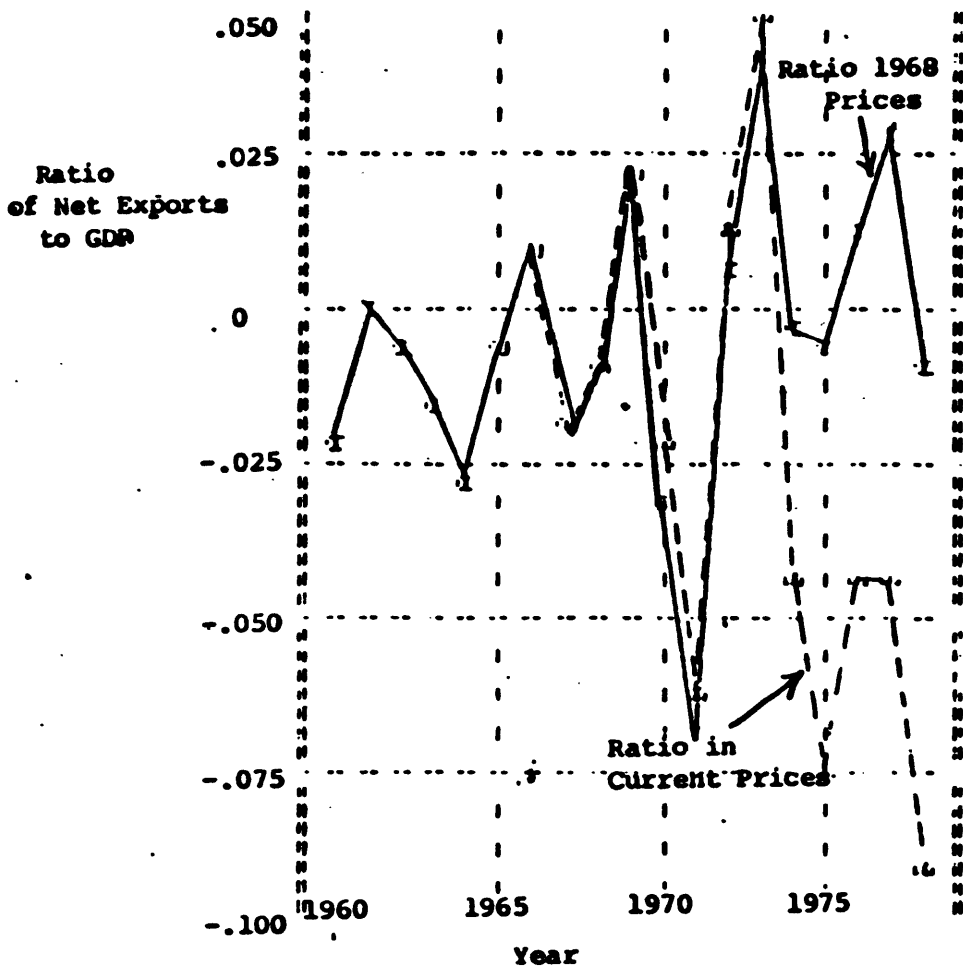


Source: HEM-1 Data Bank.

⁵ For details on these price changes see Hewett, 1974, chapter 3.

Chart 8 illustrates the effects of these changes by comparing the net export (in the national income accounts)-to-GDP ratio in 1968 prices to the same ratio in current prices. The fixed price ratio records what net exports (therefore financing needs) would have been in the absence of the internal price changes caused by changes in the terms of trade, while the current-price ratio measures the deficit in current prices which reflects (although not fully for the Hungarian case) the effects of terms of trade changes coming through domestic price changes. The difference between the two ratios is the visible burden on the economy of the terms of trade changes. As one might expect they are virtually identical until 1974, at which point they split. The fixed price ratio shows net exports holding at a ratio to GDP better than many of the previous years. This, of course, does not measure precisely what would have occurred without the price changes, since planners were stimulated to push for higher net exports as a result of the price changes and deteriorating balance of payments, but nevertheless this ratio does certainly tell us what would have been possible. The spread between the two ratios begins at about 4 percent, and rises to 8.5 percent in 1978, indicating that during these years the additional proportion of GDP necessary to simply finance real net exports typical of earlier years rose from 4 percent to above 8 percent during the 1974-78 period. In 1978, net exports which, at the old prices, would have entailed an insignificant increase in net debt, in fact implied an increase in debt equal to 8.5 percent of the GDP that year.

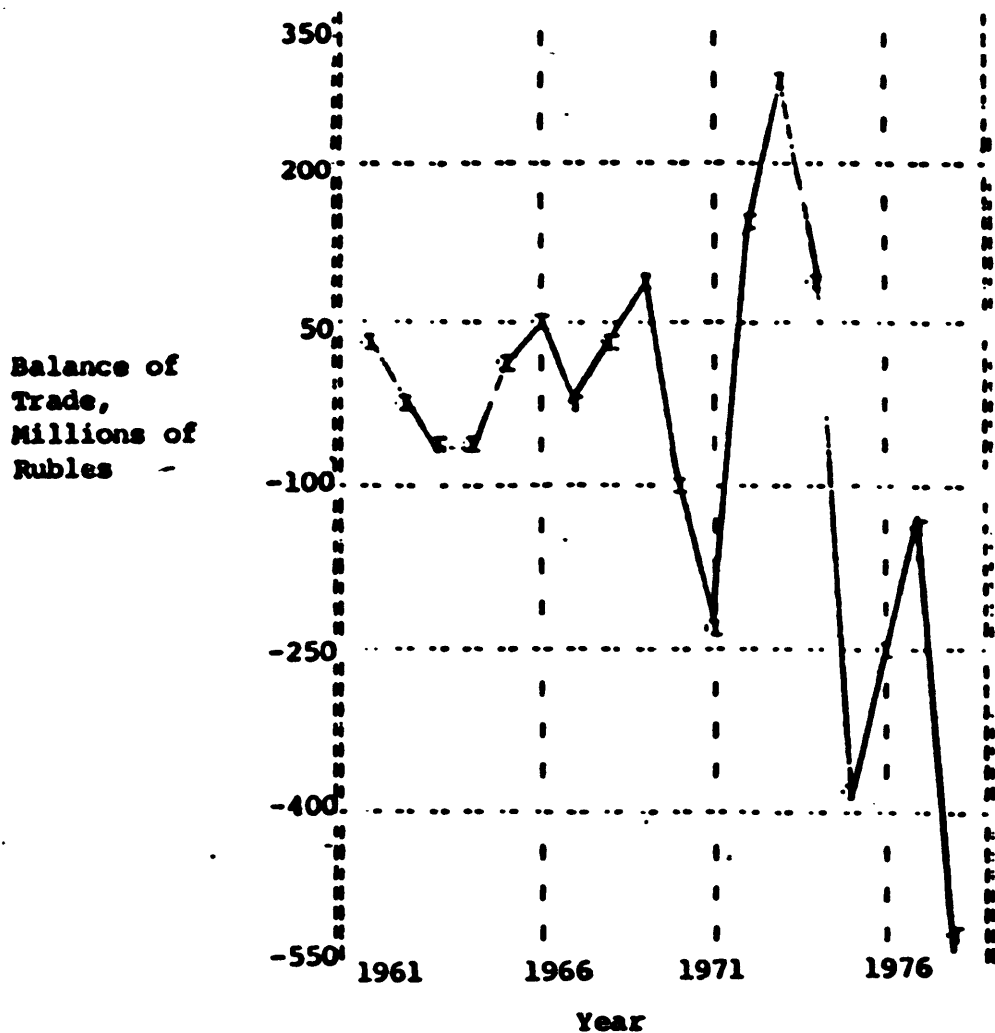
CHART 8.—Ratio of net exports to gross domestic product, 1968 and current prices, 1960-78



Source: HEM-1 Data Bank.

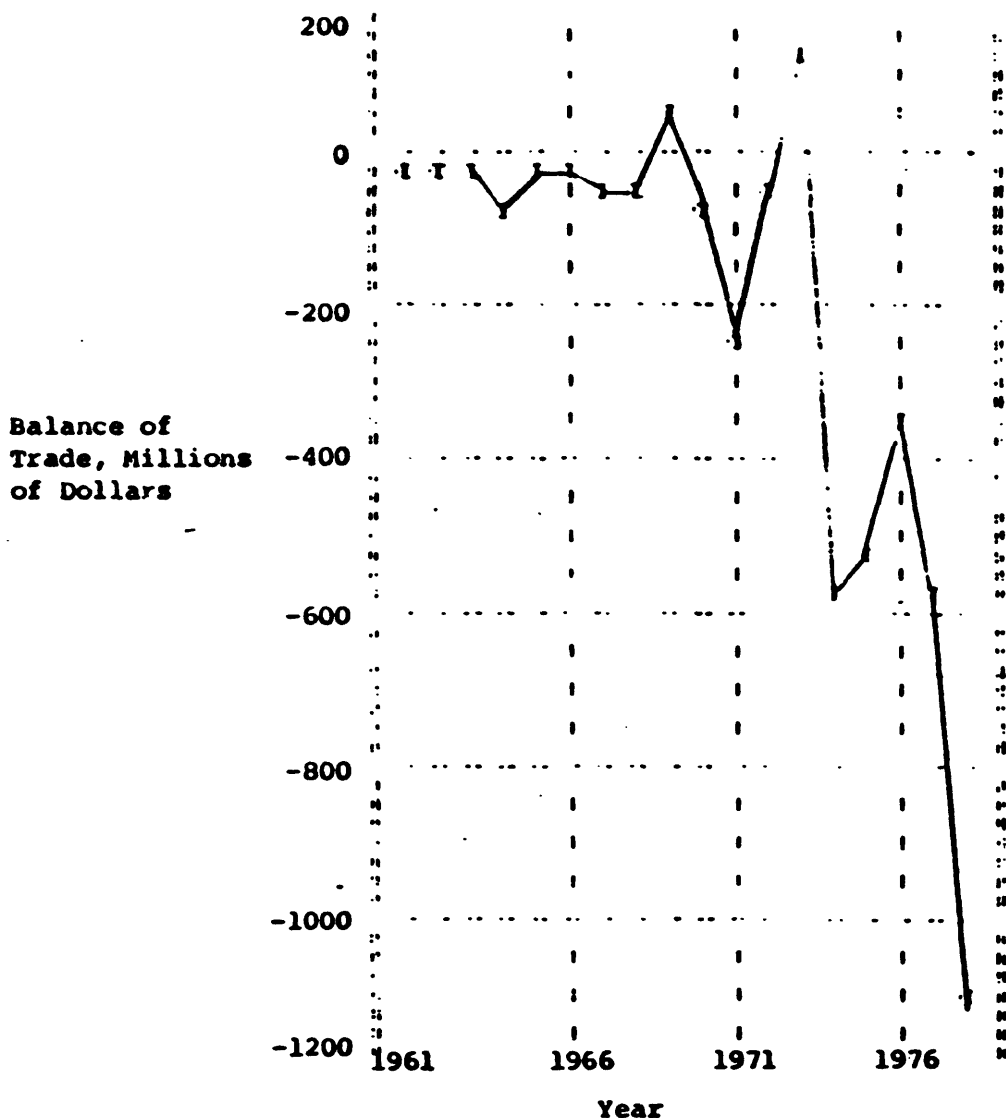
Chart 9 and Chart 10 show the effects in foreign currency of the terms of trade changes. Deficits to both the Ruble and the Dollar areas rose rapidly after 1974, reflecting the fall in current-price net exports.

CHART 9.—Balance of trade with the ruble area, 1961-78



Source: HEM-1 Data Bank.

CHART 10.—Balance of trade with the dollar area, 1961-78



Source: IEM-1 Data Bank.

III. LESSONS FROM THE HUNGARIAN EXPERIENCE IN ECONOMIC MANAGEMENT UNDER THE NEM

In part the way out of Hungary's current difficulties involves the development of better mechanisms for managing aggregate demand, particularly the demand for investment goods and inventories. Under the NEM that would seem conceptually a simple enough problem to resolve. The state directly pays for about 45 percent of all investments, subsidizes much of the rest, controls the banking system and its credit policy, and controls the rules by which enterprises form the development funds they use to finance their own investments. In understanding why, in the midst of this plethora of investment controls, Hungarian planners periodically lose control over investment, it is possible to

discover some of the more important contradictions in the Hungarian economy today, and therefore some of the areas in which further reform is imperative.

The difficulties with macroeconomic demand management are intricately intertwined with problems of microeconomic supply constraints, a set of problems which vexed planners before 1968 and, contrary to their hopes, still vex them today. Despite improvements in the performance of some enterprises, it is still generally the case that enterprises are only moderately interested in and/or capable of producing a sufficient supply of commodities exportable for hard currency. Consequently the hard currency balance of trade is a nagging concern both because of supply problems in hard currency exportables, and because of high demand for hard currency importables (the latter directly attributable in part to the inability of the system to produce adequate import substitutes). In recent years the world economic crisis has exerted much greater pressure on this weak point in the economic system, significantly affecting economic performance and the plans for that performance.

These microeconomic supply problems relate to the macroeconomic demand problems in two ways. First, because many of the products needed in the Hungarian economy are only available for hard currency, the macroeconomic constraint on net exports is in fact a constraint on net *dollar* exports whose roots lie in part in the microeconomic supply problems. Second, the excess demand for investment goods is in large part a reflection of constant and very strong pressure from the enterprises, a point discussed below.

In fact the microeconomic supply problems and the macroeconomic demand problems are symptoms of a single set of underlying problems: Hungarian enterprises enjoy an excessively secure position in the Hungarian economy. That weakens any incentives they might have to seek profitable ways to use existing capacity, or to use new capacity, and it weakens any restraint they might otherwise show in their attempts to acquire new capacity. The underpinnings of this security lie in the price system, supported by subsidies and import barriers.

Throughout the history of the Hungarian economy the enterprise has served as the most important, sometimes the sole, vehicle for implementing microeconomic *and* macroeconomic policy in Hungary, as in all socialist countries. Under traditional central planning it is the annual plan at the enterprise level which sets the output of individual products, whose aggregation, along with centrally-determined foreign trade flows, determine total C, I, and G. Under the NEM, as Hungarian authorities have experimented with different ways to control the system while improving economic performance, the enterprise has retained its pivotal role. The two basic tools planners use to control aggregate consumption are price policy—which only recently has begun to see active use—and policies concerning enterprise wage payments to workers. Through a complex set of taxes, subsidies, and rules on enterprise uses of net income, the planners have kept a tight rein on wages, hence personal incomes, hence aggregate consumption (Buda 1971, Godó 1976a, 39–67; Marrese 1979). Similar influences operate on the enterprise concerning their investment decisions. Really the only portion of macroeconomic demand which is not controlled through the

enterprise is net exports, those being controlled outside the enterprise by a complex system of subsidies, licenses, tariffs, and an active exchange rate policy.

It is a consequence of this pivotal role for enterprises that irrespective of whether the discussion is about macroeconomic demand management, or microeconomic supply problems, in effect the discussion is really about enterprises, and their relations with central planners.

Control of the Aggregate Demand for Investment Goods

Ninety percent of investment in Hungary is undertaken directly by the central government, local governments, or an economic unit in the socialist sector (an enterprise or a cooperative); the remainder—private investment, primarily housing—will not be discussed here since the problems with investment apparently lie in the socialist sector. Investment in the socialist sector is divided among investments decided by the state and those decided by enterprises. State investments are classified into three categories (Sulyok 1968, Friss 1968):

- (1) "Large" investments (*nagyberuhásások*) are major projects which significantly influence the structure of an industry. Ministries and local councils submit proposals for these projects; and government makes the final decision. Central funds finance most of each project, but enterprise funds will also usually be involved, and some of the state funds will have to be repaid. Examples of such projects are the Hungarian share of the Friendship Oil Pipeline, and various lines of the Budapest Metro. In some cases where a project is particularly large, complex, and spans several sectors, the plans will be drawn up and approved as in a separate document outlining a Central Development Program (*Központi fejlesztési program*).⁶
- (2) "Aim Grouped" investments (*célcsoportos beruhásások*) are funds distributed by the Center to ministries and local councils for projects in certain categories, for example hospitals or highways. These are generally investments in the production of public goods.
- (3) Other state investments are small investments of local significance and minor investments for the ministries financed from state funds.

Table 2 presents data on the various categories of investments in the socialist sector for 1970 and 1978.

TABLE 2.—INVESTMENTS IN THE SOCIALIST SECTOR IN HUNGARY, 1970 AND 1978

(Current prices)

	1970		1978	
	Million forint	Percent	Million forint	Percent
Total investments.....	91, 900	100	197, 606	100
Of which:				
State investments.....	41, 680	45	84, 876	43
Of which:				
"Large" investments.....	13, 915	15	26, 516	14
"Aim-grouped" investments.....	18, 784	20	40, 724	21
Other state investments.....	8, 380	9	17, 336	9
Enterprise investments.....	50, 910	55	112, 730	57

¹ Not the sum of the components due to rounding error.

Source: *Stáv* 1978, 113.

⁶ For the 1976-80 plan the Central Development Programs cover the utilization of natural gas, development of the aluminum industry, the petrochemical industry, the heavy vehicle industry, the computer industry, and the development of light-weight structures (Gad6 1976a, 1970).

The state accounts directly for a little under one-half of the total demand for investment in the socialist sector in any given year. However its influence over total investment is far greater than this ratio would suggest. Income regulations allow enterprises to form a development fund from profits and a portion of their depreciation allowances (the remainder of that reverting to the state budget), however, the state has limited the size of these funds in order to retain for itself a monopoly over decisions regarding any large investments. Consequently for significant investment projects enterprises are forced to seek additional funds from the state in the form of: (1) subsidies, an increasing portion of which are being given in the form of a loan (granted by the State Development Bank) which must be repaid from pre-tax profits plus the depreciation fund; (2) direct grants from the state budget covering the cost of a project directly sanctioned by the state; or (3) loans from the National Bank. To give an example of the importance of outside funds to enterprise investment, in 1976 only 10 percent of investments were financed solely by the enterprise, and these were minor investments. Another 19 percent were financed with enterprise funds and one external source (11 percent had subsidies, 6 percent with bank credits and 2 percent direct state allocations). A further 45 percent of investments were financed from enterprise funds and two other sources (34 percent credits and subsidies; 7 percent subsidies and state allocations; and 4 percent credits and state allocations).

Finally, 26 percent of socialist investments were financed from enterprise funds and all three other possible sources (Deák 1978, 74). This gives the Planning Office and the Ministry of Finance influence over the structure of investment through their decisions on subsidies and direct grants from the budget, and through their influence over the National Bank's credit policy.⁷ Also the branch ministries play a powerful role in all enterprise investment decisions since the relevant ministry is always asked to give its opinion on every enterprise application for credit, and the relevant ministries sit on the commissions which decide on enterprise applications for subsidies (Deák 1976, 64; Hare 1979). In addition to these controls on the conditions under which enterprises raise funds for investments, the state can use its taxing power to influence the amount of enterprises' net income which ends up in the Development Funds.⁸

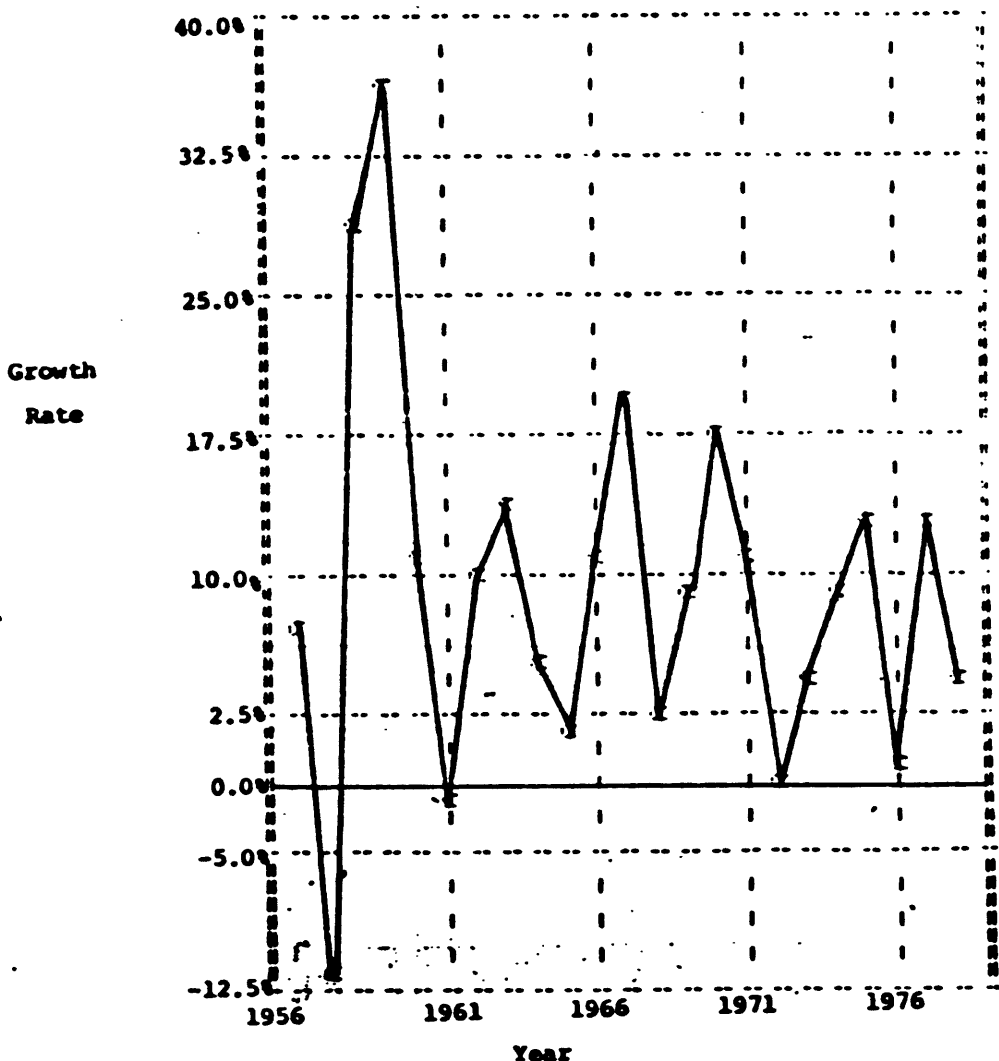
How can it be that a system with so many tools for controlling individual investment projects, and therefore the level of investment, can be plagued with persistent large overfulfillments of the investment plan depicted in Chart 4, and such enormous fluctuations in growth

⁷ Every year along with the annual plan the Government discusses and approves "Directives of Credit Policy," which instruct the National Bank on priorities for investments in the following year.

⁸ Briefly, the system since 1976 has been that enterprises are required to pay a 35 percent wage tax, a 5 percent tax on the net value of assets for which they owe no money, and a 36 percent tax on the profits remaining. They are required in certain circumstances to replenish their Reserve Funds and Cultural and Welfare Funds. The remaining profits may go either into a Development Fund (also fed by Depreciation Charges) or a Sharing Fund (which finances bonuses). Profits going into the latter fund are subject to a highly progressive tax (acting as an income tax which prevents enterprises with high profits from increasing personal incomes rapidly and skewing the personal income distribution). It is the manipulation of this latter tax which will affect enterprise managers' decisions concerning the division of remaining profits between these two funds (Gadó 1976a, 39-54 discusses the post-1976 system. A discussion of changes in this system in 1980 will be deferred to Section IV.

rates such as those pictured in Chart 11? As those charts show, both the plan overfulfillments and the growth rate fluctuations existed before the NEM was introduced in 1968, and judging from the charts, very little has changed since 1968. The reasons for this fairly constant behavior in the face of apparently changing institutions are not totally clear, however, there are sufficient clues to suggest the outlines of an answer.

CHART 11.—Growth rate of real investment, 1956-78



Source: HEM-1 Data Bank.

In a traditional centrally planned economy planners themselves pursue high growth rates through driving up the rate of investment until so many supply bottlenecks (including the supply of foreign currency) arise that investment growth rates must be cut, only to be increased again when it is again feasible (Goldman and Kouba 1969). Also, ministries and enterprises, faced with planners' preoccupation

with gross output indicators, find in investment a relatively easy way to fulfill their plans. They push incessantly for more investment, the tried and true technique being to "hook on to the plan" with an apparently inexpensive project whose much larger true costs can later be revealed to the center after the project is well underway. The center is too weak to fight off the enterprises and the ministries (all the projects seem "necessary," "justified," and so on), so it ratifies what it well knows will turn out to be excess demand for investment goods. When the new projects really begin construction and their true costs begin to be felt by the economy, eventually excess demand is obvious enough that the center both can and must move to cut investment demand, which they do by forbidding new starts, and subsequently by limiting investment outlays for ongoing projects. This relieves the pressure on investment markets, but simultaneously pressure begins to build from below to start new projects, and eventually the cycle begins again (Balassa 1960, 80; Bauer 1979).

If enterprises had to pay back the costs, and make a profit on the investment projects they advocated, then this drive from below for high investment would be much more subdued. But, as Kornai has noted, under central planning enterprises face a very "soft" budget constraint since they face no risk of bankruptcy and their investments are not tied to their financial situation. Investment is a riskless way for them to fulfill the plan (Kornai 1979).

This is probably an accurate depiction of behavioral patterns in Hungary at least through the early 1960's. However there was every reason to expect the introduction of NEM would change this situation. Planners had obviously given up their aspirations for rapid growth—witness the modest national income growth plans, the emphasis in qualitative indicators for enterprise performance, and so on. Likewise the intention, indeed centerpiece, of the NEM was to "harden" enterprise budget constraints so that profitability would become an unavoidable and important consideration in their decisions on utilizing existing capacity, and in their attempts to expand productive capacity. Yet in fact the pressure from below persisted in Hungary after 1968, and it may even have grown stronger with time. Table 3 shows data on the annual plans for the various categories of investments, and their actual values over the years 1968–80. The first two rows of data for total investment in the socialist sector are the same data used for Chart 4, and one can see the years of significantly overfulfilled investment plans: 1970–71, 1974–75, 1977–78. In each of these cases enterprise investments were responsible for the overfulfillment; state investments were on target in 1970–71 and 1974–75, and slightly below target in 1977–78. Enterprise investments were about 30 percent above planned in 1970–71, and about 20 percent above planned in 1974–75 and 1977–78 (10 percent over planned in 1977 and 27.5 percent over in 1978). What is less obvious from the data, but quite apparent in reading through the annual plans, is that in the first two of these three periods, planners only realized with a substantial lag that they had a problem.

TABLE 3.—PLANNED INVESTMENTS IN THE SOCIALIST SECTOR AND THEIR REALIZATION, 1966-80

[Million forint, current prices]

	1966	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980
I. Total investments:													
Annual plan.....	57.58	73.0	79.8	90.0	105-107	113.0	117-118	129-130	148-150	163-164	180-182	204-206	184
Actual.....	57.80	77.5	82.0	102.9	105.6	116.1	124.2	146.5	152.1	181.5	197.6	203.7	(1)
(a) State investments:													
Annual plan.....	(1)	(1)	40.7-41.1	42.8	49-50	52-53	57-58	61.0	74-75	83.1-83.6	86.0	(1)	(1)
Actual.....	28.4	38.4	41.1	43.8	48.2	48.2	54.0	64.3	69.5	79.4	84.9	82.6	(1)
(1) "Large" investments ¹ :													
Annual plan.....	(1)	(1)	(1)	15.5	18.2	17.2	18.6	19.5	(1)	(1)	29-30	(1)	(1)
Actual.....	10.8	15.4	13.9	15.0	17.1	16.1	15.6	18.6	22.1	25.3	26.8	28.9	(1)
(2) "Aim-grouped" investments:													
Annual plan.....	(1)	(1)	(1)	19.2	20.4	23.4	28.2	28.9	(1)	(1)	30.2	(1)	(1)
Actual.....	12.7	16.3	18.8	18.6	21.2	22.0	25.5	28.4	31.9	37.7	40.7	45.8	(1)
(3) Other state investments:													
Annual plan.....	(1)	(1)	(1)	8.1	10.9	11.8	12.6	13.5	(1)	(1)	17.0-17.8	(1)	(1)
Actual.....	4.8	6.7	8.4	10.1	9.9	11.0	12.9	15.3	15.5	16.5	17.3	18.3	(1)
(b) Enterprise investments:													
Annual plan.....	(1)	(1)	38.3-38.9	46-47	56-57	59.0	60.0	68.0	74-75	80.0-80.4	93-94	(1)	(1)
Actual.....	28.4	39.1	50.9	50.1	57.4	62.5	70.2	82.3	82.6	102.1	112.7	111.0	(1)

¹ No data.

Sources: Actual, 1966-77: KSH 1978, 80; 1978: SMV 1978, 113; 1979: Figyelő 2/6300, p. 1. and

Magyar Statisztikai Évkönyv, 1980 (Hungarian Statistical Yearbook for 1980) (Budapest, 1980). Annual plan, Tervezt, various issues; and Népszabadság, various issues.

The preliminary data they announced along with the 1971 annual plan indicated that they estimated 1970 total investment would be 83 billion Forints which would have been very close to the planned 79-80 billion Forints; the final number was 92 billion. Preliminary data in the 1975 plan indicated that 1974 enterprise investment was estimated at 64 billion Forints again, close to the planned value of 61 billion Forints; the final number was 70 billion. Consequently, when aggregate demand began to go out of control in 1970 and 1975, planners evidently were unaware of the magnitude of the problem when they were making the plans for 1971 and 1976. What it probably indicates is that enterprises were beginning a great deal of investment in the fourth quarter of the years in question. In any case, it was taking planners about a year to figure out they had a problem, and therefore to do something about it.⁹

No doubt one source of investment fluctuations in the 1970's has been the significant increase under NEM in enterprise autonomy to use Development Funds for investment, unfettered by a tightly controlled material supply system and total import controls. But the problem is not just with enterprises. As Ms. Deák has shown, any significant enterprise investment somehow involves the budget or the banking system. Therefore excessive enterprise investment must in part reflect excessive leniency on the part of the state in the distribution of funds. Furthermore enterprise investments appear "excessive" because they are the only major component of investment to exceed plan, and when the investment plan is overfulfilled, there is excessive macroeconomic pressure, which increases the trade in dollars. But the state makes that plan, not the enterprises. And it could well be that in fact the state knows in the excess demand years that total investment could be too high, and it plans for relatively low levels of enterprise investments *in the hope* that the necessary macroeconomic adjustment to investment can somehow be left almost solely to the enterprises.¹⁰

One concludes then that the introduction of the NEM did not alleviate the weakness of the center. The Planning Office and the Ministry of Finance as the major bargainers for the center still face strong branch ministries and large enterprises bargaining for high investments, thus exerting pressure "from below." The center still has no good information on the efficiency of alternative projects because of a complex subsidy system, in part resulting from a distorted price system (Deák 1978, 74). It is not feasible for central authorities to study individual investment proposals in depth, and satisfy themselves about the efficiency of each proposal, when it is priced at true world market prices. In addition, the ". . . social and political weight of the industry and enterprise leaders opposing them (the center) in the discussion (is) overwhelming."¹¹ (Soós 1976, 30).

⁹ The recognition lag was shorter than that. When enterprise investments surge during the last quarter of a particular year, then presumably final data are available by the end of the first quarter of the next year. But the problem then is to turn around investment measures already in train for the current year's plan (constructed when planners did not know the severity of the disequilibria), and that could easily require the rest of the year, thus showing up in next year's plan.

¹⁰ (Soós 1979, 803) thinks the state consciously underestimates enterprise plans in order to create the illusion of a balanced plan. Essentially the same point is made in (Vértes 1979).

¹¹ The quote is from (Soós 1976, 30). (Marrese 1978) also discusses the hypothesis.

It was concern over these inheritances from the old system which led the government in 1976 to introduce a new set of rules, specifying that most of the state subsidies for the "Large" investments in productive (i.e. non-public good) sectors will have to be repaid to the budget out of pre-tax profits, although non-repayable grants will also be given in some cases.¹² The important feature of these new rules is that the payment schedule is set on the basis of projected profits, and even if actual profits are lower (because sales are lower than expected, productivity is lower, or investment costs turn out higher), the enterprise's obligation will not change, and it will have to use its Development Fund to make up the difference (Gadó 1976b, 78). The new rules were also applied to projects in process and the eighteen "Large" investments which remained unfinished on December 31, 1976 had to renegotiate agreements with the state in which they committed themselves to repay as much as they could of the subsidy element of the project.

The question is whether the center has some new-found strength to enforce contracts when enterprises suddenly find something has gone awry and they must dip into the Development Fund, and possibly their Reserve Fund. In cases of pure incompetence on the part of management, maybe the center could muster the courage to fight off the relevant ministry and make the contract stick without giving in with extensions, or new subsidies. But matters are rarely that simple. Consider a recent study of twenty "Large" investments scheduled to finish in 1979 and 1980. Only two will be finished by the originally set deadline, six are scheduled to make a modified deadline, and the remaining twelve projects are not going to make their modified deadlines. Sixteen of the projects are now projected to run at a profit, although some of them will experience difficulties selling their output (due to problems on world markets), and about one-third of them will experience supply problems which will result in unused capacity (Marchalek and Kosaras 1979).¹³ Most likely the center will have to allow extensions of agreed repayments from these and other projects in the face of *force majeure* arguments concerning world recession or supply difficulties; and indeed that might be only fair. But what enterprise director will not try, and probably with some success, to marshal evidence that something out of his control accounts for his inability to pay? And what will the planners do in the face of that pressure? Is there any reason to expect them to behave differently after 1976 than before? There is no reason to expect that they will behave much differently in this regard, hence the new rules seem unlikely to make much of a difference. Enterprises still have ample tools to use in arguing for special treatment, and planners have no new weapons with which to defend the system from such aspirations.

¹² At the time of the investment a calculation is made of the incremental profits and depreciation set-asides which will result, minus the projected replacement costs which will arise during the life of the project. The resulting sum reverts to the state over the first ten years of the project, or until the state grant is paid, whichever occurs first. Should ten years not repay the entire grant, the remainder appears to be free to the enterprise (Gadó 1976a, 87-90; and, because it is clearer in the Hungarian version, Gadó 1976b, 75-8).

¹³ Only two enterprises could pay back the grants before ten years; and an additional six could pay back all of the grant in ten years. Of the remaining ten enterprises, five were projected to make profits, but the profits were so low that the full repayment period would have been a very long time; and the other five enterprises were projected to incur losses from the beginning of their operations (Radnoti 1976).

Microeconomic Supply Problems

The apparent excess demand for investment goods is one symptom of the persistence of the old system. The virtually total security from competition enjoyed by all major Hungarian enterprises encourages them to join with the ministries in arguing for investment projects whose profitability is a matter of secondary concern. Should the investments prove unprofitable then, no matter what the reason—incompetent management or truly unforeseen exogenous events—the center has consistently exhibited its willingness to somehow subsidize the enterprises involved. The secure position of enterprises in Hungary is also one major cause of Hungary's persistent hard currency difficulties. Enterprises, confident of willing state assistance over financial difficulties, have neither the necessity nor the incentive to economize on imports or search out profitable export opportunities.

In the course of current public discussions in Hungary concerning its economic difficulties and what can be done about them, a fascinating picture is emerging of just how much of the old institutions and behavior patterns survived the change to the NEM, adapting their mode of operation to the new circumstances. The most obvious manifestation of this is the survival of the old hierarchy, essentially intact compared to its pre-NEM configuration. The functional, and more importantly the branch, ministries are the same; the Planning Office is still there; and the enterprises are essentially the same ones which existed on the eve of the reform. To be sure, legal functions have changed and *de jure* power has shifted from the Planning Office to the National Bank and the Price and Materials Board (PMB, which is involved in price regulation). But the fact is that the sectoral ministries retain their rights to appoint enterprise directors, determine their remuneration, and exert general supervisory rights over the operations of the enterprise. It is hardly surprising that the ministries have used this power to control much of what the enterprises do, in effect retaining a looser version of the detailed quantitative controls characteristic of the old system (Nyers and Tardos 1978, 34ff; and Hare 1976, 387ff).

The ministries have retained their preoccupation with quantitative production results, and they constantly pressure central planners for large investment projects which will expand the output of enterprises under their control. Meanwhile the enterprises themselves discover that profitability is not the sole criterion by which they are judged, possibly not even the most important criterion. In fact if enterprises can fulfill export targets, finish investments on time, expand output as planned, and so on, quantity-oriented ministries will sanction their decisions, despite poor profit performance (Soós 1979, 805–7).

The persistence of the substantial influence of sectoral ministries over enterprises naturally encourages managers to seek to satisfy the ministries more than the final users (or potential users) of their output. Although the intention of NEM was to considerably harden the "soft" budget constraints of enterprises, in fact enterprise directors discovered that they could quite successfully devote their time to "softening" up that constraint through negotiations with higher authorities for subsidies, credits, and special price concessions (Nyers and Tardos 1978, 37).

Surely the most important aspect of the NEM was to be the price system, designed to be a flexible and honest guide on market demands, state preferences, and social costs. The notion was that the state would tightly control prices for many consumer goods and key production inputs by either setting prices, or setting the limits within which they could fluctuate, or setting a price ceiling. These state-determined prices were to influence approximately 75 percent of the value of consumer goods, and about 30 percent of that producer's goods. The remainder would be "free" prices set by the enterprises, but following detailed procedures approved by their ministry and the PMB (Hare 1976).

The system never worked well apparently because the center could not find the will or the political power to enforce it, which became glaringly obvious after 1974. One of the problems here was the central decision to use the price system as a tool for controlling the profitability of enterprises, hence to control the investment and wage-paying potential of individual enterprises. This led to significant price distortions, and in effect diverse exchange rates, as subsidies and taxes were used to control the results of individual enterprise foreign trade activities (Nyers and Tardos 1978, 35). Enterprises constantly strove (with considerable success) to make deals concerning prices and subsidies for their products, the strength of those cases frequently based on the fact that they were the sole Hungarian supplier of the products in question, and that therefore the state could ill afford not to support them.

Hungary's problems beginning in 1974 made the workings of this system more transparent, and the harm it was doing to the economy there for all to see. Table 4 shows the course of subsidies and taxes on all enterprises in Hungary during the key years 1973 to 1977. Both subsidies and taxes rose rapidly after 1973, signifying that some prices were being kept way below their true import costs, lowering profits for firms selling those products, and inflating profits (which had to be taxed away) in enterprises using the artificially inexpensive inputs in production. Subsidies leapt up in 1974 in an initial response to the terms of trade changes, then fell back down in 1975, only to begin a steady climb through 1977 (and one gathers through 1979). Note that taxes have risen faster than subsidies, with the surplus presumably going to subsidize the differences between producer and consumer prices. In their magnitude and rapid growth, these subsidies *and* taxes signal increasing distortions in the domestic price system, and the return of an autarkic price system.

TABLE 4.—SUBSIDIES AND TAXES AFFECTING ENTERPRISES, 1973-77

	1973	1974	1975	1976 ¹	1977 ¹
Total subsidies, of which.....	29,944	49,121	36,833	39,427	49,827
Material sectors.....	29,508	48,619	36,334	38,774	49,079
Nonmaterial sectors.....	436	502	549	653	754
Total taxes, of which.....	60,857	73,892	139,318	141,551	162,134
Production and land taxes.....	13,822	17,074	22,779	42,172	50,826
Profits taxes.....	34,612	40,853	98,670	76,787	92,913
Contribution to central technical development funds.....	2,512	2,865	3,453	4,260	4,851
Construction tax.....	1,367	1,462	1,577	305	119
Other.....	8,544	11,618	12,839	18,027	13,334
Subsidies-taxes.....	-30,913	-24,751	-102,435	-102,130	-112,304

¹ In producer prices.

Sources: 1973—*Stáv* 74, 82-3. 1974—*Stáv* 75, 64-5. 1975—*Stáv* 76, 62-3. 1976—*Stáv* 77, 90-1. 1977—*Stáv* 78, 94-5.

The reliance on subsidies and taxes in lieu of price changes in the period since 1974 has created a rationale for increased central intervention along the lines already begun in Hungary in the aftermath of the November 1972 Plenum of the Central Committee (Portes 1976, 785ff). In addition to the informal (and therefore virtually invisible) controls exerted by sectoral ministries, there is a visible manifestation of recentralization in the growing power of the Interdepartmental Committee on Price and Commodity Turnover (ár és Termékforgalmazási Tarcaközi Bizottság). This committee has functioned since the Fall of 1973, its original task being mainly to spot potential disequilibria, and break the bottlenecks by, for example, changing an import quota. In addition to its chairman, Béla Csikós-Nagy (Chairman of the PMB), the committee consists of representatives from the Ministries of Finance and Foreign Trade, the sectoral ministries, the National Planning Office, and the National Bank. It is, as Paul Hare has noted, an important part of the informal resource allocation mechanism in Hungary, particularly powerful because of its flexibility (and its high-powered membership) (Hare 1976, 389).

In 1976 this committee apparently became the administrative vehicle for the reintroduction of direct administrative controls over important segments of economic activity (Csikós-Nagy 1976). In the wake of a ruling by the Council of Ministers in 1975, this committee began in January 1976 to administer a system of input use quotas, import and export quotas, and other quantitative measures which were obviously designated to replace the price system in some of its allocative functions.

The natural tendency of the bureaucracy to resist a diminution of its power and the natural response of policy makers to recentralize parts of the economic system in response to deteriorating conditions in Hungary's foreign trade sector, are both abetted by the unavoidable necessity for Hungary to conduct a substantial portion of its trade with CMEA. Since the beginning of the reform the way Hungary has had to deal with the CMEA—through centralized, long-term, quantitative agreements—has represented a serious impediment to the full realization of the reform. Ministries, prone as they are to the preservation of direct quantitative controls over Hungarian enterprises, can argue with justification that relations with CMEA, particularly the USSR, require constant controls to ensure that export plans are met. That in turn requires controls over production, and it surely finds its way into many of the proposals for investment funds, in particular for the "Large" state investments. Original hopes of Hungarian reformers, implied, though rarely stated, that reforms in other CMEA countries would eventually create broader possibilities for enterprise-to-enterprise economic relations proved unfounded. Consequently, even if the Hungarian economic policy makers can overcome the other impediments to further reform, they must still somehow cope with this rather intractable problem.¹⁴

What we have been discussing is what Egon Neuberger called "legacies" of Soviet-type central planning, a term he applied to Yugoslavia (Neuberger 1968). They have complicated roots in the system, and

¹⁴ (Soós 1979) discusses this problem, but not its resolution.

they will not go away easily. This paper focuses on only two of their most important consequences, excess demand for investment goods, and problems in the supply of goods competitive on world markets. Other legacies such as labor hoarding, poor quality capital stock, and a distorted output structure are all part of the same general phenomenon; but it is beyond the scope of this paper to discuss these here.

The question is whether Hungarian policy makers can eventually overcome these legacies, and reap the benefits in terms of increased efficiency, growing living standards, improved export performance, and so on. Section IV discusses the prospects for such a move in the light of policy measures taken in the last year. Section V concludes with a discussion of prospects for further change in the early 1980's.

IV. ECONOMIC POLICIES IN 1979-80

As shown earlier, the response to the 1974 economic shock could already be seen in FYP V for 1976-80 in the intention to increase production faster than absorption, and therefore to increase net exports. But actual performance, as was also shown, moved in the opposite direction, and in an alarming way. One can find as early as 1977 evidence of great dissatisfaction on the part of planners with economic performance, and a discussion of the major theme heard with even more force today. The major tasks policy makers have set for themselves include (Közlemeny 1977) :

1. Improving the work of ministries in stimulating structural change.
2. Development of mechanisms to hold enterprise managers more responsible than hitherto for productivity improvements, modernization of the product mix, expansion of competitive production, and rapid technological change.
3. Restructuring relative domestic prices to bring them in closer correspondence with world market prices.
4. Development of a system of incentives so that profits more closely reflect efficiency differences among enterprises, and eliminate unjustified subsidies.
5. Significantly improve the management of labor, while maintaining full employment.

Reading a little between the lines one could make up a similar list for 1968, so there is no major departure from past policy in the list of aspirations; nor through 1978 was there a serious departure in the *de facto* policies of the government, policies incapable of achieving these goals.

But in 1978 as investments once again began to slip out of planners' control in a now familiar cycle, as inventory accumulation set new records, as the dollar deficit in the balance of trade rose to over a billion dollars, and—as all of those suggest—utilized national income grew far faster than produced national income, planners were finally forced into action.

The result was what should be called an "X-M Plan," namely a plan built starting from the estimate of the economy's export capabilities, then an estimate of the resulting possible imports consistent with a given goal for international credits, then (assuming an import elasticity of production) a national income produced target, and (given the credit target), a national income utilized target. This was, as Ferenc Havasi (the CC secretary in charge of the economy) made quite clear, a plan built to improve the foreign trade deficit, and "eco-

conomic growth, production and development, as well as living standard improvements, must be subordinated in the interests of improving our international financial balance" (Havasi 1979a, 6).

Key figures for the 1979 plan are given in the first column of Table 5. National income produced was scheduled to grow at a rate of 3-4 percent, down substantially from the 5 to 6 percent planned growth rates typical of proceeding years. Industrial production was also scheduled to grow slowly in a conscious effort to reduce bottlenecks in key domestic markets and to reduce import demand. Internal utilization of this national income was to decrease slightly, most of that decrease coming from a slow down in the rate of investment, and a substantial decrease in inventory accumulation. Consumption was scheduled to grow almost as fast as national income produced. The spread between the growth rates of produced and utilized national income indicates an attempt to make room for increased net exports, all of which were intended for the convertible currency markets (reflected somewhat imperfectly in Table 5 in data for trade with non-Socialist countries).¹⁶ In addition to these quantitative targets, there was a discussion, without specifics, which promised higher taxes and lower subsidies for enterprises, meaning that an increasing number of enterprises could anticipate difficulty in financing an increase in wages unless they significantly increased their efficiency (Havasi 1979a).

TABLE 5.—PLANNED AND ACTUAL ECONOMIC PERFORMANCE IN 1979 AND 1980

	1979 (1978=1.00)		1980
	Planned	Actual	(1979=1.00) planned
Supply of goods and services:			
National income produced.....	1.030-1.040	1.014	1.030-1.035
Industrial production.....	1.040	1.028	1.030-1.040
Agricultural production.....	1.030-1.035	.996	1.050-1.055
Demand for goods and services:			
National income utilized.....	.990	.940	0.990
Personal consumption.....	1.025-1.030	1.030	1.010-1.015
Investment.....	1.010-1.020	1.007	1.950-0.960
Inventory accumulation.....	.600	.054	N.D.
Other indicators:			
Real per capita personal income.....	1.020	1.000	1.000
Consumer prices.....	1.047-1.049	1.089	1.037
Non-Socialist exports ¹	1.090-1.100	1.168	1.100-1.110
Non-Socialist imports ¹.....	.950-.960	.890	<1.000

¹ Volume indices.

Sources: Planned values are from Népszabadság, Dec. 8, 1978; and Bagota and Garam, 1979. Actual values, except the inventory accumulation figure, are from the Magyar Statisztikai Zsebkönyv 1980 (Hungarian Statistical Pocket book for 1980) (Budapest, 1980). The actual inventory accumulation number is an estimate based on (a) the reported share of 1979 inventory accumulation in 1979 national income utilized, in 1976 prices (in *ibid.*); and (b) 1979 national income in 1976 prices, based on the NEM-1 data bank and volume indices of national income utilized (in *ibid.*); which yields 1979 inventory accumulation in 1976 prices equal to 2.098 billion forint. Finally, (c) 1978 inventory accumulation in 1976 prices was 39.1 billion forint (Stév 1979, 102), which, divided into 2.093, yields 0.054 for inventory accumulation in 1979 relative to 1978.

Planners took strict measures in several areas in an attempt to realize their goals. The sectoral ministries required for 196 of the larger enterprises that they set up plans for the reduction in inventories, then 50 to 100 percent of the enterprise directors' bonuses were frozen until

¹⁶ The balance of trade with non-socialist countries does not cover all of Hungary's hard currency trade, because about 15 percent of its trade with CMEA is settled in hard currency. Consequently it is all hard currency trade, not just hard currency trade with non-socialist countries, which concerns Hungarian planners. Still, the published target is for trade with non-socialist countries, and I shall use those data here. Judging from past years, the general picture is the same whichever data series one uses.

the plans were fulfilled. Loans for stock accumulation were virtually halted (Fábri 1979). It was probably this same set of enterprises which were required to submit proposals for import savings, and were given orders on rationalization of the production, importation and use of energy; on the production and utilization of iron products; on the rational import substitution for semi-finished products, parts, and sub-assemblies; and on the use of paper, agricultural products, and consumer goods. In investments, the government froze all "Large" investment starts, placed tight controls on other state investments, and sought through decreased subsidies and increased taxes to dampen enterprise investment demand (*Figyelő*, October 31, 1979, 5).

Several comments by leading party and government officials in the middle of 1979 show the signs of a genuine struggle over subsidies for enterprises in trouble. In a tough speech to an economists' congress Jozsef Marjai (a Deputy Prime Minister) lamented the schizophrenia enterprises and ministries exhibit in the compromises they continue to work out on the economic regulators (read subsidies, and prices). He comments that "... enterprise directors who, in principle, recognize the propriety and necessity of selectivity, themselves nevertheless practically in every case think that they are an exception" (Marjai 1979).

Actual performance in 1979, shown in column 2 of Table 5, did not deviate substantially from the plan. National income growth was much smaller than expected, but a major causal factor there was very bad weather which affected agricultural production. Industrial production was also below plan, probably reflecting in part somewhat reduced supplies to the food industry, but also surely a reflection of admitted supply disruptions due to interrelated problems in shortages of energy, other materials, and import supplies (*Tervért*, XXXII, 1 (January 15, 1980), 12). National income utilized grew even slower than planned, primarily because inventory accumulation was virtually halted, but also because investment grew somewhat slower than anticipated. Personal consumption grew at the top of its target (3 percent), even though real personal per capita income stagnated, indicating that the population financed increased consumption out of savings. Net exports to non-socialist countries grew even faster than expected, presumably a consequence in part of the healthy spread between produced and utilized national income.

The stagnation in real income was in large measure a result of the fact that in mid-1979 a major assessment of progress in plan fulfillment led to a major increase in consumer prices (Havasi 1979b), and a further tightening of controls. Because of an unexpected deterioration in Hungary's terms of trade in 1979, and because of the poor agricultural performance resulting from bad weather, it was decided to push still harder to cut dollar imports, cut investments, and to seek economies in government expenditures sufficient to run a surplus (which would have been for the first time in the 1970's). As part of these measures substantial increases in consumer prices originally scheduled to go into effect in January 1980 along with producer price changes, were introduced five months early on July 23, 1979, only two days after the public announcement. This was an unusual move by standards of past consumer price increases where the media has

carefully prepared the population in advance. Evidently the concern over the hard currency balance of payments had grown acute enough that planners felt they could not afford another five months of under-priced consumer goods, which were having the effect of inflating the demand for hard currency imports (Havasi 1979b, 11).

The basic price increases hit staples in consumers' market-baskets: the prices of foodstuffs rose 20 percent (with direct effects on restaurant prices), prices of dairy products and meats rose 20 percent, and the price of electricity rose 50 percent. Prices of goods and services sold primarily to tourists for hard currency (expensive hotels, restaurants, and so on) increased by far greater amounts. In addition, prices of cars were raised 20 percent, and prices of building materials rose from 12 to 40 percent. Simultaneously the government did follow one tradition of past price increases in giving lump sum compensation in the wages of workers (180 Forint per month), agricultural cooperative employees (140 Forint per month) and other groups (Havasi 1979b, 11).

The Government fully intends to continue this austerity program into 1980, as is evident from the 1980 plan data presented in the third column of Table 5. The planned national income growth rate is again modest; utilized national income is again set to fall slightly, this time through a decrease in real investment (continuing the second year of a freeze on starts for "Large" investments), and very slow consumption growth. Per capita personal income is to remain at the 1979 level; and net exports to capitalist countries are again set for a large increase by further decreasing the level of imports, and rapidly increasing exports for hard currency.

This conscious and effective control of aggregate demand during 1979-1980 is in itself not unusual; the Hungarian government has on previous occasions shown an ability to suppress aggregate demand for one or two years in order to force an improvement in the trade balance. What is unusual by past standards is the magnitude of the austerity, reflected in a two-year stagnation in real personal incomes and investment. Even so, if in 1981, the austerity could be lifted, then the Party and Government could easily weather the short-term political pressures associated with two tight years. But in fact 1980 cannot be the end of it. The adjustments to new less favorable world economic conditions will require a much longer time period, and that raises two questions for which past experience offers little assistance. First, can the Party and the Government garner sufficient support among the populace for the sustained period of austerity which is probably necessary for Hungary to restore external balance in its trade with the West? Secondly, can the Government and the Party successfully put together an attack on the microeconomic problems, namely the security of enterprises and workers? This is really a question of whether or not there is sufficient political support in Hungary for a major change in the excessively secure position of enterprises and for a move to curb the pervasive influence of ministries over enterprises. The answer to these questions shall not be apparent for at least several years. The measures being discussed for 1980 indicate that the Party and the Government are going to make a try at changing the system. The remainder of this section discusses those measures, then the final section discusses the prospects for the next few years.

Experience in monitoring past reforms suggests that the measures introduced in early 1980 will not all become known for several years, as articles describing them appear in the Hungarian press and academic literature. All that is available now are general statements on what planners intend to do, which may or may not reflect what transpires. In particular, 1980 is no different than earlier years in that the discussions of new measures typically include caveats stating that exceptions will be made in certain circumstances. It was "exceptions" which were becoming the rule in the late 1970's in Hungary. With that caveat, I now turn to the 1980 changes *as they are intended*.

The core of the 1980 changes is the price system which Mr. Csikós-Nagy modestly characterizes as a set of "adjustments" (Csikós-Nagy 1979). The changes introduced in 1980 represent the culmination of a major reassessment of the price system by a group of specialists from the Party, the Government, and major research institutions.¹⁰ The two basic features of the 1980 price system are that most producer prices are to be connected directly to foreign trade prices, and consumer prices are to be connected directly to producer prices (some of that already having been accomplished in the July 1979 changes). A two-level price system will develop in which consumer goods prices will exceed producer goods prices, by the amount of a uniform turnover tax.

The philosophy behind the consumer goods price changes is to temporarily continue those subsidies which exert their effect almost solely on Hungarian citizens (e.g. in the areas of housing and transportation), while discontinuing subsidies on products directly related to the visible and invisible trade balance (energy, raw materials, tourism, chemicals and food) (Csikós-Nagy 1979, 9). The process was begun in 1979, and will continue in 1980. The plan for 1980 was to decrease the proportion of officially-determined prices in consumer goods turnover down to 40 percent from its 1979 level of 55 percent (Csikós-Nagy 1979, 16), but there are no data yet on what actually transpired. The eventual goal is to have relative consumer and producer prices equal, albeit separated by a uniform turnover tax, with a few exceptions for a much shorter list than in the past of consumer goods enjoying state subsidies (Horváth 1980, 9). The major changes in consumer prices which result from a realignment with producer prices will be partially compensated by fixed-sum (hence regressive) wage increases to the population (Havasi 1979b, 13).

With this price system in place, the other changes contemplated in 1980 follow naturally (Horváth 1980). The basic notion is to return to the original intentions of NEM by once again closely connecting incentives to profits, the only exceptions being in selected areas where the state will indicate *a priori* that it wishes to modify profit incentives for some particular reason. Income and wage regulations will become more uniform across enterprises, and the potential for divergent wage payments among enterprises is now considered real and a necessary consequence of the attempt to increase efficiency.

Wage regulation remains essentially unchanged in 1980 in form, although an increasing number of enterprises are being switched to

¹⁰ The basic source on this is (Csikós-Nagy 1979), although I am also drawing on interview material, (Horváth 1980), (Havasi 1979b), and (Kramer 1979).

the system which controls only the total wage bill, and not the average wage level.¹⁷ This is another measure which will encourage increased dispersion in the distribution of income among enterprises, hence workers.

In the area of foreign trade, the intention is to eliminate all subsidies, and presumably taxes, involving foreign trade transactions. The exchange rates have been set at 34 Ft/Dollar and 31.8 Ft/Transferable Ruble, both of which are apparent revaluations from the 1979 rates of 36 Ft/Dollar and 32 Ft/Ruble, although one can't be sure because of the simultaneous changes in the price level of producer goods. Exchange rates for convertible currencies will now move frequently to prevent the importation of inflation.

The connection between producer prices and foreign trade prices is a familiar goal first explicated as policy in 1968. However there seems to be more supportive detail and firm determination behind the proposal this time than ever before. Primary products are now to be free prices set at the hard currency import price times the exchange rate, the justification being that the hard currency price is the marginal cost to Hungary of buying and using another unit of a primary product carrier which is imported. Imports of these products from CMEA will generally come in at lower costs, and the government will collect the implied rents. The prices of energy carriers (including electricity) will be set officially at a maximum price, but these prices will be closely linked to hard currency import prices. Planners estimate that 70 percent of Hungarian manufactured goods are "competitive," i.e. exportable, and for those the price of the good is to fluctuate with the Hungarian export price on hard currency export markets. Enterprises will determine prices on these goods according to procedures set by the PMB, and they must be able to prove each year that their average domestic price has not exceeded the average export price for each product. The agriculture, food, construction, and construction materials industries are excluded from these measures, and here more tightly controlled official prices will be utilized.

The effect of the new prices on the level or the structure of producer prices and enterprise profits will be substantial. The 5 percent charge on capital has been discontinued, and the 35 percent tax on wages has been decreased to 17 percent (only that portion remains which covers social insurance for workers), but the profits tax has been raised from 35 to 45 percent. The anticipation is that decreased subsidies and increased turnover tax collections will make up most of the budgetary losses from decreases in the taxes on factors. The general producer goods prices will fall 8 percent, but the price of materials will rise 15 percent, and the price of energy will rise 39 percent. The consequences of these changes is an anticipated drop in enterprise profits sufficient to more than halve their profit rate on capital from 15 percent to 6 percent, an explicit attempt to cut enterprise demand for investment goods and inventories. These predictions were published in early 1979 (Csikós-Nagy 1979), therefore the actual changes in prices and profit rates in 1980 will surely differ from these. If the directions and relative magnitudes are as indicated, then planners will have engineered a rather substantial price-cum-income maneuver on the enterprises:

¹⁷ (Marrese 1979) discusses the various regulation systems.

1. The price of machinery relative to that of labor will fall substantially, Mr. Csik6-Nagy's estimate being 30 percent (Csik6-Nagy 1979, 13).

2. The price of energy will rise about 50 percent relative to the price of manufactured goods, and also relative to the price of labor and capital.

3. Declining enterprise profits, hence possibilities to purchase machinery and equipment, may cut off the excess demand which would otherwise arise because of No. 1.

Were these principles to be followed without exception, namely if they were accompanied by the cessation of all subsidies, then it seems sure that many enterprises would be unable to cover all of their costs of production. Ferenc Havasi has stated that "not a single enterprise will be made inoperable . . ." because of the introduction of the new system (Havasi 1979b, 9), and consequently the government is giving subsidies to enterprises on a case-by-case basis for a fixed period of time (apparently four to five years) over which the subsidies will fall to zero. Predictably, most enterprises were fighting for their 1980 subsidies already in mid-1979 when the new system was introduced, and Mr. Havasi was urging the authorities involved to fight off the onslaught (Havasi 1979b, 10).

This negotiating process has carried over into 1980, delaying the introduction of some changes originally intended to take effect on January 1, 1980.¹⁶ For example, the Government gave Mr. Csik6-Nagy, as president of the PMB, the power to order producers of particular products or groups of products to abstain from any price changes during the first quarter of 1980. He evidently used that power to declare a "price stop" for all major products until April 1, 1980. During that same period the Government has announced that absolutely no subsidies will be granted for new investments started by enterprises. Also, in the case of existing projects where projected enterprise receipts plus subsidies appeared insufficient to continue the projects, the state subsidy committees were required to evaluate the subsidies and report to the government by February 28 on their recommendations for restructuring, possibly discontinuing, the subsidies. Finally the Government is requiring all enterprises who did not make profits, or at least encountered difficulties in forming wage, bonus, etc. funds in 1979, and who will be in the same situation in 1980, to submit by June 30, 1980 a plan for changing their operations so that they will become profitable. Should the affected enterprises be unable to submit such a plan, then the supervising organs have until September 30 to prepare a plan for the enterprise. Also, enterprises which can operate in 1980 only with significant subsidies (as judged by financial reports for the first two quarters of 1980) will be asked to draw up a similar program by December 31, 1980.

It is not clear how the government shall hold enterprises to these plans, an obviously important matter for determining the future character of the Hungarian economic system, since many important enterprises will be involved. Conceivably these plans could lead once again to direct and detailed administrative intervention in the affairs of a major segment of Hungarian industry. While the Government is

¹⁶ This information is from Tervért, XXXII, 1 (January 15, 1980) and interview material.

changing the price/subsidy/tax system to radically improve the price system as a mechanism signaling to enterprises which of their activities are profitable, and which are not, it appears to be increasing its reliance on administrative means to make sure that enterprises respond quickly and efficiently to the new signals. In addition to the measures mentioned above, the Government has directed the ministries, the PMB, and the Interdepartmental Committee on Price and Commodity Turnover (the latter two managed by Mr. Csikós-Nagy) to closely monitor enterprise operations concerning inventory control and the utilization of scarce materials, especially energy. In the case of energy, ministries now determine special bonus schemes to encourage managers to conserve energy. Also, the PMB and the ministries are being asked to closely study contractual relations among enterprises, in an effort to improve the reliability of those relations and decrease the necessity individual enterprises feel to keep very large inventories for precautionary reasons.

The measures which are being introduced in 1980 in Hungary are in one very important way, closely linked to the aspirations expressed in the discussions surrounding the NEM: that the price system should accurately convey to enterprises and consumers alike the true costs of goods being sold, which means in most cases the world market prices. In 1980 the genuine determination of the Government to move prices quickly in that direction is there for all to see. What is not clear at present is whether the Government is equally determined to resist the understandable temptation to intervene in the operations of individual enterprises, thus recentralizing important resource allocation decisions. Even after the gradual recentralization of decision making which began in the early 1970's and continues today, the powers and responsibilities of central authorities concerning enterprise operations are quite modest in comparison to what they were fifteen years ago. But as the pressures grow from the populace and Party ranks, in response to continued austerity, increasing uncertainty in labor markets, and possibly increasing shortages, the inclination will be great to return to familiar administrative methods (which have the great political advantage that the Government appears to be doing *something*). It is to these issues I now turn in the next, and final, section.

V. PROSPECTS FOR THE 1980's AND LESSONS FOR EASTERN EUROPE

Surely among the most palpable benefits which socialist central planning brought to Hungary (and to the remainder of Eastern Europe) were stable prices for consumer goods (and subsidized prices for necessities), a relatively flat income distribution, and guaranteed full employment. These policies always had their costs in terms of lost efficiency in the utilization of productive factors and the waste of many products; and all the way up the ranks of the Party and Government one could surely find people who were aware of those costs. But at least until the early 1960's, outside of a select group of economists, there were few people who really thought that the costs exceeded by the political and economic benefits accruing to the Party and to the populace at large.

The falling growth rates of the early 1960's were, correctly it seems, diagnosed as a sign that the easy sources of growth had been exhausted; and that increased efficiency was the major remaining source which would *have to be tapped* if Party goals concerning income, income distribution, prices, and employment were to be met in the future. In the 1970's, it became increasingly obvious that it would be very difficult, probably impossible, to simultaneously achieve increased efficiency and attain these goals in the form they have been realized in the past.

A relatively equal distribution of income has evolved in Hungary on a job-by-job basis, thus good and bad workers in a particular profession tend to make approximately the same income; and good and bad workers in different enterprises likewise tend to make approximately the same incomes. There were good political reasons for this, which were vividly highlighted by the increasing social tensions which arose in Hungary in 1968-72 when there was a modest attempt to redistribute income. The November 1972 Central Committee Plenum reversed that trend in the face of increasing dissatisfaction with the income distribution effects of the reform (Portes 1977, 784; Flakierski 1979, 30-31). But the issue will not go away. Unless increased efficiency in the work of individuals and enterprises is rewarded, then what incentive is there in a society with complex division of labor for increased efficiency?

The problems with labor productivity in Hungary are surely in part attributable to the mere fact that high demand for labor gives workers bargaining power they would not otherwise have. Managers must hesitate to fire all but the most incompetent workers because on the one hand they are relatively cheap to hire (thanks to easy subsidies), and on the other hand because finding workers of any sort is a chore. But additionally the full employment policy of the state has become a problem because it translates into a powerful bargaining tool for the enterprise. If an enterprise is doing poorly, the obvious solution of closing it down is excluded because workers would be temporarily thrown out of work. That could be handled through unemployment insurance, but the workers would have to be split up, retrained, and moved elsewhere. That, one gathers is something that neither workers nor the trade unions will allow without a fight.

These then are two very formidable stumbling blocks to further economic reform in Hungary. The population is convinced that a fair income distribution is a flat one, and they are convinced that the Party's guarantee of a job means that each person can keep the job he or she has right now. Party and Government leaders have now reached the point that—at least at the top levels in each hierarchy—they define a fair income distribution as one that reflects efficiency differences, and they define full employment as the guaranteed right to a job, but not to a particular job, nor to a particular way of doing that job. And in the next few years they shall try to convince the population that they are right, and introduce measures which will have the effect of switching labor (the Hungarian term is *átcsoportosítás*, or "regrouping") to produce different products, in different ways, possibly in different enterprises, using income differences to reflect ef-

iciency differences. Thus, János Kádár speaks to the Csepel workers on "regrouping" labor:¹⁸

Full employment is our system's achievement. That will be the same during the entire historical era of socialism, and communism also. At the same time the rational regrouping of labor is unavoidable. The development and expansion of economical production, the contraction and finally cessation of uneconomical production, require the appropriate regrouping of labor.

The issues of full employment and income distribution are intertwined with that of excessively secure enterprises. Enterprise directors are only human and they do, at times, waste materials, make stupid marketing decisions, push for unprofitable investments, and so on. But if "the enterprise" is made to suffer the consequences of these mistakes, in effect the burden falls on the workers. Their income falls, and their jobs are threatened. The workers, then, are bargaining chips for enterprise directors in their fight for special treatment, and very formidable bargaining chips at that.

This is the crux of the matter. The difficulty the Hungarian government seems to have with radically changing the system is that those changes would introduce a degree of uncertainty about incomes and jobs to which Hungarians have not been subjected in the last thirty years. Increased efficiency in enterprise operations, something Hungary dearly needs to improve economic performance in the 1980's, only will come at a very high cost of altering some of the basic benefits the populace has perceived in socialist central planning: job and income security, and a flat income distribution. Governmental and Party concerns over the political dimensions of these issues are well-founded, and it is in this context that enterprises and ministries will struggle with the center to regain the security they enjoyed during the 1970's. How this battle will turn out only time will tell. This battle goes on in two spheres. One is the public sphere, the results of which are announced in the laws and proclamations which signal changes in the economic system and economic policy. In this sphere, it is clear that those pushing hard for radical changes in the system itself have prevailed; based on the official record, the Government and the Party are ready to make the very tough decisions which lie ahead, including those which will affect the distribution of income and job security.

The second sphere of battle is the intra-governmental battle over exceptions. A law or a proclamation is truly binding only if the exceptions are indeed exceptions. Here also the Government's intentions are obvious and a matter of public record: there are to be very few exceptions. But the pressures must be enormous on Government bureaucrats who must actually implement this policy in day-to-day decisions. Workers, managers, and ministries cannot be expected to gracefully acquiesce to major increases in the uncertainty of their daily lives.

The problem really is whether things are bad enough now so that in this second sphere of battle the Government and the Party will feel that they must hold the line. The weakness of the old system must be so obvious, the economic situation so bad, that arguments for special favors will be harder to make and easier to turn down than previously.

¹⁸ At a different point Kádár notes that all labor contracts will be modified to state that wages are a function only of productivity, that productivity norms will be set, and that pay will be according to achievements of those norms. See *Népszabadság*, September 26, 1979, and Radio Free Europe, Hungarian Situation Report/19, October 5, 1979.

Based on the success of the austerity program in 1979, and assuming economic performance in 1980 is about as satisfactory, then I suspect that things will not be bad enough to force these tough decisions. The exceptions will probably continue, although maybe with some moderation by eliminating the most blatant excesses. Assuming that austerity must be loosened somewhat in 1981 in order to avoid political problems and to resume the growth of investment, then—because radical reforms have *de facto* been postponed—economic performance will again deteriorate probably through a new investment boom, and it will prove necessary once again to introduce austerity and to attempt a radical reform. This cycle could go on for a while depending on the willingness of the population to accept austerity, and on the willingness of foreign creditors to issue more debt and on the world economic situation as it affects Hungary. But eventually economic performance will finally deteriorate so far that there will be no alternative to true reform; but there are enough unknowns that I cannot venture a guess as to when that may occur.

The Hungarian reform experience says as much about central planning as it does about Hungary, and therefore an understanding of that experience is important for those interested in the prospects for reform in all of Eastern Europe, and indeed, in the Soviet Union. A remarkable amount of information is available about the course of reform in Hungary, more I suspect than is available about reform in any other CMEA country. And in reading about the entrenched bureaucracy in Hungary it seems quite likely that one could, with little chance of error, substitute for Hungarian branch ministries, the Czech, Polish or East German branch ministries. If that is true then Hungary is not only useful as a case study for the successful aspects of reform, but also as an example of the tremendous inertial forces within a centrally planned economy which, in the process of protecting their own interests, work to neutralize the reform. The message of the first thirteen years of reform experience in Hungary is twofold. First, the anti-reform forces are much more deeply entrenched in the bureaucracy than anyone ever imagined, certainly more than Hungarian or western economists ever seemed to understand. Secondly, some of the important policy tools or consequences of the reform (income dispersion, resource reallocation) fly directly in the face of past Party policy, and in the face of several of the features of every day life which the populace, with the help of the Party, has come to identify as the major benefits of socialism. It is the alliance of conservative forces with the populace on these issues which represents a truly formidable threat to the reformers.

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EXCHANGE RATES AND CONVERTIBILITY IN HUNGARY'S NEW ECONOMIC MECHANISM

By Paul Marer*

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*Associate professor of international business, School of Business, Indiana University.

INTRODUCTION*

In a traditional centrally planned economy (CPE), exchange rates (ER) play practically no role in the domestic price system or in shaping the level, composition, and direction of trade; there is no meaningful link between the domestic and foreign prices of exported and imported products. Producers receive for export deliveries and consumers pay for imports the fixed domestic price; neither has a material interest in the profitability of foreign trade transactions. Foreign trade enterprises, which appear to trade for their own account and report profits or losses, in fact are agents of the state which automatically absorbs their gains and losses in the state budget. Comparing prices of the same goods in domestic and in foreign currency yields a wide range of *ex post* "ERs," but these play no significant role in trade decisions. The real foreign trade competitiveness of branches and products is distorted by the often large and arbitrary subsidies and taxes on factors of production, intermediate goods, and finished products.

The system just sketched insulates the domestic price system from the influence of external markets. It also fails to protect the economy from inefficient exports and imports or provide incentives to expand the production and export of modern, technically up-to-date products. These shortcomings have been recognized in the East European literature as far back as the mid-1950s. In response to these and other problems in the traditional CPE system, economic reforms of various kinds have been experimented with in all the countries of the Council for Mutual Economic Assistance (CMEA) during the last two decades.¹ In the CMEA, the most far-reaching reforms were introduced in Hungary in 1968; its New Economic Mechanism (NEM) is described and evaluated in the previous contribution by Hewett. A center-piece of the NEM is the role assigned to ERs as determinants of the domestic price system and of the level and composition of exports and imports. In recent years, suggestions have also been made by some Hungarian economists and bankers that it would be desirable and feasible to achieve convertibility for the Hungarian currency during the 1980s.

This study describes the role of ERs in Hungary's NEM, clarifies what is meant in Hungary by forint convertibility, and assesses the prospects and implications of convertibility in an economy that remains, essentially, centrally planned. The discussion should illuminate not only the Hungarian experience but also the debates about the role of ERs that are under way throughout Eastern Europe. Observed a Polish economist:

A radical change has occurred in ways of thinking about the role and functioning of the exchange rate in centrally planned economies—a change from complete neglect to a rather universal acceptance of the significance of the issues. [But] general unanimity on the usefulness of the exchange rate instrument is accom-

*This paper is based in part on one section of my larger study, "The Mechanism and Performance of Hungary's Foreign Trade, 1968-1979," which will appear in P. G. Hare, H. K. Radice and N. Swain (eds.), *Hungary: A Decade of Economic Reform* (London: Allen and Unwin, 1981). I would like to acknowledge the helpful critical comments and suggestions of Michael Fratianni, J. M. Montias, and Jozef van Brabant and the editorial assistance of Cathy Sokil. I am solely responsible of course for the views expressed.

¹In this study, the CMEA refers to its European members only: the USSR, Bulgaria, Czechoslovakia, the GDR, Hungary, Poland, and Romania. The CMEA's non-European members are: Mongolia, Vietnam, and Cuba.

panied by a great differentiation of views, theories and opinions about various aspects of the active use of the exchange rate . . . the division lines do not run between the countries, but across the countries; certain issues tend, as a rule, to evoke similar discussions, and divisions of opinion, in several countries ([34], p. 169).

Part I summarizes the principles and implementation of the 1968 price reforms as background for discussing the role of operational ERs in the NEM. Part II describes the mechanism of ER determination and assesses Hungary's experience in light of Eastern and Western theories of ER determination. Part III discusses Hungary's ER policy: the continuing debate about what role ERs should play, why and how the ERs had been adjusted between 1968 and 1980, and the new round of price and ER reforms introduced in 1980. Part IV attempts to sort out the various concepts of convertibility and examines the status, the prospects, and the implications of Hungary achieving convertibility for the forint.

I. PRICE FORMATION UNDER THE NEM

A. Theoretical Considerations

When preparing for the NEM, Hungarian economists began to search for a more objective—but still Marxian—criterion for determining producer (i.e., wholesale) prices to replace the arbitrary “administrative pricing” then prevalent throughout Eastern Europe. According to Marx, the value of a commodity is composed of current labor (measured by employee compensation), labor embodied in materials and in machinery and equipment (the latter measured by depreciation), and surplus value (which goes to the employer in capitalism). The various price formation models proposed by East European economists for a planned economy which does not permit prices to be determined by market forces—a topic that Marx himself did not address in any detail—differ mainly in their methods of allocating “surplus value” (called “surplus product” in socialism):

- (1) In proportion to wages (“value prices”).
- (2) In proportion to the sum of material costs and wages (“cost value prices”).
- (3) In proportion to the amount of fixed and working capital (“production prices”).
- (4) A combination of (1) and (3) (“two-channel prices”).

Because none of these models will generate prices coinciding with relative scarcities, Western economists believe that they cannot be optimum guides to resource allocation.

B. Implementation Upon Launching the NEM

The theoretical basis for Hungary's 1968 price reform for those industrial commodities which were neither exported nor imported in relatively large quantities was—to oversimplify matters greatly—the “production prices” formula. An 8% charge (subsequently reduced to 5%) was levied on assets, the rate of profit was expressed as percentage of the value of assets, and taxes on profits were levied separately on the part allocated to a so-called development fund and on another part

placed into a so-called profit-sharing fund. In fields closely related to foreign trade, Hungary's open economy was to rely on prices determined by supply and demand on the international markets. A key reform of the NEM was the attempt to link Hungarian and foreign prices by (what I would prefer to call) "proxy" exchange rates (ERs), the "proxy" prefix indicating that the ERs are not determined by the demand and supply of forints for current account transactions in the balance of payments (BOP).

Initially, the implementation presented no major difficulties. Exports were accounted for at actual foreign trade prices received, converted to domestic prices at the prevailing proxy ERs. If exports of a commodity to the West or to the CEMA did not yield at least as much forint revenue for the producer as sales to the domestic market, subsidies made up the difference, more or less automatically. On the import side, many goods were purchased simultaneously from socialist and non-socialist markets in which prices differ. One solution to dual-price imports is to use a weighted average price, a system which was heavily used up to 1980. Another solution is to set prices on the basis of where marginal supplies of imports are likely to come from, that is, the Western world market, which is the practice since 1980.

A separate issue is the adjustment of prices in response to changes in accepted price determinants. For instance, how often should changes in world market prices (WMPs) alter the domestic prices of imports? In principle, Hungarian economists wanted more lasting price changes to be mirrored in domestic prices and temporary price fluctuations to be buffered. But the rules for distinguishing one from the other were not clear—a problem that came back to haunt Hungary after the 1974 world market price explosion.*

Because in many areas demand exceeded supply at prevailing prices, and because keeping inflation under control was considered critically important, six types of prices were introduced: *fixed*, *maximum*, *limited* (setting a starting level as well as permissible margins for fluctuations, generally 5–15%), *free*, *minimum* (for selected agricultural commodities), and *guideline* (mainly for services provided by the private sector). But even the nominally free prices of many final products were largely determined by the fixed prices of most raw materials and semi-finished goods. Moreover, on important commodities, a *preliminary notice of intent to change the price* had to be submitted to the Materials and Price Office, which used its considerable clout to "persuade" enterprises to heed its recommendations. Between 1968 and 1979, more than 70% of prices were "administered" in one form or another.

It is not surprising that, under such a mixed system, the profit rates of enterprises varied not only from branch to branch but often from firm to firm in a way that often did not reflect differences in production efficiency. One reason was that the price levels, and therefore the profitability, of industries or firms heavily involved in exports were determined on the basis of international prices; another was that

* This problem is analogous to that faced before 1973 by the International Monetary Fund (IMF) regarding temporary vs. permanent deficits in a member country's BOP. Until 1973, IMF rules stated that temporary deficits should be met by reducing reserves and by borrowing; permanent deficits, by a devaluation. Lack of clear ground rules regarding the definition of temporary vs. permanent disequilibria in the BOP caused many countries to delay ER adjustment until a crisis was reached.

supply-demand relations in the domestic consumer market dictated relatively higher prices, and therefore profits, in some industries.

The architects of the NEM envisioned a consumer price level only 6 to 10% higher than the producer price level. This relationship was maintained for several years after the NEM was introduced. However, the rapidly increasing prices of imports after 1973-74 (neither checked by revaluing the proxy ERs nor allowed to affect retail prices that were subsidized more and more heavily) caused the level of producer prices to become about 4% higher than the consumer price level by the mid-1970s.³

II. SETTING EXCHANGE RATES IN A PLANNED ECONOMY: THEORY AND EVIDENCE

A. How Hungary's Exchange Rates Were Determined in 1968

Two ERs for the forint are used: a *commercial rate*, for all the foreign trade transactions of enterprises; and a *tourist rate* (also called non-commercial ER), for transactions by individuals, such as tourists, and for private remittances of gifts or earnings.⁴

The *commercial* ERs (called foreign trade multipliers until January 1, 1976) introduced in 1968 were calculated separately for dollar and ruble trade according to the formula:

$$ER = \frac{\text{actual exports valued at Hungarian wholesale prices}}{\text{foreign exchange received for the exports}}$$

Export revenues in dollars, i.e., sales to convertible currency (CC) areas, were calculated in prices actually prevailing in Hungary's trade with the industrial West; revenues in rubles (i.e., sales to the CMEA countries)—at contractual prices in CMEA trade, subtracting in each case the direct and indirect costs of foreign trade operations. These calculations yielded approximately the 1968 ERs of 60 forints=\$1.00 and 40 forints=1 ruble. Within the Western currency area, the forint value of the various other currencies was calculated according to their official parities against the dollar; within the CMEA area, a commercial exchange rate is calculated only for the so-called transferable ruble (TR), because by agreement all intra-CMEA commercial transactions are denominated in this clearing currency.

The most important consequence of the Hungarian formula for determining the proxy ERs at average cost is that large subsidies must be granted to many enterprises to generate the volume of exports required to pay for imports (which in a market economy would indicate that, from the point of view of achieving equilibrium in the BOP,

³ In all other CMEA countries the consumer price level is significantly higher than the producer price level (the difference providing revenues to the state budget in the form of turnover taxes). Thus, the share of consumption in net material product is exaggerated. The opposite situation persists in Hungary, where the share of investment is therefore slightly overstated.

⁴ There is also a black market rate for the forint. The supply of forints comes principally from those who wish to buy dollars as a store of value or would like to have more CC when travelling in the West than is available from official sources; the demand for forints mainly from nonresidents visiting Hungary or wishing to send money to relatives in Hungary and want to obtain forints at a better price than the official tourist ER. In 1968 the black market ER devalued the tourist forint by close to 100%; in recent years the gap between the black market and tourist ERs has narrowed. For a detailed explanation of developments affecting the currency black market and the average rates quoted each month, see [33.]

the currency is overvalued); many other enterprises of course must reap profits, which may be taxed. Granting large subsidies conflicts with one of the main objectives of the NEM, namely, efficiency. Enterprises producing for exports become much more interested in bargaining with their superiors about subsidies than in reducing costs or increasing profits by improving the product or their marketing efforts, a practice that is also of course widespread in many Western countries.

Tourist ERs, reportedly calculated to approximate the purchasing power of the forint at the retail level, were set in 1968 at 30 forints = \$1.00 and 13 forints = 1.00 ruble. These rates have been revised periodically; as of July 1979, 20 forints = \$1.00 and 16 forints = 1.00 ruble [13].

B. Why the Large Discrepancy Between the Commercial and Tourist Rates?

The significantly greater "purchasing power" of the tourist forint than the commercial forint can be traced to several sources. It should be noted, first, that the commodity coverage underlying commercial ERs is different than that of the tourist ER. But the most important reason for the difference is the large subsidization of many consumer items—more generally, the Hungarian system of internal taxation and subsidization. In most countries, the retail price level is considerably higher than the wholesale price level, accommodating large distribution costs, substantial retail markups, and steep taxes levied on consumption. In Hungary, by contrast, the *intended* difference between the wholesale and retail price levels (when the NEM was introduced) was only 6 to 10%; and even that small difference disappeared by the mid-1970s. Until recently, a large part of net social income, i.e., budget revenues in the form of taxes and other levies, was financed by levies on producers, in contrast to the international practice of primarily levying taxes on personal income or consumption. After the 1973–74 price rises on the world market, which were allowed to be reflected to a certain degree in wholesale prices but to a lesser degree only (until 1979) in retail prices, the consumer price level actually became lower than the wholesale price level, a situation unique among the CMEA countries and possibly among countries anywhere in the world. Because the government subsidized heavily those consumer items—food, restaurant meals, gasoline, public transportation and entertainment—on which tourists tend to spend money, millions of foreign tourists visiting Hungary each year were being subsidized, to the tune of about 1.6 billion forints in 1978, about 0.3% of national income.

Other reasons for the large difference between the two ERs include Western discrimination against Hungarian goods and poor marketing by Hungarian exporters, both of which depress the dollar prices obtained by Hungary. A further reason is that many products manufactured in Hungary are not in strong demand in the West, so the export of these products must be "pushed" by offering it at a very attractive price.

The further development of the country's monetary system requires the unification of the two ERs—a stated objective of Hungary's economic policy for the 1980s—which would facilitate decisionmaking by simplifying the measurement of expenses, incomes, and profitability

at the macro- and micro-economic levels. A precondition for creating a uniform ER is changing the price and taxation systems:

Our prevailing two-tier system of ERs reflects the present mechanism, under which a considerable part of net social income (i.e., taxation) is built into producer prices. This, however, makes the producer price level higher than that abroad. If we wish to take steps towards a uniform ER, more of net social income will have to be transferred from taxes imposed on the production process into taxes levied in the sphere of consumption [11].

Several important steps were taken in this direction during 1979-80, as described in Part III C.

C. Theories of Determining Equilibrium Exchange Rates

How should a country like Hungary, which does not have a convertible currency but wants to establish ERs to guide its economic decisions and possibly introduce a limited convertibility, go about setting a "correct" ER? A review of the CMEA and Western literature (the latter focusing on market-type economies) reveals no consensus. Two approaches, however, seem to dominate the theoretical discussion: Trzeciakowski's model in the CMEA and the purchasing power parity (PPP) doctrine in the West. Below we sketch both of these models and attempt to contrast them with the actual situation in Hungary.

1. TRZECIAKOWSKI'S MODEL AND HUNGARIAN REALITY

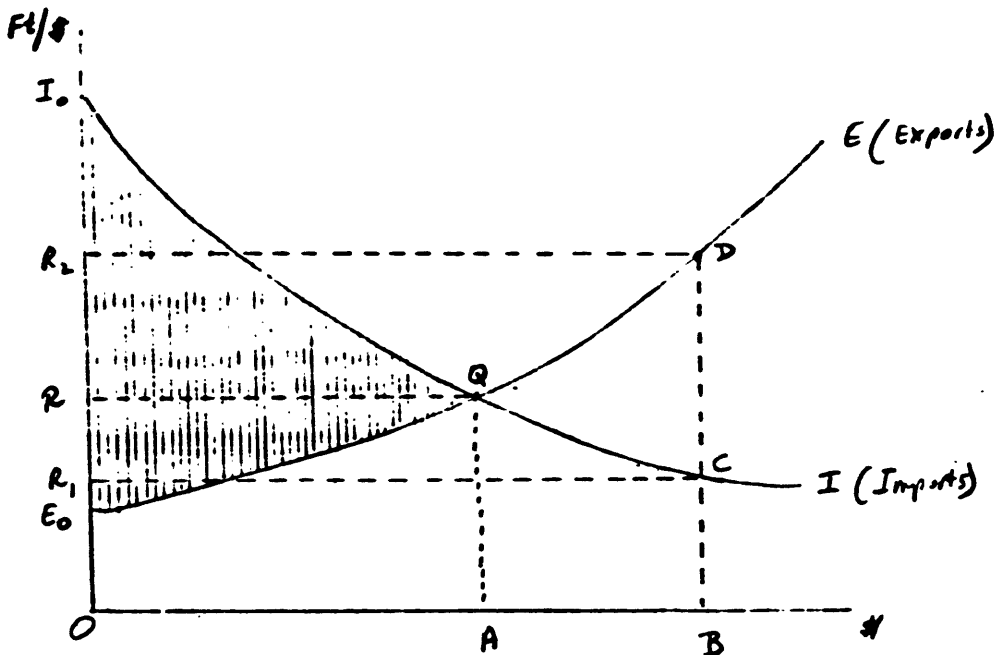
In Eastern Europe, the conceptualization of how equilibrium ERs can be determined in a planned economy is associated with the work of Polish economist Witold Trzeciakowski ([38] and [39]). Diagram 1 depicts his model.

After ranking potential exports according to the increasing domestic cost of earning a dollar and potential imports according to the decreasing number of forints that can be saved (by forgoing domestic production) by each additional dollar's worth of imports, the equilibrium ER is determined. The line E_0E in Diagram 1 shows the increasing forint cost of earning a unit of foreign exchange as exports expand; I_0I the decreasing number of forints saved as imports rise. The value of exports, imports, and the ER are simultaneously determined. It pays to increase trade as long as the forint marginal cost of exports does not exceed the forint marginal revenue "earned" via imports. On diagram 1, this point is Q, the equilibrium ER is R. At Q, exports = imports at OA level. Gains from trade are shown by the shaded area E_0QI_0 ; the E_0QR portion of the gain is realized by the exporters, the RQI_0 portion by the consumers of imports.

What was the actual situation in Hungary after the NEM was introduced? While the ER was *nominally* the same for exporters and importers, the system of enterprise- and commodity-specific subsidies and taxes brought about *de facto* multiple ERs. The combination of large subsidies on many exports and imports (exceeding the taxes levied on other exports and imports) created a situation in which the *de facto* ER was higher (more forints/\$) in exports than in imports. In terms of Diagram 1, some enterprises received a *de facto* ER of R, in exports

and R_1 in imports. But the R_2 ER—which in an economy with a uniform ER and relying on market-type decisionmaking would be expected to bring forth an additional AB amount of exports—in Hungary yielded less than the AB amount because excess domestic and CMEA demand left too little free capacity and because enterprises had inadequate flexibility and incentives to produce the additional exports. Not so in imports. The R_1 *de facto* ER did result in something like an AB volume of additional imports. The outcome was a persistent import surplus financed by foreign borrowing. Higher *de facto* ERs in exports than in imports also increase the propensity to import in order to export. Any enterprise which can import a commodity at a forint cost calculated at R_1 and reexport it (directly or after some minimum transformation) at a forint revenue calculated at R_2 can make a CD amount of “legitimate” profit. Judging from complaints in the Hungarian press that the dollar revenues of some exports hardly cover (in some cases exceed) the dollar import content embodied in the export, the problem is a real and serious one.

DIAGRAM 1.—Determination of equilibrium exports, imports, and exchange rate



A highly differentiated system of export subsidies means that different exporters face different *de facto* ERs along the E_0E curve, as depicted in Diagram 2.⁵

Diagram 2 shows that for enterprises whose forint cost of earning \$1 is in the OV_2 range, the effective ER is R_1 ; for enterprises with costs in the V_2V_4 range, R_2 ; in the V_4V_6 range, R_3 ; in the V_6V_{n+1} range, R_n (n is defined as that *de facto* highest-cost exports, corresponding to an implicit R_n ER which planners still support as they try to alleviate pressures on the hard-currency BOP). Since each enterprise exports

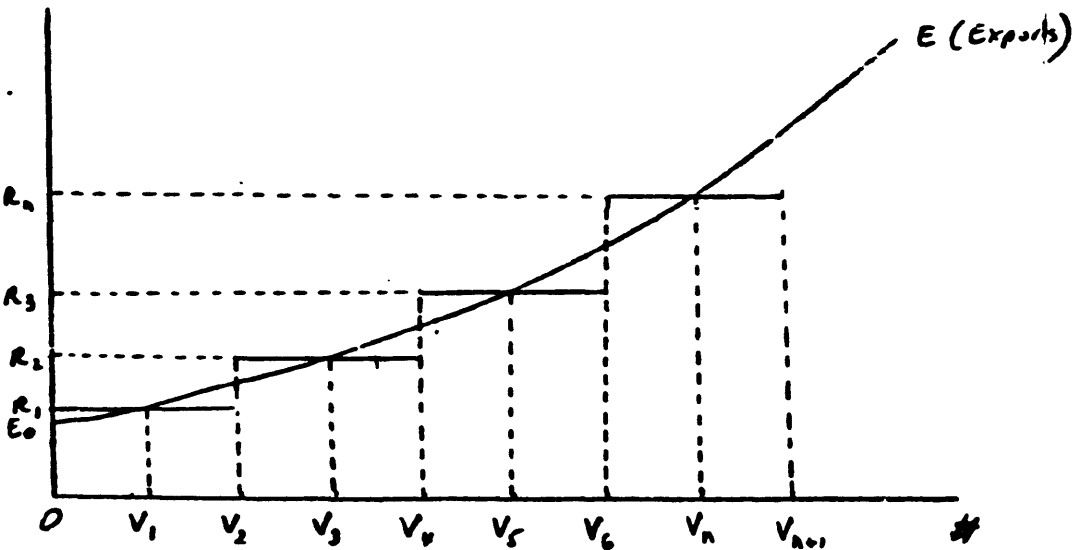
⁵ The presentation is based on [1].

only if his cost of production (including a minimum profit) is covered by his export proceeds (including subsidies) in forints, Hungary's total exports (V_e) can be derived as:

$$V_e = 0V_1 + V_2V_2 + V_4V_3 + V_6V_n$$

It is clear that this system is unable to generate the optimum volume of exports. One group of enterprises will not exploit the relatively low-cost V_1V_2 export opportunities while other enterprises find the higher-cost V_2V_3 exports profitable, and so on down the line. Perhaps the most serious adverse consequence of this system is a fossilization of the export structure [1]. *De facto* multiple ERs hinder the improvement in export efficiency that would result from a combination of uniform exchange rates, some excess capacity, increased flexibility of resource transfer among enterprises, and greater pressures as well as incentives for finding profitable exports.

DIAGRAM 2.—Multiple exchange rates and exports



One very important further conclusion follows. If rigidities in the export structure are coupled with efforts of the planners to push exports to the West almost regardless of costs, then such a large discrepancy between the actual and the optimal export structure may arise that the average ER (calculated as the average forint cost of earning a dollar) could be higher than the equilibrium ER (R in Diagram 1), even though the latter is a marginal rate. The more usual case, of course, would be for the equilibrium ER to be higher than the average cost of earning a dollar.

2. THE PURCHASING POWER PARITY (PPP) DOCTRINE

In the West, the most frequently proposed approach to a market-type economy on how to establish (or assess the correctness of existing) ERs is linked to the PPP doctrine. This approach is based on the belief

that the value of a currency is determined fundamentally by the amount of goods and services it can buy in the country of issue ([3], [27], and [32]). The PPP has two variants: *absolute* PPP, which calculates the ratio of price levels between the country in question and another country or group of countries; and *relative* PPP, which focuses on changes in price indices in the home country and in reference country(ies) as compared to a base period. The latter approach can be used only if there is a relatively recent reference period when the ER of the country in question was in approximate equilibrium. (Since in 1968 Hungary has tried to set an operational ER for the first time since the war, there was no such reference period, so the absolute version of the PPP theory is relevant).

The assumption underlying the PPP theory of ER determination is the law of one price: arbitrage assures that prices (brought to a common denominator via ERs) are identical in all countries. This would only hold true, of course, if all countries produced the same goods, all goods were tradable, and there were no transport costs and other impediments to free trade. While it is clear that in the real world these stringent conditions are not satisfied, proponents of the PPP theory argue that deviations from the ideal conditions are not so great as to invalidate the approach. On the other hand, critics of the PPP theory contend that the existence of tariffs and transport costs, and the role that domestic income, and also capital-account transactions in the BOP play in ER determination call into question the validity of the PPP theory of ERs. But the most damaging criticism of the theory is linked to the fact that the ratio of the price level of non-traded to that of traded commodities is not equal across countries—a finding and explanation identified most clearly with the work of Bela Balassa [4], and confirmed in the recently completed International Comparisons Project (ICP) on the purchasing power of currencies and real per capita gross domestic products (GDP) ([24] and [25]), as discussed in the next section.

Even if one were to accept the PPP theory, quantification is difficult. First, there is the question of what should be compared: product prices or factor costs? If the former, should all domestically produced goods be included or tradables only? Should the comparison be based on GDP price levels, wholesale price levels, or retail price levels? If factor costs are to be compared, should they be wage rates, unit labor costs, or unit factor costs? Then there is the problem of choosing the country or countries of comparison. Since each country produces various kinds of tradables in difference proportions, there is an index number problem [27].

D. Purchasing Power Parity and the Exchange Rate in Hungary and in Fifteen Western Countries

One of the key questions investigated by the ICP—a project sponsored by the United Nations and the World Bank—is the relationship between the PPP of currencies and “equilibrium” ERs, which it calculated for 16 countries, including Hungary [24].

The ICP’s methodology for calculating the PPP of a currency is based on direct price comparisons for a standardized classification of

153 final GDP expenditure categories (of these, 110 in "consumption," 38 in "capital formation," and 5 in "government"). In each category the prices of from one to a dozen representative items were obtained. The identification of equivalent representative items in the 16 countries was a focal point of much of the research. Prices for each of the 15 "partner" countries were compared with US prices, always calculating two sets of price indices: one using the partner country's own quantity weights, and another, using US weights. The geometric mean of the two indices was then computed—the so-called Fisher "ideal" index.

Table 1 presents the PPPs of the Hungarian currency in binary comparison with the US, for the three main components of GDP and their principal subdivisions. (PPP refers to the number of forints that have the same purchasing power for the category as the US dollar.)

TABLE 1.—PURCHASING POWER PARITIES OF THE HUNGARIAN CURRENCY IN BINARY COMPARISONS WITH THE UNITED STATES, 1970 DATA

[Forint/dollar]

Category	PPP if calculated using			Per Capita expenditure shares (percent)	
	Hungarian weights	U.S. weights	Fisher ideal	Hungarian	United States
Consumption.....	11.6	19.4	15.0	60.4	68.3
Food, beverages, tobacco.....	17.6	27.0	21.8	21.5	11.8
Clothing, footwear.....	21.7	22.3	22.0	7.0	5.0
Gross rent, fuel.....	9.0	14.1	11.3	4.6	11.8
House furnishings and operations.....	21.5	24.9	23.2	5.0	5.0
Medical care.....	4.1	4.9	4.5	3.5	6.6
Transport and communications.....	15.4	32.0	22.2	3.5	9.3
Recreation and education.....	5.9	13.6	9.0	6.7	10.4
Other.....	12.1	15.0	13.4	8.6	8.4
Capital formation.....	19.3	24.3	21.6	31.8	17.8
Construction.....	16.5	16.7	16.6	18.6	10.4
Producers durables.....	31.7	35.4	33.5	12.3	7.0
Government.....	10.9	13.0	11.9	7.8	13.0
Gross domestic product.....	13.2	19.4	16.0	100.0	100.0

Source: [25], summary binary table 5.5 (p. 180).

The numbers presented in Table 1 are approximations only, as the authors of the ICP stress in the text and in the notes to the tables. (Shortcomings of official Hungarian price statistics on which the ICP calculations are based are also discussed by Alton in Section III of his contribution to this volume.) The results, nevertheless, are interesting and somewhat puzzling. The ICP calculations suggest that in 1970 the PPP of the Hungarian forint in GDP or in consumption was almost twice as high as the purchasing power implied by Hungary's tourist ER, which is also calculated on the basis of the PPP of the forint vis-a-vis West European currencies. My impression from the Hungarian literature and in talking with Hungarian specialists on this topic is that the official tourist ERs value the forint quite realistically. If so, it would be useful to try to reconcile ICP and Hungarian calculations regarding the PPP of the forint.

Be that as it may, the results of binary comparisons cannot be used to establish a cardinal scaling of the PPPs of different currencies because the outcome will depend on the choice of the reference country.

To overcome this problem, the ICP also calculated "international prices," expressed in "international dollars," which were then used as a comparison base instead of the US.⁶ In most cases, the resulting PPPs are close to those obtained in binary comparisons, as shown in Table 2 for Hungary.

TABLE 2.—PURCHASING POWER PARITIES OF THE HUNGARIAN CURRENCY IN BINARY AND IN MULTILATERAL COMPARISONS, 1970 AND 1973

[Fisher Ideal Index]

Category	in binary comparisons with United States (forint/U.S. dollar) 1970	in multilateral comparisons (forint/international dollar)	
		1970	1973
Consumption.....	15.0	13.9	13.0
Investment.....	21.6	21.2	19.7
Government.....	11.9	11.9	9.8
Gross domestic product.....	16.0	15.2	14.3

Source: [25], table 5.5; table 1.8.

What is the relationship between the PPPs and the ERs in other countries? Table 3 presents the "exchange-rate-deviation-index" for 1970 and 1973 for 16 countries (for the US, by definition, the index = 1.0). An exchange-rate-deviation-index greater than 1 means that the calculated PPP of a currency is greater than the purchasing power of the same currency implied by its ER. To illustrate: since Hungary's 1970 (tourist) ER was 30 forints = \$1.00 while the average purchasing power of the Hungarian currency is calculated to be 15.2 forints = \$1.00 international dollar, this yields a deviation index of 1.97 (30:15.2).

TABLE 3.—EXCHANGE-RATE-DEVIATION INDEX: RATIO OF EXCHANGE RATE TO ESTIMATED PURCHASING POWER PARITY FOR 16 COUNTRIES, 1970 AND 1973

Country and ranking in 1970		Country and ranking in 1973	
1. India.....	3.35	1. India.....	3.06
2. Philippines.....	3.11	2. Philippines.....	2.91
3. Colombia.....	2.50	3. Colombia.....	2.51
4. Iran.....	2.42	4. Korea (Republic of).....	2.47
5. Malaysia.....	2.36	5. Kenya.....	2.06
6. Korea (Republic of).....	2.25	6. Iran.....	1.98
7. Kenya.....	2.12	7. Malaysia.....	1.86
8. Hungary.....	1.97	8. Hungary.....	1.72
9. Japan.....	1.49	9. United Kingdom.....	1.29
10. United Kingdom.....	1.39	10. Italy.....	1.15
11. Italy.....	1.37	11. Japan.....	1.06
12. Netherlands.....	1.35	12. Belgium.....	1.01
13. Belgium.....	1.31	13. United States.....	1.00
14. France.....	1.26	14. France.....	.99
15. Germany (Federal Republic).....	1.22	15. Netherlands.....	.96
16. United States.....	1.00	16. Germany (Federal Republic).....	.87

Source: [25], table 1.2 (p. 10).

⁶ The international price for a product is defined as the quantity-weighted average of the category prices observed in each country after the individual observations have been brought to a common denominator by being divided by their respective country PPPs. Thus, an international dollar has the same purchasing power over US gross domestic product (GDP) as a whole as a US dollar, but its purchasing power over individual product categories is different because the latter is determined by the structure of world prices ([25], pp. 6-7).

It should be noted that, in the case of Hungary, the ER used in the ICP is the official tourist rate, not the commercial rate; if the latter were used, Hungary would have had the largest deviation among the countries. But in any event, since Hungary's ERs are not market determined while the ERs of the other countries are set, or at least significantly influenced, by the market, the "foreign-exchange-deviation index" is not particularly meaningful for Hungary. To be sure, even for the other 15 countries it cannot be claimed that the 1970 or 1973 ERs were all equilibrium rates. Nevertheless, the results of the comparison of PPPs and ERs are so unambiguous and striking that they do provide a basis for generalization.

The main finding revealed in Table 3 is the systematic relationship between the PPP estimates and the ER: the exchange-rate-deviation index falls as per capita real GDP rises. This

. . . can be explained in terms of what may be referred to as a "productivity differential" model . . . International trade tends to drive the prices of traded goods, mainly commodities, towards equality in different countries. With equal or nearly equal prices, wages in the traded goods industries in each country will depend upon productivity. Wages established in the traded goods industries within each country will prevail in the country's nontraded goods industries. In nontraded goods industries, however, international productivity differentials tend to be smaller. Consequently, in a high-productivity country high wages lead to high prices of services and other nontraded goods, whereas in a low-productivity country low wages produce low prices. The lower a country's income, the lower will be the prices of its home goods and the greater will be the tendency for exchange rate conversions to underestimate its real income [as compared with PPP conversions] relative to that of richer countries ([25], p. 9).

What conclusions can be reached from the foregoing discussion? A review of the literature and the ICP's empirical calculations show that there is no fixed "formula" which planners can use if they do not wish to let market forces determine the ER. In any event, a discussion of the appropriate *level* of ERs cannot be divorced from the question of what role authorities wish to assign to ERs, a topic discussed in the next section. The foregoing discussion of the PPP theory and the ICP showed, however, that for a medium-developed country like Hungary, an ER which is somewhere near its equilibrium range is likely to value the forint significantly below its PPP *as calculated* by the ICP, i.e., encompassing GDP as a whole rather than tradables only. Moreover, the ICP results for Hungary suggest the need for an explanation of why there is such an unusually large—fourfold—divergence between Hungary's commercial ER and the forint's dollar PPP. A good part of the answer can surely be found in the reasons already mentioned in the earlier discussion on why the large discrepancy between the commercial and tourist rates. Another part of the answer probably lies in the less than optimum structure of Hungarian exports, caused by the system of *de facto* multiple ERs and other shortcomings of the economic system. These kinds of problems, however, are not the exclusive domain of an East European planned economy. In the European Community, for example, the prices of some agricultural commodities can be two or three times higher than the WMP, yet the commodities can still be exported with the aid of huge subsidies.

III. EXCHANGE RATE POLICY IN HUNGARY

A. Debate on the Role of Exchange Rates in the NEM

Before the introduction of the proxy ERs in 1968, long debates centered around whether the calculations should be based on the average or marginal cost of earning a dollar and ruble, respectively. Advocates of the marginal concept wanted an ER based on the domestic cost of earning a unit of foreign exchange in the least economical 10 to 20% of exports that would still be necessary for a BOP equilibrium, given a certain volume of imports. Opposition to the marginal rate cited its potential inflationary effect and noted the considerably lower dollar price level of Hungary's exports as compared to its imports (using world market prices as a comparison base), a result of Hungary's inability to export at fully competitive prices, inadequate marketing efforts, and Western discrimination. Thus, when the proxy ER is determined on the basis of the average forint cost of exports, this already yields an ER that undervalues (in the PPP sense) the forint and thus a relatively high domestic price for imports. The evidence presented in the previous section is consistent with this argument.

A scan of the recent CMEA literature suggests that the debate still continues not only in Hungary but in the other East European countries also. A Polish economist observes:

The question of the desirable level of the exchange rate presents perhaps the best example of an issue leading to similar discussions and controversies in many countries. In each country one may usually find some economists who are proponents of the undervaluation of the domestic currency, in order to create adequate incentives for exports, while some other economists favor, rather, a certain overvaluation of the domestic currency to avoid a disruptive impact of import prices on the general domestic price system. Naturally, each group considers its respective proposal as the one which best fits the requirements of "rational," "realistic" or "equilibrium" exchange rate ([34], p. 189).

A key relevant issue in the debate is price elasticity of export supply and import demand.

There are reasons to believe that the *price elasticity of demand for imports* is low because purchases from abroad predominantly consist of raw materials and intermediate goods essential to production or capital goods essential for technical progress. Moreover, the export supply of such products from CMEA sources is price inelastic. In the case of consumer goods, the retail prices for many products are well insulated from WMPs.

The true *price elasticity of supply for Hungary's manufactured exports* to CC areas is difficult to measure as long as the prevailing economic environment (discussed in considerable detail in the previous contribution by Hewett) makes selling to the domestic or to the CMEA markets so much more attractive to enterprises. During 1976-78, for example, at industrial enterprises the profitability of exporting to the West was the highest, followed by that of sales to the CMEA, and then of sales to the domestic market, where the rate of profit was only about half as compared to CC exports ([12], p. 93). Since during 1976-78 the CC trade deficit had increased considerably, the price elasticity of

the supply of manufactures exports appears to have been low. The key to the *price elasticity of export supply to CC areas* is the level of domestic and CMEA demand. If these were constrained—domestic demand, especially investments, by some combination of tight monetary and fiscal policies and administrative intervention, and CMEA demand by export restrictions—then enterprises would be forced to seek Western buyers and would be able to increase exports. In other words, if domestic and CMEA demand for Hungarian exportables were lower, the price elasticity of export supply to the West would be higher.

Many experts in Hungary and in the West (see, for example [36]), believe that given the economic environment prevailing in Hungary, devaluation of the forint's proxy dollar ER would not improve the CC BOP but would fan inflation. Computer simulations of devaluation have reportedly shown that a 1% depreciation of the forint would increase producer's prices by .8%.

The Head of the Materials and Price Office, Bela Csikos-Nagy, has recently stated that ER policy must: (1) insure the relative stability of the value of the domestic currency, i.e., help protect against imported inflation; (2) correctly inform enterprises involved in foreign commerce about the relative value of foreign currencies; and (3) influence exports and imports to insure a reasonable equilibrium in the BOP [11].

Regarding objective (3), as was just noted, up to now the elasticity conditions were unlikely to be satisfied for a devaluation to improve the BOP. Objective (2) is achieved automatically because the proxy ERs of the forint vis-a-vis currencies in the dollar area are set on the basis of their official parities against the dollar. Achieving objective (1) must therefore be the main focus of ER policy under the NEM. Csikos-Nagy then adds the following interesting point: Any relatively small economy with a significant industrial base relying primarily on imported energy and raw materials which it values at WMPs, has considerable freedom to choose an ER because the ER itself will regulate the level of production costs. In such a situation, the guiding consideration should be that the commercial ER should not diverge too much from the PPP of the currency in the consumption sector (on which the tourist ER is based), to make possible the introduction of a unified ER ([12], pp. 93-94).

Another leading Hungarian expert, Janos Fekete, First Deputy President of the Hungarian National Bank, agrees that objective (1) should be the main focus of ER policy:

The forint exchange rates of foreign currencies should correctly reflect—individually and in their totality—domestic and foreign price ratios; in other words, they should provide a realistic picture of the relationship between the purchasing power of the forint and that of the foreign currencies, and they should adequately keep up with changes in this relationship, thus ensuring the stability of the value of the forint ([15], p. 58).

To help protect against imported inflation, the proxy ER must be modified whenever the WMP level for the relevant basket of goods and services changes. Of course, this does not mean that relative prices should be stable, for that would distort production and consumption decisions.

B. Changes in Exchange Rates, 1968-80

Table 4 presents changes since 1968 in Hungary's commercial and noncommercial ERs; Table 5 the price levels of Hungary's dollar exports and imports and the extent of the "commercial forint's" appreciation.

TABLE 4.—HUNGARY'S COMMERCIAL AND NONCOMMERCIAL EXCHANGE RATES, SELECTED DATES 1968-80

Date	Commercial exchange rates		Noncommercial exchange rates Forint/U.S. dollar	Difference between Forint/U.S. dollar commercial versus noncommercial ER (percent)
	Forint/U.S. dollar	Forint/transferrable ruble		
Jan. 1, 1968	60.00	40.00	30.00	100
1969				
1970				
1971				
Dec. 23, 1972	55.26			
1973				
1974				
Mar. 1, 1975	49.74			
Jan. 1, 1976	41.30	35.00		
1977				
Jan. 1, 1978	39.80	33.50		
Nov. 1, 1978	37.45	32.00		
Jan. 1, 1979	35.58			
Feb. 14, 1979			17.79	100
Feb. 15, 1979			20.33	75
Jan. 1, 1980	34.00	28.00	20.36	67
Mar. 1, 1980	31.93		20.38	57

Source: [18], pp. 7 and 10.

TABLE 5.—PRICE INDICES OF HUNGARY'S DOLLAR IMPORTS AND EXPORTS AND THE EXTENT OF THE FORINT'S APPRECIATION, 1968-80

Year	Price indices in dollar trade, ¹ 1970=100		Percent revaluation of the forint since 1968 (cumulative)		
	Imports	Exports	Against a basket of convertible currencies ²	Against the U.S. dollar	Against the transferrable ruble (TR)
1968			(0)		0
1969			(0)		0
1970	100.0	100.0	(0)		0
1971	102.2	101.4	(0)		0
1972	113.4	114.0	(0)	15.1	0
1973	152.0	149.1	(0)	15.6	0
1974	217.6	181.9	(0)	19.8	0
1975	232.5	180.9	13.0	26.7	0
1976	217.6	180.6	21.2	30.7	12.5
1977	238.4	190.4	21.8	31.7	12.5
1978	252.5	203.5	23.8	35.2	16.3
1979					
1980					

¹ Price indices calculated in dollar terms reflect actual changes in the foreign trade price level, while price indices computed in forint terms (not shown) combine changes in foreign trade prices and changes in the commercial ER, thus partly offsetting the extent of external inflation by the official forint revaluation.

² The basket reflects the pattern of Hungarian exports.

³ Not available.

⁴ Cumulative changes in value up to the end of 1972, inclusive of a 3 percent across-the-board subsidy on CC exports.

Sources: 1968-1977: [7], table 3 and appendix table 3; 1978 price indices: Hungaropress, Economic Information, no. 5-6-1978, pp. 3-4.

Although after 1971 the forint was revalued periodically to follow the devaluation of the dollar, the appreciation of the forint was much less than the rise in foreign trade prices in dollar terms. By the end

of 1978, prices in dollar (CC) trade more than doubled (rising by 152% in imports and 103% in exports), while the forint was revalued upward only 24% against a basket of CCs and by 35% against the US dollar. Producers' prices were increased slightly in 1973-74 and considerably during 1975-76, but the main impact was on the explosive growth of subsidies from and taxes to the state budget.

The *tourist ERs* are reportedly calculated to approximate the purchasing power of the forint at the retail level, not against U.S. prices, as was shown in Table 1, but against prices of neighboring Western countries, where most of the Western tourists come from. From 1968 until 1979, the ratio between the commercial and tourist ERs was about 2:1; that is, the tourist forint was approximately twice as valuable as the commercial forint. As a result of the 1979 devaluation of the tourist forint and upvaluation of the commercial forint, the ratio changed to about 1.75:1.00; in 1980, the two further upvaluations of the commercial forint has narrowed the ratio to 1.57:1.00.

C. The Price and Exchange Rate Reforms of 1980

Both economic policy and the regulatory mechanism of the NEM were changed as of January 1980 (some changes were introduced in 1979). The fundamental reason for tempering with the NEM was Hungary's deteriorating BOP position, caused by *unfavorable external developments* (deteriorating terms of trade, growing supply difficulties of energy, raw materials, and intermediate products from CMEA sources, and increased resistance on Western markets to Hungary's manufactures and agricultural exports) and *unfavorable domestic developments* (excessive investments, lagging production efficiency, inadequate CC exports orientation). In response to these trends, a new economic policy was introduced, its essence stated by Hungary's Deputy Prime Minister:

In the years to come, the highest priority must be accorded, both by planning and management, to the restoration of the country's foreign trade equilibrium and to a reduction of the country's hard currency loans. Growth, investment, and the objective of living standards policy must, for a time, be subordinated to this task ([23], p. 1).

The key instruments of this new policy are: an *austerity program*, intended to hold down CC imports and stimulate CC exports by reducing the economy's rate of growth; a *price reform*, intended to synchronize enterprise and macroeconomic interests; and certain *changes in the rules and incentives governing enterprise behavior*, intended to re-enforce the other two instruments.

The essence of the price reforms is that, as of January 1, 1980, Hungary moved from a "fixed-price-input cum cost-price-output" to a "competitive pricing" system. Regarding inputs, before 1980, most energy, raw material, and intermediate product prices were set by the state and price changes often did not reflect accurately, or on a timely basis, price changes on the world market because of undue concern about the effect on enterprise profits. As of 1980, the prices of most inputs are determined, and adjusted continuously, on the basis of Western world market prices regardless of the actual source or cost of the inputs.

Regarding output, before 1980 most prices were set on a cost-plus basis. Even when the domestic price was fixed or the export price to CC markets variable, state subsidies in effect resulted in cost-plus pricing. As of 1980, the output prices of something like two-thirds of the goods and services produced in the country (agriculture and services being the principal exceptions)—whether sold on the domestic market or exported—are determined by the CC export price. That is, the average price a firm charges on domestic sale cannot exceed the average CC export price it obtains on the same product. If the firm does not export the product, a hypothetical CC export price is set on the basis of comparable products it does export. The intention of course is to prevent enterprises from automatically passing on their costs and to give them incentives to obtain a higher price on CC exports. This new system appears to be an ingenious way of trying to capture the benefits of international competition without actually opening up the economy directly to import competition; it remains to be seen whether it can be effectively administered.

The new pricing system entails a larger role for ERs than they had before 1980 because the level of ERs and changes thereof will now have a major impact on the profitability of enterprises. The new price and enterprise incentive systems are also intended to move gradually toward the “unification” of ERs, in two different meanings of that term. First, by reducing subsidies and taxes relating to exports and imports, the great variability in *de facto* multiple ERs (described in the previous section) will be reduced. Second, the step by step increases in the retail price level, together with reforms in determining wholesale prices, are intended (in part) to re-establish a “two-tier” price level. That in turn makes it possible to adjust the commercial and noncommercial ERs in a way that moves them toward uniformity, as shown in Table 4.

It is the view of many Hungarian economists that if these new set of reforms can be implemented purposefully and without too many exceptions, it will improve the efficiency of the Hungarian economy and the CC trade balance. Enterprises will be forced to economize on inputs, seek new opportunities and better prices for CC exports, and become more efficient and market oriented. But in the view of some other economists, the theoretical basis of the new price system remains controversial. This is because the price system still involves large—and in the final analysis arbitrary—taxes and subsidies on production (as opposed to shifting more taxes to consumption). The result is that the differentiated fiscal burdens placed on enterprises continue to hide the real foreign trade competitiveness of branches and products. This issue is an important problem of course also in those market economies where the government subsidizes and taxes on a large scale enterprises in the various stages of production.

IV. FORINT CONVERTIBILITY: CURRENT STATUS, FUTURE PROSPECTS

A. Conceptualization

What is the meaning of currency convertibility for any country? *Absolute convertibility* requires that every physical or juridical person, resident or nonresident of a country, be free to obtain, convert, and

carry in or transfer from abroad balances in domestic or in a foreign currency, for any purpose. Absolute convertibility also requires that there be no major trade restrictions, such as licenses, unusually high tariffs, quotas, nontariff barriers, and bilateral agreements. Absolute convertibility has not been achieved by any country in the postwar period, although the US, Canada, and some West European countries have come close to it. Much of the rest of the world is comprised of countries with various *degrees of convertibility*.

The IMF's definition of convertibility only requires that there be no restrictions on the use of currency balances acquired by *nonresidents* in connection with *current-account transactions* in the BOP (i.e., trade in goods and services and short-term facilitating credits; payments due as interest or amortization on loans or as depreciation and net income on equity investments; and modest personal remittances for family living expenses).

The concept of convertibility, when used in the West, is understood to encompass both financial and commodity convertibility. That is, if a currency is convertible, its holder has the right not only to convert it into another currency but also to purchase freely (i.e., to import) a wide range of commodities produced in the country which has issued the currency. However, when convertibility is discussed in connection with a CPE, a distinction must be made between financial and commodity convertibility. That is, if a CPE can induce foreigners to hold its currency in response to an attractive financial inducement, plus guarantee of conversion on demand into an agreed Western CC, then the CPE has achieved *external* financial convertibility. Since the foreign holder is not free to command with its deposits goods produced in the issuing country, the currency has no *commodity convertibility*. There is, thus, an essential connection between the introduction of the kind of convertibility one usually understands by that term in the West and extensive reliance on a market mechanism for steering the economy, a point that has also been recognized by some Hungarian economists [41].

It must be noted also that the institutional frameworks in Hungary's commerce with the West and the East are different. Therefore, the forint's convertibility must be defined and assessed separately for transactions: with Western versus CMEA and other planned economy countries; by Hungarian residents (enterprises and the population) versus nonresidents; and involving the current account versus the capital account in the BOP.

B. Convertibility for Hungarians With the West

An important change introduced in the NEM is the abolition of maximum foreign exchange allocations to enterprises. Basically, if a Hungarian *enterprise* has the import license and the forints, the National Bank automatically grants it the necessary foreign exchange. (One result is that Hungarian enterprises no longer push barter business and leasing arrangements just to get around foreign exchange "limits.") Thus, the question of forint convertibility for enterprises depends upon the ease or difficulty of obtaining the import license, since foreign exchange restriction can easily be practiced by way of license

allocations. My understanding is that in periods when the BOP pressures were not too great, obtaining an import license was in many cases almost automatic.

Convertibility for the Hungarian *population* would require the ability to obtain CC freely, for foreign travel, with no distinction between official and black-market rates. By this definition, the forint presently is not convertible, although once every third year a certain amount of CC is available to most citizens. It might be noted, that many Western countries, including the UK until 1979, have similar kinds of foreign exchange restrictions connected with their own citizen's travel. In 1979, 5.1 million Hungarians traveled abroad (number of border crossings); of these, more than 400,000 went to Western countries, obtaining the equivalent of \$85 million in CC ([31], p. 33). Although the number of tourists traveling to the West and the amount of CC available from official sources are smaller than effective demand would dictate in the absence of rationing, the figures are impressive as compared with data of a few years ago. Foreign exchange for travel to other CMEA countries is available, up to 10,000 forints/year (the equivalent of about \$500) practically without restrictions.

With respect to *capital-account transactions*, neither Hungarian enterprises nor individuals enjoy convertibility, fundamentally because engaging in such transactions is prohibited. An important exception relates to joint ventures with foreign partners:

The National Bank of Hungary will transfer abroad, to the extent of the sum paid to the Bank, in favor of the foreign partner the profits and any sums due to the foreign partner in a currency stipulated by the memorandum of association . . . In the case of the withdrawal of the foreign partner, the Bank transfers abroad the foreign partner's share, due in proportion to its contribution, to the extent of the sum paid up to the Bank in the currency stipulated by the contract [9].

C. Convertibility for Western Nonresidents

With respect to current-account transactions, a Western exporter of goods or services or grantor of CC loans to Hungary (or to any other CMEA country) enjoys *de facto financial convertibility* because payment is always in CC. But, as noted by Holzman:

An externally convertible currency is unnecessary for East-West trade. The CEMA nations have almost all of the advantages of a convertible currency when they use dollars and pounds and marks to trade with the West. This is the way more than a hundred western nations, whose currencies do not circulate internationally, trade with each other, and it does make it possible for CEMA countries to trade with the West multilaterally ([21], pp. 66-67).

There is a difference, of course, between Western market-economy nations using dollars and other "vehicle" currencies in international transactions, and planned economies such as Hungary using a CC in East-West trade. The difference lies in the essentially free access for anyone with CC to buy goods and services in a market economy (i.e., commodity convertibility) and the lack of free access in a planned economy. Free access to the Hungarian market would jeopardize the domestic planning system, at least until Hungarian planners succeed in improving market-type decision-making instruments and are willing to rely on such instruments to guide East-West transactions. In any event, it remains to be seen whether such a system could ever be

made compatible with the maintenance of centralized, long-term, quantitative export and import commitments to Hungary's CMEA partners.

Western tourists can exchange CC for forints and purchase goods and services available in Hungary's retail sector without significant restrictions. In 1979, 15.1 million foreign tourists crossed Hungary's borders; of these 2.1 million came from Western countries, spending \$157 million ([31], p. 33). Westerners also may send personal remittances to families in Hungary with ease, at the tourist rate, which is not too unfavorable for the sender.

D. Prospects for Convertibility With the West

Given the current status of the forint, what do Hungarian economists and bankers mean when they talk about achieving convertibility for the forint during the 1980s? Janos Fekete, Hungary's leading spokesman in the international financial community, has elaborated on what I understand is the official position on this matter:

In the event of the introduction of external forint convertibility, we would pay with a convertible forint for those imported goods and services for which before convertibility we were willing to settle in free CC.

For those nonresidents who thus would have the right to ask for payment either in CC or in convertible forint, we would make the creation of convertible-forint deposits advantageous by guaranteeing unconditionally and at any time the conversion of such deposits into CC and by offering attractive interest rates relative to those available on the international financial markets. The introduction of the forint's external convertibility would not mean, however, either free access to CC by Hungarian citizens travelling abroad or free capital mobility . . .

The introduction of a convertible forint would be a spectacular proof of the stability and continuous development of our economy and would improve Hungary's international position and creditworthiness. Convertibility of the forint would make possible to attract foreign capital on advantageous terms ([16], p. 71).

What are the pros and cons of introducing *external financial forint convertibility*? Fekete stresses that this step would help attract foreign capital on advantageous terms and improve Hungary's international creditworthiness. Indeed, if foreigners held forints, they in effect would extend credits to Hungary. One reason they may want to place deposits in forints is that they may not have to pay tax on the interest. The question is whether Hungary could expect to obtain more and cheaper credits this way than by borrowing through other means, such as the Eurocurrency market. If an externally convertible forint (ECF) were created, Hungary would have to hold larger CC reserves than before to satisfy not only the transactions demand for CC but also to guarantee convertibility on demand. If foreigners would be willing to hold more ECF than the additional value of CC reserves required by introducing external convertibility, then additional foreign capital could indeed be attracted [21]. However, the cost of such capital may well be high. One reason is that, given the novelty of the financial instrument and the inherent political risks involved for the creditor (especially in the wake of the precedent set by the U.S. freezing the financial assets of Iran and in the wake of deteriorating East-West relations after Afghanistan), Hungary probably would have to offer to holders of ECFs a higher rate of return—in the form of inter-

est plus guaranteed exchange rates and possibly other inducements—than investors could obtain, say, on the Eurocurrency markets. Another reason is the cost of holding additional reserves required by the convertibility pledge.

To be sure, certain advantages would accrue to Hungary from introducing an ECF. Such a step would give representation to the Hungarian forint among world currencies, which would be a first for a currency of a CMEA country. That would be viewed by the international financial community as a positive step and thus improve Hungary's international creditworthiness, as Fekete suggests. Another benefit might be that, in case Hungary decided to join the IMF, the existence of an ECF might be viewed by the Fund as complying—technically if not substantively—with the IMF's definition of convertibility. (Incidentally, membership in IMF would be an important symbolic commitment of Hungary's movement toward convertibility and would yield other benefits also.)

The introduction of an ECF may also benefit Hungarian enterprises trading in the West. Today, all commercial contracts are concluded in Western currencies so that the Hungarian exporter or importer bears the foreign exchange risk that arises from a possible change in ER between contract and settlement dates. If the forint had external convertibility, commercial contracts could be concluded and payments made in forints, eliminating the ER risk for Hungarian enterprises ([37], pp. 37–38).

E. Convertibility Within the CMEA

Much more important than forint convertibility vis-a-vis Western currencies is the convertibility of intra-CMEA transactions on the current account. Little progress has been made up to now in the area of trade, except for that modest share (8 to 10% for Hungary, according to one source [10]) which is priced at current WMPs and settled in CC. Examining financial integration in the CMEA, a Western expert concluded that integration has been achieved only insofar as trade and credit transactions are conducted in CC [6]. For the remaining transactions, the planning mechanism and the divergent foreign trade prices for identical commodities in intra-CMEA trade force commerce into bilateral channels. Thus, the repayment of any trade surplus is tied to the future ability and willingness of the deficit country to export something to the surplus country. One adverse consequence of bilateralism is a forced reduction of each country's exports to some partners because the potential importer can pay neither with goods nor with a currency desired by the exporter, and because the low (2% or so) interest paid on any surplus is a further disincentive to export. This forces each country to restrict imports from third countries. Another way to avoid becoming a creditor is to increase non-preferred imports, thus reducing the gains from trade. For these reasons, non-convertibility of currencies alters the volume and composition of exports and imports and generally worsens the quality of trade.

Yet, prospects for achieving intra-CMEA convertibility, as defined by the IMF, are poor so long as the majority of the CMEA countries wishes to adhere to a non-Hungarian type economic system and policy.

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ECONOMIC REFORM IN EASTERN EUROPE: HUNGARY AT THE FOREFRONT

By Joseph C. Kramer and John T. Danylyk*

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I. SUMMARY

Faced with increasingly serious economic problems, all the CMEA-member countries of Eastern Europe¹ are planning or have recently adopted measures to reform their centrally planned economies. There is little prospect, however, that current reforms will push East European economic systems significantly in the direction of decentralization and freer play for market forces.

The one exception to this bleak outlook is Hungary. The Hungarians may well succeed in reforming their economy further because the reform program has strong backing in the leadership, the populace can be counted on for a measure of understanding, and the program is being prepared on a foundation of more than a decade's experience with reform.

The Hungarian reform program is ambitious. It includes measures designed to establish a consumer and producer price system that better reflects actual market scarcities. The tax system is to be simplified, while subsidies will be cut and government intervention made less frequent and subject to uniform regulations. In addition, a unified exchange rate and some form of convertible currency are planned, and a more efficient allocation of labor and capital reflecting the new price system and actual enterprise performance will be encouraged.

*Bureau of Intelligence and Research, Department of State. The present contribution is a revision and updating of Mr. Kramer's research report, "Hungary: Preparing a New Effort to Reform the Economy," Aug. 24, 1979.

¹Bulgaria, Czechoslovakia, the German Democratic Republic (GDR), Hungary, Poland, and Romania are members of the Council for Mutual Economic Assistance (CMEA).

Opposition to the side effects of reform—income disparities, job insecurity, and inflation—could grow in the 1980s. In the face of such opposition, the government may have to compromise on its reform principles, as it did some years after the introduction of the New Economic Mechanism in 1968. Even if there is some drawing back from the planned reform program, however, the Hungarian economy in the 1980s probably will become more market-oriented than it is now. The differences between the Hungarian economy and the economies of the other CMEA-member East European countries—which are already significant—should thus become more pronounced in the next decade. Nevertheless, Hungary will retain an essentially socialist—albeit market-socialist—economic system in the 1980s with substantial economic ties to CMEA countries.

While the reform measures are not likely to spur economic growth in the near term, they should help reduce chronic trade deficits and help moderate the persistently excessive demand for investment resources. They should also encourage a more efficient and perhaps faster long-term economic growth. Hungarian reforms probably will increase Hungarian/Western trade and contacts as well as facilitate more meaningful and expanded Hungarian participation in Western institutions.

II. INTRODUCTION: THE EAST EUROPEAN CONTEXT

In the 1950s and 1960s, all of the East European CMEA member countries implemented, or at least designed, economic reform programs to cope with persistent problems of lagging productivity, slack economic growth, and inadequate consumer goods production. The reforms, however, were largely administrative changes within essentially unaltered centrally planned economies.

Moreover, even such modest reforms were actively resisted and blocked by important groups within the leaderships, bureaucracies, and labor organizations of these countries. In the case of Czechoslovakia, Soviet intervention effectively stopped economic reform when Czechoslovak party control appeared to be threatened in the general reform movement of the "Prague Spring." Consequently, Eastern Europe's experimentation with economic reform in this period failed to alter appreciably the inefficient, centrally planned economic systems of the region.

The one exception during this period of failed reforms was Hungary. The New Economic Mechanism, introduced in January 1968, effected an important decentralization of the Hungarian economy during the ensuing decade.

A. Renewed Interest in Reform but Limited Goals

In the early and mid-1970s, the East Europeans seized upon modernization as an alternative solution to their economic problems. "Modernization" in most countries of Eastern Europe, particularly in Poland, took the form of massive increases in imports of Western machinery and other forms of technology. This unprecedented influx of Western technology, made possible by Western loans, did indeed temporarily spur the growth of East European industrial production

and productivity. In the absence of thoroughgoing reforms, however, the East Europeans found it difficult to operate, diffuse, and update imported technology efficiently. Consequently, because the surge in imports was not accompanied by a solution to their systemic problems, which would have spurred exports, the East Europeans now must cope with the large hard currency debts incurred to pay for Western imports.

Faced with increasingly serious economic problems, East European leaders have recently demonstrated a renewed interest in reforming their highly centralized economies.

In *Romania*, in early 1978 President Ceausescu personally pushed through a plan—the result of a study he himself had commissioned—that was designed to decentralize economic decisionmaking and increase the role of credit and incentives in the economy. Thus, Romania's "new economic mechanism" was adopted at the March 1978 plenum of the Romanian Communist Party's Central Committee² and was partially implemented on January 1, 1979.³ A major feature of the reform purportedly is the introduction of workers' self-management.

In *Czechoslovakia*, Finance Minister Ler in 1978 introduced a program of reform experiments in a selected group of enterprises that was designed to increase enterprise involvement in decisionmaking, stimulate exports and innovation, and improve the quality of products. In March 1980, based in part on the "predominantly positive" results of these experiments⁴ but also in recognition of the "urgent necessity" for increased efficiency,⁵ the CPCZ Central Committee Presidium and the CSSR government adopted a joint resolution calling for the implementation of "measures for perfecting the planned national economy management" beginning in 1981.⁶

In *Bulgaria*, party leader Zhivkov in 1979 abolished the Agriculture Ministry and introduced a National Agro-industrial Union to promote reform of the agricultural sector by means of decentralized management, the use of market prices, and the tying of wages to profits. Similar reform are said to be planned for the other sectors of the economy.

In the *GDR*, party leader Honecker placed great emphasis in 1978 on a reorganization of industry into large, vertically integrated combines which are to provide worker incentives and become more responsible for their own operations.

In *Poland*, then Vice Premier Pyka in April 1979 unveiled a plan to remove central controls from many small, regional industrial units to promote better management and efficiency in operations. Perhaps signaling more far reaching reforms, the Polish Party Congress in March 1980 gave a mandate to the Sejm (the Polish parliament) to institute certain economic reforms, including the decentralization of decision-making and the "restoration of real meaning" to wages, prices, and profits.⁷

² *Scintels*, Mar. 28, 1978.

³ Radio Free Europe Research (hereafter RFER), *Romania*/23, Dec. 27, 1979, item 3.

⁴ *Rude Pravo*, Mar. 18, 1980.

⁵ Radio Prague, Mar. 11, 1980.

⁶ *Pravda* (Bratislava), Mar. 7, 1980. Also see RFER, *Czechoslovakia*/8, Mar. 19, 1980, item 1, "Measures Taken to Improve the Economy."

⁷ *Polityka*, Warsaw, Mar. 29, 1980.

The adoption of new reform programs in all the countries over a short period has been spurred by large foreign trade deficits, continuing imbalances in domestic supply and demand, and lagging productivity. That Eastern Europe has turned to reform is a welcome indication that East European leaders are increasingly aware that much of the blame for their current economic problems can be traced to their inflexible, centralized economic systems. Despite the perceived need for reform, however, the new programs have not been designed to alter significantly the command economy model or to increase radically market influences on economic decisions. The general East European policy goal has been to improve the centralized economy to make it function better.

For example, although the *Romanian* reforms were designed to encourage "self-financing" and effect decentralization, no price reforms have been planned, no enterprises have been forced out of business, and the central government continues to establish production and allocation plans to insure that high industrial investment rates are attained. Moreover, toward the end of 1979 it was clear that the application of the new economic mechanism, based on the concept of workers' self-management, had run into difficulty. There still is too much uncertainty over how this concept is to interface with the principle of democratic centralism and the unified management of the economy. According to RFE Research, Romania's "new economic mechanism still remains in the experimental stage, subject to future changes, a fact which will certainly not facilitate its application."⁸ Meanwhile, Ceausescu's call during a meeting of the Central Committee in February 1980 for tighter party control of labor to combat sluggish economic development may be indicative of the practical limitations to economic reforms in a country which remains highly centralized.⁹

The measures announced in March 1980 in *Czechoslovakia* have as their main goal the strengthening of "the role of the plan as the principal instrument for promoting effectiveness, proportionality, and equilibrium in economic development."¹⁰ Accordingly, the five-year plan is to become the basis for planning not only at the central level, but also in the production-economic units and enterprises.¹¹ The orthodoxy of the proposed Czechoslovak reform measures is evident from the acknowledged heavy influence of the Soviet experience (e.g., adoption of *khozraschet*—or self-financing of all activities including investment—and the *Shchekino* method designed to eliminate redundant labor and thereby increase the productivity of labor).¹² Nonetheless, the reform measures also envisage the closing down of inefficient enterprises and the transfer of workers to other employment.¹³ This may prove difficult to implement, however. Similarly, the implementation of an effective, differentiated wage policy—essential if wage incentives are to bear fruit—is recognized as a very sensitive issue.¹⁴

The *GDR* emphasis on large combines appears to be a vast reorganization rather than a thoroughgoing economic reform.

⁸ RFER, Romania/23, Dec. 27, 1979, item 3.

⁹ RFER, Romania/3, Mar. 18, 1980, item 5.

¹⁰ Radio Prague, Mar. 17, 1980.

¹¹ *Ibid.*

¹² *Pravda* (Bratislava), Mar. 18, 1980.

¹³ Radio Prague, Mar. 14, 1980.

¹⁴ *Rude Pravo*, Mar. 5, 1980.

The changes introduced in 1979 in the agricultural sector of *Bulgaria* are largely a reorganization rather than a reform. Meaningful economic reform measures—particularly in the industrial sector—will be difficult to implement given the priority *Bulgaria* continues to place on rapid industrialization.

Planned *Polish* reforms advocated by Pyka were narrow in scope and directed only a very small part of the economy. The bulk of Polish industry is still subject to tight central directives governing material allocations and production, while heavy consumer subsidies and shortages persist. Until the Party Congress in March 1980, Polish officials had maintained that it is unwise to experiment with the economy during times of difficulty; now it appears that the leadership has opted for some genuine economic reforms. According to a recent Polish analysis, only the Sejm can introduce the required changes, however, because their implementation requires extensive legislation. Specifically, fundamental revisions are deemed to be necessary in the laws defining the rights, obligations, and goals of Polish state firms. Similarly, fundamental revisions are necessary at all administrative levels to streamline the system of planning and management. It is conceded, however, that such changes will be both extremely difficult and delicate to carry out.¹⁵

B. The Special Hungarian Position

Hungary has also returned to economic reform as a way to cope with burgeoning economic problems. It is the one CMEA-member East European country, however, where significant systematic changes, beyond what has already been accomplished, are possible. In fact, in contrast to the rest of Eastern Europe, Budapest's new drive to implement extensive reforms is likely to succeed, at least in part, because:

- Party leader Kadar, a large part of the Hungarian leadership, and a supporting cadre of economic technicians are committed to broad economic reforms in principle. The other East European countries have not yet developed a similar consensus behind their reform movements.
- Kadar can count on an important measure of understanding by the Hungarian people for such troublesome side effects of reform as increased differences in income and higher consumer prices. Consumers in other East European countries, in contrast, would not be likely to accept radical changes in the present system of wages and stable prices.
- New Hungarian reforms are based upon a decade of experience with a reasonably successful program of reform. While Budapest has a base on which to build, the other East European countries are, in effect, still at square one regarding economic reform.
- Hungarian reforms are broad in scope and are being extensively prepared, coordinated, and analyzed in public in advance of implementation. The other East European countries generally are implementing piecemeal reforms which may not mesh well with their traditional, centrally planned economies.

¹⁵ *Polityka*, Warsaw, Mar. 29, 1980.

The importance of the current East European reform movement should not, of course, be underestimated. The critical self-examination implicit in reform is certainly a cause for guarded optimism that Eastern Europe will, at some point, confront its systemic economic problems. Thoroughgoing reform would also eventually facilitate an increased interdependence with the West on a more lasting basis than the past pattern of extensive imports of Western goods on credit. For now, however, economic reforms that create a greater role for market forces in Eastern Europe will be adopted—if at all—only slowly. For the 1980s, only the Hungarian reform program currently holds the promise of significant movement toward market-oriented economic systems.

III. THE ORIGIN OF THE HUNGARIAN REFORM MOVEMENT: THE NEW ECONOMIC MECHANISM

The New Economic Mechanism (NEM), introduced in 1968 after much advance preparation, effected a substantial decentralization of economic decisionmaking in Hungary. The NEM reduced central government intervention in the economy at the enterprise level and greatly expanded enterprise control over investment, production, and price decisions. Instead of direct intervention, government control over the economy is now exerted through macroeconomic credit, price, wage, and foreign trade regulators.

The NEM reforms succeeded in making the Hungarian economy function more along the lines of a market economy. Consequently, there now exists a reasonably good balance between the supply of and demand for most goods and services in Hungary, a better balance than in the pre-NEM period. This generally balanced consumer sector is in contrast to the extensive black markets and long consumer lines for luxury and certain food items that plague the economies of the other East European countries.

Despite the improvements in the Hungarian economy fostered by the NEM reforms, both ideological opponents of reform and many industrial workers and managers objected to what they viewed as the serious problems created by the NEM. Many reform opponents, for example, objected to the growing disparity between the wages of unskilled factory workers and the wages of more skilled workers. The wage differences were generated by the NEM-fostered linkage of independent enterprise performance to wages. Many managers and workers also feared that the unprofitable enterprises for which they worked would be put out of business if government subsidies were abolished. Still others objected to private business and farmer "profiteering" fostered by the expanded role of small businessmen outside the socialized sector. Critics claimed that the large profits of the private businessmen were out of place in a communist society.

In response to these objections, the government instituted tighter controls in 1973 over prices and investment, provided new subsidies to unprofitable enterprises, gave across-the-board wage increases to industrial workers, and placed new restrictions and taxes on the private sector.

Another blow to the NEM came from the explosion in world prices for raw materials and energy in 1973-74. Hungary's terms of trade

in dollar-clearing relations deteriorated 15 percent from 1973 to 1974 and a further 7½ percent in 1975. As the Soviets began to link their raw material prices more closely to world prices, Hungary's terms of trade in ruble relations began a steady deterioration; in 1975, they declined 9 percent. Rising import prices helped push Hungary's trade balance strongly into deficit and required domestic price increases. The government sought to cushion the inflationary impact on the economy, however, through greater consumer and producer price subsidies.

The resort to subsidies effectively undercut the plans for a price reform that were part of the original NEM reforms. Moreover, the trade deficits persisted, partly because of government price controls, which stimulated consumption, but also because of the government's failure to control investment demand—another defect in the implementation of the NEM reforms. In many respects, however, the external problems of the Hungarian economy during this period helped pave the way for current reform efforts by convincing many Hungarians that further reform of the system along the lines of the original NEM plan was needed.

Despite the concessions to reform opponents, and partly because of the foreign trade and inflationary pressures of the mid-1970s, a new drive to carry economic reform forward has developed in recent years. In 1976, commissions of economic experts were tasked to draw up reform proposals to deal with the persistent problems of the Hungarian economic system. The economic problems that spurred this renewed interest in reform were caused, in many respects, by the failure of the NEM—despite decentralization—to alter some basic underlying economic conditions in Hungary.

For example, although the original reform plan had called for a revamped price system, price reform was never fully implemented. Both producer and consumer prices continued to be distorted by an array of subsidies and taxes which prevented rational economic decisionmaking. In addition, the subsidies that the government granted to unprofitable enterprises to ease their transition into the new economic system later became permanent features of the system itself. As these and other exceptions to the new rules of the game were granted, the goal of profit-oriented behavior was frustrated by enterprise pressure for special treatment and management attention to the volume—rather than the profitability—of output as the main indicator of success.

The NEM reforms also had never been designed to do away with a substantial government role in determining long-range economic decisions. Even after 1968, the government continued to control directly about half of all investments and retained exclusive power to establish new enterprises and to appoint enterprise managers. The Hungarian economy also continued to be dominated in the post-NEM period by large enterprises which often possessed a monopoly in their products. The only competition permitted in the economy was at the small business level and by means of imports. Imports, however, were usually not permitted to compete directly with domestically produced products—particularly after 1974, when Hungary's terms of trade deteriorated sharply, producing large deficits in both hard currency and CMEA trade.

Because of the brakes applied to the NEM reforms, limitations in the original reforms themselves, and the worsening balance of payments problems in the 1970s, the non-competitive, seller's market remained the dominant influence on Hungarian enterprises. This atmosphere continued to stifle any enterprise incentive to produce quality products or to enter competitive foreign markets.

Hungarian economic reform thus was not permitted to develop as originally envisioned under the NEM. Despite the opposition to the NEM and the concessions made by the government to reform opponents, however, much of the original reform program was preserved.

The most crucial advance associated with the NEM was the greater role for independent enterprise decisionmaking. This broad base of decentralization of economic management provided an important foundation for current reform efforts. Hungarian managers, unlike those in other East European countries, can draw on more than a decade of experience in making operational decisions and generally running their own affairs. In addition, although many distortions persist, the NEM increased the role of market forces, such as prices and profits, to a significant extent. Government intervention was also substantially reduced because of the NEM.

IV. THE CURRENT DRIVE TOWARD REFORM IN HUNGARY

Hungary's commissions of experts, which had been specifically tasked by the government to come up with reform proposals, had, by 1977, designed wide-ranging economic reforms to deal with persistent economic problems. The general thrust of the extensive reform proposals was eventually widely accepted but only after considerable open debate within the party and the government. Indeed, the commission reports probably provided some of the background for Kadar's address to the Central Committee in October 1977. In it, he called for diversified foreign economic relations and a more efficient economic system. In March and April 1978, the government followed up Kadar's address by announcing more detailed decisions calling for an end to consumer and enterprise subsidies and proposing extensive price and tax reforms.

By these actions, Kadar, in effect, rejected the option—which some Hungarian leaders undoubtedly advocated—of increased reliance on a comfortable, non-competitive economic relationship with CMEA that did not require economic reform. The Kadar regime instead embraced a policy, which continues to be followed today, of increased economic involvement with the West based on thoroughgoing economic reform.

The proposed economic reforms are now planned to be largely in place by the start of the next five-year plan in 1981. Although many decisions about the details and timing of the reforms are still open, the government remains committed to extensive reform and has already moved to implement some measures in 1979 and early 1980. At the 12th Hungarian Communist Party Congress in March 1980, Kadar's economic reform policies were reaffirmed. The general outline of the overall reform program follows.

A. Consumer Prices

When the NEM was introduced, in 1968, Hungarian planners estimated that reform of consumer prices—which are both heavily subsidized and heavily taxed—would take 10 to 15 years to implement fully. This timetable was upset in part by large increases in the mid-1970s in the world market prices of Hungarian imports and exportables. The government sought to cushion the impact on the Hungarian consumer of large price increases by increasing subsidies for politically visible consumer items, such as food and certain services. This step had the dual attraction for the government of protecting consumer purchasing power while preserving a popular attraction of a communist economy—low prices for consumer necessities.

To dampen the excessive consumption fostered by low prices for basic goods, the government continued to maintain artificially high prices for consumer durables, such as appliances and cars. The government could defend high durables prices as an effort to discourage conspicuous consumption and thus avoid the political risk of higher food prices.

Table 1 illustrates the pattern of subsidies and taxes on consumer goods and services as of 1977.

TABLE 1.—SIZE OF SUBSIDY OR TAX ON SPECIFIC GOODS AND SERVICES IN HUNGARY, 1977

[As percent of retail price]

Category	Sales tax	Subsidy (generally paid to the wholesaler)
Basic foodstuffs:		
Of which:		
Meat.....		26
Milk.....		16
Cereals.....		66
Fuels (e.g. gasoline).....		38
Services:		
Of which:		
Mass transit.....		117
Home heating, hot water.....		168
Laundry.....		146
Luxury goods.....	38	
Automobiles.....	31	
Clothing.....	5	

Source: "A Contribution to the Theory of the Price Mechanism" by Bela Csikos-Nagy, in "Penzugyi Szemle," No. 8-9, August-September 1978, p. 575.

Despite this pattern of heavy subsidies, the Hungarian Government had actively raised prices for many consumer goods in recent years to keep the subsidies from growing still further. In fact, consumer price increases in Hungary had been much larger, for example, than in the other East European CMEA-member countries, averaging 2 percent in the early 1970s and about 4.5 percent in recent years. The Kadar regime had thereby gained a measure of understanding on the part of Hungarian consumers for a degree of controlled inflation in consumer prices.

The price distortions that remained, however, were a real problem for the government. As a key Hungarian economic official, Csikos-Nagy, recently pointed out:

We cannot use the resources available to us rationally if they are evaluated differently in consumption than they are in production, and differently in production than costs would justify.

An important Hungarian resource that was not being used rationally because of the subsidy system was food. The substantial food subsidies encouraged consumption of meat and grain products, which are important Hungarian exports, including to the developed West.

The commission set up in 1976 to examine problems of the Hungarian price system reported that, as part of an effort to rationalize the entire Hungarian price system, foodstuff prices should increase by 20 percent and services by somewhat less. The commission also recommended that such consumer durables as furniture and appliances should decrease in price. Overall, the commission study recommended consumer price increases of 10 percent as a step toward market-clearing consumer prices.

This consumer price reform program was largely implemented by the government's July 21, 1979, announcement of large-scale price increases to be effective on July 23. Generally consistent with commission proposals, prices for foodstuffs were increased 20 percent, including 50 percent for bread and 30 percent for meat, while fuels and energy prices went up 34 percent. In addition, prices on a broad variety of other goods and services were increased. The government announced that the consumer price index was expected to increase by 9 percent in 1979, about double the rate experienced in recent years. Because consumer prices in the first half of 1979 were already running about 5.8 percent ahead of the first half of 1978, however, the large July increases could well push the index above 9 percent.

Another round of consumer price increases went into effect on January 7, 1980. Overall, the consumer price index is expected to rise about 9 percent in 1980. Consumer prices could climb even higher in response to increases in some producer prices that went into effect on January 1 (e.g., fuel prices were raised by an average of 56 percent and a wide range of other materials rose by an average of 30 percent).¹⁶

Hungarian officials have indicated that some subsidies and taxes cannot be abolished. The government in 1979 indicated that world market prices would apply to only 40 percent of Hungarian consumer goods, primarily because agricultural producers will, for now, continue to be protected from generally lower world market agricultural prices.

The government has also announced that it will continue to subsidize certain socially and politically desirable items, such as cultural events, books, and medical care. At the same time, taxes will likely be preserved on certain goods, such as liquor and cigarettes, in order to restrain socially undesirable consumption. Automobile purchases will also continue to be discouraged in order to hold down gasoline consumption and car imports, while mass transit will continue to be subsidized, although to a somewhat lesser extent than previously.

¹⁶ RFER, Hungary/1, Jan. 22, 1980 and the *Financial Times* (London), Feb. 29, 1980.

The government also wants to increase the share of consumer prices established under the "free" price system to 60 percent of consumer purchases from the current share of 45 percent. Since the introduction of the NEM, Hungary has had a three-tiered price system. A fixed-price category of goods is directly controlled by the government, a semi-free category permits prices to fluctuate within certain limits, and a "free" price category in large part permits prices to be determined by market forces.

Agricultural and raw material prices largely fall under the fixed-price category, as do some key consumer prices, such as transportation. The "free" price category includes most imported and luxury consumer goods as well as the bulk of inter-producer sales and some agricultural produce. The central authorities possess substantial control even over "free" prices, however, through regulations governing cost calculations and profit margins. Central control over raw material prices and wages also indirectly influences the "free" price category.

The increased share of prices over which the government has less direct control will increase the volatility of consumer prices in coming years. In recognition of this fact, a government official in 1979 indicated that the government will only set target ranges for consumer price increases in coming years for its own planning purposes. This is a clear indicator of the government's commitment to more flexible price setting and of the contrast between Hungary and the other socialist countries where consumer prices are closely controlled.

Nevertheless, the government will retain considerable direct influence over prices. A Hungarian official in 1979 pointed out that government price supervision, unjust profit regulations, and procedures calling for advance notification for increases in "free" price categories will be retained. Upon notification, the chairman of the National Price Office can postpone increase for up to three months.

The government apparently does not intend to use its considerable retained powers to hold down consumer prices once the reform-inspired "catch-up" has been accomplished. In the words of a Hungarian official, the government will not let prices "grow old" in the future but, rather, will insure that prices are adjusted continuously to market clearing levels. To carry through on this commitment, the government will have to increase fixed prices regularly and directly while permitting "free" prices to move in response to market pressures.

Kadar has also made it clear that, along with the consumer price reform, the government intends to maintain real consumer incomes in the face of rising prices through appropriate wage increases. At the same time, however, he has made it clear that, with the new wage policies that permit greater differentiation, some consumers may gain while others will lose.

B. Producer Prices and Taxes

Producer prices rationalization, tax reform, and the elimination of enterprise subsidies are also key elements in the proposed reform program. The goal of these reforms is to strengthen "the role of the forint in economic life" by insuring that producer prices more accurately reflect true economic costs. That simply stated objective, how-

ever, is of monumental significance. Under the current system, for example, scarce investment resources cannot be allocated to competing investment projects on the basis of cost-benefit projections because producer prices are distorted by a wide variety of taxes and subsidies. The current system also does not adequately penalize unprofitable enterprises—which are bailed out—or reward profitable ones—whose “windfall profits” are taxed away, in effect to support the unprofitable enterprises.

Another objective of the producer price reform is to improve the Hungarian balance of payments performance. The government wants to expand industrial capacity for exports to the West while encouraging conservation of raw materials which increasingly must be obtained from Western suppliers.

A simplified outline of producer price formation under the current system follows:

Producer price determination

- (a) Material inputs.
- (b) Wages.
- (c) Depreciation of plant and equipment.
- (d) Wage taxes (35 percent, plus a higher tax rate for above-average wage increases).
- (e) Capital assets tax (5 percent of declared value).
- (f) Profit tax (currently 40 percent).
- (g) Other taxes and subsidies (including enterprise-specific or *ad hoc* charges and payments).
- (h) Profit (the general administrative target calls for a 15-percent return on pre-tax wages and capital assets, but actual profit depends to a varying degree on enterprise performance).

Producer prices are determined by calculating the cost of inputs, wages, taxes, subsidies, and depreciation and adding on a profit for the enterprise. Some distortion of producer prices occurs, however, because price setting is closely monitored by the government even when prices are nominally classified as “free.” The government establishes regulations for “fair” profit margins and is sensitive to large price increases. Direct government producer price setting is confined primarily to industrial raw material prices and foodstuffs.

Although the government influences the setting of producer prices, the prime cause of distortion in producer prices is the wide variety of government taxes and subsidies negotiated in detail between the government and individual enterprises. For example, there are more than 50 grounds on which an enterprise can receive government subsidies. Export subsidies are also set in an *ad hoc* fashion for individual products, while “windfall” profits may be subject to a wide variety of taxes. These largely *ad hoc* government interventions, moreover, distort a given enterprise’s output prices and, of course, distort the material input prices of other firms that buy products from the enterprise.

Price distortions enter the system not only via government intervention but also because the prices charged for imported raw materials by government purchasing agencies are subsidized at prevailing exchange rates. The bulk of raw materials consumed by industry, furthermore, is imported.

The government intends to revamp the producer price-setting mechanism by introducing the following reforms:

- The tax system is to be simplified by abolishing the assets tax, reducing wage taxes (from 35 percent to 17 percent), and introducing a straightforward sales tax on final production to make up for lost revenue.

- *Ad hoc* government subsidies and taxes are to be cut drastically. This would reduce producer price distortions, force unprofitable firms to cut capacity, and provide profitable firms with the resources to invest more.

- The government intends to link imported raw material and energy prices more closely to world market prices to encourage conservation. To calculate the price changes, the government initially is using an index based upon 1977 world prices at a slightly devalued exchange rate of 38 forints to the dollar. Presumably, the base year will be progressively adjusted forward to link prices more closely to current world prices. Prices for domestically produced materials and commodities imported from CMEA countries will be adjusted to the world price index despite the lower prices that prevail for imports from CMEA. The government's decision not to use CMEA prices for raw materials imports probably reflects in part a conviction that deliveries of raw materials at world market prices will make up an increasingly larger share of Hungary's imports in the future.

- Producer prices for three-quarters of Hungary's industrial output will be linked to export prices obtainable in the West at prevailing exchange rates. Prices in the construction, transportation, and communications sectors of industry will be formed on a production cost basis as before. Agricultural prices will also be exempt to stimulate domestic producers of some products.

- Enterprise profit margins are to be generally reduced to a target rate of 6 percent, from 15 percent under the old system, in an effort to encourage greater interest in profit generation. In the past, firms have been so liquid that managers paid relatively little attention to cost-cutting measures and special government incentive programs. Heavy enterprise liquidity has also encouraged excessive investment spending, which the government has found difficult to control.

Government officials are actively preparing the way for the reforms by means of widespread publicity and careful test calculations in all enterprises and ministries of the impact of the new price system. The government has also set up an interministerial office, the Committee for Price and Production Circulation, to direct and coordinate the establishment of new producer price and tax regulations. Implementation of the new producer price system is to take place in January 1980. Based upon the extensive calculations, the government in mid-1979 expected a 4-percent drop in the industrial producer price level. This fall in overall prices was to be the result of an expected 8-percent fall in prices for manufactured products (because of lower taxes and cuts in relatively high domestic manufactured goods prices as they are adjusted to world prices), together with a then projected 15-percent increase in raw material prices.

The government expects the fall in prices to squeeze enterprise profits and induce conservation of industrial inputs as firms seek ways to

cut costs. The enterprises should become more interested in cost cutting because it will become more difficult for them to pass on their higher input costs when their sales prices are linked to world market prices.

The cut in producer prices, the current increases in consumer prices, and the reduction in government subsidies will introduce a more rational relationship between producer and consumer prices. Previously, a wide variety of consumer prices were lower than producer prices. Under the new system, this situation will not only be reversed, but the government also plans to introduce a sales tax to replace lost revenues and to provide a new macroeconomic regulator to influence consumer purchasing power.

The government hopes to grant few exceptions to the new producer price regime. It recognizes, however, that many enterprises cannot be expected to adjust to the new system overnight and will require time to fashion new patterns of production. The government thus intends to grant hardpressed enterprises the right to sell at higher prices than would be called for under the new system. Presumably, special export subsidies will also be granted such enterprises for their export sales. The price concessions will be based upon a minimum profitability rate for a branch of industry of 2 percent of the net value of assets. The government will thus guarantee that any branch of industry will be able to earn an average 2-percent return on assets. At the same time, the government will place price ceilings on some products to guarantee that average industrial branch profits do not exceed 15 percent of net assets.

According to Csikos-Nagy of the National Price Office, no decision has yet been made on precisely how to phase out price preferences for enterprises. He foresaw that light industry would operate at a deficit if the 2-percent regulation were not adopted, while the metallurgy and machine industries might bump up against the profit ceilings. According to Csikos-Nagy, one school of thought in Hungary was arguing for a phaseout of price preferences on a set schedule while others felt that the interests of the enterprises should be recognized by linking the phaseout more to enterprise profit performance.

C. Wage and Employment Policy

As in all of the CMEA-member East European economies, there is an excessive demand for labor in Hungary, as one would expect in a system in which the prime goal is the maximization of output in physical volume terms. There is also little risk in striving for the highest volume of output possible because the additional costs will be covered by government subsidies. This resultant excessive demand for labor has led to chronic and inefficient overmanning in Hungarian enterprises. Labor productivity also has probably been reduced—job insecurity does not act as an incentive to improve output.

Even if an enterprise wanted to lay off unproductive workers, however, there are extensive restraints in Hungary on firing employees. In 1976, for example, out of more than 5.5 million employed, only about 7,000 were laid off. Although there is no unemployment compensation, workers can easily find new jobs quickly because of the strong demand for labor. Actually, as the saying in Hungary goes,

Hungary has the best unemployment benefits in the world—they're called salary. (But is this so different from other East European countries?)

The lack of wage differentiation also inhibits labor productivity and an efficient allocation of manpower. The wages of workers in very profitable firms have only marginally exceeded those in unprofitable operations: above-average wage increases are heavily taxed in Hungary while minimum wage increases are guaranteed by the government by means of a wide variety of subsidies for unprofitable enterprises. For example, a Hungarian official recently indicated that enterprises that did not produce any profit in 1978 were still able to increase wages by 8.1 percent while enterprises that produced profits of more than 20 percent increased wages by only 9.3 percent. This tendency toward equality of income also applies between various categories of skilled workers, as was indicated by a recent wage survey in Hungary. According to this survey, unskilled workers on average receive two-thirds of the skilled-worker average wage. The latter, in turn, was only 30 percent less than management salaries.

The government has already introduced some measures to deal with the problems of wages and employment:

The 1½ percent annual wage increase that was previously guaranteed by the government has been abolished.

Annual wage increases above 6 percent, which enterprises find they are able to grant because of cuts in material input or labor costs, are now subject to lower taxes than before. Previously, taxes on increases of from 6 to 9 percent paid from cuts in production costs were taxed at the penalty rate of 100–300 percent. Now the tax rate is 50–100 percent.

The government has preserved, however, the heavily progressive taxes—up to 600 percent—on wage increases of 3 percent or more that are paid from enterprise operating profits, in an effort to hold down aggregate demand and thus reduce Hungary's trade deficit. By focusing its wage reform policy on wage increases paid from more efficient use of inputs and staff cuts, the new wage policy thus satisfies the concerns of both Hungarian reformers and government officials, who are pushing for short-term measures to reduce the balance of payments deficit.

The government's wage policy of seeking a more efficient allocation of labor and greater differentiation in wages will also be promoted by the proposed reform of prices, taxes, subsidies, and foreign trade. Enterprises whose profits increase because of these reforms should be able to pay workers more, increase output, and attract more workers. Loss-making firms should be unable to pay average wage increases and will come under pressure to let redundant workers go.

Such a reallocation of labor resources is already occurring to a limited extent. The highly profitable Gyor Wagon and Machine Works discharged 156 workers in February because the management felt that the workers simply were not needed. According to press reports, the Gyor management intended to let a total of 500–800 workers go in 1979 while achieving a 7–8 percent increase in production. A Hungarian official has also recently indicated that 15 percent of Hungarian enterprises are preparing similar plans in order to free up funds for the larger wage increases now possible for retained workers.

Despite the worker layoffs, the government has repeatedly assured the public of its commitment to full employment. Essentially all workers will be able to find new jobs. This commitment will continue to create a seller's market in Hungary and will remain a serious obstacle to a more complete introduction of economic reforms.

D. Agriculture

Although the agricultural sector was the focus of the earliest decentralizing reforms in Hungary, the distorted Hungarian price system inevitably has impacted on this sector, too. The agricultural cooperatives, for example, receive high government-subsidized prices for their commodities, to stimulate production as well as to compensate for low consumer food prices. The government has also subsidized fertilizer, chemical, and machinery prices to compensate for artificially high industrial producer prices. As part of the new reform measures, the government hopes to cut such subsidies substantially.

According to a Hungarian official, however, agricultural prices will not be included in the producer price reform. Hungarian agriculture would be affected substantially if a price reform linked to world market prices were carried out. According to Hungarian studies, grain producers would receive 30 percent more for their products if world prices were adopted, while fruit and vegetable producers would receive 15 percent less and live animal and meat producers 10 percent less.

A recent Hungarian publication cited two reasons for exempting agriculture from the price reform:

- Countries all over the world routinely protect domestic agriculture from foreign competition. In the European Economic Community, agricultural prices are protected by the Common Agricultural Policy, which enables EC producers to receive, by Hungarian estimates, prices that are 30–70 percent higher than those obtainable on the world market. CMEA has no comparable protectionist agricultural system, but member countries individually help their own producers. Such protectionist systems throughout the world distort world market prices, according to the Hungarians, artificially pushing up grain prices and holding down meat prices as countries favor higher value agricultural production.

- Agriculture is also a vital hard currency export sector for Hungary. To balance its Western trade, Hungary will have to increase agricultural exports substantially. Although Hungary should concentrate on grain production to the detriment of meat production, given current world market prices, the higher value products—such as meat—cannot be given up because Hungary's overall agricultural export earnings would suffer.

The government not only plans to adhere to current agricultural policies, but it also plans price changes that will increase the gap with world market prices for some products. Wholesale agricultural purchase prices will be increased in 1980 by 10 percent, with prices for animals and meat products rising by 13 percent while prices for grains, vegetables, and fruit will increase by 6 percent. These increases will help to offset the higher prices for agricultural equipment and other inputs which the agricultural cooperatives will have to pay after the

price reform. The wholesale price rises are also intended to improve the profitability of Hungary's animal and meat production, which has fallen in recent years.

E. Foreign Trade

The objective of the proposed reform of the Hungarian foreign trade system is to promote a more rational exchange of goods and services by establishing a more uniform subsidy program, a unified exchange rate, and convertible currency and by expanding direct participation in foreign trade by enterprises at the expense of the foreign trade organizations. Foreign trade reforms are of particular importance to the Hungarian economy because trade turnover has for years accounted for nearly half of Hungarian gross domestic product.

Under the current system, foreign trade is hampered by *ad hoc* subsidies, which are determined on the basis of protracted bargaining between the government and individual enterprises. *Ad hoc* subsidies are necessitated by distorted domestic producer prices, which do not permit clear calculations of production costs. Moreover, although prevailing commercial exchange rates are apparently applied to all enterprise foreign trade transactions, the exchange rate is not an equilibrium one.

Given these conditions, it is impossible to calculate the true economic gain from any particular foreign trade transaction. Neither enterprises nor the government can thus determine whether a particular export or import is more or less efficient than the sale or purchase of a product on the domestic market. Indeed, Hungarian officials have complained that they suspect that many Hungarian exports are sold at an economic loss to the country because the low, subsidized price obtained is more than offset by the cost of imports and domestic resources used to produce the exported product. In short, real cost exceeds price.

The foreign trade reform program, which is currently being planned, will abolish the present system of *ad hoc* export subsidies. The government intends to replace the *ad hoc* system with a sales tax rebate scheme for exports similar to the value-added tax (VAT) rebate systems of Western Europe. The sales tax, the introduction of which will be a part of the new reform program, will be rebated to the exporter upon presentation of export documents. The rebate system will greatly simplify the government's subsidy decisions and ameliorate the distorting effects of *ad hoc* subsidies. The government also hopes that this mechanism will be sanctioned by the General Agreement on Tariffs and Trade (GATT), as are the West European VAT-rebate schemes. The approval of GATT would provide Budapest with greater leverage in GATT to level its own complaints against the trade regimes of other GATT members.

Another proposed reform of the foreign trade system is the establishment of a unified rate of exchange for a convertible forint. Currently, there are two exchange rates for the forint: a commercial rate used for all enterprises foreign trade transactions (in 1979, 35.57 forints=\$1), and a non-commercial rate used for individual transactions, such as tourist purchases (in 1979, 20.33 forints=\$1). Ac-

According to Hungarian officials, the non-commercial or tourist exchange rate simply reflects the relatively lower, subsidized domestic prices for consumer goods, especially foodstuffs. The Hungarian explanation for the commercial rate is that it reflects the artificially high prices—because of high taxes and profit margins—for producer goods.

The government intends to close the gap between the dual exchange rate until a unified rate of exchange is achieved. These parity changes would mirror the intended price reforms discussed earlier, through which consumer prices are to increase and producer prices to decrease somewhat.

A Hungarian official indicated in 1979 that no decision had been made regarding the commercial exchange rate that will be used under the new producer price system to be set up in January 1980. He essentially rejected a substantial devaluation of the commercial exchange rate as a measure to help spur Hungary's exports. He stressed that Western demand for Hungary's exports is very price-inelastic and claimed that Hungary's current account deficits in recent years are the result of structural problems that should be addressed through reform rather than exchange rate policies. He further indicated that the government would make its exchange rate decisions primarily with a view toward the effect on import prices and inflation and would be watching import price trends closely during coming months.

According to a 1979 Hungarian publication, the test price calculations currently being conducted in all enterprises are using an exchange rate of 38 forints to \$1. This might indicate that the government is considering only a slight devaluation of the commercial exchange rate.

Partly because of political considerations and partly because the government intends to implement its foreign trade reforms together with the rest of the reform program, no timetable has yet been firmly established. The government has for the past several years been inching its way towards reducing the difference in the two floating exchange rates from a normal maximum of about 100 percent to 75 percent by devaluing the tourist rate while maintaining the commercial rate. Although the two exchange rates had been regularly adjusted by the government in the past to maintain parity probably with a basket of Western currencies, the rates had previously always varied together.

The government has also recently revalued the forint versus the transferable ruble. While Hungary's trade with CMEA countries continues to be largely centrally planned, this revaluation may serve marginally to discourage exports to and encourage imports from CMEA markets—which would help to cut Hungary's trade deficit with the West. A revalued forint would cut enterprise earnings from exports to CMEA markets and encourage sales to Western markets. Larger imports from CMEA countries could also substitute for imports from the West.

Revaluation versus the ruble, at the same time, serves the apparent Hungarian reform objective of providing an incentive to enterprises to enter competitive Western markets while reducing the present bias toward CMEA markets. In addition, revaluation is probably in line with the goal of adopting more realistic rates of exchange.

The 1979 forint/transferable ruble (32 forints=1 TR) and forint/non-commercial ruble (16.22 forints=1R) exchange rates under-

state the value of the ruble at official ruble/dollar exchange rates. Such cross rates probably are not out of line with actual purchasing power parities, however, because the official ruble/dollar rate markedly overstates the value of the ruble. In fact, the government probably plans further revaluations against the ruble. A 1979 Hungarian publication states that the test price calculations being conducted in all Hungarian enterprises are using a modestly revalued forint/transferrable ruble rate (30 forints=1 TR).

Another prospective reform of the foreign trade system is to permit more enterprises to engage directly in foreign trade rather than through the foreign trade organizations (FTOs). In a centrally planned economy, FTOs with a monopoly in the trade of certain products are designed to insulate the economy from the unplanned, market-oriented world market. The separation of enterprises from their foreign trading partners, however, has contributed to a lack of sensitivity on their part to the demands of foreign markets. Reforms that would reduce the role of the FTOs would increase Hungarian enterprises' contact with end-users and would increase their appreciation of market requirements. The FTO monopolies in foreign trade would probably have to be preserved in Hungarian trade with CMEA countries, however, because of the planned nature of those transactions.

V. PROSPECTS FOR IMPLEMENTATION OF THE HUNGARIAN REFORM PROGRAM

Implementing the ambitious Hungarian reform program will not be an easy task. Repeated references by Hungarian officials to delayed or phased introduction of reform measures undoubtedly indicate that increased opposition is already being encountered. There are a number of potentially serious obstacles to a thorough implementation of the economic reforms.

A point of major concern to the regime undoubtedly is the impact on lower skilled workers especially affected by rising prices, greater job insecurity, and more wage differentiation. Although the government intends to coordinate wage increases with price rises, lower paid industrial workers will unavoidably suffer the most. Moreover, pressure on the government to restore or maintain consumer price subsidies will likely grow over time.

The problems of shifting manpower from unprofitable to profitable enterprises also will likely be troublesome. While some successes have already been achieved, such as the staff reduction at Gyor, substantial shifts in employment patterns will be required if the reforms are thoroughly implemented. Increased worker mobility will require more government retraining programs to match workers to new jobs. The dislocations caused by worker layoffs, however, may also spark requests for government subsidies.

Abolishing subsidies to unprofitable and often major enterprises and refusing all requests for further subsidies will be difficult and will require substantial political courage. The government has already indicated that it will replace some subsidies with loans if an enterprise has the potential in the near term to become profitable in the post-reform economic system. In addition, the government has increased

enterprise reserve fund requirements to force enterprises to build a cushion upon which they can rely during the transition into the new price and tax systems. Nevertheless, pressure on the government undoubtedly will be severe to bail out particularly important firms and to transform government loans into permanent subsidies.

Over the near term, Hungarian economic policy will be particularly concerned with cutting Hungary's foreign trade deficit by reducing aggregate demand. While current economic problems could act to clarify the need for reform, the reform program will also be more difficult to implement while the economy is growing much less slowly for the sake of an improved balance of payments. It will be difficult for the government to ask many enterprises and workers, who are already being forced to sacrifice in the name of austerity, to go along with reform program that also hurts their short-term interests.

The important side effects of the reform program—inflation, unemployment, and disparities in incomes—are not consistent with traditional communist economic policies. Some Hungarians could grow disenchanted with reform if such developments became prevalent. The USSR could also become uneasy with the reform program on these same grounds. For now, however, the Soviets apparently welcome any East European efforts to improve the performance of their economies. Soviet commentaries on the Hungarian reforms to date have generally been favorable, albeit careful to stress the continuing socialist character of the Hungarian economy and the maintenance of party control.

In addition to potential reform opposition, the government's continued commitment to full employment and the maintenance of strong trade ties with CMEA-member countries at artificial CMEA prices will hamper the achievement of reform objectives. Many Hungarian enterprises will be able to avoid adapting fully to world market quality and efficiency standards because excessive domestic and CMEA-member demand will provide ready markets for relatively high-priced and low-quality goods. The persistence of a seller's market for many products will thus encourage Hungarian enterprises to retain inefficient production and delay the streamlining and modernization of their operations.

Despite these obstacles, most of the reform program likely will be introduced as planned during the early 1980s. The forces favoring reform in Hungary are strong and have built up considerable momentum in recent years:

- Kadar, the top leadership, and a large cadre of economists and technicians, both in the bureaucracy and in the enterprises, strongly support the reform program and have committed much time, effort, and prestige to insuring that reforms are implemented.
- The Hungarian people have been well-prepared in advance to expect the higher prices and lessened job security that the reform measures will spawn. The government probably can count on a large measure of popular understanding for the reforms because of this preparation and the reservoir of relative good will that the government has with the people. In fact, the labor unions have already come out in favor of some key reform measures, such as the layoff of inefficient workers, albeit with some reservations as to the humanitarian manner of their implementation.

● The detailed technical planning of reform implementation is well-advanced in all Hungarian enterprises and ministries. Hungarian planning is greatly facilitated, moreover, by the decade of Hungarian experience with introducing the NEM reforms and dealing with opposition to those measures.

● Finally, adoption of the Hungarian reform program will likely not be hampered by internal contradictions because Budapest's program has been well coordinated and is broadly based to insure that all the planned changes mesh well.

For these reasons, the reform movement probably cannot be derailed at this late date. To do so would require a substantial and organized opposition which does not now exist in Hungary.

The initial implementation of the reform program, however, probably will be followed by an extended period of adjustment to and consolidation of the new measures. During this period, opposition to reform can be expected to build which may force the government to make exceptions to its reform regulations or even retreat from reform on certain issues. A substantial reaction to the NEM, for example, developed about 5 years after the introduction of that reform program. The same cyclical pattern of reform and reaction may be repeated in the 1980s.

Even if the NEM experience is repeated, however, the Hungarian economy will once again have taken, in effect, two steps toward a more market-oriented economic system for every one taken backward. While the NEM brought decentralized economic decisionmaking, the new reform program will likely succeed in introducing a price system that more closely reflects actual market scarcities, a less disruptive and less interventionist government role in the economy, a more uniform and efficient foreign trade system, and greater labor and capital mobility.

To say that the Hungarian reform program will significantly change the structure of the Hungarian economy in the 1980s toward more market-oriented forms, however, does not mean that Hungary will cease to have a socialist economy. Even if the reforms are implemented as planned, most of Hungarian industry and agriculture will continue to be state-owned. A substantial portion of new investment in Hungary will also still be government-controlled, while all new enterprises will continue to be established only by the government. Competition among Hungarian enterprises will remain minimal. In addition, a large part of Hungarian foreign trade will continue to be conducted on a centrally planned basis with the CMEA-member countries of Eastern Europe.

Hungary thus is not likely to become the first capitalist member of CMEA. Nevertheless, the differences between the Hungarian economy and the centrally planned economies of the other CMEA-member countries of Eastern Europe are already significant. These differences should become more pronounced in the 1980s as Hungarian reforms are adopted and implemented.

VI. LIKELY IMPACT ON ECONOMIC PERFORMANCE IN HUNGARY

The Hungarian reforms will not stimulate faster economic growth in Hungary, at least over the near term. The reform measures are not designed to increase output but, rather, to encourage a more efficient

allocation of resources and thus a more rational structure of production over the long term. This transition to a more efficient and more market-oriented economy, moreover, will likely be accompanied by some disruptions in the labor market as workers are retrained to take on new jobs. Hungarian enterprises will also be forced to change their product lines and market strategies more than has been the norm in the past.

The upcoming period of reform, therefore, will probably be marked by moderate to low economic growth rates in comparison with the relatively high growth in the early 1970s. Current Hungarian external payments imbalances, of course, are also an important factor in forcing a slower rate of economic growth over the next year or two.

Over the longer term, however, the more efficient structure of production encouraged by the reforms should form the foundation for more rapid growth than might otherwise have been possible. The reforms will improve the production structure by facilitating the transfer of capital and labor to enterprises that generate the largest profits based upon the more rational post-reform price system. The heightened role for market forces, which probably will be created by the reforms should also help reduce persistent Hungarian convertible currency current account deficits and excessive investment rates. Both of these problems have plagued the Hungarian economy for several years.

The reform program should help improve Hungary's hard currency balance of payments by:

- Reducing enterprise demand for raw material imports and consumer energy demand through higher prices and by permitting greater retention of enterprise savings from lower material input costs;

- Reducing the consumption of foodstuffs by means of higher prices, thus freeing agricultural commodities for export;

- Stimulating tourism through continued depreciation of the non-commercial exchange rate;

- Reducing the bias toward exports to CMEA markets by permitting greater retention of "windfall" profits—only available from potential sales to the West—and de-emphasizing production volume as a success indicator; and

- Revaluing the exchange rate of the forint versus the ruble, which will tend to discourage exports to CMEA, while devaluing somewhat against the dollar to stimulate exports to the West.

The excessive demands for investment in Hungary may also be brought into better balance by the planned reform program. The reform measures are designed to reduce enterprise liquidity, cut subsidies, and increase enterprise accountability for the risks of investments based upon a more rational price system. These measures probably will force Hungarian enterprises to pay more attention to costs and markets when formulating their investment policies. Firms thus should begin to pursue more selective investment strategies as managers are forced to think twice about their capital goods purchases.

BULGARIA

BULGARIA'S ECONOMY IN THE 1970's: ADJUSTING PRODUCTIVITY TO STRUCTURE

By Marvin R. Jackson*

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I. INTRODUCTION

Bulgaria appears to have failed all major targets set in its Seventh Five-Year Plan for development from 1976 to 1980, except that for investment. Bulgarian leaders have recognized the problem by approving, sequentially, less ambitious annual plans in 1977 and again in 1979. The extent of Bulgaria's failure is made unclear by two contradictory sets of performance indicators. Bulgarian official statistics for 1976-79 suggest a moderate reduction of the country's growth which continues a trend in the official data for 1971-75 compared to 1966-70. American estimates of Bulgarian GNP normally show a lower overall growth rate than the official indicators. However, for 1976-79 there is a sharp disagreement, with growth abruptly decelerating in the GNP estimate. Differences between the two measures focus on the weight and growth of value-added in industry. Normally the Bulgarian estimate weights this sector more heavily than does the GNP measure, a difference found in them also for 1976-79. What is unusual for this period is the very large difference in the two measures of industrial growth. Satisfactory resolution of the conflict on this specific question is hardly possible. It may well be that, taken together, the two estimates give the probable high and low ranges, with actual Bulgarian industrial growth somewhere between.

* Arizona State University.

In any case, the purposes of this paper are to identify the immediate causes of Bulgarian plan failure and to place recent international and CMEA inflations in their Bulgarian context. The former are found, first, in two domestic problems: (1) The failure of agriculture, officially blamed on adverse weather, to even repeat 1976 output levels in the following two or three years; and (2) declining coal output, for reasons yet unclear, when, in fact, the five-year plan projected a rapid growth. Both were decisive in upsetting Bulgarian planners' hopes for meeting the rising cost of critical Soviet imports of energy and materials. The energy consumption plan for 1976-80 was hardly a sign of pessimism for it seems to have projected higher growth rates than in 1971-75. Perhaps planners were influenced by Bulgaria's successful avoiding of adverse terms of trade in 1975, when rising prices for food exports largely offset those for Soviet energy imports. Agriculture's subsequent failure to supply a very large growth in planned food exports forced a substitution of other industrial products, including machinery, in CMEA markets. A sharp decline in Bulgarian terms of trade resulted. In western markets, where the substitution was less possible, Bulgaria accepted a rising hard currency debt. In its turn, failure of the coal industry not only made Soviet supplies more critical, but may have forced a diversion of planned petroleum inputs from the chemical industry to fuel uses.

Altogether, since 1975 Bulgaria has suffered a significant reduction of net domestic supplies available from foreign trade. The reduction has been larger because of growing export surpluses in Bulgaria's trade with LDCs and other CMEA countries. It has been smaller because the Soviet Union accepted a rapidly growing Bulgarian deficit in their trade balance. Bulgaria has also been willing and able, at least through 1978, to increase hard currency debt. A surge of exports to non-socialist markets in 1979 may indicate a change in this factor. Paradoxically, while reduced net domestic supplies from trade have reduced Bulgaria's "accumulation rate", or apparent net investment compared to national income used, fixed capital investment flows have not been reduced. Evidence suggests that both increased depreciation over asset retirement and reduced inventory investment have maintained investment flows. But, even with total investments appearing to match the plan, those directed to agriculture have been reduced below plan levels. Possibly energy adjustments in industry, including coal production, have taken more investment than was planned. Evidence suggests, also, that Bulgarian leaders may have had second thoughts about the efficacy of adding more capital in agriculture, pending current measures to improve the utilization of existing capital.

Bulgarian leaders have responded to problems evident in the economy since 1977 by protecting the continued rapid growth of priority industrial branches, machinery, chemicals, and metallurgy. In doing so, they have accumulated future obligations to the Soviet Union and western banks. As an offset, they probably hope to have gained future material and energy imports from the LDCs. As additional costs, they have delayed investments needed in agriculture and have reduced the growth of domestic consumption. Beyond this, dissatisfaction with the economy's performance has given a new impulse to organizational change, centered on agriculture. In 1978 and 1979 the agro-industrial complexes were changed in size, joined with new units of local adminis-

tration and placed under a new form of management, the National Agro-Industrial Union. Such structural reshuffles are less interesting than yet another New Economic Mechanism applied in agriculture since the beginning of 1979. This NEM, among other possibilities, could increase managerial autonomy in the agro-industrial complexes and introduce more decentralized price-making. Even more interesting is the present extension of NEM principles to the food industry, transportation and both foreign and domestic trade. Reorganization measures coincide with a general reestablishment of Bulgarian prices which is supposed to provide a relatively permanent adjustment of domestic wholesale prices to international prices.

II. BACKGROUND OF THE SEVENTH FIVE-YEAR PLAN

By the early 1970's Bulgaria was already well into a transition from extensive to intensive economic growth. Details of the process from the late 1960's to 1975 have been ably analyzed in Mark Allen's contribution to the 1977 J.E.C. volume and need no repetition here.¹ It remains to cast Bulgaria's position in a comparative context, part of which is found in Table 1. The notable feature of Bulgaria in this light is the evident contrast of its low relative rank in terms of GNP per capita to its rank in terms of several structural indicators. They suggest that Bulgaria entered the transition from extensive to intensive economic growth with a relatively low level of income or productivity per capita.

The GNP comparison in Table 1 is subject to numerous qualifications. One is that Romania's slight edge over Bulgaria in 1975 is not significant. By 1979, there is a more significant gap, \$2739 compared to \$2330, in Romania's favor. In other comparisons of production per capita, Bulgaria and Romania may trade positions, but both remain behind all other countries in the European CMEA group.²

TABLE 1.—COMPARATIVE DEVELOPMENT INDICATORS OF THE EAST EUROPEAN CMEA GROUP, 1975

	Bulgaria	Romania	Hungary	Poland	German Democratic Republic	Czechoslovakia
1. GNP per capita (1975 U.S. dollars).....	2,180	2,200	2,390	2,440	3,650	3,660
2. Urban population (percent).....	53.0	47.5	51.1	55.7	75.4	65.7
3. Labor force distribution (percent).....	100.0	100.0	100.0	100.0	100.0	100.0
Industry and construction.....	41.5	38.7	43.8	39.8	50.9	48.3
Agriculture and forestry.....	28.2	38.1	22.6	30.8	11.1	15.6
Other.....	30.3	23.2	33.6	29.4	38.0	36.1
4. Exports/GNP (percent).....	33.0	13.0	19.5	14.6	19.6	17.0
5. Machinery exports (percent).....	40.7	25.3	37.0	39.1	50.7	48.0
6. Agricultural exports (percent).....	33.7	22.6	25.2	11.5	9.1	7.2
7. Consumer manufactures exports (percent).....	10.3	16.1	20.3	14.6	15.6	18.2
8. Fuels, metals and minerals imports (percent).....	33.5	38.2	27.3	30.0	30.5	27.8
9. CMEA share in total trade (percent).....	76.6	39.2	54.3	50.2	63.9	67.8
10. Energy imports/consumption (percent).....	65.2	15.4	53.7	16.0	34.3	33.3

Source: (1) Thad P. Alton, "Comparative Structure and Growth of Economic Activity in Eastern Europe," in Joint Economic Committee Print, "East European Economies Post Helsinki," (Washington, D.C.: August 1977), p. 224 (hereafter referred to as JEC-1977). (4) Exports in local devisa units converted to U.S. dollars at official rates. (10) From data in coal equivalents; UN, "World Energy Supplies 1973-1978" (New York, 1979), pp. 38-9. (3, 5-9) Sovet ekonomicheskoi vzaimopomoshchi, "Statisticheskii ezhegodnik stran-chlenov sveta ekonomii" (Moscow, 1979), pp. 14, 375-80, 441-3. (hereafter referred to as CMEA Yearbook).

¹ Mark Allen, "The Bulgarian Economy in the 1970's," Joint Economic Committee Print, East European Economies Post-Helsinki (Washington, D.C.: August, 1977), pp. 647-97 (hereafter referred to as, JEC-1977).

² See, Thad B. Alton, "Economic Growth and Resource Allocation in Eastern Europe," Joint Economic Committee Print, Reorientation and Commercial Relations of the Economies of Eastern Europe (Washington, D.C.: August 1974), p. 268.

A review of Bulgaria's comparative structure may well begin with its foreign trade, the obvious link through which changes in the international environment impact on the economy. For a centrally planned economy (CPE), Bulgaria's foreign trade dependence is remarkably high, higher than might be attributed to its small size. One source of Bulgaria's trade dependency is a relative poverty of mineral resources which, combined with a policy emphasizing industrial development, has resulted in the highest level of dependence on imported energy within the European CMEA group. Yet, at the same time Bulgaria manages the highest share of machinery in total imports of any CMEA country. On the export side, Bulgaria has maintained agricultural exports (including processed food) at exceptional levels for a CPE. But contrary to expectations, agricultural exports have not hindered, but might have helped Bulgaria to raise the machinery share of its total exports above the shares realized by either Romania, Poland or Hungary.³ Finally, the list of Bulgarian "firsts" is capped by its having trade with other CMEA countries the highest share of total trade of any CMEA member, except Mongolia. Its commitments to the GDR and the USSR have been especially marked.⁴ While import dependence on the latter may suggest a reason for Bulgaria's loyalty to CMEA, it has in the past foregone available options to increase trade with the West.⁵

Bulgaria's trade structure is only slightly more unusual, when matched against other CMEA countries, than are some structural parameters of its domestic economy. At the end of the Second World War, Bulgaria's population was marginally more urbanized than that of Romania. By 1970, its urban share far surpassed Romania's and was higher than in either Poland or Hungary. With movement predominantly the population of prime reproductive years and of working age, the share of urban working-age population in 1970 was nearly 10 percent higher than the average (see, Table 9, below). From 1965 on, urban births exceeded rural births. Average age of the rural population increased rapidly to the point in 1975 when deaths outnumbered births. As expected, rapid urbanization brought a decline in the share of Bulgarian labor in agriculture. Right after the Second World War it was a high 80 per cent. By 1965, it had fallen past Romania's share to just about match Poland's. In 1978, still falling, it moved to within less than three percentage points of Hungary's agricultural labor share.⁶

Evidence so far reviewed leaves little doubt that Bulgaria has shared a propensity common among all CPEs for rapidly shifting resources

³ In 1970, Bulgaria is shown to be the only country, among East European CMEA countries and Yugoslavia, to have had a greater share of agricultural exports than expected, given size and GNP per capita. It was not exceptional in this group in having had a greater than expected share of machinery exports, but ranked considerably above Romania and Yugoslavia and marginally above Hungary. See, Gur Ofer, "Specialization in Agriculture and Trade: Bulgaria and Eastern Europe," in East European Integration and East-West Trade, Paul Marer and John Michael Montias (eds), (Indiana University Press: Bloomington and London, forthcoming), Table 1.

⁴ See, Edward A. Hewitt, "A Gravity Model of CMEA Trade," in Quantitative and Analytical Studies in East-West Economic Relations, Josef C. Brada (ed), (International Development Research Center: Bloomington, Indiana, 1976), p. 9.

⁵ See, J. M. Montias, "Socialist Industrialization and Trade in Manufactures" in Brada, op cit., pp. 22-30.

⁶ In 1967, Bulgaria still had lower levels of urbanization than expected on the basis of its level of GNP per capita. But its urbanization deficit was lower than the deficits shown by Hungary, Romania and Yugoslavia. See, Gur Ofer, "Economizing on Urbanization in Socialist Countries," in International Migration: A Comparative Perspective, Alan A. Brown and Egon Neuberger (eds), (New York, 1977), p. 281.

from agriculture to industry. In such a process, one appropriately asks, what happened to agriculture beyond being diminished in size? Did Bulgaria neglect this sector in the sense of not providing other inputs to complement labor remaining in it? The one evidence reviewed so far suggesting that this was not done, namely that Bulgaria stands out among the CPEs as an exceptional exporter of agricultural products, raises another question. Was its trade success in this area gained by neglecting domestic consumption?

Table 2 provides data relevant for the evaluation of Bulgaria's treatment of agriculture compared to other CMEA countries. The data do not compare inputs to agriculture, but rather the results that would arise from inputs. The table contains calculations of labor productivity (value-added per person) in the main economic sectors relative to total labor productivity in each economy. The column "I-C/A-F" is of special interest. It estimates the ratio of productivity in industry (and construction) to productivity in agriculture (and forestry). Calculations are derived from two different estimates of value-added and labor distribution. Part A is based on official net material product in current prices and labor distributed in the material or productive sectors. Part B is based on American estimates of GNP in constant prices and total labor, including services.

TABLE 2.—CHANGES IN RELATIVE VALUE-ADDED PER PERSON OCCUPIED BY SECTORS IN EASTERN EUROPE
(in percent)

	Industry and construction	Agriculture and forestry	Other	I-C/A-F
A. Ratio of NMP shares in current prices to labor shares in the productive sector:				
Bulgaria:				
1965.....	1.41	0.68	1.28	2.14
1970.....	1.30	.55	1.37	2.36
1975.....	1.22	.66	1.04	1.85
Romania:				
1965.....	2.02	.46	1.40	4.40
1970.....	2.04-1.90	.36-.34	.96-1.21	5.67-5.85
1975.....	1.46	.37	1.52	3.95
Poland:				
1965.....	1.51	.51	1.08	2.96
1970.....	1.49	.44	1.06	3.30
1975.....	1.28	.42	.79	3.05
Hungary:				
1965.....	1.43	.58	.87	2.47
1970.....	1.32	.51	.93	2.59
1975.....	1.34	.55	.71	2.43
Czechoslovakia:				
1965.....	1.32	.52	.68	2.54
1970.....	1.26	.50	.83	2.52
1975.....	1.28	.48	.67	2.67
B. Ratio of GNP shares in constant prices to labor shares:				
Bulgaria:				
1965.....	1.07	.78	1.36	1.37
1975.....	1.01	.80	1.08	1.13
Romania:				
1965.....	1.30	.74	1.30	1.76
1975.....	1.18	.77	1.07	1.53
Poland:				
1965.....	1.10	.76	1.23	1.45
1975.....	1.20	.62	1.12	1.94
Hungary:				
1965.....	.94	.87	1.20	1.08
1975.....	1.00	.85	.98	1.18
Czechoslovakia:				
1965.....	.97	.88	1.12	1.10
1975.....	.90	1.12	.96	.88
German Democratic Republic:				
1965.....	.94	1.04	1.07	.90
1975.....	.96	1.22	.90	.79

Source: (A) "CMEA Yearbook—1974", pp. 46-7, 441-3. (B) Alton, "JEC-1977", pp. 206, 218.

In Part A, Bulgaria stands out as having had the least differences in apparent industrial and agricultural productivity in the three years compared. The contrast with its partner at the low end of the scale of GNP per capita, Romania, suggests a remarkably different relative sectoral emphasis. In Part B, Bulgaria's relatively heavy emphasis on agriculture is diminished. It no longer is seen to have done so more than the two most advanced countries, Czechoslovakia and the GDR. But it keeps an advantage over Romania and Poland, and gains one over Hungary in 1975.

Impressions from Parts A and B differ because different concepts of output are used. Basically Part A shows the results of changes in both relative prices and real productivity. Part B restricts changes to the real category.⁷ Bulgaria is now seen as having placed a relatively high value on agricultural products compared to industrial products, which may have provided relatively higher incentives in agriculture. Still, given its low income level, the evidence hardly suggests a neglect of agriculture, at least compared to other European CMEA countries.

No exact comparison of Bulgaria's per capita consumption with other CMEA countries was calculated or available for this paper. A comparison of Bulgarian and Romanian physical consumption of selected commodities is presented in Table 9 of the following paper on Romania. In 1975, Bulgarians consumed per capita 17 percent more animal food products, 34 percent more fruits and vegetables, 6 percent more vegetable oil, and probably more textiles than did Romanians. Bulgarian stocks of durable goods per capita exceeded those for Romania by wide margins: washing machines—159 percent, refrigerators—81 percent, television sets—36 percent, automobiles—229 percent, and housing space—55 percent. Romanians consumed 11 percent more cereals, potatoes and sugar combined. They had more hospital beds per capita, but fewer doctors. Barring unexpected quality differences, Bulgarian consumption levels in 1975 were clearly higher than those obtained in Romania. Similar consumption indicators are given in the CMEA yearbook for Bulgaria and other CMEA countries (but not for Romania). This evidence suggests that Bulgarian food consumption was lower than for other countries by about the same margin as its per capita GNP in Table I (with Romania excepted). But Bulgarian consumption of animal food products was relatively lower and its stocks of durable consumer goods still lower.⁸ Bulgarian consumption levels appear to correspond more with its relative level of production per capita, or productivity, than with its more advanced structural indicators. Thus, while the Bulgarian economy does not appear advanced in terms of consumption indicators, it has not neglected consumption, given its level of GNP per capita, any more than other CMEA countries might have and clearly less so than has been the case in Romania.

⁷ Part A shows much higher relative productivity in NMP terms for all countries, a result of pricing policy which assigns to industrial products the bulk of turnover taxes and other charges to finance accumulation. If Bulgaria's higher relative prices in agriculture resulted from a mere shift of taxes and other charges, no incentive effect would result. The relative decline of relative agricultural productivity in all countries (except Czechoslovakia) from 1965 to 1970, followed by an improvement from 1970 to 1975, probably reflects a common policy of increasing agricultural prices.

⁸ *Sovet ekonomicheskoi vzaimopomoshchi, Statisticheskii eshegodnik strachlenov soveta ekonomii*, 1973 (Moscow, 1979), pp. 57-61 (hereafter referred to as CMEA Yearbook).

Bulgaria's comparative development pattern may now be considered with a forward focus. Two broad questions may be asked. First, is its present transition from extensive to intensive economic growth hindered or helped by having developed structure ahead of productivity? Second, were special challenges or opportunities posed for Bulgaria because of its comparative development pattern and its transition state by the abrupt changes of the international economic environment since 1974? Seeking answers to both questions will focus the following detailed analysis of Bulgaria's economic experience since 1975.

III. PLAN AND PERFORMANCE, 1976-80

Discussions of the Seventh Five-Year Plan during 1976 emphasized the need for increased efficiency, implying that Bulgaria faced a reduced growth of inputs for production. A growing awareness of constraints was shown by the marginal reduction of major output targets of the final plan, adopted in October, 1976, compared to either the draft plan or the plan directives approved at the 11th Party Congress. However, it is clear that Bulgarian leaders were unwilling, at that time, to accept reduced economic growth. The output side of the plan, as shown in Table 3, essentially demanded a repeat of performance achieved in the previous five years. With lower input targets, growth was to be maintained by significant improvements in efficiency compared to what had been achieved in 1971-75.⁹

TABLE 3.—BULGARIAN 5-YEAR PLANS AND PERFORMANCE (AVERAGE ANNUAL GROWTH)

Indicator ¹	Plan 1971-75	Actual 1971-75	Plan 1976-80	Actual 1976-79 ²
Net material product.....	7.7-8.5	7.8	7.7	6.3
Total labor productivity.....	6.6-7.3	7.7	7.7	(5.0)
Gross industrial output.....	9.2-9.9	9.1	9.2	6.6-6.9
Industrial labor productivity.....	7.6-8.2	6.8	8.4	(6.3)
Gross agricultural output ³	3.2-3.7	2.9	3.7	(2.1)
Agricultural labor productivity ³	5.5	8.6	7.1	(5.9)
Share of accumulation in MNP used (percent).....	26-28	28.7	26	26.5
Total investments—growth ⁴	5.5	7.3	7.1	7.8
Amount (billion leva).....	20.0	21.7	30.7	23.7-24.0
Share of modernization in total investments ⁴	35	24.1	53	42.9
Total foreign trade.....	9.9-10.5	12.0	9.9	(8.3)
Retail trade.....	6.8	7.8	7.0	5.0
Money wages.....	NA	3.4	3.1	(2.4)
Real wages.....	4.0	3.0	NA	NA
Real final income per capita.....	4.6-5.4	5.8	3.7	2.2
Housing:				
State (1,000 units per year).....	NA	20.2	NA	37.2
State and private (1,000 units per year).....	50.0	50.2	84.0	70.5

NA—Not available.

¹ Real increases except for money wages.

² Items in parentheses for 1976-78 only.

³ Growth rates as the average of one 5-year period compared to another, averaged for 5 years.

⁴ Productive sectors.

⁵ 1972-75.

Sources: Plan data, "Rabotnichesko delo," various issues. Actual data through 1978, "Statisticheski godishnik na narodna republika Bulgaria" (hereafter referred to as "Bulgarian year book"), various issues, and "CMEA yearbooks 1979." Data for 1979—REFR, Bulgarian Situation Report/2 Feb. 6, 1980) and "Statisticheski izvestiia" (Sofia; August 1979).

⁹ Some reduction in plan targets came quite late. This is shown in the version of the plan discussed by Prime Minister Stanko Todorov just two days before the final plan was approved. For different versions of the plan, see Rabotnichesko delo, February 23, 1976; July 4, 1976; October 28, 1976; and October 30, 1976. Additional background is found in Allen, op. cit., pp. 645-6.

The plan contained a few notable exceptions to the general rule of reduced inputs and increased efficiency. Total energy consumption was planned to increase more rapidly than in 1971-75 mainly because a rapid growth of energy-consuming industries was planned. Increased efficiency in the case of electric power and fuels was planned.¹⁰ Labor inputs in the nonproductive service sectors would absorb any increase in the labor force (a plan figure for the latter could not be found). Within the productive sector, the plan reduced withdrawal of labor from agriculture to a rate of 3.2 percent per year, compared to an actual reduction of 5.2 percent per year, 1971-75. The plan called for increased growth of investments in agriculture, but a reduced growth of labor productivity, compared to the previous five years. Allocations to the sector reflected a need to shift more output to animal products and a sizable planned increase in food exports.

For the productive sector as a whole, no increase in labor was planned. Hence, the planned increase of NMP was also the increase planned for labor productivity. The latter figure of 7.7 percent just equalled performance in 1971-75. Industry was to absorb only part of labor released from agriculture, with a far larger portion, 92 percent, of its increased output planned from higher labor productivity. Thus Bulgaria hoped for productivity increments as large as planned in other CMEA countries, except Hungary, and much more than the 74 percent achieved in 1971-75.¹¹

The plan set investment growth at rates only slightly below those obtained in 1971-75. Concern with efficiency took the form of planned reductions in unfinished construction and redirections of major investment shares to plant modernization. Plans for intensifying investments were far more ambitious than targets set in the 1971-75 plan (which were not met). Foreign trade plans implied a reduced net flow of domestic supplies and, thus, a major turnaround from conditions during the 1971-75 period. Not only was total trade to grow at reduced rates, but export surpluses were planned for both major currency areas. Clearly, the reduced rate of accumulation in NMP used did not imply a priority for consumption in the plan. It mainly reflected plans for a growing foreign surplus. As noted, investment growth was barely decreased, but planned increases in real wages and real final incomes per capita were reduced compared to growth achieved in 1971-75. Finally, as a comparison of figures for planned money and real wages implies, no increase in consumer prices were planned.

The unfolding of performance after four years of the plan indicates that the only target in it likely to be met is that for investments. Although in 1978 the evident belief of Bulgaria's leadership was that investment plans could not be met. The target was then lowered by 2,000 million leva for the 5 year period.¹² The foreign trade target can be met only if total turnover in real terms averages at least 11 percent growth in 1979 and 1980. As shown in Table 4 other indices are hopelessly below schedule, a fact to which Bulgarian leaders are resigned.

¹⁰ For example, electric power consumed per unit of NMP produced was planned to fall by about 4 percent, whereas it has risen by 2 percent in 1971-75. Fuel used per unit of NMP produced was planned to fall by 9.4 percent (no figure for 1971-75 could be found).

¹¹ For comparisons, see Economic Commission for Europe, *Economic Survey of Europe in 1976*, Part II (New York: 1977), p. 73.

¹² *Rabotnichesko delo*, April 26, 1978.

Table 4 shows each annual plan, including the innovation in 1978 of two-year planning. One year, 1980, shows up twice, as it was projected with 1979, in 1978, and again in 1979 with a plan for 1981.

The main point to be gained from Table 4 is how annual plans reflected a changed outlook after 1975. In 1976 and 1977, plans were set at higher levels than required in the five-year plan except for industry, on target, and investments, below target. By late 1977, the 1978 plan called for moderately lower targets; so did plans for 1979 and 1980, made in late 1978. Between late 1978 and late 1979 events must have occurred to push planner's expectations downward. This is shown clearly by comparison of the two versions of plans for 1980. Lowered expectations are most pronounced for agriculture when annual plans were reduced (to growth targets about on level with the five-year plan requirements). Curiously, as other indicators were adjusted downward, investment targets, initially set a low level, were raised. Again, the marked difference is between 1978, when the five-year plan target was said to be lowered by 2,000 million leva (6.5 percent), and 1979 when relatively high figures were planned for 1980 and 1981.

TABLE 4.—BULGARIAN ANNUAL INDICATORS, 1976-79

	Annual growth (percent)						
	1976	1977	1978	1979	1980 ¹	1980 ²	1981
A. Annual plans:							
Net material product.....	9.0	8.2	6.8	7.0	7.2	5.7	5.5
Labor productivity.....	8.8	8.1	6.7	6.7	7.0	5.4	5.2
Gross industrial output.....	9.2	9.2	7.7	7.8	8.6	6.3	6.1
Labor productivity.....	NA	NA	NA	NA	NA	NA	NA
Gross agricultural output.....	5.0	5.0	4.0	7.0	7.8	3.7	3.1
Labor productivity.....	NA	NA	NA	NA	NA	NA	NA
Total investments (million leva).....	5,629	5,711	5,950	6,100	6,400	7,000	7,400
Total foreign trade.....	NA	NA	11.5	ca 9.1	ca 9.0	7.5	7.0
Retail trade.....	7.8	7.0	4.4	4.1	4.7	4.6	4.6
Money wages.....	NA	NA	-----	2.0	3.3	-----	-----
Real wages.....	NA	NA	NA	NA	NA	NA	NA
Real final income/capita.....	4.8	4.5	3.6	3.2	3.6	3.0	3.1
Housing (1,000 units) ³	54.0	59.0	66.5	NA	NA	NA	NA
Housing (1,000 units) ⁴	NA	75.5	82.6	⁵ (82.5)	-----	79.5	88.4
B. Annual performance:							
Net material product.....	6.5	6.3	5.5	6.5	-----	-----	-----
Labor productivity.....	7.0	7.7	5.4	NA	-----	-----	-----
Gross industrial output.....	6.8	6.8	6.9	⁶ 6.5-7.9	-----	-----	-----
Labor productivity.....	6.3	6.2	6.0	NA	-----	-----	-----
Gross agricultural output.....	4.1	-4.6	4.3	NA	-----	-----	-----
Labor productivity.....	7.7	-3.8	6.5	NA	-----	-----	-----
Total investments.....	5,373	6,143	6,187	⁶ 6-6,300	-----	-----	-----
Total foreign trade.....	5.7	10.1	9.2	NA	-----	-----	-----
Retail trade.....	7.3	3.1	5.2	4.2	-----	-----	-----
Money wages.....	1.0	2.1	4.0	NA	-----	-----	-----
Real wages.....	.8	.4	NA	NA	-----	-----	-----
Real final income/capita.....	4.6	.6	1.5	2.0	-----	-----	-----
Housing (1,000 units) ³	37.2	48.5	34.0	NA	-----	-----	-----
Housing (1,000 units) ⁴	67.6	75.9	67.9	NA	-----	-----	-----
C. Performance as percent of plan:							
Net material product.....	97.7	98.2	98.8	99.5	-----	-----	-----
Labor productivity.....	98.3	98.6	98.8	NA	-----	-----	-----
Gross industrial product.....	97.8	97.8	99.3	(98.8-100.9)	-----	-----	-----
Labor productivity.....	NA	NA	NA	NA	-----	-----	-----
Gross agricultural output.....	99.1	91.9	99.3	NA	-----	-----	-----
Labor productivity.....	NA	NA	NA	NA	-----	-----	-----
Total investments.....	95.4	107.6	104.0	98.4	-----	-----	-----
Total foreign trade.....	NA	NA	NA	NA	-----	-----	-----
Retail trade.....	99.5	96.4	100.8	98.8	-----	-----	-----
Money wages.....	NA	NA	NA	NA	-----	-----	-----
Real wages.....	NA	NA	NA	NA	-----	-----	-----
Real final income/capita.....	98.8	96.3	96.0	96.8	-----	-----	-----
Housing ³	68.9	68.6	51.1	NA	-----	-----	-----
Housing ⁴	NA	108.5	82.2	NA	-----	-----	-----

¹ As planned in 1978.

² As planned in 1979.

³ Excluding private housing.

⁴ Total housing.

⁵ Average for 1979 and 1980.

⁶ Based on conflicting preliminary reports.

Source: Same as table 3.

As seen in Part C of Table 4, annual plans except for agriculture in 1977 were never badly under fulfilled (note that measurement is not based on ratios of actual to planned growth rates, but actual to planned levels of one year compared to the preceding year). As performance declined, annual plans were adjusted downward, below levels called for in 1976. The downward adjustment of the 1978 plan is clearly connected with the poor performance of agriculture in 1977. That year also brought earthquake damage to Bulgaria. Total losses to the economy from natural disasters were said to have amounted to 1,500 million leva.¹³ Agriculture failed to recover 1976 levels in 1978, when hailstorms were said to have destroyed crops on 500,000 hectares, roughly 11–12 percent of cropland.¹⁴ Indications are that 1979 was not an especially good year. Gross agriculture output was reported only in current prices, up 7 percent, with further attributions of serious weather problems during the crop year.¹⁵

IV. MEASUREMENT OF ECONOMIC CHANGE IN BULGARIA

As stated in the introduction, the impact on Bulgarian economic growth of problems encountered during the Seventh Five-Year Plan are seen quite differently in its official statistics and American estimates of Bulgarian GNP. Besides this problem, recent changes in Bulgaria's relative price structure raise other questions of measurement and evaluation.

The conflicting estimates of Bulgarian economic performance are given in Tables 5 and 6. As seen in Table 5, the GNP estimate usually shows less growth than the official NMP indicator, a difference not unique to the Bulgarian case (see the paper by Thad Alton in Part 2). Differences in the aggregate indicators arise in two ways. First, sectoral growth estimates are not the same. In the GNP estimates, Bulgarian agriculture typically grows slightly faster (or declines less), while industry grows considerably more slowly than in official value-added data. Second, as shown in Table 6, the relative weights assigned to sectors are different. Services are added to GNP, thus, reducing the weights of other sectors. In effect, services are given a zero direct weight in NMP.¹⁶ The GNP weights for industry and construction are further reduced and, in effect, partially reassigned to agriculture.¹⁷

The troublesome feature of the two estimates is not that GNP normally shows less growth, as for 1966–70 and 1971–75, but the unusual disparity for 1976–79. In NMP, growth declines moderately in this period compared to 1971–75, continuing a downward trend shown in 1971–75 compared to 1966–70. In GNP, the reduction of growth is abrupt in 1976–79. The source of the problem, as shown clearly in both tables, is a disparity in estimates of value-added growth in industry.

¹³ *Rabotnicheako delo*, December 21, 1977.

¹⁴ *Rabotnicheako delo*, March 6, 1979.

¹⁵ RFER, *Bulgarian Situation Report/12* (February 6, 1980).

¹⁶ Services financed through the state budget influence the weights of other sectors according to the assignment of budget incomes among the other sectors.

¹⁷ Behind this change is the effort in the GNP estimate to weight sectors proportionately to estimated factor costs in them. Official weights for industry and construction appear higher than estimated factor costs because of the disproportionate assignment to them of state budget income (turnover taxes and profit remittances).

If the Bulgarian estimate of industrial growth were applied to the GNP weights, more than half of the difference in the growth of the aggregates, GNP and NMP, would disappear. The remaining difference would approximate the "normal" differences in 1966-70 and 1971-75. Furthermore, there would be no abrupt downturn of GNP growth in 1976-79.

TABLE 5.—BULGARIAN GROWTH INDICATORS—OFFICIAL AND ALTON ESTIMATES
[Average annual growth]¹

	1966-70	1971-75	1976-79 ²
National product:			
National data	8.8	7.8	6.3
Alton associates	5.1	4.7	2.0
			1976-78
Value-added in industry:			
National data	12.5	7.1	9.6
Alton associates	8.6	5.7	3.4
Value-added in agriculture:			
National data	- .9	1.7	³ -4.1
Alton associates .....	.4	2.2	-3.0

¹ Geometric rate.

National data for sectoral value-added in 1979 were unavailable.

² Agriculture and forestry.

Source: Alton data from preliminary communication to the author. National data, see sources to table 3.

TABLE 6.—THE STRUCTURE OF OFFICIAL AND ALTON ESTIMATES OF BULGARIAN NATIONAL PRODUCT

Sectors	1975 weights		1975-78 growth	
	Official	Alton	Official	Alton
Industry	54.0	35.90	131.6	110.4
Construction	9.0	6.26	116.1	109.0
Agriculture and forestry	18.6	25.07	88.1	91.5
Transportation and communications	8.2	9.62	122.4	116.2
Trade	7.2	7.17	97.6	114.4
Other material sectors	2.7	1.92	NA	114.7
Services		14.06		107.5

NA—Not available.

Source: See table 5.

The difference in industrial growth arises out of the differing estimating methods used. While no detail of the Bulgarian method is available, it is believed to be based on deflating output in current prices by an index of industrial prices. The implicit price index for industry, as calculated by the author, is shown in Table 8. Bulgarian industrial prices fell very rapidly from 1973 to 1977, far more than any other sector except trade, a special case to be discussed. A different method of estimating industrial growth in the GNP estimates is justified by a suspicion that the Bulgarian industrial price index, in common with those of other CPE's, overstates price reductions because quality improvements in industrial product flows are overstated.

In the GNP estimate of industrial growth, base year prices are applied to physical output series of individual industrial products. This method may bias growth rates downward. Its possible bias arises from the limited representation of the machinery branch of industry in published physical output series.¹⁸ In rapidly growing countries like Bulgarian and Romania, both growth and product improvement have been concentrated in the machinery branch. If this branch is understated, the industry index will grow more slowly. Thus, while the official data may overstate industrial growth, the GNP estimate possibly understates it.¹⁹

A minor conflict in the two indicators, seen in Table 6, concerns growth of the trade sector. Here, the different growth hardly matters in terms of the aggregates, NMP and GNP. Rather, it is the apparently odd behavior of the trade sector in Bulgarian data that deserves explanation. In the official indices of real value-added, in Table 7, the trade sector, after having been the most rapidly growing sector in the Bulgarian economy, suddenly declined by nearly 30 percent in 1978. Table 8 shows that the trade sector also suffered an implicit price reduction in 1978 of about 6 percent. Altogether value-added in trade fell 542 million leva in 1978, or 3.5 percent of the 1977 NMP in current prices. How is one to explain such a fall when employment in the sector rose about 1.4 percent, sectoral money wages increased 3.8 percent, retail trade rose 3.7 percent in constant prices, and foreign trade, in constant prices, rose 9.2 percent? Behind this apparent paradox lies a different way of treating foreign trade in the NMP accounts. An excess of imports over exports, as measured in domestic prices, adds to value created (or NMP) in the trade sector. Then part of the loss of foreign exchange is charged against the gain.²⁰ In 1978, a rising deficit (see Table 13, below) would have caused foreign exchange losses to be charged against "output" of the foreign trade sector. But, in 1974 and 1975, equal and even larger increases in the foreign trade deficit were not accompanied by a reduction in the trade sector's output. Something else must have happened in 1978. Logic suggests that the Bulgarian foreign trade balance in domestic, or internal prices moved abruptly in a surplus direction. Just why, cannot be answered because Bulgaria publishes no trade balances in domestic prices.²¹

¹⁸ In Bulgaria and the other CPE's large portions of machinery output are reported in value, not physical units, because the physical units are dissimilar and, in any case, make less economic sense.

¹⁹ An interesting test of the GNP method would be to apply it to output of a non-socialist country where heavy emphasis had recently been placed on growth and technological change in the machinery branch of industry. The result might also show less growth than by the method of price deflation.

²⁰ See Franklyn D. Holzman, *Foreign Trade in the Balance of Payments and GNP Accounts of Centrally Planned Economies* (University of Pittsburgh: Pittsburgh, 1978), p. 16.

²¹ Romania, also, had declining value-added indices for its trade sector in the last half of the 1960's. Then, in 1971, the series was no longer published.

TABLE 7.—STRUCTURE AND GROWTH OF NET MATERIAL PRODUCT

Year	Total	Industry	Construction	Agriculture	Forestry	Transportation and communication	Trade	Other
A. Shares in constant prices:								
1970 ¹	100.0	55.3	9.2	16.5	0.7	7.1	8.7	2.5
1971	100.0	51.0	9.3	22.6	.7	7.3	5.8	3.3
1972	100.0	51.1	8.9	22.6	.6	7.4	6.3	3.1
1973	100.0	51.9	9.1	28.7	.6	7.7	7.1	2.9
1974	100.0	54.0	9.0	18.0	.6	8.2	7.5	2.7
1975	100.0	53.5	8.9	18.4	.6	8.3	8.0	2.3
1976	100.0	53.9	8.4	17.7	.5	8.6	8.5	2.5
1977	100.0	55.7	8.9	14.2	.5	8.3	9.9	2.5
1978	100.0	58.1	8.6	13.5	NA	8.3	6.8	NA
1979								
B. Indices in constant prices:²								
1970	93.5							
1971	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1972	107.7	107.9	103.1	107.7	92.3	109.2	117.0	101.2
1973	116.4	118.5	113.9	106.6	98.8	122.8	142.5	102.3
1974	125.2	132.6	121.2	99.7	107.3	140.6	161.9	102.4
1975	136.2	142.9	130.3	110.9	116.7	154.9	187.9	94.9
1976	145.1	153.3	131.1	113.0	104.6	170.9	212.6	109.9
1977	154.3	168.5	147.7	96.0	110.2	175.4	263.4	116.9
1978	164.3	187.2	152.5	97.9	NA	186.9	183.4	NA
1979	175.0							

¹ In 1971 methodology and price base revised.

² Only agriculture is given in the Bulgarian Yearbook in an index with one decimal. Other sector indices are calculated from the total index with 1 decimal and sector shares with one decimal.

NA—Not available.

Source: See table 3.

TABLE 8.—INDICATORS OF RECENT BULGARIAN PRICE CHANGES

Year	Implicit national product price deflators						Trade
	Total	Industry	Construction	Agriculture	Transportation and communication		
1971	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1972	100.3	100.0	100.7	99.4	99.6	103.8	103.8
1973	100.3	98.2	101.0	103.7	98.7	98.0	98.0
1974	100.4	97.8	100.9	109.8	98.5	97.8	97.8
1975	100.6	96.6	100.8	115.1	98.4	98.2	98.2
1976	100.2	94.5	100.8	115.9	98.9	103.4	103.4
1977	96.4	89.5	97.5	118.7	117.2	98.9	98.9
1978	95.5	90.8	97.8	123.9	123.4	92.7	92.7

Year	Export prices	Import prices	Investment prices	State retail prices			Cooperative markets	Deflators	
				Total	Food	Other		Wages	Consumption
1971	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1972	99.6	98.6	100.0	100.0	100.1	99.9	100.5	100.9	100.2
1973	102.5	102.0	100.1	100.1	110.1	99.5	106.8	100.2	100.6
1974	110.0	110.7	100.7	100.7	102.0	99.7	115.1	100.6	101.3
1975	119.5	122.6	100.0	101.0	102.6	99.8	122.3	101.0	101.7
1976	120.8	130.3	101.2	101.2	103.1	99.9	125.2	101.2	102.1
1977	122.3	138.1	99.7	101.6	103.4	100.5	136.1	102.9	103.6
1978	122.0	144.5	102.6	102.6	105.4	102.2	NA	NA	NA

NA—Not available.

Source: UN, "Monthly Bulletin of Statistics" (February, 1980), p. 208, and sources cited in table 3.

The possibility that Bulgaria's trade balance in internal and external prices could have shown different balances is not surprising.²² Table 8 shows the distinctly different movement of internal price levels and external (export and import) prices. Changes in relative internal and external prices are also likely to have taken place.²³ However, current price changes do not affect indices of real NMP by sector. Export and import flows influencing the trade sector are in constant prices. Indicators of the real volume of trade, presented in Table 16 below, show a very large rise in the real import deficit in 1976 and then a large decline (or rising surplus) in 1976, followed by smaller movements in 1977 and 1978. The lack of corresponding changes in the real output index of the trade sector in Table 7 suggests something less explainable was happening.

The movement of relative prices in Table 8 suggest other incongruities in measuring real growth. If relative producer prices of 1978 were used to measure growth from 1971 to 1978, a lower growth rate would result. In fact, Bulgarian wholesale price reforms currently in progress (see below) may shift the weights of subsequent official NMP estimates in this direction. By itself, such a shift will lower the growth rate of future NMP.²⁴ Similar differences may arise in the measurement of changes in real income and consumption. Food prices in state retail trade have obviously been kept below levels of prices in cooperative markets causing a growing disequilibrium between the two sources of food. In addition, rising producer prices in agriculture imply the necessity of state budget subsidies to finance deliveries of food products to the state trade network. Another disequilibrium appears in the virtually constant prices of nonfood products in state retail trade compared to the rising unit value indices of consumer manufactures in foreign trade. By 1976, the export price index was up 58 percent compared to 1970, while the import price index increased even more, nearly 120 percent, in the same period. In November, 1979, Bulgaria finally moved to decrease both instances of disequilibrium and budget subsidies by significant consumer price increases.²⁵ With both wholesale and consumer price changes, measuring real economic change in Bulgaria will become even more difficult.

V. LABOR RESOURCES AND INCOME POLICY

Increasing constraints on Bulgarian labor supplies are evident when changes in labor planned or projected for the period, 1976-80, are

²² For an illustration in the Soviet case, see, Holzman *op cit.*, p. 13.

²³ Data are hard to match by sectors. Unit export prices of food materials and products had risen by 30-40 percent by 1976, while those for machinery exports remained about constant. Thus, the relative movements have been similar to the relative movements of internal agricultural and industrial products. But in the industrial category, export prices of consumer manufactures rose more than for agricultural products and so did prices of chemical imports and exports.

²⁴ That is, assuming sector growth in industry countries to outpace growth in agriculture. This point raises the possibility of "induced" growth cycles in the official indicators of rapidly industrializing countries like Bulgaria and Romania. That is, growth may be reduced each time a more recent set of price weights are applied if agricultural prices rise faster than industrial prices.

²⁵ New price indices are unavailable. The unweighted average of about twenty food products increased about 35 percent, roughly the difference in the movement of prices in state and cooperative trade since 1970. Construction materials and new housing increased about 40 percent. Household energy consumption has become even more expensive. See, RFER, Bulgarian Situation Report (November 13, 1979).

compared to actual changes in the previous five years. In the period, 1971-75, the working age population increased 2.4 percent and the occupied population about 3.7 percent; in the plan period, respective figures of 1.4 percent and 2 percent have been projected.²⁶ Part of the increased supply was lost in a shortening of the workweek from 46 hours to 42.5 hours for about 65 percent of employees by 1975. A further reduction to 40 hours by 1980, which was planned in 1972, was abandoned in 1976.²⁷ Labor in the productive sectors grew only 0.6 percent from 1970 to 1975, with no growth planned for the next five years. Hence, non-productive services received nearly all the labor increase in 1971-75 and were planned all the increase in 1976-80. Within the productive sectors, agricultural employment fell 18 percent from 1970 to 1975, representing a transfer of 282,000 persons.²⁸ The plan envisaged a smaller subsequent reduction of 7.2 percent, or only about 89,000 from agriculture by 1980. Industry's employment grew a large 14.3 percent from 1970 to 1975 (186,000 persons) and then was planned to grow by only 3.3 percent (49,000 persons) by 1980.

TABLE 8.—POPULATION AND LABOR RESOURCES

	1970	1975	1976	1977	1978
1. Population (thousand.).....	8,515	8,731	8,786	8,823	8,805
2. Working age population (thousands).....	4,938	5,057	5,087	NA	NA
3. Urban population (percent).....	53.0	58.0	58.0	59.9	61.2
4. Urban working age population (percent).....	58.2	62.2	63.2	NA	NA
5. Occupied population (thousands).....	4,277	4,436	4,441	4,413	4,469
Share of working age (percent).....	86.6	87.7	87.3	NA	NA
Nonagricultural labor (thousands).....	2,771	3,211	3,277	3,297	3,366
Industry and construction (thousands).....	1,659	1,841	1,861	1,876	1,917
Other nonagricultural (thousands).....	1,112	1,370	1,417	1,421	1,448
Agricultural labor (thousands).....	1,506	1,224	1,164	1,116	1,104
Productive sectors (thousands).....	3,717	3,739	3,717	3,694	3,732
Nonproductive sectors (thousands).....	560	696	724	719	737
6. Distribution of occupied (percent).....	100.0	100.0	100.0	100.0	100.0
Nonagricultural (percent).....	64.8	72.4	73.8	74.7	75.3
Industry and construction (percent).....	38.8	41.5	41.9	42.5	42.9
Other nonagricultural (percent).....	26.0	30.9	31.9	32.2	32.4
Agricultural (percent).....	35.2	27.6	26.2	25.3	24.7
Productive sectors (percent).....	86.9	84.3	83.7	83.7	83.5
Nonproductive sectors (percent).....	13.1	15.7	16.3	16.3	16.5

Source: Absolute number of occupied persons estimated by the author, as explained in the text. Other data, see table 3.

By 1978, as shown in Table 9, the occupied population was growing more slowly than projected.²⁹ Productive sector employment dropped in 1976 and again in 1977. Then, in 1978, it jumped back up, near to 1975 and planned levels. The evident labor shortages in 1976 and 1977 were noted by leadership complaints, but with no explanations of them.³⁰ Industrial employment had increased at a rate faster than required in the 1976-80 plan. A larger problem was agricultural labor's

²⁶ As noted in Table 9, the Bulgarian statistical yearbook gives no growth rate or absolute numbers for the occupied population. The growth for 1971-75 is the author's estimate. Also, no official plan figures could be found for working-age or occupied populations. The projections are from Godfrey Baldwin, "Population Estimates and Projections for Eastern Europe: 1950 to 2001," in JEC-1977, p. 456; and UN/ECE, Economic Survey of Europe in 1976, Part II (New York, 1977), pp. 19-20.

²⁷ Allen, *op. cit.*, p. 688.

²⁸ Of course, in reality part of those leaving agriculture were employed in services and some of those entering the labor force did so in the productive sectors.

²⁹ By UN/ECE and not Bulgarian projections; see footnote 26, above.

³⁰ In December 1977, the shortage was said to be about 15-20,000 persons and two months later about 27,000. See, *Rabotnichesko delo*, December 22, 1977; and February 9, 1978. Evidences of labor shortages in 1975 are noted by Allen, *op. cit.*, p. 663.

decrease, faster than planned. By 1978, it was down 10 percent compared to 1975, more than the whole reduction planned for 1980. In fact, the rate of decrease was no different than in the period, 1971-75. Movement continued despite an increase in per capita real incomes of 35 percent in the rural areas compared to only 20 percent for state employees from 1970 to 1974. In that year money incomes per capita in cooperative agriculture equalled the national average. Economic measures to slow urban immigration were supplemented in 1974 by administrative ones which temporarily closed all but 32 Bulgarian towns to new residents.²¹

The rural exodus continued at higher rates than desired by Bulgarian planners in spite of income policies and administrative restrictions. Part of the problem may have been a failure of income policies after 1974. As shown in Table 10, large numbers of cooperative farmers in 1975 and 1976 had their status changed to "employees", thus receiving rising and more certain wage incomes. In 1977 and 1978, the shift ceased. At the same time, money incomes of those remaining as cooperative farmers fell compared to employee incomes. The relative reduction was slight in 1975 and 1976, but more abrupt in the following two years, to relative levels of only 72 percent per person and 61 percent per family (compared to national average money income). Reduced money incomes of the peasants were clearly the results of agricultural production failures. However, the evidence shows that conditions in 1977 and 1978 only exaggerated the effects of a more basic problem. Even with equal money incomes, conditions of life in Bulgarian villages were not equal to those in urban areas. Urban externalities, amenities and opportunities for advancement, were especially valued by younger and better educated persons. In August 1978, the Bulgarian leadership openly recognized the basic problem, demonstrating, at the same time, its evident concern that agriculture's reduced performance, in no small measure, could be attributed to shortages of labor, especially skilled labor and specialists. Table 10 shows their very lower shares in agricultural compared to industrial labor. Agriculture's relative disadvantage was less the failure to educate specialists than a failure to keep them in the sector, once educated.²² A decree on stabilization of labor in agriculture, then enacted, included provision to improve education and training and to intensify the use of agricultural capital. However, its most important provisions called for raising incentives for labor, including reduced pension ages and work days in animal husbandry, higher salaries for specialists directly in production compared to those in administration, and exemptions from either waiting periods or initial installment payments for house and automobile purchases on credit. Incentive provisions included an extraordinary appeal to specialists who would move back into local, rural production. They were offered a year's salary bonus with the right to keep their urban residence and housing permits.²³

²¹ *Rabotnichesko delo*, December 3, 1974.

²² For example, in 1972 a survey revealed that, of those trained in agriculture from 1960 to 1970, only 54 percent with higher education and 16-37 percent with secondary education worked in the sector. *Ikonomika na selското stopanstvo*, 1974:6, quoted in ABSEES (April 1974), item No. 383.

²³ *Rabotnichesko delo*, August 30, 1978.

TABLE 18.—LABOR FORCE STATUS AND QUALIFICATIONS

	1970	1975	1976	1977	1978
1. Occupied population (thousands) ^a	4,067	4,209	4,218	4,223	4,193
Employees ¹ (thousands).....	2,740	3,677	3,887	3,879	3,886
Female employees (percent).....	43.9	46.9	47.8	NA	NA
2. Occupied in agriculture (thousands).....	1,546	1,224	1,194	1,147	1,133
Employees ¹ (thousands).....	271	787	842	904	897
Cooperative farmers (thousands).....	1,275	437	252	243	236
Cooperative farmers (percent).....	82.6	35.1	21.1	21.2	20.8
3. With secondary and higher education: ²					
Secondary (thousands).....	358	492	530	549	NA
Higher (thousands).....	163	219	237	251	NA
a. Share of occupied:					
Secondary (percent).....	8.3	11.1	11.9	12.4	NA
Higher (percent).....	3.8	5.0	5.3	5.6	NA
b. Share in industry and construction:					
Secondary (percent).....	8.0	9.6	NA	NA	NA
Higher (percent).....	2.6	3.1	NA	NA	NA
c. Share in agriculture:					
Secondary (percent).....	1.6	2.2	NA	NA	NA
Higher (percent).....	1.0	1.5	NA	NA	NA
4. Annual graduates from qualification courses:					
Qualification (thousands).....	130	133	132	NA	NA
Requalification (thousands).....	490	680	813	NA	NA
a. Share of employees:					
Qualification.....	4.7	3.6	3.4	NA	NA
Requalification.....	17.8	18.8	20.9	NA	NA
b. Share in industry and construction (employees):					
Total.....	20.9	31.2	31.7	NA	NA
c. Share in agriculture (employees): Total.....	4.9	13.2	20.0	NA	NA

¹ Workers and employees, excluding cooperative peasants and persons privately occupied.

² Stocks of educated persons reported as of January is attributed to the previous year.

³ 1969 data.

NA—Not available.

Source: See table 3.

These serious measures to stabilize agricultural labor reflect generally more limited opportunities, at least in the short run of the plan period, to stimulate economic growth by manipulation of labor resources. In 1971–75 both higher productivity and greater participation were encouraged by a combination of increased free time and increased real wages. In fact, incomes rose faster than planned and contributed to the unexpectedly large external imbalances of 1974 and 1975.²⁴ The trend could hardly be sustained. In 1976, further workweek reductions were delayed and lower real income growth was planned through 1980. As events turned out, the economy failed to provide even the lower planned increases. Finally, in 1979 came the abrupt upward adjustment of consumer prices. Wages also increased by about 30 percent, hardly enough to raise real income.²⁵ Higher participation or productivity could hardly have been stimulated. More likely the failure to meet consumers' rising expectations worked to the detriment of productivity.

Bulgarian working age population will start to grow more rapidly by 1982–83. Beyond that are limited possibilities to increase participation. The female share of employees rose from 42.5 percent in 1970 to 46.9 percent in 1975, partly as female agricultural cooperators changed labor status to employees. By 1978, the female employee share rose to 48.0 percent, higher than in all other CMEA countries

²⁴ See, Allen, op. cit., pp. 680, 684–9.

²⁵ RFER, Bulgarian Situation Report 114 (November 13, 1979).

except the GDR and the Soviet Union.³⁶ Some marginal increase in labor force may result from a reduction of the 104,000 in higher education (1976/77) because some specialties at this level are evidently oversupplied. But, at the same time greater emphasis is being given to secondary and related specialized education.³⁷

Recent indications that Bulgaria suffers a shortage of specialists with secondary education may indicate a direction for improving labor's contribution to economic growth.³⁸ The present emphasis on labor training, as shown in Table 10, is on-the-job qualification. Its limits are indicated by the fact that 75 percent of employees in material production have only elementary or partial elementary education.³⁹ In any case, Bulgaria, at present, has about the same percentages of employees with secondary and higher education as do other CMEA countries.⁴⁰

Considering Bulgaria's immediate past, one may question how well formal educational indicators, trends in income policy or even the availability of capital explain the relatively lower productivity of its labor. Rapid structural change may be a major contributing factor. In 1970, only 30 percent of the 18 year old age-cohort then entering the labor force had been born in urban areas. The fraction rose to 32 percent in 1975 and will reach one-half only by 1985. With rural origins and recent migrant status, most Bulgarian worker families must have consumed the major part of their resources just finding the urban job with housing connected to it and then solving their problems of food and service acquisition in new and constrained circumstances. If time has yet been too short to have learned the new job well, it is understandable.

VI. DOMESTIC AND INTERNATIONAL SOURCES OF CAPITAL

Up to this point, Bulgaria's economy is seen in mostly labor terms—its structure, productivity and currently constrained supplies. Obviously neither labor structure nor its productivity have been independent of Bulgaria's access to and use of capital. The Bulgarian pattern of high relative productivity of agricultural labor demanded application of capital to agriculture. Urbanization consumed capital for both job-creating industrial facilities and facilities for housing and services. Hence, Bulgaria's development pattern required a relatively broad distribution of available capital. Is this perhaps why Bulgarian labor productivity appears to be relatively low? Is there a connection here with the fact that the only major target close to being met in the present five-year plan is the one for investments? Meeting only this target implies either that circumstances have been very favorable for

³⁶ The largest pool of unused labor are females just over the female retirement age of 54 in the 55-59 year group, of whom only 26 percent were active in the 1975 census (compared to 56 percent active males of the same age).

³⁷ Compulsory secondary education was approved in principle in 1969 and presumably implemented in 1973. Average school years were projected to increase from 6.6 to 8.9 in ten years. However, implementation appears to be behind schedule. Ve'ichko Dobrianov, "Changes in the Socio-Class Structure of Bulgaria," in *Bulgaria Past and Present*, Thomas Butler (ed.), (Columbus, Ohio: 1976), p. 162; RFER, *Bulgarian Situation Report 18* (June 13, 1976); RFER, *Bulgarian Situation Report 12* (January 27, 1978).

³⁸ RFER, *Bulgarian Situation Report 12* (January 27, 1978).

³⁹ RFER, *Bulgarian Situation Report 18* (June 13, 1976).

⁴⁰ CMEA Yearbook, 1979, p. 452.

investment or that investments have received priority consideration. If the latter, then Bulgarian planners must view increasing capital as the key to their economy's further progress.

Discussion of Bulgaria's access to and use of capital resources will be done in two parts. The determinants of capital supply will be reviewed in this section. The section following will focus on the allocation and use of capital.

A. Pre-1970 Access to Capital

An average Bulgarian worker is safely assumed to have had less capital at his disposal than his counterparts in the G.D.R. or Czechoslovakia. Probably, but less certainly, the same could be said comparing Bulgarian conditions with those in Hungary and Poland. Bulgaria's lower labor productivity is understandable in this condition, that is, a result of its having lower capital:labor ratios. But, how well the latter explains the former is unknown for the simple reason that no comparative measurement of total capital stock levels has been made.

One is left to consider, comparatively, the growth of Bulgarian capital and capital: output ratios. In these dimensions, even granting reservations about the comparability of capital stock indices, Bulgaria and Romania have far surpassed other CMEA members. That Bulgaria's capital:output ratio has grown marginally faster than Romania's is the result of its more slowly growing labor, a margin gained before 1965. Since then, Romania reduced the difference, with a combination of slightly faster capital growth and slightly slower labor growth. But, not knowing either country's beginning level, except that both were undoubtedly comparatively low, leaves no answer as to where they have arrived, except both probably have improved their comparative positions. How they succeeded is another question requiring an evaluation of their sources of investment as seen in three categories: (1) Internal investment effort; (2) foreign capital flows; and (3) terms of trade.

The appropriate measure of internal investment effort, the ratio of gross total investment to GNP, or GDP, in current prices, is generally unavailable for CMEA countries.⁴¹ A commonly used substitute indicator for socialist countries is the "accumulation rate." It measures the ratio of saving, net of depreciation (or net accumulation), to "net material product used," or value-added in production, net of depreciation, plus imports minus exports, both in domestic prices.⁴²

The principal defect of this statistic is its exclusion of depreciation which in Bulgaria, as shown below, and other socialist countries finances considerable investment in excess of capital retirements. A second problem in its use is that the body of socialist country data provides no easy identification of net exports in terms comparable to the accumulation rate. One ends up with no way to differentiate internal effort from foreign contribution.

⁴¹ See, Alton in JEC-1977, pp. 213-4.

⁴² More precisely, losses in production are also subtracted from both denominator and numerator. Also, the measure of production is material value-added, which deletes services not supported by the state budget (services supported by the state budget are included indirectly by charges added to prices of material goods, similar to indirect business taxes in western national product accounting).

In any case, its use for comparisons among countries or for changes in one country faces hazards of misidentification. Sometimes indicators in current and constant prices are mixed together and rarely is the constant price base given.⁴³

Scattered data in current prices suggest that from 1955 through 1965 Bulgaria "accumulated" greater shares of net material product used than others in the European CMEA group, including Romania.⁴⁴ From 1965 to 1970, Bulgarians and Romanian shares are about equal, both higher than in other countries.

TABLE 10a.—BULGARIA—STRUCTURE OF NATIONAL INCOME USED¹

	Consumption	Total	Accumulation	
			Fixed capital	Inventories
Current prices:				
1953-55 ²	77.1	22.9	12.2	10.7
1956-60.....	76.9	23.1	13.1	10.0
1961-65.....	72.6	27.4	15.8	11.6
1966-70.....	68.5	31.5	18.5	13.0
1971-75.....	71.4	28.6	NA	NA
1976-77.....	72.7	27.3	NA	NA
Constant prices: 1952 prices: 1952-55.....				
	77.8	22.2	NA	NA
1957 prices:				
1952-55.....	77.0	23.0	10.7	12.3
1956-60.....	76.7	23.0	13.4	9.9
1961-65.....	65.4	34.6	11.7	22.9
1962-65.....	63.2	36.8	12.5	24.3
1966-70.....	58.2	41.8	14.4	27.4
1962 prices:				
1962-65.....	71.4	28.6	NA	NA
1966-70.....	67.2	32.8	NA	NA
1971 prices:				
1971-75.....	70.8	29.2	NA	NA
1976-77.....	72.3	27.7	NA	NA

¹ Including unfinished investments.

² 1953 and 1955 only.

NA—Not available.

Source: Calculated from data in various issues of the Bulgarian statistical yearbook, the CMEA statistical yearbook and the United Nations national accounts yearbook.

Bulgaria's high accumulation rates before 1965 corresponded with foreign capital inflows are higher, relative to population or trade, than for other members of the European CMEA group. Inflows not only reflected special Soviet favor, but included western debt estimated to have reached by 1966, absolute levels equal to those of Romania, Czechoslovakia and Hungary.⁴⁵

After 1966, Bulgaria had large trade deficits with the Soviet Union and other European CMEA countries in 1967 and 1968. In 1969, this trade moved to a surplus, reaching in 1970 the highest surplus ever recorded by socialist Bulgaria. Growth of its western debt by 1970 is less certain because part of it was probably covered by convertible currency

⁴³ For example, Bulgarian data in the CMEA Yearbook are in current prices. Those for the G.D.R. are in constant prices. Other country data defy positive identification in cross checks against other comparative sources. See, CMEA Yearbook 1976, and 1976, p. 44 and p. 48; Alton in JEC-1977, p. 214; George R. Feiwel, Growth and Reforms in Centrally Planned Economies (New York, 1977), p. 281.

⁴⁴ On Romanian data, see following paper on that country.

⁴⁵ See, Paul Marer, "Soviet Economic Policy in Eastern Europe," and Edwin M. Snell, "Eastern Europe's Trade and Payments With the Industrial West," in Joint Economic Committee Print (August 1974), pp. 162, 693-718; Marshall I. Goldman, Soviet Foreign Aid (New York, 1967), p. 28.

loans from the Soviet Union. Total convertible currency debt increased, but to an absolute level that was the lowest in CMEA, with the possible exception of Hungary.⁴⁶

Bulgaria's official terms of trade declined nearly 13 percent from 1950 to 1970, thus offsetting at least part of the benefits of capital inflows. But nearly all of the decline took place between 1955 and 1960. They rose slightly from 1960 to 1965 and then declined to 1970, barely 2 percent lower in a decade. From 1960 to 1970, Bulgaria's terms of trade with socialist countries fell over twice as much. Hence, her export surpluses of 1969 and 1970 were acquired with a considerable drain of domestic supplies.

Throughout the period capital flows and terms of trade combined to change the growth of domestic supplies compared to what would have been available from domestic production without trade. Differences in the growth of production and domestic supplies are approximated by the ratio of growth of NMP produced and NMP used. From 1952 to 1955, they grew the same percentage. In the next five years, with terms of trade declining, capital inflows sustained a supply growth about 2 percent over production growth. From 1960 to 1966, a larger favorable margin of 6.4 percent resulted. But from then to 1970, production grew 7 percent more than domestic supplies.

B. Internal Investment Effort in the 1970's

The 1970's were preceded by a brief reversal of the relatively favorable external conditions for Bulgaria's growth. The Sixth Five-Year Plan, 1971-75, saw their return. From 1971 to 1975, the accumulation rate (in constant prices) rose from 26.8 to 32.8 percent. Allocations to net investment from the combined real flows of domestic production and net flows from abroad rose very rapidly, an average of 12.9 percent a year. The Seventh Five-Year Plan, 1976-80, called for reduced rates of accumulation, 28 percent in earlier versions and about 26 percent in the final plan. The actual accumulation rate in 1976 was higher than the plan average, 29.0 percent. The actual rate fell to 26.4 percent in 1977 while 26.9 percent was planned for 1978. Instead, only 24.0 percent was realized.⁴⁷

Contrary to impression, Bulgaria's internal investment effort did not rise sharply from 1971 to 1975 and then decline sharply until 1978. In fact, during the first period, real consumption (in producer prices) rose 7 percent a year. In the second period, as already discussed, real investments were planned to grow in 1976-80 about as rapidly as they actually increased in 1971-75. After 1975, by in large, investments were on target.

Estimates in Table 11 give more accurate answers to what has been Bulgaria's investment effort. Sums heretofore identified as "investments," line 1 in the table, have been only part of the national product allocated to, or spent on gross investments each year. Additional allocations for fixed capital formation have been made as capital repairs.

⁴⁶ See Allen, *op. cit.*, pp. 688-9, 694-5.

⁴⁷ *Rabotnichako delo*, 28 October 1976; 30 October 1976; *Planovo stopanstvo*, 1978: 1, p. 4; 1979: 1, p. 5.

Finally, total gross investments included accumulations of producers' inventories and unfinished investment projects. The grand total has exceeded "investments" in the plan and in the usual statistical reports by 28-45 percent. As a measure of investment effort, gross investments are compared to the sum of net material product (produced) and depreciation.⁴⁸ By this measure, Bulgarian investment effort appears to have been relatively constant. The share of production allocated to fixed capital investments has been more constant than the gross investment ratio. Larger fixed capital investment flows were obtained in 1977 and 1978 partly by reducing inventory accumulation, especially unfinished investment projects (as explained in the following section).

TABLE II.—GROSS INVESTMENT EXPENDITURES AND GROSS VALUE-ADDED

[in millions of current leva]

	1971	1972	1973	1974	1975	1976	1977	1978
1. Capital investments.....	3,609	3,953	4,236	4,577	5,361	5,373	6,143	6,186
2. Capital repairs.....	369	463	570	657	842	998	1,137	1,216
3. Total—fixed capital.....	3,978	4,416	4,806	5,274	6,203	6,371	7,280	7,402
4. Increased inventories.....	667	1,266	1,193	1,146	1,495	1,370	1,260	1,108
5. Total investments.....	4,645	5,682	5,999	6,420	7,698	7,741	8,540	8,510
6. NMP produced.....	10,411	11,242	12,149	13,093	14,289	15,145	15,486	16,389
7. Depreciation.....	1,046	1,314	1,615	1,977	2,387	2,831	3,224	449
8. Total.....	11,457	12,556	13,763	15,070	16,676	17,976	18,710	19,837
9. Gross investment in fixed capital as percent of (8).....	34.7	35.2	34.9	35.0	37.2	39.4*	38.5	37.3
10. Total gross investment as percent of (8).....	40.5	45.3	43.5	42.6	46.2	43.1	45.7	42.9
11. "Accumulation" as percent of net material product used:								
Constant prices.....	26.8	26.0	27.7	30.7	32.8	29.0	26.4	NA
Current prices.....	23.6	28.7	30.0	27.7	32.5	28.6	28.0	24.0

NA—Not available.

Source: Items (1), (6), and (11) are given in regular Bulgarian statistical sources. Item (4) is derived from the Bulgarian series on producers' inventories, including unfinished investments, in midyear values. The value for 1978 is estimated from the 1977 value by subtracting the reported reduction in unfinished inventories. Estimates of items (2) and (4) are based on a Bulgarian source which gives the accumulated totals for 1971-77 and the values for 1971 and 1977. Interim values are estimated as a moving percentage of capital stock and 1978 values estimated as the same percentage of capital stock as in 1977. See, "Finansi i credit," 1979:7 pp. 20-21.

Beginning in 1977, Bulgarian capital stock figures have been revalued to higher values. In order to avoid distorting the estimates, capital stocks for 1977 and 1978 have been reestimated, using Bulgarian figures for 1976 and indices of capital stock in the CNEA year book.

The actual financing of investment in Bulgaria is a matter of small consequence. Sufficient flows have been built into the cost and price structure as depreciation, profit and taxes. In turn, planners have controlled flows for investment and its allocation. Private saving has hardly affected total saving and neither private nor enterprise investment decisions have really mattered.⁴⁹

⁴⁸ The total investment figures are close to the 4,557 million leva for 1970 and 6,449.9 million leva for 1974 estimated by Thad Alton and his associates. As expected, their investment ratios are lower, 34.4 and 35.8 percent, because their denominator, GDP, includes the value of services. Thad P. Alton et al. *Expenditure on Gross Domestic Product in East European Countries, 1975*, Occasional Papers of The Research Project on National Income in East Central Europe (OP-52), (New York, 1977), p. 9.

⁴⁹ Investment financing was shifted from the state budget to bank credits and organizational funds in the second half of the 1960s. At that time, the shift was part of an effort to decentralize decision making. With the subsequent annulment of economic reforms, the apparent investment financing arrangements were maintained. Their only notable feature is that the share of investments financed from the budget fell to a low of 21.2 percent in 1976. The trend since then has been reversed, both in figures for 1977 and 1978 and in the plain figures for 1979 and 1980. See, Georgi Petrov, *Finansirane na razshirenoto vuzproizvodstvo i na tehnichestkila progress*, (Sofia, 1978), pp. 74-5.

TABLE 12.—FOREIGN TRADE SHARES AND BALANCES BY COUNTRY GROUP

	1971	1972	1973	1974	1975	1976	1977	1978	1979 ¹
1. Export shares (percent):									
Soviet Union.....	54.8	56.3	54.7	59.3	54.6	54.2	54.0	56.8	.....
Other CMEA ²	21.0	21.8	22.6	22.6	11.8	23.8	24.0	19.8	.....
Total CMEA.....	75.8	78.1	77.3	72.9	74.4	78.0	78.0	76.7	(77.7)
Other Socialist.....	3.7	2.9	2.1	3.1	2.6	2.3	2.0	2.4	.....
Developed market.....	13.8	13.1	13.4	11.7	9.3	10.5	12.6	9.8	(22.3)
Less developed.....	6.7	6.3	7.2	12.3	10.7	9.2	7.4	11.1	.....
Total.....	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
2. Import shares (percent):									
Soviet Union.....	52.3	52.2	51.9	43.6	59.7	54.4	58.4	68.2	.....
Other CMEA ²	22.0	23.9	25.2	24.6	29.0	24.6	28.0	18.9	.....
Total CMEA.....	74.3	76.1	77.1	67.8	79.7	75.3	78.4	80.1	(82.1)
Other Socialist.....	3.2	1.7	2.1	2.3	1.5	1.8	1.5	1.4	.....
Developed market.....	16.8	15.0	15.8	22.5	23.6	18.5	15.6	15.8	(16.9)
Less developed.....	5.7	5.2	5.0	7.4	4.1	4.4	4.3	3.5	.....
Total.....	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
3. Balances (million devisa)									
Soviet Union.....	102.7	148.9	104.7	41.2	-172.3	-139.9	-205.3	-328.6	.....
Other CMEA ²	-11.4	-96.4	-73.5	-172.3	-16.5	98.4	205.3	645.3	.....
Total CMEA.....	91.3	52.5	31.2	-131.1	-188.8	-41.5	-81.0	-283.3	(-193.7)
Other Socialist.....	16.0	23.8	1.2	16.5	38.6	26.7	55.5	68.0	.....
Developed market.....	-65.8	-44.7	-74.9	-508.9	-817.8	-458.1	-367.9	-373.1	(185.5)
Less developed.....	32.1	33.2	71.5	149.5	273.0	237.7	353.7	504.4	.....
Total.....	73.4	64.8	29.0	-475.0	-684.2	-236.2	-38.7	-151.3	(-8.2)

¹ January through June.² Including Cuba and Mongolia.

Source: See table 3.

C. Foreign Trade Balances

Bulgaria entered the Seventh Five-Year Plan after having experienced a very rapid growth of trade, with increasing import deficits. The less favorable conditions noted for 1966-70 were reversed. From 1970 to 1975, the trade volume, in constant prices, increased 12 percent a year, compared to a plan rate of 9.5-10.5 percent. Import deficits were larger than planned as Bulgaria's CMEA trade balance moved from a surplus to a deficit and small initial deficits with developed market countries turned into large ones in 1974 and 1975, raising Bulgaria's hard currency debt by 226 percent in two years.⁶⁰ Combined with her relatively small exports to developed market countries, the added debt gave Bulgaria in 1975 the highest debt: export ratio in CMEA.

The 1976-80 plan called for a higher growth of exports than imports in all markets and a lower growth of foreign trade volume, 9.9 percent a year. Planned CMEA trade was to grow faster, 12 percent a year, or by 76 percent, by 1980, with exports rising from 46.8 percent to 52.9 percent of total turnover. The figures imply a planned increase in the CMEA share of Bulgaria's total trade from 73.8 percent in 1975 to 81.2 percent by 1980. Trade with all other countries was planned to increase only 15 percent from 1975 to 1980.

Bulgaria's planned shift of trade toward CMEA reflected its development priorities which called for increasing industrialization and emphasis on the machinery and chemical branches. Half of Bulgaria's

⁶⁰ See the paper by Joan Zoeter in part 2.

exports in 1980 were to be machinery, compared to 41 percent in 1975. Some 43 percent of machinery exports to CMEA were to be within its specialization agreements. Specialization agreements with the Soviet Union were to cover a yet higher 51-52 percent. Part of Bulgaria's planned machinery exports to the Soviet Union involved its new commitments of 610 million rubles, or 793 million devisa leva, for investments in Soviet natural resource projects. In return, the Soviet Union was committed to provide virtually all Bulgarian supplies of petroleum, natural gas, wood pulp, apatite concentrates and cotton. In addition, it would be virtually the sole source of significant import supplements to Bulgarian production of electrical energy, coal, coke, iron ore, pig iron, rolled steel, timber and paper. Beyond this, the Soviet Union committed itself, in 1976-80, to technical assistance for 100 Bulgarian investment projects. Among these was the long-planned Varna-Nichevsk ferry boat line providing direct railcar connections between the two countries across the Black Sea. It began operation in November, 1978.⁵¹

As trade developed after 1975, total turnover in real terms averaged a growth rate of 8.3 percent, slightly below that planned. In current prices, exports generally increased faster than imports, reducing Bulgaria's trade deficit, as was generally planned. But in Bulgaria, as in other countries where trade is conducted largely in bilateral clearing agreements with inconvertible balances, movement in the total trade balance has only an obscure meaning for the country's balance of payments. For example, Bulgaria's rising export surplus with the LDC and other CMEA countries probably generated no means of payment for her import deficits with developed economies. In fact, the distinctive character of country group trade balances goes beyond financial inconvertibility. Given Bulgaria's economic structure, the large export surplus with LDC's cannot be seen as having contributed to developed market economy deficits because exports to the former probably were poor substitutes for exports to the latter. Given these circumstances, it is best to discuss Bulgaria's trade balance separately for each country group.

1. LDC's.—The notable feature of this part of Bulgaria's trade is its export surplus, which became very large by 1978. After 1975, imports from LDC's grew only 11 percent by 1978 and were lower than in 1977. In real terms they may have failed to grow. The large export surplus no doubt reflects Bulgarian credits extended in the form of equipment deliveries and project assistance. Actual hard currency payments to Bulgaria have been minimal. Instead, Bulgaria expects payments in goods flows. Her non-Soviet oil imports did rise by 53 percent from 1975 to 1977, but hardly enough to reduce dependence on Soviet sources. By and large, benefitting goods inflows are still in the offing.⁵²

⁵¹ Details and background on the ferry boat line are given in Radio Free Europe Research, "Bulgarian Situation Report 120" (Dec. 4, 1978); other sources: *Vunahna Turgovila* 1979: 2, p. 4; 1979: 4, pp. 2-3; *Novo Vreme* 1976: 12, pp. 8-12; *Bulgarian Foreign Trade* (in English) 1979: 4, pp. 9-10.

⁵² Bulgaria's major third world partner is Libya, to whom in 1976 it exported 127 million devisa leva and from whom it imported only 20.4 million, including 214,600 tons of petroleum or 26.3 percent obtained from non-Soviet sources. (For reasons that are unexplained, the Direction of International Trade shows much smaller Bulgarian exports). The most recent Bulgarian-Libyan trade agreement called for the volume of trade to increase 2-3 times from 1979 to 1985. About 3,000 Bulgarians worked in Libya in 1978. They had built and now operate an oil refinery, were involved with Libya and Italy constructing a super highway link to Nigeria, and were recently reported to have sought Japanese financial and technical assistance to develop Libyan petroleum reserves. See, RFER, *Bulgarian Situation Report/4*, (March 26, 1980).

2. Developed market countries.—In the first half of 1979, Bulgaria's exports to non-socialist countries increased 47 percent in current prices above the corresponding period in 1978. By the same comparison, trade balances moved from a 30.1 million leva deficit to a 191.5 million surplus. If trends continued, Bulgaria would have had a much larger surplus in 1979 from non-socialist countries (LDC's and developed market countries) than in 1978. In turn, 1978 saw a major change compared to 1975; Bulgaria's trade balance moved from a 544 million deficit to a surplus of about 132 million devisa leva in current prices.

It is not yet known what happened to Bulgaria's balance with the developed market countries in 1979; partner-country data suggest a surge of Bulgarian exports. If so, there was good reason. After the sharp rise in Bulgaria's hard currency debts from 1973 to 1975, large, but lower trade deficits continued through 1978. Estimated hard currency debts rose another 65 percent in 1978 over 1975, outpacing a 55 percent export increase. Debt appears to have marginally increased again in 1979.

Little is known of possible changes in Bulgaria's apparently good position in Western financial markets.⁵³ Possible hard currency pressures may explain a series of recent moves to promote tourism and foreign investments. After being discontinued in 1975, tourist premium exchange rates on convertible currencies were reintroduced in October, 1978. Bulgaria's unusual agreement with the Pepsi Company for opening pizza restaurants must be considered another stimulant to foreign tourists. At the same time, in a yet unclear change of rules beginning in 1979, the government may have decided to encourage private organization and operation of tourist facilities. Finally, Bulgaria now appears to be seeking joint ventures with western companies, not only expanding them on third markets, but beginning them in Bulgaria, even with minority Bulgarian ownership and complete foreign management.⁵⁴ These apparently liberal investment terms are in surprising contrast to either Bulgaria's political stance or investment terms offered to western capital by her northern neighbor, Romania. But, judging by Romania's experience, no quick or large reductions to Bulgaria's hard currency debts can be expected.⁵⁵

3. CMEA countries.—Bulgaria's planned increase of 70–80 percent in real total trade with the Soviet Union for the period, 1976 to 1980, just brackets the 76 percent increase planned for all of CMEA. Larger increases were planned for Romania and Poland, respectively 100–150 and 100 percent, but small ones with other CMEA countries.⁵⁶

As opposed to the plan, Soviet trade in constant prices grew an average 19 percent a year in 1976 and 1977, with real imports and exports rising at about the same rates. In current prices, Soviet imports rose much faster. From 1974 to 1977, the value of Soviet petroleum imports grew by 431 million devisa leva and accounted for about one-

⁵³ See Allen, *op. cit.*, pp. 694–7.

⁵⁴ See RFER, *Bulgarian Situation Report 14* (February 24, 1978) and 14 (February 26, 1979). Total foreign arrivals in Bulgaria decreased about 1 percent in 1978 and then increased 14 percent in 1977 and 6 percent in 1978. Transit arrivals remained constant, so most of the increase was for tourism and work. In 1976, arrivals from European CMEA countries fell 28 percent, suggesting a large increase from western countries. More recent data are available. For additional background on CMEA tourism see, *Finansi i kredit*, 1978:4, pp. 15–30.

⁵⁵ See discussion of reports from West European newspapers in RFER *Bulgarian Situation Report/12* (September 14, 1979).

⁵⁶ For the G.D.R. 50–60 percent, Czechoslovakia 50 percent, Hungary 45–60 percent, and Cuba 40 percent. *Vneshna trgovina 1979:4*, p. 2; *Planove stopanstvo 1979:3*, p. 24.

fourth of the increased value of total Soviet imports. The volume of Soviet petroleum imports increased about 20 percent in the same period, accounting for only 12 percent of increased value of imports. The remaining 379 million leva increase came from Soviet price increases. The significance of this figure can be seen by looking at the change in Bulgaria's trade balance with the Soviet Union. It moved from a small surplus in 1974 to a deficit in 1977, a net change of -328 million devisa leva. Thus, increased Soviet prices of petroleum imports more than account for the increased Bulgarian trade deficit through 1977.

What happened in 1978 is less clear. Total Bulgarian petroleum imports increased 7.5 percent; imports from the Soviet Union can be assumed to have increased the same percentage. Soviet prices for petroleum exports were projected to increase about 24 percent over 1977.⁵⁷ Combining both figures suggests the Bulgarian petroleum import bill went up 33 percent, or by about 227 million devisa leva. If so, it falls very short of the total increase in the Soviet deficit in 1978 of 642 million devisa leva, leaving about 415 million to other factors.

Total Bulgarian trade with other CMEA countries through 1977 rose about as rapidly in real terms as was planned. In current prices, Bulgarian surpluses with other CMEA countries just about matched its deficits with the Soviet Union in both 1976 and 1977. In 1978, Bulgarian exports dropped slightly, but imports declined nearly 39 percent, resulting in a large surplus. The surplus was not large enough to offset Bulgaria's even larger Soviet deficit in 1978. But, strangely enough, the 440 million surplus just about matches that part of Bulgaria's deficit with the Soviet Union, 415 million devisa leva, that could not be attributed to increased costs of Soviet petroleum. It is not known if two matching figures are coincidence or indicate the operation of a clearing arrangement whereby Bulgarian surpluses with other CMEA countries are credited against part of its Soviet deficit not covered by petroleum imports.

The external financial resources available to the Bulgarian economy since 1975 may now be viewed with appropriate qualification. In general, their flow, considered as supplements to Bulgaria's own investment effort identified in Table 11, has been far below levels of 1974 and 1975. A crude measure of the changing supplement is given by the ratio of Bulgaria's trade deficit (in devisa leva) to its combined total of NMP and depreciation (in internal leva), which fell from 4.2 percent in 1975 to 0.8 percent in 1978.⁵⁸ Part of the reduction is seen as growing surpluses to LDC's and other CMEA countries and part as reduced deficits with developed market countries. External pressure on Bulgarian growth would have been greater without the large increase in Bulgaria's import deficit with the Soviet Union. But this point is subject to a qualification. Was the rising deficit with the Soviet Union independent of changing trade balances with other country groups?

⁵⁷ Raimund Dietz, "Price Changes in Soviet Trade with CMEA and the Rest of the World Since 1975," in Joint Economic Committee Print, *Soviet Economy in a Time of Change* (Washington, D.C.: October, 1979), p. 270.

⁵⁸ The measure is crude because numerator and denominator are in two different units. It understates the level of foreign supplements in both years because the average value of an internal lev was less than one devisa lev. But it overstates the reduction of the supplement because foreign trade prices rose more than domestic prices from 1975 to 1978 (see Table 8 above).

If the Soviet deficit would have been smaller, would Bulgaria have borrowed more from the West? Or, would Bulgarian planners then have decided or been forced to reduced exports to LDC's or other CMEA countries?

D. Terms of Trade and Real Balances

Changes in trade balances in current prices are meaningful for their financial consequences, but they obscure an important set of planners' decision parameters, as well as the impact of trade changes on economic growth. Trade balances in current prices are generated by three factors: changes in real imports and exports, changes in foreign trade prices, and changes in the terms of availability of foreign credit. Bulgarian trade planners may be viewed as having chosen particular real trade flows in a decision situation where the impact of changes in domestic supplies have been compared to the terms upon which foreign credit has been available.

A bridge between changes in Bulgaria's trade balances in current prices and changes in domestic supplies is found in her terms of trade. Table 13 shows them in a comparative light. The first years of international and then CMEA inflation had little impact on Bulgaria's terms of trade. In 1976, they began a sustained fall so that in 1977 and 1978, Bulgaria's comparative position was worse than those of the two CMEA countries and at least three other less developed European countries.

TABLE 13.—TERMS OF TRADE OF BULGARIA AND SELECTED OTHER COUNTRIES¹
(1974=100)

Country	1973	1974	1975	1976	1977	1978	1979 ²
Bulgaria.....	101	100	98	94	89	85	-----
Hungary.....	100	100	93	95	93	92	-----
Poland.....	101	109	100	101	100	100	-----
Yugoslavia.....	110	100	103	104	104	107	-----
Greece.....	111	100	93	91	85	82	(86)
Portugal.....	105	100	78	124	91	NA	-----
Spain.....	130	100	93	94	90	92	(105)

¹ Calculated from unit value indices

² Partial year.

NA—Not available.

Source: United Nations, "Monthly Bulletin of Statistics" (New York; December 1979).

Table 14 exposes Bulgaria's foreign trade prices and real trade in greater detail. Relative trade prices have moved with significant differences in the two market groups. In 1974, protected from OPEC oil price increases, her terms of trade with non-socialist countries improved. Then, with CMEA's first round of price changes, her socialist terms of trade hardly fell, but those with non-socialist countries fell significantly. Since 1975, Bulgaria's prices with the latter group have fared very well, again probably because only few oil imports included. Her declining socialist trade terms, covering 80 percent of total trade, have dominated the downward movement of overall trade terms. The fall in the latter in 1978 clearly indicate that price trends in socialist markets were again unfavorable.

As might be expected, within socialist trade price trends have also been very different. Soviet data indicates very large declines in Bulgaria's terms of trade with that country. They fell 9 percent in 1975, 7 percent in 1976 and another 7 percent in 1977. By contrast, with other CMEA and socialist countries, Bulgaria's terms of trade probably rose about 11 percent in 1975, then fell about 4 percent in 1976, and rose again in 1977 about 5 percent.⁴⁰

TABLE 14.—FOREIGN TRADE PRICES AND REAL VOLUME

	Total trade		Socialist trade		Other trade		Ratios		
	Exports	Imports	Exports	Imports	Exports	Imports	Total	Socialist	Other
							Terms of trade (export index/import index)		
A. Foreign trade price indices: ¹									
1970.....	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1971.....	100.8	102.2	100.9	102.3	100.3	101.7	98.6	98.6	98.6
1972.....	100.4	100.8	110.0	104.6	73.8	88.1	98.6	105.2	83.8
1973.....	103.3	104.2	109.8	105.1	84.3	101.0	98.1	104.5	83.5
1974.....	110.9	113.1	110.4	107.0	112.5	127.7	98.1	102.3	88.1
1975.....	120.5	125.3	124.0	129.3	95.2	116.4	98.2	98.8	81.8
1976.....	121.7	133.2	133.2	142.3	88.9	109.6	91.4	93.6	82.0
1977.....	123.3	141.1	136.1	151.3	89.5	113.3	87.4	90.0	79.0
1978.....	123.0	147.7	NA	NA	NA	NA	83.3	NA	NA
							Relative change in domestic supplies (import index/export index)		
B. Real volume of trade:									
1970.....	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1971.....	108.0	113.3	108.1	115.1	107.6	107.5	104.9	106.5	98.9
1972.....	120.5	128.4	110.9	129.5	153.4	124.8	106.6	116.8	81.4
1973.....	132.1	142.1	124.6	146.3	160.9	128.4	107.6	117.4	79.0
1974.....	143.1	173.2	137.8	167.1	163.5	192.4	121.0	121.3	117.7
1975.....	160.8	195.0	151.4	179.3	196.7	244.6	121.3	118.4	124.4
1976.....	182.3	198.5	168.7	180.5	234.3	222.4	104.5	107.0	94.9
1977.....	200.4	200.6	190.5	197.4	277.0	210.7	95.3	103.6	78.1
1978.....	230.6	214.9	NA	NA	NA	NA	93.2	NA	NA

¹ Calculated from volume indices and trades in current prices.
NA—Not available.

Source: See table 3.

Changing foreign trade prices have meant that movements in real exports and imports differed considerably from those measured in current prices. From 1977 to 1978, for example, when Bulgaria's trade deficit increased in current prices, real exports increased more than real imports. The country received increased foreign financial flows but net real domestic supplies from trade were reduced. In a similar fashion, the large increase in Bulgaria's deficit from 1974 to 1975 saw no change in real domestic supplies from trade. Deficit reductions in 1976 and 1977 were obtained with greater real losses than the immediate financial losses.

In order to more fully evaluate recent changes in Bulgaria's real trade flows, estimates are made in Table 15 which attempt to match them with changes in real net production and in net production distributed between net accumulation and consumption.

⁴⁰ The movement of Bulgaria's terms of trade with the Soviet Union are taken to be the inverse of Soviet terms with Bulgaria as estimated by Raimund Diets (op. cit., p. 284). Bulgaria's other CMEA and socialist country terms have been estimated, using the Diets prices, by subtracting Soviet trade from socialist trade in real and in current prices.

Values in the table reflect constant prices at 1971 levels. Exports and imports are converted to approximate internal price levels.⁶⁰ The item, "NMP for use," is the difference between NMP produced and estimated imports minus exports. Both NMP produced and NMP used are calculated from Bulgarian official data for 1971 and growth indices since then. The division of "NMP used" into accumulation and consumption, and growth indices of them also reflect Bulgarian data.

The estimates contain errors as is obviously shown by "NMP for use" being smaller than "NMP used."⁶¹ The latter should be smaller than the former by annual losses in production (for example, crops lost in harvest and distribution).⁶² Foreign trade may have been converted from foreign to domestic prices with a scaling error. Another possible error is suggested by a report that, in 1977, Bulgaria suffered losses of 1,500 million leva. Earthquake damages of 350-400 million leva, included in the sum, were probably mostly capital losses and not production losses. Even then it is improbable that losses would have declined from 1976 to 1977, as suggested in Table 14.⁶³

Despite its limits, two conclusions may be derived from Table 14. First, changes in the Bulgarian "accumulation rate," except from 1970 to 1971, are correlated with changes in the real trade balance.⁶⁴ Bulgaria "accumulates" more of NMP used with a real import deficit and less with a real export surplus. Changes in real trade have less influence on consumption flows. The relative impacts result from the relatively large shares of trade in machinery and producers' supplies while relatively small amounts of consumer goods are either exported or imported (small compared to both total trade and total domestic consumption). However, trade induced fluctuations in the accumulation rate, as explained above in Table 11, have not caused fluctuations in the rate of gross investment in fixed capital.

Second, during the period, 1971-75, Bulgaria benefitted from having supplies for domestic use grow faster than domestic production. Moreover, production growth must have been stimulated by relatively abundant supplies, both equipment and materials. Since 1975, the economy has faced decidedly more difficult circumstances. Supplies for domestic use have grown at just over half the rate enjoyed in 1971-75. Domestic production has grown faster than domestic supply, but probably faced supply restrictions which tended to reduce its growth rate.

⁶⁰ The conversion factor of 1.76 internal leva equal to one devisa lev is said by Allen (*op. cit.*, p. 659) to equal average foreign trade values in the two prices during the 1960s. The estimates bear inaccuracies because (1) average rates for exports and imports probably differed from the conversion factor in the 1971 base year and (2) subsequent movements of real exports and imports in domestic prices probably differed from the movements in foreign prices used in estimating.

⁶¹ Among the estimating errors are (1) differences in actual internal and external foreign trade values in current prices in the base year, (2) differences in the indices of real foreign trade based on internal and external values, (3) excluded invisible imports and exports that are counted in NMP produced, (4) differences in price deflators for NMP produced and NMP used, and (5) statistical discrepancies.

⁶² Estimates of the same relationships in current prices are made by Allen (*op. cit.*, p. 659). He indicates that still other reductions are involved, possibly a statistical discrepancy like the one in western GNP by expenditures and incomes. However, his attribution of foreign credits to the balances is in error.

⁶³ See *RFE*, Bulgarian Situation Report/1, (17 January 1978).

⁶⁴ Observations from 1970 to 1971 are affected by a change in Bulgarian national accounting methods.

TABLE 15.—CHANGES IN PRODUCTION AND ESTIMATED DOMESTIC SUPPLIES

Year	NMP produced	Foreign Trade			NMP For use	Difference (used-for use)	NMP used		
		Exports	Imports	Balance			Total	Accumulation	Consumption
1. Million leva in constant prices (at 1971 level):									
1970	9,734	1,344	1,244	100	9,634	-640	10,274	3,164	7,110
1971	10,411	1,451	1,409	42	10,369	-67	10,436	72,79	7,639
1972	11,213	1,619	1,547	22	11,191	-267	11,458	2,979	8,479
1973	12,118	1,775	1,767	8	12,110	-381	12,491	3,460	9,031
1974	13,034	1,923	2,154	-231	13,265	-700	13,965	4,287	9,678
1975	14,180	2,160	2,425	-265	14,445	-1,068	15,514	5,080	10,425
1976	15,115	2,449	2,369	80	15,035	-523	15,558	4,512	11,046
1977	16,069	2,800	2,495	305	15,764	-605	16,369	4,321	12,048
1978	16,952	3,098	2,672	426	16,526	NA	NA	NA	NA
1979	18,054	NA	NA	NA	NA	NA	NA	NA	NA
2. Indices of growth:									
1970	100.0	100.0	100.0	-----	100.0	-----	100.0	100.0	100.0
1975	145.7	160.7	194.9	-----	149.9	-----	151.0	183.2	146.4
1976	100.0	100.0	100.0	-----	100.0	-----	100.0	100.0	100.0
1977	106.6	113.4	97.7	-----	104.1	-----	100.3	88.5	106.0
1978	113.3	129.6	102.9	-----	109.1	-----	105.5	96.4	110.2
1979	119.5	143.4	110.2	-----	144.4	-----	NA	NA	NA
1979	127.3	NA	NA	-----	NA	-----	NA	NA	NA
3. Average annual growth rate:									
1971-75	7.8	10.0	14.3	-----	8.4	-----	8.6	12.9	2.9
1975	8.8	12.3	12.6	-----	10.9	-----	11.1	18.7	7.7
1976	6.6	13.4	-2.3	-----	4.1	-----	3	-11.4	6.0
1977	6.3	14.3	5.3	-----	4.8	-----	5.2	8.9	4.0
1978	5.5	10.6	7.1	-----	4.8	-----	NA	NA	NA
1979	6.5	NA	NA	-----	NA	-----	NA	NA	NA

NA—Not available.

Source: UN, "Yearbooks of National Accounts Statistics," 1977 (New York, 1978), pp 117-121 and sources in table 3.

E. Commodity Trade Balances

Less than satisfactory evidence is available concerning Bulgaria's planned commodity balances in 1976-80. The combined exports of machinery, metal products and chemicals were targeted to rise from 54.2 percent of total exports to 62 percent in 1980. In that year, machinery's share alone (including electronics) was planned at 50 percent, up from 41 percent in 1975.⁶⁵

The food industry's share of total exports is reported to have been planned at 35 percent in 1980.⁶⁶ Possibly this figure includes all food exports. If not, given that the industry's export share was only 25.4 percent in 1975, the target would imply an average annual growth of exports of over 17 percent. Plans on the import side are essentially unknown.⁶⁷

Bulgaria's realized commodity shares in Table 16 indicate machinery export shares had risen enough through 1978 to meet the plan. If chemicals had only maintained its 1975 share, the combined

⁶⁵ *Rabotnicheske delo*, 28 October 1976; *Planovo stopanstvo*, 1978; 1, p. 6; 1979: 1, p. 5.

⁶⁶ Thomas A. Vankai, *Progress and Outlook for East European Agriculture, 1976-80*, USDA, Foreign Agricultural Report No. 153 (Washington, D.C.; September, 1978) p. 11.

⁶⁷ Earlier projections, that imported consumer goods would increase as a share of domestic supplies from 15 percent in 1975 to 20-25 percent in 1980, suggest plans for increasing specialization, but give no basis for estimating the shares of total imports planned for the commodity group. *Rabotnicheske delo*, 14 December 1972.

export share of machinery, metals and chemicals planned in 1980 would have been virtually achieved by 1978. By contrast, the processed food export share had fallen. Even combined with food materials, it was impossibly below the 1980 target.

Bulgaria's rapidly growing import deficit for fuels and other materials needs little explanation at this point. It is obviously connected with Bulgaria's deficit in Soviet trade and has been a point from which pressure emanated throughout the economy. More noteworthy is the deficit in food materials since 1976 and the rising surplus of processed foods. The former reflects agriculture's problems; that the same problems did not cause a reduction in processed food exports, suggested a possible decline in Bulgaria's food reserves.

By far the most interesting part of Bulgaria's commodity trade balances is the large machinery export surplus since 1977. Compared to 1975, by 1978 net machinery supplies through trade decreased, in current prices, 700-750 million devisa leva. Translated to domestic leva at parity, the sum represents for 1975 nearly a third of the total value of machinery in capital investment (without capital repairs), and about 56 percent of the value of imported machinery in investment. Even with reported increases in the output of the domestic machinery industry of 41 percent by 1978, in these circumstances total domestic supplies would have grown slowly.

Commodity balances provide some clues to the behavior of Bulgaria's trade balances by country group. From 1975 to 1978, her trade deficit with developed market countries was reduced 444 million devisa leva in current prices. Still, hard currency debts, as noted above, rose 65 percent, certainly more than was planned. As debts rose, so did exports to this group, by 55 percent in current prices, while imports were reduced 18 percent. Which side of trade, exports or imports failed to develop as planned? With food exports below planned levels, exports may have been the problem. It is yet unclear if other exports were substituted and, if so, were lower average export prices a result. Whether imports from developed market economies were planned to fall even more than 18 percent is not known. But their further reduction to avoid debt increases would probably have resulted in unacceptably constrained domestic machinery supplies.

The immediate costs of Bulgaria's rising export surplus with the LDC's now appear even higher. Large portions of them must have been machinery. Moreover, the cost was not just that of reducing supplies, but of diverting possible exports to other markets. Large quantities of Bulgarian machinery exports to developed market economies would hardly be possible at present. That they could have been exported to the Soviet Union is more possible. That they were not, raises questions. After all, the Soviet Union must have extended Bulgaria credits to cover the rising import deficit. Did the Soviet Union find it more preferable to give credits than to accept even more Bulgarian machinery in payment? Or, was Bulgaria's export surplus to the LDC's increased with positive Soviet encouragement? Similar questions may be raised about Bulgaria's export surplus with other CMEA countries, especially the large jump in 1978 because of the abrupt reduction of imports. Domestic supplies had to be restricted in this case.

TABLE 16.—COMMODITY TRADE SHARES AND BALANCES

	1971	1972	1973	1974	1975	1976	1977	1978	1979 ¹
A. Exports (percent):									
1. Machinery.....	30.5	34.4	38.9	39.9	40.7	42.0	45.3	47.1	(47.6)
2. Fuels, minerals, metals.....	7.3	8.3	8.2	9.8	7.8	8.8	8.5	8.9	(10.5)
3. Chemicals.....	3.4	2.9	3.2	6.2	5.1	4.4	6.1	3.6	(3.3)
4. Construction materials.....	.9	1.0	.9	1.0	1.0	1.6		2.2	(2.0)
5. Other nonfood materials.....	4.2	3.8	3.4	2.6	2.2	2.2	29.3	2.2	(1.9)
6. Food materials.....	8.3	8.1	6.8	5.1	6.0	6.2		4.3	(4.8)
7. Processed foods.....	31.0	28.5	26.1	24.3	25.4	24.4	9.6	20.9	(18.6)
8. Consumer manufactures.....	13.5	12.4	11.9	10.5	10.3	9.6		9.8	(9.9)
B. Imports (percent):									
1. Machinery.....	42.9	46.4	44.0	40.7	41.4	41.2	39.6	40.3	(35.7)
2. Fuels, minerals, metals.....	28.5	27.3	28.3	28.8	33.5	34.7	37.7	38.6	(41.2)
3. Chemicals.....	6.9	7.1	6.7	7.2	5.6	5.6	6.7	5.5	(5.6)
4. Construction materials.....	.9	1.0	.9	.7	.7	.8		.8	.....
5. Other nonfood materials.....	9.3	8.9	8.6	8.0	6.6	6.6	10.5	5.6	(5.3)
6. Food materials.....	3.3	1.9	3.1	5.0	4.4	3.5		3.2	(5.6)
7. Processed foods.....	2.0	1.1	1.8	2.9	1.8	1.9	4.5	1.2	(.7)
8. Consumer manufactures.....	5.7	6.0	5.7	5.9	5.1	4.9		4.1	(4.6)
C. Balances (million devisa leva):									
1. Machinery.....	-285.6	-292.2	-152.8	-223.0	-316.6	-57.6	+328.0	+391.0	(+415.4)
2. Fuels, minerals, metals.....	-512.3	-521.4	-633.3	-811.9	-1,401.5	-1,421.6	-1,773.0	-2,035.3	(-1,035.6)
3. Chemicals.....	-83.2	-115.8	+110.0	-69.6	-33.6	-77.8	.....	-123.7	(-78.6)
4. Construction materials.....	+9	+8	-1.1	+7.7	+3.2	+32.2	.....	+90.7	(+44.3)
5. Other nonfood materials.....	-124.3	-137.4	-164.9	-240.4	-242.0	-211.3	.....	-250.3	(-122.8)
6. Food materials.....	+131.3	+177.2	+119.4	-17.1	+11.2	+132.0	.....	-69.7	(-25.8)
7. Processed foods.....	+743.0	+763.2	+730.1	+721.7	+1,011.1	+1,153.5	.....	+1,305.5	(+829.2)
8. Consumer manufacture.....	+201.5	+184.9	+200.5	+138.9	+201.0	+230.8	+305.0	+371.9	(+185.8)

¹ 1979, January-June only.

Which domestic supplies, machinery or consumer manufactures, is not known. But, given other pressures on the Bulgarian economy, a gratuitous extension of credits to other CMEA countries is implausible. Perhaps, as suggested, they earned Bulgaria some compensating credits against her Soviet deficit.

VII. CAPITAL ALLOCATION AND SECTOR DEVELOPMENT

The remaining task of linking more concretely Bulgaria's external balances to its domestic activities poses statistical and conceptual challenges. In national accounting, net exports are correctly viewed as investment. But, real net exports, showing the combined influences of terms of trade and capital movements on domestic supplies, are not limited to investment goods. That is, changes in real net exports impact on consumer supplies and on producers' supplies of energy and materials, as well as on supplies of investment goods. Therefore, a comprehensive identification of changes in domestic supplies requires statistics in the relevant categories for imports, exports, and production in comparable prices. These data for Bulgaria are unavailable.⁶⁶

The conceptual challenge is that of simultaneity, in which cause and effect are easily confused. The problem may be seen in these terms. The planned direction of the Bulgarian economy was disrupted by two initial disturbances. One, internal, took the form of unexpected weather conditions that caused agricultural output to fall short of the plan. The other, external, was the unexpected rise in import prices. The plan was then further changed as planners responded to the initial disturbances. Substitutes had to be found for exports planned from agriculture. Planned imports of some commodities were reduced, while other commodities were subject to unplanned exports to cover declining terms of trade. This meant domestic supplies had to be diverted with secondary reductions of production. And so on. Lacking an appropriately specified econometric model, the discussion will be developed in less comprehensive and analytical terms. It is divided in three parts: (1) Capital productivity and investment allocations; (2) industry; and (3) agriculture.

A. Capital Productivity and Investment Allocation

Bulgaria's stocks of fixed capital grew considerably less than Romania's from 1970 to 1975, although more than in other CMEA countries. What marked Bulgaria's case was that it was the only one in this group to have fixed assets grow less than in the preceding five years (1966-1970). Both Bulgaria and Romania, as expected, experienced declining marginal productivity of capital. Yet Bulgaria, with the slower growth of both capital and capital/labor ratios, had the faster decline of marginal capital productivity. Possibly more than just a relative lack of capital accounted for Bulgaria's low labor productivity. Disaggregating capital productivity discloses that the problem

⁶⁶ Bulgarian imports and exports recorded in the relevant categories (investment goods, producers' materials and consumer goods) were available to the author only through 1976. However, the series are given in foreign prices and cannot easily be converted into domestic prices for the appropriate comparisons to production series.

was limited to two sectors, construction and agriculture. Part of the problem in construction was that its capital stock was nearly doubled from 1970 to 1975. With a 22 percent increase in 1975, unfinished construction shot up by 85 percent that year alone. Bulgarian agriculture faced more serious problems. It had been subject to no abrupt increases in investment and, moreover, 1975 was a relatively good production year.⁶⁹

Investment targets set in the 1976-80 plan show no loss of faith by Bulgarian planners in the power of more capital. In fact, agriculture's declining capital productivity was matched with a plan calling for faster investment growth in 1976-80 compared to 1971-75 than had taken place comparing the latter period with the five preceding years. After 1975, faith in capital growth, if anything, increased as shown when planned investments were maintained as other targets were revised downward. As seen in Table 17, investment growth was highly erratic, but its structure much less so. Construction shares declined while the inventory of unfinished projects in the sector declined even more. A more significant and as yet unclear decline in agriculture's share took place in 1978.⁷⁰ As suggested above, it is possible that agricultural investment priorities were changed in 1978, pending a reorganization of the sector.

Given constrained labor supplies, Bulgarian emphasis on investments would have been misplaced without increasing emphasis on directing investments to modernization rather than new construction. Plans for this in 1971-75 failed by a considerable margin (less than 24 percent of investments in productive sectors used for modernization compared to 35 percent planned). More success has been achieved since 1975, an average of about 43 percent through 1979, although the target set for 1976-80 was a higher 53 percent. Shifting investments to modernization probably accounts for the considerable success recently in reducing unfinished construction. In 1975, the ratio of inventories of unfinished construction to annual investment flows had risen to 101 percent compared to only 86.7 percent five years earlier. In 1976, they rose to 113.1 percent in what appeared to be a typical rise during a five-year plan. A major campaign, then launched, stopped a further rise. The ratio fell to 98.9 percent in 1977 and 95.6 percent in 1978. Although a planned level of 89 percent in 1978 was not achieved, pressure continues with a ratio of only 78 percent planned for 1980.

Rising shares of modernization in investments would appear to have placed even greater strain on machinery imports and net domestic supplies of machinery. The share of imported machinery in total investments fell from 24.7 percent in 1975 to 19.1 percent in 1977 (later data are unavailable). During the same period, the total machinery share of investments fell only from 42.7 percent to 40.3 percent. In effect, modernization was being carried out with decreasing shares of foreign

⁶⁹ Marginal capital productivity, from 1970 to 1975, fell 21.4 percent in agriculture and 42.8 percent in construction. In industry, it had declined from 1966 to 1970, but then remained about constant. In other sectors significant gains took place.

⁷⁰ As the table indicates, there is an apparent discrepancy in agricultural investments reported for 1978. The CMEA yearbook for 1979 (p. 173) gives a figure of 793 million leva for agriculture and forestry. A larger figure of 836 million leva for the two sectors is given in *Statisticheski izvestiia* (Sofia: August, 1979), p. 13.

machinery.⁷¹ If the trend continued after 1978, Bulgaria's highly specialized and technologically-limited machinery industry would have been severely challenged.

TABLE 17.—STRUCTURE AND GROWTH OF INVESTMENTS¹

Sector	1971-75 average	1975	1976	1977	1978	1979 ²
1. Structure (percent of total):						
Industry	41.0	39.9	40.4	41.7	41.7	.....
Construction	3.8	4.1	3.7	3.5	3.2	.....
Agriculture	15.3	14.6	14.7	14.2	12.8	.....
Forestry .....	.6	.1	0	.1	13.4	.....
Transport and communications	11.5	13.4	11.2	11.8	14.4	.....
Trade	2.9	3.1	3.7	3.8	2.7	.....
Other material sectors	0	.5	.4	.3	.4	.....
Housing	10.4	9.5	10.8	10.3	10.7	.....
Other nonproductive sectors	14.5	14.8	15.1	14.3	14.1	.....
Total	100.0	100.0	100.0	100.0	100.0	NA
2. Growth (average percent):						
Industry	6.0	19.9	1.7	17.7	1.3	(-8.6)
Construction	16.7	30	-11.6	7.9	-7.8	(1.3)
Agriculture	8.1	5.0	1.4	10.9	-9.5	(-11.4)
Forestry	-38.4	-88.5	-12.1	54.3	-4.7	.....
Transport and communications	18.3	25.5	-16.1	19.6	21.5	(-6.9)
Trade	6.2	26.5	21.5	16.1	-27.9	(28.9)
Other material sectors .....	.....	.....	.....	.....	.....	.....
Housing	8.1	11.5	13.8	8.9	4.9	8.6
Other nonproductive sectors .....	.....	.....	.....	.....	.....	.....
Total	8.6	17.3	.6	14.2	.6	(-4.7)

¹ Excludes capital repairs.

² Growth 1st half of 1979 compared to the 1st half of 1978.

³ Different figures for agriculture and forestry were reported in the *CMEA Yearbook and Statisticheski izvestia*.

⁴ Excluding private housing.

Source: See table 3.

After 1975, agriculture's poor production record pushed marginal capital productivity in the sector down 25 percent by 1978. Earlier, in 1976, marked the first time in socialist Bulgaria that the ratio of capital to labor in industry compared to agriculture no longer exceeded the labor productivity ratios of the two sectors measured in terms of NMP.⁷² Even a 6 percent rise in capital productivity in industry and construction, combined, was insufficient to prevent a similar percentage decline in total capital productivity (in the productive sectors) by 1978.

B. Uneven Industrial Growth After 1975

Table 18 assembles the growth targets set for industry in the 1976-80 plan and compares them with growth achieved in 1971-75 and through 1978 or 1979.

Bulgaria's emphasis on development of its machinery industry, a 62 percent higher growth than total industrial output both achieved in 1971-75 and planned in 1976-80, is the highest in CMEA.⁷³ As dis-

⁷¹ The share of machinery in investments had risen sharply from 1973 to 1975 possibly reflecting a normal five-year plan investment cycle in which projects initiated at the beginning of a plan began to receive equipment deliveries two or three years later. The share of foreign machinery declined from 1970 to 1972-73 and then also rose sharply, possibly reflecting the same cycle.

⁷² In other words, until 1975, relatively higher industrial labor productivity was accounted for by even higher capital: labor ratios. See Table 2, above.

⁷³ See, UN/ECE, *Economic Survey of Europe in 1976, Part II* (New York, 1977), p. 77.

cussed above, machinery growth has been tied to exports and to intensified Bulgarian specialization within CMEA. Chemicals are the other priority sector and also have been keyed to export development. However, in the spectrum of CMEA industrial plans, Bulgaria's emphasis on this sector is less exceptional than in the case of machinery. Food and light industries (the latter with a growth target of 7.4 percent a year, covering principally textiles, clothing and footwear) received lower priorities in the 1976-80 plan. Still, given a planned growth of about 4.5 percent a year for per capita income and their probable income elasticities, both sectors were projected with ample margins for growing exports. The increased growth of the food industry in the plan compared to 1971-75, as noted above, was matched by an exceptionally high planned growth of its exports.

TABLE 18.—INDUSTRIAL PRODUCTION—PERFORMANCE AND PLAN
[Average annual growth rate]

Branch or product	Performance			Plan	
	1971-75	1976-78	1979	1980	1976-80
1. Electric power.....	6.4	8.6			
Electricity.....	7.1	7.7			8.6
2. Fuels.....	8.5	3.5	8.4		
Coal.....	-1.0	-2.5			5.7
Coke.....	10.2	1.1			
3. Ferrous metallurgy.....	11.8	8.8			10.5
Iron ore.....	-6	1.0			
Pig iron.....	4.7	-4			
Steel.....	4.7	2.9			6.2
Rolled steel.....	11.9	6.9			8.1
Steel pipe.....	10.3	6.6			
4. Chemicals and rubber.....	11.7	9.3	8.9	14.3	12.5
Soda ash.....	26.9	8.6			3.5
Sulfuric acid.....	11.2	4.5			
Nitrogen fertilizer.....	5.6	1.7			13.5
Phosphate fertilizer.....	10.7	4.8			12.8
Plastics and resins.....	11.8	4.5			22.5
Chemical fibers.....	22.3	9.3			10.0
Synthetic fibers.....	12.5	2.9			22.0
5. Machinery and metalworking.....	14.5	12.1	7.9	12.1	16.0
Tractors.....	3.0	14.5			28.1
Buses.....	9.7	24.2			24.6
Electric trucks.....	9.8	8.2			7.0
6. Construction materials.....	9.2	8.6	5.2		
Cement.....	3.5	5.7			15.1
7. Wood.....	5.8	2.8			
8. Paper.....	12.0	4.0			
9. Glass.....	8.4	7.1			
10. Textiles.....	7.3	5.3			
Cotton—Type fabrics.....	4.1	.2			4.0
Wool—Type fabrics.....	8.1	-2.0			4.4
Silk—Type fabrics.....	8.5	4.8			12.9
11. Clothing.....	7.5	2.6			
Knitwear.....	9.2	5.9			7.7
12. Leather.....	6.7	1.2			
13. Printing.....	3.9	14.2			
14. Food.....	5.8	4.1	6.5	7.7	7.0
Meat.....	8.1	4.6			0
Vegetable oil.....	-1.5	1.3			9.5
Sugar.....	-3.2	7.4			6.5
Canned fruit.....	.9	.3			7.0
Canned vegetables.....	1.6	12.1			6.7

Sources: U.N./ECE, *Economic Survey of Europe in 1976*, pt. II (New York, 1977), p. 77; *Planovo stopanstvo, 1979: 1*, pp. 3-11; Nikola Popov, *The Industry of The People's Republic of Bulgaria* (Sofia, 1979), pp. 18, 37, 39; and sources cited in table 3.

Indicators of industrial growth after 1975 show a general failure in all sectors to meet the plan. Moreover, the physical indicators in all cases, except meat production, show greater failure than the related

value indicators.⁷⁴ Even the exceptional performance of meat production may indicate a plan failure in the form of fodder shortages and higher than planned animal slaughter rates.

Investment effort in industry, shown in Table 19, gives no ready clues to explain production failures. Its most noticeable feature is an apparent lack of correspondence with branch output plans in Table 18. Machinery, with a planned growth rate higher than in 1971-75, by 1978 had received a smaller growth of investments than in 1971-75. Still, output grew rapidly suggesting that at the end of 1975 the branch had significant amounts of unfinished construction. The investment effort in textiles has been remarkably large since 1975, so much larger than growth planned for specific textiles that a shift in priorities seems to have taken place. Investment in fuels has increased at a faster rate than the planned growth of coal production. Here, one probably sees the heavy capital demands for opening new coal pits.

TABLE 19.—INVESTMENTS IN INDUSTRY¹

Branch	Average ²		Share of total		Change
	1971-75	1976-78	1971-75	1976-78	1976-78/ 1971-75
Electric power.....	262	332	14.8	13.6	127
Fuels.....	115	202	6.5	8.3	192
Ferrous metallurgy.....	104	98	5.9	4.0	94
Machinery and metal working.....	346	311	19.5	12.8	90
Chemicals and rubber.....	290	323	16.8	14.7	120
Building materials.....	285	201	16.0	8.2	71
Wood processing.....	123	75	6.9	3.1	61
Paper.....	39	22	2.2	.9	56
Glass and porcelain.....	47	24	2.6	1.0	51
Textiles.....	32	95	1.8	3.9	297
Clothing.....	14	8	.8	.3	57
Leather.....	9	6	.5	.2	67
Printing.....	19	10	.6	.4	100
Food.....	159	252	9.0	10.3	158
Total.....	1,776	2,437	100.0	100.0	137

¹ Excluding capital repairs.

² Million leva in current prices.

Source: See table 3.

The glaring failure of the coal industry since 1975 provides a starting point for analyzing the larger problems faced by Bulgarian industry. As the CMEA country most dependent on energy imports, Bulgarian coal and nuclear energy development were the only direct means of reducing rapidly rising costs of energy imports. Unfortunately, Bulgarian coal is also the lowest quality in CMEA so it depends on imports to support the metallurgical industry.⁷⁵

Along with other East European CMEA countries, Bulgaria neglected coal in favor of a fuel policy based on Soviet petroleum and natural gas.⁷⁶ As recently as 1973, coal production was forecast to grow by a total of only 15 percent by 1990, while energy consumption was

⁷⁴ As noted above in Section IV, this could be why the American and Bulgarian estimates of industrial growth show so much deviation.

⁷⁵ See, UN, *World Energy Supplies 1973-1978* (New York, 1979), pp. 38-39; CIA, *Energy Supplies in Eastern Europe: A Statistical Compendium* (December, 1979), Table 11, p. 9; *RFER*, Bulgarian Situation Report/9 (11 July 1979).

⁷⁶ John R. Haberstroh, "Eastern Europe: Growing Energy Problems," in Joint Economic Committee Print, *East European Economics Post Helsinki* (Washington, D.C.: August, 1977), pp. 383-7.

projected to grow at an average annual rate of 5.6–6.6 percent from 1970 to 1990. At that time, petroleum and natural gas were expected to supply 60 percent of primary energy by 1975 and not less than 65 percent by 1980 (the calculations were based on a methodology different than the one used in Table 20).⁷⁷

The 1976–80 plan envisaged an annual growth of energy consumption of about 8.1 percent.⁷⁸ This was a faster growth than in 1971–75 and above the planned growth rate for net material product of 7.1 percent. While statements made in the five-year plan and since have urged energy saving, it is clear that Bulgaria's leaders did not intend for the energy crisis to deter their sectoral emphasis for the growth of industry.

A further increase in nuclear-generated electric power, already providing the highest share in CMEA, was planned by 1980, but this source and hydropower contributed relatively small portions of total energy sources.⁷⁹ Soviet petroleum deliveries were scheduled to rise only 5 percent in 1980 over 1975, but total plan deliveries for 1976–80 were 26 percent more than in the previous five-years.⁸⁰ Even larger deliveries of Soviet natural gas, initiated in 1973, were expected. Finally, coal production plans were radically revised. In place of only 15 percent growth to 1990, the new plan called for a 32 percent increase by 1980, with increases to 65 percent and 100 percent projected for 1985 and 1990. The balance of energy supplies and domestic demand for inputs into the chemical and metallurgical industries was based on plans to reduce electric power and fuels per unit of NMP of about 4 and 8.4 percent, respectively.⁸¹

After 1975, coal output declined in place of the planned increase. That the Bulgarian fuel industry managed to increase output by an average of 3.5 percent a year in 1976–78 was due to increased petroleum refining. The industry's performance did improve markedly in 1979. Possibly investment in coal started to pay off in coal output which rose 10.8 percent in the first half of 1979 compared to the same period in 1978. Import figures in Table 21 show other details of Bulgaria's energy supply situation. Increased electric power imports were partly offset by increased exports. Coal imports did not increase from 1975 through 1978, but import figures (covering only part of coal imports) for the first half of 1979 rose 83 percent over the first half of 1978. Coke imports, already higher in 1978 than in 1975 by 24 percent, increased 19 percent in the first half of 1979. Bulgarian petroleum imports from the Soviet Union were planned in 1979 at levels nearly

⁷⁷ *Ikonomicheski zhivot* (Feb. 28, 1973), p. 8, quoted in *ABSEES* (July 1973), item 470. Item 470.

⁷⁸ Growth rates of 6.0 and 4.2 percent were projected for 1981–85 and 1985–90. See, UN/ECE, *Coal: 1985 and Beyond* (New York, 1978), p. 7.

⁷⁹ Nuclear generators are planned to supply 20 percent of electric power by 1980, up from 12 percent in 1975, and 42.7 percent by 1990. The existing facilities at Kozludin received their third and fourth reactors in 1979 and 1980, with capacity due to rise from 800 to 1600 megawatts; two other stations are planned or under construction. *Otechestven zov* (10 January 1975), n. 1, quoted in *ABSEES* (July, 1975), item 409; *Planovo slovesatvo*, 1979: 1, p. 6; Nikola Popov, *The Industry of the People's Republic of Bulgaria* (Sofia, 1979), p. 16.

⁸⁰ Haberstroh, *op. cit.*, p. 396.

⁸¹ Lower electric power and fuel use per unit of NMP does not include energy materials consumed as raw materials by industry. Hence, it does not contradict the point made above that total consumption of primary energy was planned to rise faster than NMP. See, *Rabotnichesko delo* (Oct. 28, 1979).

TABLE 20.—PRODUCTION AND CONSUMPTION OF PRIMARY ENERGY

	Share (percent)			Growth 1970-1978		Growth rate	
	1970	1975	1978	1975	1978	1971-75	1976-78
1. Distribution:							
Production.....	100.0	100.0	100.0	92.6	86.9	-1.5	-2.1
Coal and lignite.....	91.4	93.8	90.5	95.0	86.0	-1.0	-3.3
Petroleum.....	3.0	1.2	1.3				
Natural gas.....	3.9	.9					
Hydro and nuclear power.....	1.7	4.1	8.2	228.0	430.1	18.0	23.4
Imports (percent of production)...	108.3	177.7	225.8	152.0	181.3	8.7	6.0
Exports (percent of production)...	2.6	.2	.6				
Consumption.....	100.0	100.0	100.0	122.3	132.2	4.1	2.6
Solid fuels.....							
Solid fuels.....	60.2	50.3	43.0	102.3	94.4	.5	-2.6
Liquid fuels.....	37.2	43.3	43.6	142.6	154.9	7.4	2.8
Natural gas.....	1.9	3.8	9.9	244.5	696.7	19.6	41.8
Hydro and nuclear power.....	.8	2.6	3.5	408.6	603.1	32.6	13.8
Per capita consumption.....				119.1	127.3	3.6	2.3
2. Production—consumption ratios:							
Total.....	48.4	36.7	31.8				
Solid fuels.....	73.6	68.4	67.1				
Hydro and nuclear power.....	103.9	58.1	74.1				
3. Value of production per 1,000 units of energy consumed:							
NMP (leva).....	291.2	346.3	386.6	118.9	132.8	3.5	3.7
Net industrial product (leva).....	144.8	184.4	223.6	127.3	154.4	5.0	6.6
GMP (dollars).....	451.2	464.1	465.5	102.9	103.2	.6	.1
Value-added in industry (dollars).....	152.4	166.1	176.3	109.0	115.7	1.7	2.0

Source: Calculations based on production and consumption in tons of coal equivalent found in, UN, "World Energy Supplies," various issues and data cited in tables 3 and 5.

27 percent over those of 1975.⁸² Total petroleum imports must have increased even more, given the 53 percent rise in non-Soviet sources from 1975 to 1978. Table 20 shows an overall increase in Bulgaria's energy consumption of 23 percent from 1975 to 1978, an average rate of 7.1 percent. By 1979, the average rate of increase probably was higher, approaching that planned.

Details of Bulgaria's coal failure are yet unavailable. More than likely, investment delays followed the rapid shift in policy from 1973 to 1976. Bulgaria's production, nearly all lignite and brown coal, was planned mainly for electric power generation.⁸³ Electric power generation was very nearly on the planned target in the first half of 1979. This indicates that both coal and other energy materials may have been diverted from other planned uses.

Diversions would have likely centered on the chemical and metallurgical industries. Problems in the chemical industry show up in relatively large failures for chemical fertilizers (as noted below, plans in agriculture also suggest that planned production of pesticides and herbicides was not met). By contrast, chemical fiber production was about on target. The figures indicate an obvious shift of priorities. Both fertilizer and fibers were important exports. Bulgarian planners may have responded to international price changes which saw

⁸² Bulgarian statistics show less petroleum imported from the Soviet Union than do those cited by Haberstroh (p. 381).

⁸³ In 1977, 3.1 percent of brown coal was used in metallurgy, 3.5 percent in chemicals and 5.5 percent in other industry. Most black coal was used in industry with the respective figures 31.2 percent, 16.0 percent and 10.1 percent. See UN, *Annual Bulletin of General Energy Statistics for Europe, 1977* (New York, 1979), Table 2.

fertilizer prices fall by half between 1975 and 1978, while synthetic fiber prices appear to have increased slightly.⁶⁴

TABLE 21.—IMPORTS OF SELECTED ENERGY MATERIALS

Year	Electric power (million kWh)		Petroleum (1,000 tons)		Natural gas (billion m ³) Total	Coal (1,000 tons) total	Coke (1,000 tons) total
	Total	U.S.S.R.	Total	U.S.S.R.			
1970.....	232	206	5,696	4,750	-----	4,994	295
1975.....	4,066	4,007	10,459	9,861	1.2	6,379	330
1976.....	4,010	3,916	10,839	10,022	2.2	6,190	336
1977.....	4,100	NA	11,763	10,849	2.9	6,251	367
1978.....	4,631	NA	12,644	NA	NA	6,385	410
1979 ¹	NA	NA	NA	12,500	4.6	NA	NA

NA = Not available.

¹ Preliminary.

Source: "Vunshna turgovnia" 1979: 4 (Sofia), pp. 2-3, and sources cited in table 3.

Figures for Bulgaria's ferrous metals industry suggest that basic metal output was held back. Bulgaria's two major facilities, the Kremikovtsi works north of Sofia and the Lenin works at Pernik, have been planned for conversion from metal production to metal working because of the rising costs of materials.⁶⁵ Like Romania, Bulgaria is planning a third large metal combine located on the Black Sea coast for access to both coke and iron ore. But its first stage will not be in operation until 1985. It appears that Bulgaria might have been forced to switch to greater imports of basic steel after the 1976-80 plan was approved. In 1974, about half of Bulgaria's iron ore was imported. Imports fell 20 percent in 1975 and another 14 percent by 1978. Domestic iron ore production increased only 9 percent from 1975 to 1978, so domestic supplies were reduced. Pig iron production did not increase from 1975 through the first half of 1979. But net imports of pig iron and rolled metal increased respectively 29 percent and 46 percent, from 1975 to 1978.

C. Sources of Agriculture's Failure

The record of Bulgaria's agricultural plan failure in Table 22 ought to be read with care. Growth rates of value indicators for 1971-75 and for plan indicators are calculated as averages for succeeding five-year periods. Figures for 1976, 1977 and 1978 are calculated to show average growth rates since five years earlier.

Bulgaria has done better in animal production than crop production, following a general pattern in Eastern Europe. However, its apparent success in raising meat production must be viewed with the failure, shown in Table 23, to increase cattle and pig herds as planned. With cattle herds low, planned milk production has not been achieved. Probably meat production has taken the form of young animal slaughter in order to keep herds in line with the capacity to feed them. Because Bulgaria's planners were not prepared to spend

⁶⁴ About 40 percent of Bulgaria's chemical fiber exports had gone to the developed market countries and the LDCs (*Economic News of Bulgaria*, 1979: 10, p. 6). In 1976 at least half of its nitrogen fertilizer exports went to LDCs. For international price statistics, see: UN, *Monthly Bulletin of Statistics* (February, 1980), pp. 162, 172.

⁶⁵ See, Popov, *op. cit.*, p. 18; and *RFEE*, Bulgarian Situation Report/20 (4 December 1978).

TABLE 22.—AGRICULTURAL OUTPUT—PERFORMANCE AND PLAN

Indicator	Performance					Plan 1976-80 ¹
	1971-75 ¹	1976	1977	1978	1979	
Gross agricultural output ² (percent).....	2.9	3.3	1.2	1.8	-----	3.7
Crop production ² (percent).....	1.4	1.6	-0.9	0	-----	NA
Animal production ² (percent).....	3.8	4.2	4.3	4.5	-----	NA
Grain (thousand tons).....	7,399	8,505	7,589	7,507	8,307	9,600
Wheat (thousand tons).....	3,193	3,511	3,384	3,466	-----	-----
Corn (thousand tons).....	2,505	3,031	2,573	2,236	-----	-----
Barley (thousand tons).....	1,477	1,781	1,481	1,488	-----	-----
Vegetables (thousand tons).....	1,577	1,587	1,617	1,760	-----	2,200
Oil-seed crops (thousand tons).....	475	463	516	494	-----	-----
Sugar beets (thousand tons).....	1,711	2,327	1,751	1,600	-----	2,450
Tobacco (thousand tons).....	145	165	118	139	-----	160
Fruit (thousand tons).....	1,073	1,026	907	930	-----	1,600
Grapes (thousand tons).....	1,058	1,207	868	1,100	-----	1,350
Corn silage and fodder (thousand tons).....	4,691	4,755	4,251	5,067	-----	-----
Meat (thousand tons).....	574	732	704	726	³ (830)	650
Wool (thousand tons).....	32	34	34	34	-----	36
Hens' eggs (millions).....	1,721	1,816	1,993	2,174	³ (2,384)	2,100
Milk (1,000 liters).....	1,676	1,762	1,871	1,944	³ (2,173)	2,600

¹ Annual average.² For 1971-75, the average growth compared to 1966-70. For 1976, 1977, and 1978, the average growth since 5 years earlier.³ January to June only on an annual rate.

NA—Not available.

Source: See table 3.

larger sums of foreign exchange on imported animal feed, herds were limited by the weaker crop side of Bulgarian agriculture. The major aim of the 1976-80 plan in crop production was to support the animal sector with increased production of fodder grain and green fodder.⁶⁶ Subsequently, supplies of hay and green corn silage increased, but not supplies of high quality animal feed from grain (corn, barley, oats) and oil seeds. As a result, animals received far less than

TABLE 23.—AGRICULTURAL INPUTS—PERFORMANCE AND PLAN

Indicator	Performance					Plan 1980
	1975	1976	1977	1978	1979	
Investments (percent growth).....	15.6	17.5	17.3	14.4	-----	19.0
Fixed capital (million leva).....	5,983	5,423	6,727	7,031	-----	NA
Fixed capital (index).....	100	107	112	118	-----	NA
On agroindustrial complexes (index).....	100	104	114	-----	-----	127
Irrigated land (1,000 hectares).....	1,128	1,147	-----	-----	-----	1,328
Tractors (1,000 units/15 hp).....	136.6	143.0	141.0	-----	-----	148.0
Combines—total (1,000 units).....	22.6	23.2	-----	-----	-----	(?)
Grain combines (1,000 units).....	10.3	10.5	10.6	10.5	-----	(?)
Cattle (1,000 animals).....	1,725	1,787	1,797	1,818	1,843	2,250
Pigs (1,000 animals).....	3,889	3,456	3,399	3,772	3,832	6,000
Sheep (1,000 animals).....	10,014	9,723	10,144	10,105	10,540	10,000
Mineral fertilizer (kg/ha arable).....	151	146	165	164	-----	250
Pesticides and herbicides (kg/ha) ²	514	-----	-----	-----	-----	NA
Land-treated with herbicides (1,000 ha) ²	2,200	-----	-----	-----	-----	3,200

¹ Growth rates for 1975 and 1980 are average rates achieved or planned for the 5-year periods, 1971-75 and 1976-80, compared to the average of the preceding 5-year period. Rates for 1976, 1977 and 1978 are average rates since 5 years earlier.² A plan target of 23,000 combine harvesters did not specify type.³ Land is assumed to be agricultural land.

NA—Not available.

Source: Dimitar Sinapov, "Factors For Raising The Effectiveness of Agricultural Production," from "Nove vreme" 1977 is as translated in "Information Bulletin," 1978:1 (Sofia), pp. 47-8; and sources cited for table 3.

⁶⁶ *Rabotnicheko delo* (28 October 1976).

optimal amounts of protein. Only 60 percent of supplies from the mixed-feed industry were said to meet minimum quality standards.⁶⁷

Bulgaria's obvious difficulties in raising the level of crop production has been attributed officially to a sequence of three years' poor weather in a row, from 1976 to 1978. The validity of official claims cannot be easily judged. One suspects that weather problems have not been greater than in past years. In fact, the range of variation of grain production around the average was considerably lower from 1976 to 1978 than it had been in 1966-70 and 1971-75.⁶⁸ But, regardless of what might be shown by the best methods of weather analysis, it is certain that Bulgarian agriculture has faced other problems. By their actions, Bulgarian leaders indicate major organizational problems (discussed in the following section). In addition, the statistical record shows major deficiencies in the flow of agricultural inputs.

The quantitative and qualitative shortcomings of Bulgaria's agricultural labor force were discussed in Section V, above. Among them is the problem of the high average age and the low average education of agricultural labor. But obsolescence has not been confined to labor inputs in Bulgarian agriculture. For example, planned work on Bulgaria's system of irrigated land in 1976-80 called for extending the system by 200,000 hectares, or 13 percent, but slated an even larger 270,000 hectares of existing obsolete systems for reconstruction. In the case of machinery, Bulgarian norms considered the optimal time for use of tractors as 6 years and for grain combines as 7 years. Yet, in 1975, some 33.8 percent of tractors and 98.3 percent of grain combines in stock were over eight years old.⁶⁹ Probably significant portions of the increased investment planned for agriculture were scheduled for modernization rather than expansion of the capital base. A plan figure is unavailable, but figures reported for 1976 and 1977 indicates a massive redirection toward modernization, from an average of 13 percent of investments in agriculture in 1973-1975 to over 40 percent. The shift was far more abrupt than in the case of industry. The plan figures in Table 21 indicate that expansion of agricultural capital was directed primarily to livestock. Tractor stocks were to increase only 8.3 percent. The increase planned for combines is unclear. If the plan figure refers to grain combines, only, then a very large increase was planned; if it refers to total combines, no increase was planned. Total stocks of fixed capital on the agro-industrial complexes were to rise by 27 percent, but part of the increase could have represented shifting of organizational jurisdiction.

As noted already, investment plans were not met after 1975. The particularly low figure for 1978 (about which there is some doubt, as indicated above) may have indicated delays while agricultural reorganization was completed. Still, the stock of fixed capital increased by about 17-18 percent from 1975 to 1978, or an average rate of 5.5 percent a year, enough to meet the figured planned for agro-industrial

⁶⁷ Dimitar Sinapov, "Factors for Raising the Effectiveness of Agricultural Production" from *Novo Vreme* 1977: 12, as translated in *Information Bulletin*, 1978: 1 (Sofia), n. 53.

⁶⁸ See, B. Askanas, H. Askanas and F. Levick, "The Economies of CMEA Countries in the Second Half of the 1970's," *Eastern European Economics* (Fall, 1979), pp. 44-45. Data in this source for 1975-77 was recalculated for 1976-78 by the author.

⁶⁹ Sinapov, *op. cit.*, pp. 52-3.

complexes. Probably there were significant departures from the planned composition of capital, as indicated by the failure of animal herds to grow. In addition, the tractor stock in 1978 fell below its 1976 level, reflecting significant changes in foreign trade. By 1978, Bulgarian domestic production of tractors had increased 50 percent over 1975. But production minus exports increased over four times. By contrast, production minus net exports decreased 15 percent in the same time period. Planners sharply reduced imports, but failed to increase production enough to meet planned domestic supplies.

Similar changes account for the failure to meet plans for chemical inputs in agriculture. In 1971-75, application of pesticides and herbicides increased very rapidly both in amount per hectare and total area. The 1976-80 plan called for herbicide application to increase from 45 to 69 percent of the agricultural land. But domestic production of chemical protection agents remained below 1975 levels from 1976 to 1979. In 1975, however, Bulgaria imported about 3.3 times the tonnage it exported. Domestic supplies to agriculture had to be reduced. Production of chemical fertilizers did increase after 1975, but much less than planned. In 1975, Bulgaria imported more tonnage than it exported. Then, in 1976, exports rose abruptly and continued to exceed imports in the following years. In this case, not only were total domestic supplies reduced, but the mix of them was changed because Bulgaria exports nitrogen fertilizers and imports both potash and phosphate fertilizers. Changes in supplies of petrol fuels for agriculture are not known, but one may believe they were marginally restricted at least.

VIII. ORGANIZATION AND A SECOND NEM

Bulgaria experimented briefly, from 1965 to 1968, with a "new economic mechanism," or NEM, that promised, but did not finally result in any significant decentralization of economic organization.⁹⁰ The evolution of economic organization since 1968, except in agriculture, has been undramatic and unclear. One thrust has centered on the system of finance. As noted above, the role of budget financing of investments was reduced and roles of bank credit and organizational funds increased. Yet, there has been no significant decentralization of either saving or investment decisions. The latest step in ambiguous financial changes has been the conversion, since 1976, of economic ministries and other units of national administration to a self-financing basis.⁹¹

A second direction of organizational change has focused on efforts to improve central planning. Since 1971, resources have been committed to the design and equipping of an Automated Management System. But, as in other CPE's the concept has proved difficult to implement. In 1978, work on it was criticized as "too piecemeal." No fixed

⁹⁰ See, Allen, *op. cit.*, pp. 666-7; Heinrich Vogel, "Bulgaria," in *The New Economic Systems of Eastern Europe*, Hans-Hermann Hokmann, Michael Kaiser, and Karl C. Thalheim (eds.), (Berkeley and Los Angeles: 1975) pp. 199-222; L.A.D. Dellin, "Bulgarian Economic Reforms—Advance or Retreat," in *Problems of Communism* (Sept.-Oct. 1970), pp. 44-52; and Feiwel, *op. cit.*, pp. 91-103.

⁹¹ *Robotnichesko delo* (14 January 1976; and *Finans i kredit*, 1976: 1, and 3, p. 3 and p. 12.

program had yet been set for actuating an "automated system of planned estimates (ASPE)" nor was it yet linked conceptually with "the unified system for social information (USSI)." ⁹² A more conventional approach took the form of a campaign for counterplanning, launched in 1971. ⁹³ Little success seems to have resulted. Discussions at the National Party Conference in April, 1978, which were especially directed to planning, listed all the "classic" problems of central planning as prevailing in Bulgaria's system. ⁹⁴ But the only concrete change then issuing from the Conference was the innovation of annual planning for two years rather than one, began in 1978 (for 1979 and 1980).

The third direction of organizational change has taken the form of continuous structural reshuffling. It centered, first, on the formation of economic associations, a relatively standardized integration of smaller enterprises, which, since 1974, has been confused by the creation multiple forms of integrative units. ⁹⁵ The more significant part of structural change has been in agriculture. It began in the 1970s with the formation of agro-industrial complexes and recently has culminated in a new NEM in that sector, which is being applied more broadly to other parts of the economy.

The major purposes of the agro-industrial complexes and their lesser numbered counterparts, the industrial-agricultural complexes, have been to increase agricultural productivity by: (1) increasing the scale of organization; (2) increasing organizational specialization; and (3) combining agricultural and industrial processing units. In the latter case, it has been hoped to solve a recurring problem of having either too few or too many agricultural workers, depending on season, by appropriate scheduling of related industrial processing and shifting labor from field to factory. ⁹⁶ Both the size and character of basic farm units changed radically within the system of complexes. The number of subordinate cooperative farms fell from 679 in 1972 to only 48 in 1978. Subordinate state farms were reduced from 156 to 34. Many of both types were converted to "specialized units," the number of which rose from 265 in 1972 to 1862 in 1977 (in 1978, their number fell to only 565). By this time, 75 percent of agricultural production came from the agro-industrial complexes. Cooperative farmers, in a most fundamental political and economic change, were reduced to only 20 percent of the agricultural labor force.

Another significant change in agriculture organization took place in late 1978. The agro-industrial complexes were reorganized to have contiguous boundaries with the "systems of inhabited places," established a few years earlier as loose units of local coordination. One purpose in the union of the two was to reduce the size of agro-industrial complexes. Their administrative centers were considered to have grown too large and to have moved agricultural specialists too far from

⁹² Stanish Bonev, "Main Directions for the Improvement of Planning" from *Nova creme*, 1978: 9, as translated in *Information Bulletin*, 1978: 10 (Sofia), p. 41; Allen, *op. cit.*, pp. 196-8.

⁹³ Allen, *op. cit.*, p. 666.

⁹⁴ These were poor balance, neglect of counterplanning, over centralization, too many plan "correction," and neglect of five-year planning and targets. *Rabotnichesko delo* (26 April 1978).

⁹⁵ Allen, *op. cit.*, pp. 666-8. By 1978, emphasis seemed to be moving back toward a more unified structure, emphasizing the "combine." *Rabotnichesko delo* (26 April 1978).

⁹⁶ Details of the agro-industrial complexes and related institutions are described by Allen, *op. cit.*, pp. 676-82.

production. The 143 agro-industrial complexes were scheduled to be increased about 283.⁹⁷ The other significant element of reorganization was that councils for the "system of inhabited places" replaced municipal and communal units as the primary organs of territorial administration. Not only was the structure of local government, established since 1958, changed, but the councils were also to be the primary political units and, with a respective agro-industrial complex, the primary units of economic organization.⁹⁸

In the broadest sense, the change, with the virtual elimination of cooperative farms, may be viewed an effort to eliminate the social, political and economic differences between rural and urban life. Territorial unification of economic administration has not yet included the bulk of industry. Possibly it might in the future. In April, 1978, party chief, Todor Zhivkov, mentioned that in the future the country will be divided into six regions, combining "industrial and territorial concentration and specialization." Still, little is known about these plans.⁹⁹

Changes in organization structure alone could hardly be expected to eliminate differences in rural and urban life in Bulgaria that have so far escaped the comparatively great administrative effort through central planning. The evidence of continuing differences was eloquently presented by measures taken to "stabilize" the agricultural labor force in 1978, discussed in the section on labor, above. In March, 1979, the NEM in agriculture was announced. It could provide the economic force to finish a task that, so far, has eluded Bulgaria's planners.

The NEM announcement highlighted the formation of a National Agro-Industrial Union whose governing council replaces the Ministry of Agriculture and Food Industry. District [okruz] agro-industrial unions were also formed, having, among other rights, the possibility of merging all district economic organizations into a single agro-industrial complex. There are only 28 districts, including the City of Sofia, so now the status of the 283 "systems of inhabited places" and contiguous agro-industrial complexes is less clear. Does Bulgaria need more layers of administration or larger management units?

In any case, the more interesting parts of the NEM are not changes in organizational structure, but possibilities for decentralizing decisionmaking.¹⁰⁰ Its provisions include, and again "possibilities" must be emphasized: (1) Reduction of centrally determined plan indicators, at least in the stage of setting control figures; (2) granting to agro-industrial complexes the right to negotiate (a possibly larger amount of) extra-plan delivery contracts directly with procurement and export organization, even to export on their own account; (3)

⁹⁷ It should be noted that while the number of agro-industrial complexes was increased and their average size reduced, the number of their subordinate specialized units was reduced from 1862 in 1977 to only 565 in 1978. Management was then increasingly concentrated in medium sized units.

⁹⁸ *BPER*, Bulgarian Situation Report/6 (28 March 1978); Bulgarian Situation Report/8 (2 May 1978); and Bulgarian Situation Report/1 (16 January 1979).

⁹⁹ Two examples were given: (1) The Northeast Region, covering the districts of Varna, Tolbukhin, Silistra, Russe, Shouman, Razgrad and Turgovishte, which will specialize on shipbuilding, transport engineering, heavy-element chemistry, silicate industry, cereals, livestock and viticulture; and (2) The Southwestern Region, covering the City and District of Sofia, Pernik, Kyustendil and Blagoevgrad, which will specialize on metallurgy, machinery, electronic and electrical equipment, cereals, livestock, tobacco and fruit. *Rabotnichesko delo* (26 April 1978).

¹⁰⁰ See, *Rabotnichesko delo* (6 March 1979) and (7 March 1979).

incorporation of more flexible pricing arrangements; (4) reduction of budget contributions to a single fee on land (with a higher fee if land abandoned since 1970 remains unused); (5) exemption of capital investments on credit or with organizational funds from central approval; (6) elimination, within two years, of budget subsidies in agriculture, even in cases of natural disaster (the latter are to be covered by state insurance paid for by the agro-industrial complexes); and (7) reduction of wage payments to a residual after payment of land fees, insurance, amortization of credit and reserves, with greatly lowered wage advances (average gross wage increases, in any case, must be limited to productivity increases). Beyond these measures, the "systems of inhabited places" are expected to become self-sufficient in basic foods. To this end, a special stimulation to private farming was created by the distribution of 53,800 hectares of previously abandoned land.¹⁰¹

Among the more uncertain measures of the NEM are those for planning and prices. Available descriptions say that central indicators will be reduced in the stage of control figures, leaving it unclear if indicators "counterplanned" by the agro-industrial complexes will be subject to central scrutiny in later plan stages.¹⁰² Also, while the agro-industrial complexes are said to have been given the right to set their own plans for production costs and capital investments, major items of machinery, materials and energy will be centrally allocated. Their right to plan wages is also limited.

Price provisions indicate that uniform state procurement prices will be set for a more limited number of obligatory deliveries (see the previous footnote). However, procurement agencies are to be given special funds for offering incentive prices for items in short supply. Prices for products outside obligatory deliveries, including those for exports, are to be negotiated by the seller and purchaser. Maximum retail prices will still be set by state agencies for goods "in excess demand."

If the NEM is seriously executed, the most critical part of it will be prices. This has been recognized at least partially, by a revision of agricultural prices in advance of the general wholesale price revision, now in progress. But, as indicated above in Section III, the disparities among export, wholesale and the two retail price systems have been significant. If export prices rise quickly, what will happen to domestic supplies for consumption and processing? If domestic retail prices rise too quickly, worker incentives in nonagricultural sectors will surely be dulled. On the other hand, if prices paid to the agro-industrial complexes rise insufficiently, then under a new non-subsidy regime, the agricultural sector could find itself without investment funds and, even more seriously, without workers.

¹⁰¹ In 1977, private (or personal) farming used 567,000 hectares of agricultural land. It provided 67.0 percent of sales in cooperative markets in 1976 (which, in turn, was 33.5 percent of retail sales), with planned shares for 1980, 1985, and 1990 set, respectively, at 52, 37 and 29 percent. *Vütrekhna turgoriia*, 1978: 4, pp. 35, 37.

¹⁰² Central and obligatory indicators are to be limited to (1) deliveries for sale of not more than eight specific products, including their part for export, (2) maximum import expenditures and minimum export earnings, (3) payments of land fees to the state budget, and (4) allocations of supplies of major machinery, raw materials and energy. Farm units, in turn, will set indicators for crops, areas sown, productivity, production costs, personnel, wages and capital investments.

It is said that the NEM is progressing favorably in agriculture. Application of its principles are now being extended to the construction and transportation sectors, with plans under way for subsequent extension to the food industry, domestic trade, foreign trade, and to an ubiquitous "others." Extension is considered necessary because of agriculture's interdependence with other sectors. One may ask, how far does interdependence reach in the eyes of Bulgaria's leaders and planners? Is it seen as a need for a one time readjustment of internal prices and incentives? Or, does it go beyond to Bulgaria's external environment? With that environment unlikely to stop changing, even with its large Soviet component, a one time adjustment will hardly suffice.

ALBANIA

THE IMPACT OF THE SINO-ALBANIAN SPLIT ON THE ALBANIAN ECONOMY

By Adi Schnytzer*

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1. INTRODUCTION

Although economic relations between the People's Republic of China and the People's Socialist Republic of Albania were not severed until the middle of 1978, a study of the relevant official documents makes it clear that the Albanian leadership was aware by 1975—if not sooner—that it would be unable to rely on significant amounts of Chinese aid in formulating its medium-term development plans. This paper analyzes the Albanian economy in the period of the (Sixth) Five-Year plan, 1976–80.

The discussion is divided into three sections.

In the first, attention is focused on the Albanian planning system. Although the Albanian economy has never experienced a reform which gives greater decision-making power to the enterprise, the 1970 reorganization shifted some economic units from ministerial to district people's council control and there was a reduction in the number of plan indicators. It is argued that a degree of *de facto* decentralization to enterprises occurred in the wake of these formal changes and that the PLA (Party of Labour of Albania) leadership has felt a consequent need to recentralize the management of the economy. In the new system, detailed planning in physical units has been restored and the ministries have regained most of their former economic decision-making power.

The PLA's development strategy and its modification are considered in the light of the loss of Chinese economic aid, in the second part of

*Lecturer in economics, School of Social and Industrial Administration, Griffith University, Queensland, Australia.

the paper. It is shown that, whereas the PLA's response to the split with the Soviet Union in 1961 was conditioned by a desire to fulfill industrial output plans at the expense of the rest of the economy, the most recent crisis has elicited a more balanced response. Thus, while the rapid growth of industrial sectors such as engineering remains high priority, they have been joined in that position by agriculture (particularly bread grain production). The dearth of recent Albanian statistics on economic performance is also considered in this section, it being suggested that fulfillment of the targets of the current five-year plan is most unlikely in the vast majority of sectors.

Finally, there is a brief discussion of the immediate impact of the departure of Chinese experts in July, 1980 on the economy. It is argued that, in view of the advance warning given to the PLA, the final departure was something of an economic non-event. It is even possible that the burden of foreign debt repayment led the Albanian leadership to precipitate the crisis and final split.

II. THE PLANNING SYSTEM

In his report to the PLA's Seventh Congress on November 1, 1976, Enver Hoxha spoke of a steady improvement in the level of economic organization in Albania. He noted the working class's "irreplaceable role in the organization and management of production"¹ and indicated, with justifiable pride, that the attempts of enemies such as the former Chairman of the State Planning Commission, Abdyl Këllezi, to "set our economy on the road of revisionist self-administration"² had been "strongly dealt with by the Party and prevented from finding any field in which it could operate."³

It is highly unlikely that Këllezi would have ever seriously suggested the implementation of a Yugoslav-type reform in Albania—he certainly never approached this position in public. The only moderately expansive account of Këllezi's ills to come out of Albania appears in an article by his successor, Petro Dode.⁴ According to this report, an attempt was made to replace party and working class political and ideological leadership of the planning system by the method allegedly used elsewhere in Eastern Europe, i.e., technocratic leadership. Dode proceeds to equate this with a distortion of the core of democratic centralism via the introduction of self-management methods and a denial of the mass line. Bearing in mind Albanian realities and translating out of marxist-leninist jargon, it seems reasonable to argue that Këllezi was probably arguing for a limited decentralization of economic decisionmaking power from the central level to the enterprise and/or a firmer concentration of existing power into the hands of enterprise management and specialists at the expense of local state and party organs and workers. Indeed, the second alternative could be construed as a desire for technocratic leadership without implying a contravention of stalinist economic ideology.

¹ E. Hoxha, *Report Submitted to the Seventh Congress of the Party of Labour of Albania*, (Tirana, 1976), p. 67. (hereafter *E. Hoxha, Report*).

² *Ibid.*, p. 68.

³ *Ibid.*

⁴ *Kruga e partisë*, May, 1977, pp. 5-19.

Hoxha's criticisms of the planning system were decidedly mild and gave no indication that changes were imminent. First, some "manifestations of subjectivism and haphazardness, routine and narrow practicism"⁵ were noted. Hoxha argued that these could be overcome only if advanced experience were used as the "criterion for the planning of production, work materials and costs, in all sectors of the economy."⁶ Prime Minister Shehu lent typically colourful support to this argument in his own report to the Congress:

Advanced experience and the best example are the new which is forging ahead, to which the future belongs. Dialectics is with the new. Dialectics is the Marxist-Leninist method of our Party in its appraisal of phenomena and in revolutionary action. Therefore, let us grasp the advanced, the best experience, the best example, continually disseminate advanced experience, encourage people to always forge ahead, raise the backward to the level of the advanced, and help the advanced to go still further forward, smash any liberal, bureaucratic, and technocratic obstacle which hampers the spread of advanced experience and reliance on the progressive new! This is what the Party requires of us all, this is what the interests of the people, of socialism, require.⁷

A detailed exegesis of this statement is beyond the scope of this paper. Suffice it to note that Hoxha and Shehu are arguing for taut planning. The former's second criticism concerned the failure of the Finance Ministry and the General Management of the National Bank to implement "rigorous financial control and discipline everywhere."⁸

Finally, Hoxha confirmed the prevalence of "globalism" and indicated his disapproval in unambiguous terms:

. . . the struggle and efforts of the party organizations, state organs, and all working people, must be centered on fulfilling the plan without fail, not only in overall figures, but also in all its separate indices, in quantity, range and quality, productivity and cost.⁹

It is interesting to note that neither Hoxha nor Shehu spoke at any length of the excessive centralization and bureaucratization which had been singled out so often in official statements accompanying the 1970 reorganization. Indeed, given the criticisms of Këllezi and the banking system and the demands for advanced experience, it seems that the PLA leadership might even have been feeling it was time to recentralize the economy.

The next major statement on planning was made by the new Chairman of the State Planning Commission Petro Dode and reported in the May, 1977 issue of the PLA's theoretical monthly, *Rruga e partisë*.¹⁰ Dode begins with the above-mentioned criticism of his predecessor Këllezi and other purged colleagues, Minister of Industry and Mines, Theodhosi and Minister of Trade, Ngjela. He goes on to note that, these purges notwithstanding, internal and external enemies remain. In explaining the correct formulation of planning system rules, Dode provides a classic defence of stalinist economics. He explains that the leading role of the party is the decisive factor in economic development. This is particularly true for the party organization at the base.

⁵ E. Hoxha, *Report*, loc. cit.

⁶ *Ibid.*

⁷ M. Shehu, *Report on the Sixth Five-year plan (1976-1980)* (Tirana, 1977), p. 99. (hereafter M. Shehu, *Report*).

⁸ E. Hoxha, *Report*, p. 69.

⁹ *Ibid.*, p. 70.

¹⁰ *Rruga e partisë*, May, 1977, pp. 5-19.

whose primary function is to provide political and ideological leadership. It is, of course, also an economic leader, but it does not duplicate the role of experts. Dode is unclear as to the line of demarcation between "red" and "expert", but Albanian practice has always tended to place technical problems in the hands of experts while leaving the enterprise party committees with mobilization and control functions and, in view of what follows, there is no reason to suspect that any changes were being proposed in the direction of further party involvement.

Dode notes that Albania has entered an intensive stage of development. He probably means not only that the Albanian economy has developed to a point at which returns to extensive development might be diminishing but also that, given the imminence of a zero foreign aid situation, intensive development may prove the only rational path. Under these circumstances, Dode insists that an efficient planning system is necessary and notes surplus stocks, low production yields and material and labour wastage as the three major problems of the system. Dode's solutions to these problems are as follows:

(1) Democratic centralism, defined as the rule of the working class via the party and the proletarian state, combining centralized direction with the creative initiatives of the local organs and working masses, must be strengthened. Although the formulation of this definition has remained unchanged since the mid-sixties, Dode introduces a shift in emphasis. He stresses that workers must have a say in planning and that worker control, along with control by the *lek* and the work of control agencies in the hierarchy, are the only means to assure successful plan implementation. However, he argues that worker control groups should be set up with clearly defined tasks and that experts should join the groups to help the workers. In his original formulation of the worker control system in Albania, Enver Hoxha had explicitly rejected the recruitment of experts onto the commissions on the grounds that this led to "marked manifestations of revenge towards the workers' criticisms".¹¹ It is perhaps significant that an important policy change should be announced in the Albanian press by a member of the PLA leadership other than Enver Hoxha, especially as a "creative development" of the ideology is implied.

(2) Dode argues that bottlenecks, imbalances, low productivity and all the other common dysfunctions of the centrally-planned economy occur, not as a consequence of the system rules, but because these rules are improperly understood and implemented. Thus, it is noted that plans which are drawn up merely by adding a mark-up to the previous year's output figures cannot be expected to yield outcomes which accord with the fundamental law of socialism, viz. the fulfillment of the continually growing demands of the population. Inflated demands by enterprises for inputs are similarly detrimental. The only way, it is argued, that society's needs can be fully met is if a realistic plan is drawn up. This can happen only if the central planners are fully informed and this is clearly not the case when primary economic units report "global figures" and the ministries perform further "roundings." Nor is it the case when prices are used in ag-

¹¹ See A. Schnytzer, "Planning and Management in Albania," *East European Economies Post-Helsinki* (Washington, 1977), pp. 592-595 (hereafter JEC 1977).

gregation. In other words, the Central Planning Bureau must be provided with data for the goods needed by the economy "strictly in physical value, quantity, assortment, variety and quality." For their part, the planners must improve balances and quotas and generally raise the level of sophistication of plan-formation.

(3) In the past, there has been a tendency to consider the financial plan as a mere supplement to the production plan. Dode argues that these represent an organic unity and must be treated as such by enterprises and hierarchy alike.

It should be noted that Dode nowhere mentions the distribution of economic decision-making between the ministries and the executive committees of the local People's Councils. It can only be assumed that this was to remain, for the time being, unchanged. There is, however, a more serious omission in his presentation. Dode ignores the issue of motivation completely. Thus, it is assumed that enterprise performance will improve if the central planners are kept fully informed with respect to resources at the base. But why should the control agencies perform their role? Dode's assumption of *Homo Albanicus*—whose behavior is not unlike *Homo Sovieticus*—is, in fact, similar in its misdirection to the common assumption of *Homo Economicus* in the capitalist world.

The new State Planning Commission chairman elaborated further on the new system in an article on technical-material supply published in September, 1977.¹² Albanian awareness of imminent Chinese departure is reflected in the fact that the second Plenum of the PLA Central Committee—convened in June 1977—discussed the economy in a blockade situation. The organization of the technical-material supply system was apparently one of the major topics under consideration. Dode notes the "harsh class struggle" against enemies at home and abroad and against liberal and bureaucratic tendencies, and—on this occasion—accuses Kellezi, Theodhosi and Ngjela of trying to decentralize supply along Yugoslav lines and then suggests that the purged ministers attempted to shift functions which were "properly ministerial" to the local People's Councils and "other units". It is not inconceivable that the deposed ministers were purged for inspiring and then attempting to implement an economic reorganization (1970) which did not provide the results expected of it. According to the Albanian economics literature of the early seventies, very few functions were considered "properly ministerial."

By 1977 the Council of Ministers was issuing orders designed to give ministries more control of supply at the expense of the executive committees, centralizing the mechanism of interenterprise orders and increasing the speed with which imported industrial goods are distributed.

Within each ministry there is a department responsible for material-technical supply. According to the new rulings, this department now draws up balances for the distribution of domestically produced and imported goods. It also makes up import orders and "pursues step-by-step" the contracts with foreign trade enterprises, providing regular information on the arrival of imports and organizing their distribution. The department is also expected to monitor the implementation

¹² *Probleme ekonomike*, July–September, 1977, pp. 3–21.

of all distribution directives issued to enterprises under the control of the particular ministry. Technical-material supply enterprises have been stripped of all planning functions—although it is not clear what these functions ever were—and now make contracts with foreign trade organs, receive imported goods, and distribute them in accordance with the ministerially approved plan.

The primary function of the executive committees of the district People's Councils is now one of control and information, not planning. They, therefore, simply watch the enterprises under their jurisdiction and, presumably, all enterprises have now been shifted back under ministerial planning.

Dode notes that changes have been made to the system of import reserve stores designed to increase the efficiency of distribution. Criticizing the tendency to inflate import orders, Dode explains that in 1976, ministries and other central institutions submitted orders for about 60,000 tons of fuels and lubricants in excess of the plan, whereas, in fact, around 30,000 tons less than planned were eventually used. According to Dode, this problem can only be overcome if material-technical supply indicators are discussed with workers and all balances are drawn up in complete detail. Further, a change was made in scheduling whereby import requests from enterprises must now be received by the end of February in the pre-plan year and preliminary interenterprise contracts must be finalized by September of the preplan year.

The recent modifications to the Albanian planning system apparently came to a temporary halt in the middle of 1978, with a further series of Council of Ministers decisions. These decisions, accompanied by a more detailed discussion than was hitherto available, were outlined by—yet again—Petro Dode in a speech to planning cadres in July, 1978.¹⁸ There, it was reported that the Council of Ministers established the new planning methodology on the basis of the following considerations:

(1) Albanian economic development is predicated on the principle of self-reliance. This demands that there be a “better and more effective mobilization, with planned human, material and economic factors, of our socialist economy so that in the future, too, the economy can develop rapidly . . . through *total* self-reliance.” [Emphasis added.] If these conditions are met the economy will also be able to withstand the “imperialist and revisionist blockade.”

(2) Socialist relations of production may only be improved by incorporating production indicators for the collective farm sector into the state plan and, by a strict adherence to the mass line in all sectors of the economy.

(3) Lessons must be learned from the “rich, revolutionary experience” of socialist development in Albania.

(4) The class struggle against both liberalism and bureaucratism must be intensified.

(5) The growth of socialist production demands tighter control over the economy.

The revolutionary tone of the rhetoric notwithstanding, these preconditions can only give rise to the “old-fashioned” highly centralized

¹⁸ Published in *Probleme ekonomike*, July–September, 1978, pp. 9–34.

classic Soviet model. The most immediately relevant point—given the Chinese withdrawal—is of course, the first one. The Albanian concept of self-reliance and the attempts made to ensure its implementation are considered in the next section of this paper. For the present, however, it is necessary to outline those changes in system rules specifically designed, according to Dode, to facilitate self-reliance.

(a) At the Seventh Party Congress, Enver Hoxha's request for the incorporation of advanced experience into all plans apparently gave rise to some "voluntary" plan-tautening in 1977. In September of that year, however, the Politbureau showed its dissatisfaction with the extent of the new trend by demanding that, prior to plan discussions with the workers, the district executive committees must supervise the planning bureaus of state enterprises and collective farms in the determination of the best enterprises in each district. At the sectoral level this task must be performed by the planning departments of the ministries and the Central Planning Commission. When the data has been collected it must be presented to the workers, whose job it is to discuss how—not whether—the advanced experience might be incorporated into their enterprise's plan.

There can be no doubt that knowledge of advanced experience is essential if it is to find its way into the plan of every enterprise. However, it seems that the major problem—that of motivation—has again been overlooked. Further, it is somewhat surprising that the Politbureau waited so many years from the time the central planning model was instituted (1959) before instituting a mechanism designed to determine advanced experience, especially as exhortations to use it in plan formation have been frequent throughout the period.

(b) In a situation where no foreign aid is expected to be sought or forthcoming, new projects, innovations, the production of new goods and the like will all have to be financed out of increased labour productivity, reductions in the consumption of raw materials per unit of output and increased investment efficiency. The new planning methodology introduces two measures designed to affect these improvements.

First, starting with the 1979 state plan, a special plan for research and development of technology is also approved. This plan is to cover not only research and development in the narrow sense, but also the assimilation of all innovations. Every economic unit in the state sector is to be assigned such a plan as an integral part of the state plan.

Second, for those enterprises in the engineering industry and others producing capital goods of importance to the economy cooperation plans will be appended to their production plans. The aim of this measure is presumably to ensure that those goods which are accorded that highest priority by the planners are produced efficiently.

(c) A self-reliance development strategy—whatever its specifics—must inevitably be based on a tight savings policy. Dode notes that a mandatory savings policy at enterprise level has been in force for some years, but—and here he implies that it has not always been implemented—stresses that this matter is now of the utmost importance. The methodology sets new requirements for the planning of those economic and financial indicators which relate to savings. According to Dode, for these requirements to be met will demand a tightening up of work norm elucidation. Thus, in addition to calculating norms on the basis of progressive averages—wherever norms are in use—the

ministries, state enterprises and collective farms will set a plan for the better working out of norms and for monitoring and controlling their implementation. Further, ministries and other central organs will be required to ensure that identical jobs have the same norms throughout the country. The unified norms are to appear in the ministerial central plans.

Dode also calls for the institution of norms in such sectors as health and culture, although he does not expand on this idea, and wants norms used for working capital, material and financial outlays throughout the economy. A further change comes in the cost reduction plan. In the past, enterprises had submitted draft plans to the centre in aggregate form. Henceforth, cost-reduction planning is to be carried out on the basis of cost per unit, with outlays being restricted by specific input.

Nor is a highly disaggregated savings plan the only such detailed document. In the new system, all indicators will be sent to the central planners expressed in physical and financial units for all products. This, it is argued, will aid coordination at the centre. As has already been noted, this increase in detail was first considered in 1977 and it seems that a start was made in this direction with the 1978 state plan. However, Dode points out that some problems arose with respect to the technical material supply plan. It seems that enterprises were often late in signing contracts and presented unrealistic orders. Contracts between producing and consuming enterprises are expected to be signed by August of the preplan year. Dode argues that greater realism will only be achieved if all demands are based on a "scientific norm system," using advanced experience and the method of balances. This included taking into account needs for the following planning period so that production is not interrupted.

In the planning of consumer goods output, it is argued that there must be a scientific study of consumer demand. Macrobalance requires that a sufficient quantity of goods is forthcoming to cover purchasing power, while detailed surveys throughout the economy will assist in achieving microbalance. Finally, Dode criticizes "the manifestations of subjectivism and voluntarism" which appear in the form of demands for certain consumer goods—presumably luxury durables—whose production is not thought necessary by the leadership. After all, says Dode, the party has a policy on well-being!

To summarise, in the new system enterprises plan every item in detail and pass them on to the executive committee of the Local People's Council. From there the information proceeds via the relevant ministry to the Central Planning Commission which, theoretically, now has a complete picture of resources and technology in the Albanian economy. All production planning must take place in physical units and financial indicators are to be derived from the physical indicators and prices.

The new system also provides for more intensive discussions with workers. The deadline for drafting plans at the base has been extended to ensure that, at a series of meetings, the workers "judge, discuss and decide for each indicator."

Finally, so that every enterprise knows how to draw up plans in accordance with the new methodology, each ministry is required to draft a specific "methodic" detailing the full procedure.

It seems clear from the above outline of the new system of economic management in Albania that the classic Soviet model has been re-

introduced with, if anything, more bureaucratic checks on primary economic units than existed in the past. One question immediately arises: Why has the Albanian leadership chosen to revert to a set of system rules dismissed elsewhere in the socialist world some years ago and even in Albania in 1955? The following are probably among the most compelling reasons although to rank them would be impossible.

(1) From its very earliest days the official ideology of the Albanian Communist Party—as it was known until 1948—has been Stalinist. Since its publication in 1952, Stalin's *Economic Problems of Socialism in the USSR* has been the Albanian blueprint for socialist construction. The reasons for Albania's maintenance of an ideology long discarded by other socialist states have been discussed in detail elsewhere.¹⁴ The following summary will, however, provide some insight into the psychological make-up of the Albanian leadership.

No foundation member (1941) of the Albanian Communist Party Politbureau had ever visited the Soviet Union. Prior to the Second World War Albanian communists acquired their knowledge of Marxism in France or Italy. Thus, they were able to see the apparent benefits of Stalinism, while remaining ignorant of its weaknesses. Further, they were free to develop an independent Albanian road to socialism which, while adhering to the Stalinist theory, differed significantly from the Soviet practise.

Albania's adherence to Stalinism during its founder's lifetime and beyond was probably guaranteed by Stalin's behaviour towards the small Balkan state. First, it should be re-called that no Soviet troops fought in Albania either during, or after, the Second World War. Second, Stalin was unstinting in his aid to Albania.¹⁵ Finally, it was probably due only to Stalin's personal intervention in 1948 that Enver Hoxha was able to retain the leadership of the party and keep Albania out of the Yugoslav Federation.¹⁶ Thus, if there is a country in Eastern Europe where the myth and reality of Joseph Stalin coincide, it may be Albania.

From an economic viewpoint also, the current maintenance of Stalinist ideology is based on fairly solid grounds. In other words, the level of unsophistication of the Albanian economy is still such, that if a government wishes to maintain a high degree of control over economic outcomes it may adopt centralist system rules without foregoing high levels of economic growth.

(2) It is well known that, for all its relative inefficiency in some respects, the centralised economic system remains the best way to insulate an economy from undesirable external influences and affect high priority domestic resource allocation. Given the present uncertainties of the world market and the cessation of Chinese aid, the Albanian leadership has probably decided that this would not be a good time to decrease their uncertainty *vis a vis* economic outcomes. On the other hand, while this argument helps to explain why there has not been a further decentralisation in economic decision-making power, it does not explain the drastic recentralisation.

(3) The solution to this problem probably lies in the unanticipated consequences of the 1970 reorganisation. It is becoming a noticeable feature of Albanian attempts to decentralise decision-making power

¹⁴ A. Schnytzer, *The Albanian Economy* (Oxford, forthcoming).

¹⁵ M. Kaser, *JEC* 1977, pp. 1326–1327.

¹⁶ A. Schnytzer, *op. cit.*, chapter 1.

within the policy, planning and administrative hierarchy that there is a spillover to the enterprise level. Thus, in 1968 there were persistent signs of autonomous enterprise decision-making as local state functionaries became more concerned with ideological campaigns than investment problems and, finding they could not cope with both, relegated the latter to the directors of enterprises supposedly under their control. In addition to the ideological campaigns, the Albanian leadership showed its incomplete understanding of central planning when it almost dismantled the banking system's financial control function.¹⁷

The 1970 reorganisation sealed off the possibility of illegal enterprise investment by reinstating full "control by the lek" but it extended the power of the executive committees of the local People's Councils at the expense of the ministries. The major reason given for this change was the need to combat excessive bureaucracy. It seems, however, that the call to fight red-tape was taken too seriously in some quarters. An article in an early December 1977 issue of *Zëri i popullit*¹⁸ exhorted enterprises to submit detailed statistics to the centre and hinted that, in some cases, these figures were not even being recorded. Several days later, the same source¹⁹ was more explicit in its revelations. Its report begins on an ominous note with the assertion that essential documentation is not bureaucracy. It goes on to note that in the Ishull-Shengjini sector of the Lezhë district, no trace can be found of documents for the years 1957 to 1960 and 1968. In the Zejmeni agricultural cooperative in the same district, no one knows where any documentation for the period prior to 1971 could be found, nor those of Kallmeti before 1974, Bolldren before 1973 or Dajç prior to 1972. This lack of concern for documentation and its location led to an inability to calculate accurately pension entitlements. It is noted that, in some cases, the relevant officials were inventing figures. Finally, it is revealed that some cooperatives were losing money because they had not kept records of recent transactions.

Whilst it does not necessarily follow that the above-mentioned dysfunctions were widespread in the Albanian economy at the end of 1977 it may be that the small size and relative simplicity of the Albanian economy, together with the vigour of ideological campaigns, makes a decentralisation of economic decision-making power to executive committees of district People's Councils which attempts to keep enterprises as mere plan executors, impossible.

In theoretical terms, these factors may interact as follows. In an economy where adherence to the party line is seen, by the leadership, as paramount, functionaries at the base are likely to rank alternative actions according to their short-term ideological consequences. Thus, in the midst of a vigorous, but inevitably, brief campaign which stresses some particular form of behaviour, the cadres are likely to both maximise rewards and minimise the risk of punishment by playing up to the demands of the campaign to the utmost. But in this case, who makes the routine economic decisions which the functionary no longer has time for? There are two alternatives: either the decision is not taken or the cadre delegates authority to someone else in the system. In the former case, if inaction has important consequences for the

¹⁷ A. Schnytser, JEC 1977, p. 590.

¹⁸ *Zëri i popullit*, December 7, 1977.

¹⁹ *Zëri i popullit*, December 21, 1977.

centre, only the functionary concerned can normally be penalised. He, therefore, is unlikely to be worse off if he takes the latter option and is confident that the recipient of his choice will act responsibly. Where economic decisions are concerned it is fairly certain that enterprise management will be in as good a position, if not better, to act beneficially. This is likely, not only because enterprise management probably knows more about the state of its resources than the functionary but also, penalties and rewards for enterprise personnel are more often tied to economic than ideological performance. [In the Albanian enterprise, "party-mindedness" has always been considered an important quality in a manager but "red" has never usurped the "expert" role as it has done on occasions in China.] Now, since the very transfer of decision-making is an illegal act which carries penalties, this transfer will become more likely—involving less risk—as the size of the economy under consideration becomes smaller. As this happens, there is a greater likelihood that state functionaries and enterprise managers in any given district will be well acquainted in non-work situations. Under these circumstances, the probability that the center will discover the informal change in system rules is reduced considerably.

In this type of economy, the position of the ministries is likely to approximate that of enterprises in the sense that economic performance criteria will probably outweigh ideological factors in judgments by the party leadership. This is because ministries will all be located in the capital and will thus be less able to become involved in mass mobilisation campaigns than the local party and state cadres who are "on the spot." This isolation from the majority of the economy's enterprises is also likely to render it difficult for informal devolutions of decision-making power to take place from ministries to enterprise directors.

Therefore, if the leadership does not want enterprises to be given economic decision-making power while not wishing to burden the central planners with what it considers relatively unimportant problems, it should decentralise decision-making power within the ministries and not to the local People's Councils. Viewed in this light, the recent changes in the Albanian planning system seem almost the only logical outcome of an attempt by the leadership to maintain control of the economy.

(4) Finally, it should be noted that the Albanian economy has probably never been as well equipped with the cadres necessary to man a centrally-planned economy as it is today. The following tables reflect the rapid growth of human capital in the state sector of the Albanian economy since the Second World War. Figures for years since 1973 do not appear to have been published, but there is no reason to suspect that sustained growth in numbers has not been sustained.

TABLE I.—NUMBER OF WORKERS AND EMPLOYEES WITH TERTIARY OR SECONDARY PROFESSIONAL QUALIFICATIONS

	1938	1950	1960	1970	1973
1. Tertiary.....	330	620	4,245	15,200	21,284
2. Secondary professional.....	2,000	3,030	11,600	37,700	52,381
3. Total workers and employees.....	22,000	83,000	202,000	392,000	463,000
4. Ratio of all workers and employees to the total (line 1 plus line 2 divided by line 3).....	0.108	0.044	0.078	0.135	0.159

Source: 30 vjet shqipëri socialiste (Tirana 1974), pp. 41, 47.

It should be noted that the falling ratio of qualified workers and employees to the total between 1938 and 1950 is due to the rapid rate of urbanisation following the war. Thus while the number of workers and employees almost quadrupled, the Albanian population rose only 15 percent.²⁰

TABLE II.—GROWTH IN THE NUMBER OF EXPERTS IN THE STATE SECTOR

	1950	1960	1970	1973
(A) With tertiary qualifications:				
1. Engineers.....	64	956	3,491	4,807
2. Economists, planning staff, accountants.....	35	668	1,732	2,331
3. Agronomists, veterinarians, zoo technologists.....	65	679	1,768	2,914
4. Teachers.....		1,087	4,050	5,255
5. Physicians.....	129	443	1,581	2,158
(B) With secondary professional qualifications:				
1. Mechanics, electricians.....		800	3,717	8,362
2. Mineral and oil geologists.....		235	429	532
3. Bookkeepers, etc.....		1,010	4,066	6,233
4. Medical assistants.....		995	3,057	3,877
5. Deputy agronomists, etc.....		800	1,977	3,127
6. Civil and structural engineering technicians.....		960	2,052	3,178

Source: 30 vjet Shqipëri socialiste. (Tirana, 1974), p. 51.

On the basis of the foregoing discussion it seems reasonable to conclude that the contemporary Albanian planning system is the most highly centralised in Eastern Europe. There can be little doubt that the break in relations with China has had some effect on the recent recentralisation, although the Albanian press has never explicitly related the two events. Further, it seems clear that, even on the basis of domestic considerations alone, a recentralisation is not as unlikely to yield undesirable economic outcomes as it might in a more sophisticated socialist economy.

The new system rules have not been in force for a period sufficient to enable their consequences to be assessed. It does, however, appear that the Albanian leadership is pinning its hopes of success on marxist-leninist socialisation of the population. If those whose task it is to make the planning system function on a day-to-day basis are convinced of its superiority over other possible systems and the necessity of its existence in Albania—the thoughts of *Homo Albanicus*—then the Albanian argument that it is not the centralised model but its implementation that has been faulty may gain new supporters elsewhere. If, on the other hand, the preferences of the “average” Albanian are more nearly those of *Homo Economicus* the centralised model will fail in Albania as it has failed elsewhere to date.

III. THE DEVELOPMENT STRATEGY

A succinct definition of the PLA's development strategy was provided by Enver Hoxha in his report to the Seventh Congress:

To go on at rapid rates with the socialist construction of the country for the transformation of socialist Albania into an industrial-agricultural country, with advanced industry and agriculture, according to the principle of self-reliance, for the further allround strengthening of the economic independence of the country; to further improve the socialist relations of production and the superstructure; to strengthen the dictatorship of the proletariat and enhance the de-

²⁰ 30 vjet Shqipëri socialiste (Tirana, 1974), p. 21.

fence potential of the homeland; to raise the material and cultural level of the working masses higher by carrying further the narrowing of distinctions between town and countryside. This is to be achieved on the basis of the consistent waging of the class struggle and the mobilization of all forces and energies of the people under the leadership of the party.²¹

This development strategy had been the outcome of an interesting combination of historical, political and economic circumstances. Its origins may be summarised as follows:²² When the Albanian leadership decided to side wholeheartedly with the Chinese side in the Sino-Soviet dispute, it did so largely for non-economic reasons. Whilst the nature of Soviet and CMEA aid had been such as to encourage very high rates of growth, the Albanian economy was nonetheless becoming more dependent on the Soviet bloc with every passing year. By 1960, the situation was already such that the Albanian leadership must have been aware that a break with the Soviet Union would place the economy in difficulties. In the event, although Chinese aid fully replaced projected Soviet aid in monetary terms, it was not until 1964 that the structure of production had been altered sufficiently to allow rapid rates of growth in all sectors to again become the norm. But having once suffered the economic consequences of a fierce determination to retain full independence in decision-making the PLA leadership resolved never to do so again.

This led to the elucidation of a strategy known as "relying on one's own resources." This was, however, to some extent a misnomer. It was never suggested that the Albanian economy should develop a strong industrial base without recourse to "internationalist" aid; rather, it was hoped that foreign aid could be used to start and complete industrial projects whose production processes require raw materials readily available domestically. Further, it was decided—or so the outcomes suggest—that, if Chinese aid proved sufficiently generous, big projects would always be preferred to small ones on the grounds that the differences in running costs would be very small relative to the differences in fixed capital costs and these latter would not be an Albanian problem!

The predication of major projects on Albania's natural resource base was motivated by an unwillingness to witness enormous cuts in the level of output in the event of another politically-motivated change in external economic relations. A crucial determinant of the success or otherwise of this strategy is, of course, the resource base itself—and here Albania is very fortunate. Not only is the country well-endowed with oil and coal, but the situation of its rivers and mountains is such that hydroelectric power, which is exported to Yugoslavia, has allowed Albania to become the first country in Europe where every village is on the national power grid. Albania also has an enviable mineral base. Thus, iron, nickel, chromium, copper, aluminum and a variety of other metals are all in plentiful supply.

In the presence of a generous aid donor who was willing to let the Albanians determine the direction of the aid, the superstructure remained at the core of the development problem. The rapid growth of the education system has already been noted, but the general skill-level of industrial workers remains low and only the passage of time can ultimately solve this problem.

²¹ E. Hoxha, *Report*, p. 33.

²² For further details see JEC 1977.

An assessment of the wisdom of the self-reliance strategy requires a careful choice of performance criteria. From an economic efficiency viewpoint, the development of an extensive hydroelectric power grid and the extraction of metals for which there is considerable demand on the world market, makes a great deal of sense. On the other hand, the domestic production of industrial consumer goods and spare parts for imported machinery is certain to militate against efficiency. However, this performance criterion—which is used too frequently in the assessment of socialist centrally-planned economies—totally ignores political considerations.

The most important of these is likely to be the fact that the Soviet Union is constantly striving to extend its influence in the socialist world—as, indeed, elsewhere. Given the flexibility of means used to achieve this goal, a communist regime often relies on the good graces of Moscow for its survival. Although this fact has tended to become buried under the rhetoric of detente, it has always been well known to Enver Hoxha. Having survived Soviet attempts to remove them from power in 1961, Hoxha and his colleagues evidently concluded that power is more valuable than economic efficiency. In formulating the self-reliance strategy, the Albanian leadership probably also took into account the relative unpredictability of the Chinese government.

It could be argued that the PLA leadership would have been able to maintain power while taking full advantage of its comparable advantage in natural resources if it had looked to the West for trading partners. But the inflation and unemployment experienced by the Yugoslav economy where Tito's power and autonomy could hardly be questioned—and a belief that they might fall into the grip of multinationals, probably dissuaded the Albanians from adopting an open model.

Having thus decided on a development strategy which took account of its preferences, the Albanian government faced the inevitable problem of what it would do if it lost its generous aid donor. The targets of the current (1976–80) five-year plan clearly indicate that economic growth is expected to continue, albeit at more modest rates than in the past. An analysis of the various facets of the development strategy, as it is has been implemented since 1976, occupies the remainder of this paper.

Agriculture

Although the contribution of industrial output to net material product has outweighed that of agriculture since 1970,²³ Enver Hoxha was probably justified in stating that:

... the construction of socialism requires advanced and modern agriculture. Agriculture is the basis of the economy, which to a large extent, determines and conditions the fulfillment of tasks in the other branches, the raising of the general wellbeing of the people, and the strengthening of the defence potential of the country.²⁴

The importance of agriculture to the Albanian economy was given more concrete expression in a major policy statement in April 1977 by the country's first female Minister of Agriculture, Themie Thomai.²⁵

²³ A. Schaytser, *JEC* 1977, p. 637.

²⁴ H. Hoxha, *Report*, p. 45.

²⁵ *Probleme ekonomike*, April–June 1977, pp. 15–29.

Taking the above quotation from Enver Hoxha as a starting point, she gives the following reasons for the economy's dependence on agriculture:

(a) Albania is still an agricultural-industrial country; 70–75 percent of consumer goods are either agricultural or livestock products or industrial products made from predominantly agricultural raw materials. The light and food industries, which account for around half of Albania's total industrial output, use largely agricultural inputs. Finally around 35–40 percent (by volume) of all exports are agricultural products.

(b) The share of agricultural output in the global social product and in net material product is high. Thomai gives no figures although the contribution to the latter is almost certainly still over 30 percent. The 1973 figure was 34.2 percent.²⁶

(c) Two-thirds of the Albanian population is engaged in agricultural employment.

(d) Agriculture and industry are the two most powerful sectors of the economy. Therefore, the rapid development of agriculture increases the productive capacity of the economy and strengthens the principle of self-reliance.

(e) The development, under the leadership of the working class, of agriculture strengthens the bond between workers and peasants and between town and country, thus strengthening the social base of the dictatorship of the proletariat.

(f) Through the provision of food, agriculture strengthens the defence capacity of Albania.

It is interesting to note that the only point clothed in Marxist-Leninist rhetoric is probably the most controversial from an ideological viewpoint. The suggestion in (e) appears to be that if the PLA attempts to use agriculture simply as a source of investable surplus the peasantry will fail to perform as well as they are able. Putting it positively—and this is how Thomai has expressed it—if the PLA, in its capacity as vanguard of the working class, accords agriculture a high priority in its development strategy it will reap the benefits throughout the economy. Now, whilst Stalin's *Economic Problems of Socialism in the USSR* stresses the need to eliminate the distinctions between agriculture and industry and town and country²⁷ and he nowhere suggests that industry should exploit the peasantry, an elegant piece of sophistry would be required to show that Stalin thought even limited priority development for agriculture to be essential for socialism.

Now, to accuse Thomai of heresy over an issue where the religion plainly makes no sense is unfair. The Albanian leadership has always realized that without peasant support the construction of socialism is impossible. It did, however, allow workers' incomes to rise more rapidly than those of peasants until 1971, when the Sixth Congress of the PLA heard from Prime Minister Shebu that peasants would be favoured by a redistribution of income during the 1971–75 five-year plan. During that period, per capita real income in the countryside rose by 20.5 percent as against an 8.7 percent increase in the

²⁶ A. Schnytzer, *JEC* 1977, loc. cit.

²⁷ J. V. Stalin, *Economic Problems of Socialism in the USSR* (Peking, 1972), pp. 24–29.

towns.²⁸ The current five-year plan calls for an 11–14 percent increase in per capita real income by 1980—as compared with 1975—with farm incomes rising at three times the rate of town incomes.²⁹

This policy shift in favour of agriculture probably accounts in some measure for the increase in global agricultural production of 33 percent during the Fifth Five-year Plan (1971–75) as against the 28 percent of the previous five years.³⁰ In terms of self-reliance, there can be little doubt that self-sufficiency in bread grains is an essential component even if food prices on the world market are below Albanian costs.

Given the relative importance attached to agriculture, it is perhaps surprising that in no case has the five-year plan target for the percentage growth of global agriculture output ever come close to being fulfilled. The relevant figures are as follows:³¹

1951–55		1956–60		1961–65		1966–70		1971–75		1976–80	
P	A	P	A	P	A	P	A	P	A	P	A
71	38	150	28	72	29	41–48	29	65–80	33	38–41	-----

³¹ This was revised to 77 during the period.

It is notable that actual performance has been remarkably consistent over time while plans have tended to vary widely in the extent of their unrealism. It may be a reflection of the PLA's desire to face realities that the current target is the least ambitious thus far and that it was announced in the wake of a record grain harvest in 1976.

In 1975, the plan for bread grain production had been only 96 percent fulfilled.³² The plan for 1976 was typically ambitious, calling for a 29 percent increase over the previous year.³³ In the event, the actual increase was 36.2 percent,³⁴ leaving Albania self-sufficient in bread grains for the first time in her history. The priority accorded to bread grains is indicated by the target of 56–60 percent increase over 1975 by 1980,³⁵ in comparison with the projected 38–41 percent increase for global agricultural production.

The Albanian press has not published statistics in recent years in even the meager quantity of the early seventies. Consequently, conclusions about the success of agricultural production must be tentative but an increase of 11.5 percent in the output of bread grains over the planned output for 1976 was announced.³⁶ In a December, 1977 interview in *Bashkimi*,³⁷ the Minister for Agriculture, Themis Thomai noted that Albania had again been self-sufficient in grains in 1977, but gave neither figures for plan fulfillment nor targets for 1978. In a second-hand report of Petro Dode's 1978 plan presentation,³⁸ a 30 percent increase in bread grain production is targeted.

²⁸ M. Shehu, Report, pp. 25–26.

²⁹ *Ibid.*, p. 70.

³⁰ See table below.

³¹ M. Kaser, JEC 1977, p. 617.

³² *Zëri i popullit*, February 11, 1976.

³³ *Ibid.*

³⁴ *Bashkimi*, December 26, 1976. E. Hoxha, Report, p. 47 gives "around 30 percent."

³⁵ *Ibid.*

³⁶ *Bashkimi*, December 26, 1976.

³⁷ *Bashkimi*, December 24, 1977.

³⁸ *Zëri i popullit*, February 21, 1978.

The reporting on the 1978 plan results was equally uninformative. Minister Thomai noted³⁹ "a good increase in production" and the appearance of Albania's first domestically produced tractor. Further, despite continuing rains in the spring and a long drought in summer, Albania was again self sufficient in bread grains. It should be noted that the announcement of self-sufficiency is an indication that bread grains were not imported but does not throw any light on the level of domestic consumption. Without giving details, Thomai indicated that there had been heavy investment in agricultural mechanization. She gave no 1979 plan figures and Dode's annual report⁴⁰ restricted its quantitative discussion of agriculture to that statement that grain yields were planned to rise by 19.9 percent.

If the above results are taken at face value, it may be assumed that agricultural performance has improved in recent years. Even if self-sufficiency does not mean increasing levels of per capita bread grains consumption—and it well might—there clearly have been no disasters since 1975. The reason for this apparent success probably lies in the PLA's consumption and income distribution policy, to which attention is now turned.

Consumption and Income Distribution

The PLA's interpretation of Stalin's fundamental law of socialism has always been more literal than its author's own. The law may be put as follows:

... the securing of the maximum satisfaction of the constantly rising material and cultural requirements of the whole of society through the continuous expansion and perfection of socialist production on the basis of higher techniques.⁴¹

On the consumption side, the Albanian leadership has always taken this law to imply that per capita consumption must rise annually if this is at all possible. The folk song estimate of an index of real per capita consumption shows that the PLA has been reasonably successful in meeting this goal.

TABLE III.—*Index of per capita consumption (1950=100)*

1950	100	1965	200
1955	145	1966	220
1956	141	1967	231
1957	165	1968	242
1958	180	1969	259
1959	212	1970	265
1960	184	1971	277
1961	184	1972	(¹)
1962	186	1973	300
1963	188	1974	(¹)
1964	196	1975	318

¹ Not available.

Source: A Schnytzer, *The Albanian Economy* (Oxford, forthcoming), chapter 6.

The one year in which consumption levels fell, 1960, was the year of the split with the Soviet Union. Further, 1959 had seen global agricultural output rise to a level not to be repeated until 1966. The Al-

³⁹ Bashkimi, December 22, 1978.

⁴⁰ Zëri i popullit, February 20, 1979.

⁴¹ J. V. Stalin, *op. cit.*, pp. 40-41.

banian leadership's determination to allow per capita consumption to rise, however slowly, in the period following the break with the Soviet Union was probably based partly on ideological considerations and substantially on an unwillingness to incite popular unrest which might place its power in jeopardy.

The anticipated break with China notwithstanding, the PLA leadership again appears determined to keep consumption levels rising while giving priority to the growth of the accumulation fund. Thus, the Sixth Five-year Plan calls for an 11-14 percent growth of per capita real income in 1980 over 1975. This is to be financed out of a 38-40 percent growth in net material product. The consumption fund is expected to fall to 65 percent of national income by 1980. The increase in retail goods turnover during the current five year plan is targeted at 22-25 percent.⁴²

In his discussion of the standard of living, Premier Shehu informed the delegates to the Seventh PLA Congress that it was important to provide everyone in the society with work, but only under certain conditions:

It is the duty of the state to ensure jobs for all. But the state will ensure jobs for people in these places, and in the sectors, where the interests of the homeland, the people, and Socialism require them, and not according to the petty-bourgeois view of a few who want cosy jobs and only close to home . . .

It is a fine thing that the flow of the labour force away from the countryside has been disciplined and that our wonderful youth are responding to the call of the Party to go from the town to the countryside, to work there for several years or to settle there for good. We must support this revolutionary movement of the youth with all our means, creating housing and working conditions for them in the countryside, in the sector of agriculture.⁴³

It has already been noted that rural real incomes are expected to rise at three times the rate of those in urban areas. One way in which this is to be accomplished while accommodating the anticipated population shift to the countryside is in the construction of new housing. Thus, Hoxha notes that about 65,000 flats and houses will be built in Albania, of which around 42,000 will be in the agricultural cooperatives and state farms.⁴⁴

Hoxha blamed past problems in consumer goods supply on "the hostile, sabotage activity" of the purged Minister of Trade Kico Ngjela and called for greater efforts to attain microbalance:

The leading organs of production as well as those of distribution must make thorough and complex studies to ensure the best harmonization of production with consumption, to clarify the problems stemming from the increase in the population, the growth of its demands and purchasing power, and the distribution of productive funds. They, and the trading organs in particular, must become a strong barricade against the creation of stocks of unsold goods which cause disorder and great economic-financial loss.⁴⁵

Attempts to assess the success or otherwise of the PLA's consumption policy since 1976 face the same data problems as those encountered in the discussion on agriculture. The two major sources of data are the Ministry of Food and Light Industry reports on plan fulfilment and those for retail trade turnover. In reporting that the 1975 plan for food and light industry had been fulfilled 101.2 percent, Min-

⁴² M. Shehu, Report, p. 70.

⁴³ *Ibid.*, pp. 72-73.

⁴⁴ E. Hoxha, Report, p. 61.

⁴⁵ *Ibid.*, p. 62.

ister Myaerem Fuga failed to give a target for 1976 but noted that the labour force in this sector would not increase and that the anticipated growth would be accomplished "chiefly on the basis of the most rational exploitation of the existing production capacities."⁴⁶ "In other words, there would be no Chinese aid for new projects. At the end of 1976, the same source indicated that an increase in output of 3 percent over 1975, representing, 100 percent plan fulfillment, had been achieved."⁴⁷ The planned 4.8 percent increase in commodity turnover was evidently also forthcoming.⁴⁸ Again, no plans for the coming year were announced in the Albanian press.

During 1977, the trade portfolio, which had previously covered foreign and domestic trade, was split in two. The new Minister for Domestic Trade, Viktor Nushi announced in December of that year that retail trade turnover would be up 5.8 percent on 1976 but did not indicate how this fitted in the plan.⁴⁹ He did, however, note a change in grain collection procedure, which is now carried out in part by village trade enterprises, perhaps in exchange for industrial consumer goods. He also urged that closer links be forged between trade and production enterprises to overcome the perennial imbalance problems in consumption. Another new minister, Kristaq Dollaku of the Ministry of Light and Food Industry, voiced the same sentiments and noted that the plan had been fulfilled for a large number of individual products.⁵⁰ He gave no aggregate result, noting only significant improvements in the quality of output in 1977. In keeping with the practice of his predecessor, Dollaku gave no plan figures for the coming year.

In an article published in the PLA theoretical monthly *Rruga e partisë* in March, 1978,⁵¹ Dollaku was a little more forthcoming. He claimed that the production and financial plans of enterprises under his ministry's control had been fulfilled "in the major branches." He noted quality as a continuing problem which had not been solved by discussions between producing and trading enterprises in 1977. For Dollaku, this problem is a manifestation of the class struggle in that producers are not thinking as users when they overfulfill work norms at the expense of quality.

Another problem facing the light and food industries is the fact that many workers in these sectors do not have the skill ratings formally required to perform their tasks. Thus, in light industry the average skill ratings of jobs is 3.49—on a scale of unknown limits, but probably 1 to 5—while workers average only 2.5. In the food industry the respective values are 2.63 to 2.34. Given the priority accorded to heavy industry in the Albanian economy, it would not be surprising if the best trained workers were placed in that sector at the expense of light industry.

The 1978 plan for the light and food industries was again reported as having been fulfilled "for principal products." Stretching the permutations of statistical reporting to their limits, it was announced that production for 1978 exceeded that of 1977 by 125 million leks, "as

⁴⁶ Bashkimi, Dec. 26, 1975.

⁴⁷ Bashkimi, Dec. 22, 1976.

⁴⁸ Bashkimi, Dec. 19, 1976.

⁴⁹ Bashkimi, December 15, 1977.

⁵⁰ Bashkimi, December 17, 1977.

⁵¹ *Rruga e partisë*, March, 1978, pp. 38-47.

predicted.”⁵³ This figure may be used to calculate an approximate value for the percentage increase in output in 1978 as against 1977. Given the value of output in 1970 and the percentage increase during the Fifth Five-year plan, the value for 1975 output may be computed as 5322 millions leks.⁵⁴ Given the above noted 3 percent increase in 1976 and assuming no increase in 1977 gives a value for the latter year's output of 5482 million leks. An increase of 125 million leks over this amount is equivalent to a (very modest) growth rate of 2.25 percent for 1978.

On the basis of these figures it may be concluded that per capita consumption is probably rising, but at a very low rate. Further, it seems certain that the growth targets for the food and light industries set in the current five-year plan—22–25 and 22–24 percent respectively—will not be met.

Before proceeding to a discussion of Albanian heavy industry, an important PLA policy measure affecting income distribution should be noted. The PLA leadership has shown a keen awareness of the control over the distribution of income accorded it by a centrally-planned economy. In addition to its attempts to narrow the gap between agricultural and industrial incomes by such measures as increases in grain procurement prices, increases in the supply of industrial consumer goods to the countryside, increased budgetary support for rural areas, and the like, the Albanian leadership has also reduced the income gap between workers and employees—white collar workers, management, experts, etc—by sharp cuts in the salaries of the latter.

The most recent “instant” change in the distribution of income between workers and employees took place on April 1, 1976 when the Council of Ministers and the PLA Central Committee issued a joint *Decision*.⁵⁴ The lower limit on higher salaries was redefined from 1,200 leks to 900 leks per month and all salaries above this level were to be reduced by between 4 and 25 percent—presumably on a sliding scale. Lower and middle wages would not be affected, “save certain cases to preserve the necessary levels.” The motivation behind this income reduction was explained as being to ensure:

... the further revolutionization of the cadres, bringing their standard of living nearer to the general standard of living of the masses, barring the road to career-seeking, the preference of office work and many other evils which lead to bourgeois-revisionist degeneration.⁵⁵

In addition to the pay cuts, it was announced that writers would no longer receive payments for their publications, that there would be a reduction in the bonuses paid for scientific titles and degrees and that the wages of state farm workers would be increased. Finally, it was decided that, henceforth, all specialists would be paid according to their area of specialization rather than the district or enterprise in which they worked.

It has been officially reported that these measures reduced the ratio between the nominal wage of an average worker and the highest salaries of employees to 2.⁵⁶ This ratio is probably the lowest in the world.

⁵³ Bashkimi, December 19, 1978.

⁵⁴ M. Shehu, Report, p. 17. 30 vjet Shqipëri socialiste, op. cit., pp. 93, 97.

⁵⁵ A New Victory of the Policy of the PLA in Uplift of the General Wellbeing of the People (Tirana, 1976), pp. 3–14.

⁵⁶ Ibid., p. 7.

⁵⁷ Ibid., p. 16.

Heavy Industry

Another facet of the PLA's self-reliance development strategy to be discussed in this paper is the policy of heavy industrialization. Mehmet Shehu provided a neat summary of the PLA's industrialization policy during the current Five-year Plan in his address at the Seventh Congress:

... the fundamental task of industry is: the rapid development of industrial production, the extension and improvement of the structure of production by giving greater priority to the industry producing means of production, utilizing the natural resources and wealth of the country in a more complex manner, to create a broader and sounder basis in meeting the needs of the economy for raw materials, fuels, electric power, spare parts, chemical fertilizers and the indispensable products of broad scale use.⁵⁷

The following table gives the targets for various sectors, set by the Sixth Five-year Plan:

TABLE IV.—*Growth targets (1980 as against 1975)*

	<i>Percent</i>
Global industrial production.....	41-44
Oil industry.....	27-29
Coal industry.....	63-65
Chromium industry.....	71-73
Copper industry.....	40-42
Iron-nickel industry.....	500-510
Electric Power industry.....	145-150
Engineering industry.....	40-42
Chemical industry.....	140-145
Building materials industry.....	50-53
Timber and paper industry.....	18-20
Glass and ceramics industry.....	20-23
Light industry.....	22-24
Food industry.....	23-25

Source: M. Shehu, Report on the Sixth Five-year Plan (1976-1980), (Tirana, 1977), pp. 39, 43.

Several points may be noted. First, the target for global industrial production (41-44 percent) is considerably lower than that set for previous five-year period (61-66 percent) and lower even than the 52 percent increase in industrial production recorded during 1971-75.⁵⁸ The PLA leadership has never been noted for its lack of ambition in planning; thus, it must be assumed that the Albanians were already aware in 1976 that they could not count on Chinese aid to help finance another five-year plan.

Second, the enormous projected increase in the iron-nickel sector (500-510 percent) is due to the anticipated completion of the industrial complex at Elbasan. This project, whose construction was begun in the 'sixties with Chinese assistance, is expected to provide the Albanian economy with about 250,000 tons of various iron and steel products by 1980. Some idea of the size of the complex is given by the fact that it has around 25 kilometers of internal railway tracks.⁵⁹ In accordance with the self-reliance principle outlined above, this complex has been planned as a vertically integrated set of enterprises ranging from mines to consumer durable producing plants.

Third, a large part of the increase in the output of the petroleum industry (27-29 percent) will come from the completion of another

⁵⁷ M. Shehu, Report, p. 42.

⁵⁸ A. Schnytzer, JEC 1977, p. 637.

major project, the oil refinery at Ballsh. This enterprise, with a capacity of one million tons per annum, will double the refining capacity at present available in the country's three other refineries. The current five-year plan also calls for an 11 percent increase in the output of crude oil by 1980.⁶⁰ Albanian oil is high in quality and bitumen content.

Fourth, the sharp increase in the supply of electrical power is expected to come from the new hydroelectric station at Fierze, in the mountainous north of the country. This station will be one of the largest in Europe, with a power output of 500,000 kilowatts.

Finally, it should be noted that the targets for the various industrial sectors are fully in accord with the Shehu's stated priority for production of the means of production. The emphasis on energy and mineral products is also an accurate reflection of PLA policy, relying as it does on the exploitation of Albania's natural resource base. This consistent application of Stalinist ideology in the face of external economic difficulties is superficially reminiscent of the PLA's reaction to the Soviet blockade of 1961. Thus, as has already been noted per capita consumption during the 1961-65 plan was allowed to rise only very slowly while all efforts were made to ensure the fulfillment of the industrial production plan. In the event, that plan was 96 percent fulfilled but all other sectors failed dismally. The substantial difference between then and now lies in the current concern for agriculture, a concern which it has already been argued may have been born of a realization that economic development in a relatively closed economy is impossible without a healthy agricultural sector and a contented peasantry.

It has been argued elsewhere that "the Albanian notion of self-sufficiency for the engineering industry implies heavy reliance on existing levels of technology."⁶¹ In other words, the PLA leadership has set itself the limited objective of producing domestically the spare parts required to keep industry's imported capital stock in running order. The Sixth Five-Year Plan calls for a 63 percent increase in the production of spare parts by 1980 (against 1975). If fulfilled, about 95 percent of the economy's requirements for spare parts would be domestically produced.⁶²

A consideration of the annual plans and results published since 1976 provides a reasonable indication of progress in high priority sectors. The 1976 state plan called for a modest 4.5 percent increase in global industrial production.^{63 64} In his speech accompanying the plan, Petro Dode noted that an attempt would be made to substitute coal for liquid fuels in Albanian industry whenever possible. This policy initiative was almost certainly prompted to increase the level of oil exports, but Dode gave no indication of the costs involved in such a substitution in production activities, nor did he indicate how extensive "whenever possible" might realistically turn out to be.

In December 1976, the new Minister for Industry and Mining, Xhafer Spahiu, announced that the 1976 plan had been fulfilled "in some areas" but gave no global figures. Nor did he give plan figures

⁶⁰ M. Shehu, Report, p. 43.

⁶¹ A. Schnytzer, JEC 1977, p. 627.

⁶² M. Shehu, Report, p. 48.

^{63 64} Zëri i popullit, February 11, 1976.

for 1977, noting only that priority would be given to the extraction, enrichment and processing of petroleum and gas and useful minerals "which constitute the bread of industry and the chief source of exports."⁶⁵ Another source gives 5,500 as the number of new articles to emerge from the engineering sector in 1976 and gives 6,000 as the number planned for 1977 and 3,500 for 1978. It also announces the formation of the Institute of Mechanical Studies and Designs, whose task it will be to study import lists in different sectors of the economy and determine which spare parts may be produced domestically.⁶⁶ The spare parts campaign was apparently facing the kind of problems that demanded a detailed study of lists. Thus, a June 1977 issue of *Zëri i popullit* notes that consumers are not always careful in specifying their needs.⁶⁷

The only sector of Albanian industry for which 1977 plan fulfilment results have been published is the engineering industry. In this sector, the global output plan was fulfilled 103.3 percent, that for machines and equipment 102.5 percent, for castings 110.5 percent and for instruments, molds and presses 103.8 percent. However, particularly with respect to articles which had previously been imported, the assortment plan was not fulfilled. The same source⁶⁸ further complains that enterprises often claim fulfilment of assortment plans in condensed reports to the center whereas only detailed documents can be judged to determine how close the economy is to 95 percent self-sufficiency. This author dares not speculate on the precise meaning of the expression "95 percent of spare parts." The Albanian press has given no indication of the nature of the weights used in aggregating the individual parts.

The 1978 state plan called for an 8.5 percent increase in global industrial production.⁶⁹ This relatively ambitious target probably reflects the PLA's desire to overcome the previous year's shortfalls. Two Albanian economists, Andrea Nako and Esat Boshari, in an article on domestic sources of accumulation,⁷⁰ claimed that at the time of writing the Albanian economy was already producing 95 percent of her spare parts requirements and 90 percent of her consumer goods needs. These claims are surprising in light of the authors' admission that the 1977 plan was not fulfilled, although given the priority accorded the engineering industry and the undoubtedly arbitrary measure of consumer goods requirements, no contradiction is implied. A July 1978 report⁷¹ disclosed that, despite problems of organization, mining plans for the first two years of the five-year plan (1976, 1977) were fulfilled. Further figures on plan fulfilment contradict the claims of Nako and Boshari. Thus an article⁷² in late 1978 in *Zëri i popullit* states that, while the spare parts production plans for 1976 and 1977 were fulfilled 104 percent, the 95 percent self-sufficiency target had only been reached in the light and food industries, the relevant levels for agriculture and mining being 90 percent and, for automotive needs 84 percent. In 1979 and 1980, 11,500 new articles are earmarked for design, assimilation and production. In this presentation of the state plan for 1979.

⁶⁵ Bashkimi, December 25, 1976.

⁶⁶ Zëri i popullit, May 24, 1977.

⁶⁷ Zëri i popullit, June 25, 1977.

⁶⁸ Zëri i popullit, February 7, 1978.

⁶⁹ Zëri i popullit, February 21, 1978.

⁷⁰ Rruga e partisë, April 1978, pp. 29-42.

⁷¹ Zëri i popullit, July 4, 1978.

⁷² Zëri i popullit, October 29, 1978.

Petro Dode gave the increase in global industrial production in 1978 over the previous year as 6 percent.⁷³ Dizziness with success may account for the 10.1 percent increase scheduled for 1979. The report again stressed the need to substitute coal for liquid fuels in production but gave no details of progress to date.

On the basis of the above evidence it seems reasonable to conclude that the heavy industrial sector of the Albanian economy has not generated the levels of output foreshadowed in the PLA's plans. On the other hand, the high priority accorded the engineering industry has permitted that sector to perform adequately. It would be ironic indeed if agriculture met its 1980 targets while industry did not! The final aspect of the PLA's development strategy to be considered in this paper is investment policy.

It is not surprising that the majority of Albanian investment is directed into productive activity in industry and—to a lesser extent—agriculture. The targets set for investment during the current five-year plan are given in the following table.

TABLE V.—STATE INVESTMENT PLANS, 1976-80

	Percentage weight	1976-80 as against 1971-75
Total volume of investments.....	100.0	143
Of which:		
Productive investments.....	77.5	135
Nonproductive investments.....	22.5	178
By sector:		
Industry.....	53.1	151
Agriculture.....	14.7	140
Transport and communications.....	6.0	97
Education, culture and health.....	2.5	86
Housing.....	5.2	110
Other sectors.....	18.5	176

Source: M. Shehu, Report on the Sixth Five-year Plan (1976-1980) (Tirana, 1977), p. 64.

Construction will account for around 51 percent of total investment—an increase of 48 percent over the previous five years—while investment in the cooperative sector of agriculture is expected to amount to 22.5 percent of the country-wide total.⁷⁴

The above targets share with the remainder of the Sixth Five-year Plan the latter's modesty. Indeed, the planned reduction in expenditures on transport and communications and education, culture and health is unprecedented in socialist Albania's history. Shehu gives no reason for these reductions but makes several recommendations, regarding investment in general, which indicate that Albania is facing problems in that area. Thus, he argues that detailed studies should be made of all new projects, concluding that:

... no work should begin on any project without first ensuring the design, specifications and cost estimates of the project.⁷⁵

Shehu hints at the existence of tolerated cost overrun inflation when he insists that construction activity:

... must be pervaded by the spirit of proletarian discipline and a vigorous savings regime, keeping absolutely within the funds planned for the building

⁷³ Zëri i popullit, February 20, 1979.

⁷⁴ M. Shehu, Report, p. 65.

⁷⁵ Ibid., p. 66.

of the project and ensuring the . . . effectiveness of . . . investments and construction."⁶⁶

Finally, the Albanian Prime Minister attacks the tendency to make buildings more comfortable than the "situation of the encirclement and blockade" warrants:

. . . we must strip our designs of unnecessary frills and a tendency to luxury, and build better, cheaper and faster."⁶⁷

The 1976 state plan called for an 18.8 percent increase (by volume) in investments over 1975; for construction the figure was 6.1 percent.⁶⁸ It was hoped that domestic sources of accumulation would grow by 9 percent to compensate for an expected 30 percent reduction in foreign capital inflow. A cut in the number of on-going construction projects from 1,000 in 1975 to 428 during the plan period, was also announced. It was expected that the major reduction would come in small projects.⁶⁹ Minister of Construction Rahman Hankü's summary of achievements for 1976 notes only that there were "successes" but gives no figures.⁷⁰ In common with other sectors, no 1977 plan targets were published.

An article in the PLA's political monthly *Rruga e partisë*,⁷¹ provides more details. Thus, it is anticipated that during the current five-year plan a total of 22 billion leks will be invested countrywide. At Albanians prices, this is apparently enough to build 700,000 apartments accommodating 2.5 million Albanians. The source gives 22.5 percent as the share of investments in defence over the five-year period. In an attempt to improve efficiency it is noted that priority will be given to the completion of on-going projects prior to the commencement of new ones. Further, an attempt will be made to complete those new projects whose construction is planned for this five-year period and only then begin those with long completion times.

It is argued that such problems as "asking for too much," rechanneling funds without authorization and cost overruns are ideological in nature. The author suggests that a greater proportion of communists in construction would solve the problem.

Finally, a change in investment planning is disclosed. Prior to 1976, project design had always followed the planning of the projects. In this patently inefficient situation, the central authorities decided on the way in which investment would be undertaken without the benefit of alternative blueprints. It may be that in the case of Soviet or Chinese built projects this would not have presented any problems but it suggests that many domestically financed projects were undertaken on an irrational basis. It is surprising to find that, for the first time, designs and estimates were available for the projects planned for 1977 at the beginning of the plan period. In future, it is anticipated that "serious study" and project design will precede planning and execution although it is not clear how a choice between different projects will be made, either in the design or planning phase.

In October 1977, the same author, Shinasi Dragoti—his profession is not known—provided a detailed account of a problem common to

⁶⁶ Ibid.

⁶⁷ Ibid., p. 67.

⁶⁸ *Zëri i popullit*, February 12, 1976.

⁶⁹ *Zëri i popullit*, February 11, 1976.

⁷⁰ *Bashkimi*, December 23, 1976.

⁷¹ *Rruga e partisë*, February, 1977, pp. 20-31.

many developing economies, but never previously admitted in public by the Albanians.⁸³ This is the prevalence of seasonality in the construction sector.

Seasonality is a feature of construction activity in all backward economies, the use of handicraft techniques being particularly sensitive to changes in the weather. In Albania, as elsewhere, construction activity rises to a peak in summer and falls off dramatically in winter. Thus, as recently as 1977, if 100 is an index of activity within the ambit of the Ministry of Construction during the first three months of the year, the figure rises to 145 during the next three months, it peaks at 165 during the July-September period and falls to 135 in the final quarter. In terms of labour planning, there is an increase of 5,000 workers between the first and second quarters, a further increase of 2,000 for the summer and 5,000 more workers are employed in the final quarter than the first. Dragoti concedes that, neither improvements in technology nor PLA attempts, since the revolution, to convince workers that they should work in the rain have had any significant impact on the situation.

The important implications of seasonality for the rest of the economy are not lost on Dragoti, who lists the following:

(a) The construction industry employs most of its workers when they are required in agriculture. During the winter, these 7,000 workers are either on paid, extended vacations or unemployed; Dragoti does not say which.

(b) Seasonality creates difficulties for the producers of building materials, who operate at a fixed daily and monthly rate and production capacity, and have fixed storage facilities.

(c) In the summer there is excess demand for transportation facilities, both within the construction sector and intersectorily. In the winter, there is excess supply with its concomitant disguised unemployment in the transport sector.

(d) The fixed capital employed in construction is over-utilised in summer and underutilised in winter. If capital utilization is taken as 100 percent during the third quarter, the respective values for the first and final quarters are 73 percent and 83 percent.

The solution to this problem clearly rests with the central authorities. In setting targets for rural Albania, the Ministry of Construction has the right to divide the annual plan into quarterly plans as it sees fit, while enterprises are free to produce their own monthly breakdowns. Dragoti calls on the higher authorities to intervene but there has been no evidence of a change in system rules to cope with this problem.

Minister Hanku's 1977 summary⁸³ of results notes that the volume of construction was around 18 percent up on 1976—which was probably, therefore a bad year—and that global industrial production (in the construction sector) was up 17 percent. He further noted that twice as many small projects as in 1976 had been completed. He gave no details on the 1978 plan, although another source⁸⁴ claims that 11.6 million leks were being invested daily in 1978. Since this report appeared in April of that year, it seems reasonable to assume that this

⁸³ Rruga e partisë, October, 1977, pp. 33-40.

⁸⁴ Bashkimi, December 20, 1977.

⁸⁵ Rruga e partisë, April 1978, pp. 29-42.

is a plan figure. 4.23 billion leks is thus the annual planned value of investment for 1978. This is only 19.23 percent of the 22 billion leks investment planned for the 1976-80 period. If the Five-year Plan envisaged regular annual increments in investment—as seems most likely—the percentage share of investment in 1978 might be expected to have been higher unless earlier plans were not met.

A plan result for 1978 in investment and construction has never been published although there is evidence—a vague interview with Haku in *Bashkimi*⁶⁶ that the plan was not fulfilled. The 1979 plan called for a 12 percent increase in investment (by volume) and a 6.4 percent increase in the volume of construction, both as against 1978.⁶⁷

On the basis of the above discussion it can only be concluded that investment and construction have, along with most other sectors of the Albanian economy, failed to fulfil their annual plans since 1976 and seem unlikely to come very close to their five-year plan goals in 1980. The PLA's seemingly haphazard approach to investment planning and the persistent seasonal fluctuations in construction activity are an indication that Albania is still a genuinely underdeveloped economy—a fact which is often overlooked when comparisons are drawn with other East European economies.

IV. THE IMMEDIATE IMPACT OF CHINESE WITHDRAWAL

On July 13, 1978 *Zeri i popullit* announced the Chinese decision to cease all aid, credits and technical assistance to Albania. It remains to consider the impact of the final break in economic relations between China and Albania on the latter's economy. Throughout the previous section it was argued that the Albanian economy has experienced difficulties since 1976—in fact, 1975 was the year in which the downturn began. As Kaser has shown,⁶⁸ it was in 1975 that Albania first began to make serious repayments of their huge debt to the Chinese. It would, therefore, be surprising if a final break some three years later had any serious consequences for an economy governed by—to put it mildly—a government very sensitive to changes in the external environment.

Although concrete evidence in support of the claim may never be forthcoming, it is conceivable that the PLA leadership provoked the final split on the basis of a calculation that continued repayments of the foreign debt would probably put more pressure on the economy than doing without long-term credits. The implications of a split between fraternal communist parties invariably includes a cancellation of all debts owed by the former aid recipient and Enver Hoxha had already been through this manoeuvre in 1948—with the Yugoslavs—and 1961—with the Soviet Union.

In any event, Albanian press reports subsequent to the Chinese departure exude a defiant air of confidence. Thus, three days after the official announcement workers at the Fierze hydroelectric plant were reported⁶⁹ to be completing the construction of the dam with sand, rock and seemingly any other available material. A meeting of communists and vanguard workers was held at the Elbason metallurgy combine to discuss "recent" party guidelines for the further expan-

⁶⁶ *Bashkimi*, December 31, 1978.

⁶⁷ *Zeri i popullit*, February 21, 1979.

⁶⁸ M. Kaser, *JBC* 1977, p. 1340.

⁶⁹ *Zeri i popullit*, July 16, 1978.

sion of the technical—scientific revolution.⁸⁰ There followed a spate of articles⁸¹ on recent innovations and successful import substitution ventures. There is also evidence of the PLA's predictable attempt to turn the Chinese departure into a mass mobilization weapon. Thus, Albanian copper workers approved a 1979 plan which provided for an increase in industrial reserves of copper, 10,000 tons above that foreshadowed in the five-year plan.⁸¹

Much of the existing evidence on the impact of the split on specific projects suggests that the Chinese presence operated to the detriment of the Albanian economy. Thus, workers at the Ballsh oil refinery reported⁸² that Chinese specialists in the platform section had installed only one of three blocks—Albanians had since erected the other two—and caused considerable damage to the enterprise. Another report⁸³ noted that workers all over the country had denounced the Chinese, accusing them of “Khrushchevite” tactics, failure to fulfill contracts “for years” and causing damage to the Albanian economy. The workers had, of course, also pledged support for the PLA in its heroic stand and undertaken to increase the level of exports and reduce the level of imports. It was also announced⁸⁴ that the Fierze hydroelectric station would be completed on schedule despite the fact that the Chinese experts had taken all installation documents with them. The same source also announced that Albania's first domestically produced tractor was on the way to completion and that there would be a significant increase in the output of pig iron in the near future.

Some problems were, of course, admitted publicly. Thus, the machine works in Stalin City were said⁸⁵ to have faced “hostile pressure” from the “blockade and imperialist-revisionist encirclement” in the past, when machinery and spare parts, particularly for the petroleum industry, had arrived late and prices were very high. Now, “the disgraceful hostile action of the Chinese leadership against Albania” had led to the problems which, however, the workers would overcome. The Albanian press was full of reports similar to those cited above for some weeks and it would be pointless to present them all here, suffice it to note that three points emerge from them:

(1) The Chinese had tried to damage the Albanian economy during their sojourn in Albania.

(2) The Chinese departure has given rise to some problems but these will be overcome without difficulty.

(3) Although the Albanian economy had received Chinese aid in the past it could in no way be argued that Albania's economic development had been predicated on this aid.

Of these assertions, the one coming closest to the truth is probably the second in view of the—at least—three years warning given to the PLA when the Chinese forced credit repayments in 1975 and the likelihood that Albania precipitated the break. The first suggestion, of Chinese sabotage, must be considered false. It is inevitable that in a rela-

⁸⁰ Bashkimi, July 19, 1978.

⁸¹ See issues of Bashkimi and Zëri i popullit, late July, throughout August 1978.

⁸² Bashkimi, July 26, 1978.

⁸³ Zëri i popullit, August 5, 1978.

⁸⁴ Bashkimi, August 1, 1978.

⁸⁵ Zëri i popullit, August 1, 1978.

⁸⁶ Zëri i popullit, August 11, 1978.

tionship between two states lasting nearly two decades, some problems will occur and it is all too easy for the PLA to publish every instance of such difficulties in a short space of time, thus magnifying the issue.

The claim which is most difficult to evaluate is that limiting the influence of Chinese aid on Albanian economic development. Measured in terms of aid as a proportion of gross investment, the claim has some merits. Thus, over the previous three five-year plan periods—1961–65, 1966–70 and 1971–75—the ratio of foreign aid to gross investment has been estimated²² as 11 percent, 12 percent and 15 percent respectively. However, what is more significant is that the aid allowed the PLA to pursue a development strategy which, because it was not founded on a rational economic—as distinct from political—basis, would have proved impossible in the absence of that aid. Thus, aid had been a necessary but not sufficient condition for the application of a Stalinist development blueprint to the Albanian economy of the sixties. Indeed, given the difficulties experienced by the Albanian economy in meeting the targets of the current five-year plan, it seems reasonable to argue that foreign aid is still a prerequisite for genuine Stalinist development.

V. CONCLUSION

The foregoing analysis suggests the following conclusions:

(1) To the extent that a centrally-planned economy is better able to generate outcomes in priority sectors when decision-making is highly centralized, it may be argued that the withdrawal of Chinese aid prompted the PLA leadership to recentralize the management of the economy. It seems more likely, however, that recent changes in system rules have been motivated primarily by the leakage of economic decision-making power from the executive committees of the local People's Councils to enterprise directors and the consequent loss of PLA control over economic outcomes.

(2) In a small, unsophisticated centrally-planned economy, it may not be possible to decentralize economic decision-making power with the policy, planning and administrative hierarchy on a territorial basis, without some leakage to enterprises taking place. This is an almost certain outcome if the leadership uses ideological mass mobilization campaigns to achieve its goals. Consequently, if stalinist economic ideology is to be respected—as has been the case in Albania—economic decision-making power must be kept in the hands of ministries or other central organs.

(3) Hindsight almost allows the PLA's development strategy to be viewed as a self-fulfilling prophesy. Thus, the PLA has attempted to use Chinese aid to make the Albanian economy capable of further development in the eventual absence of foreign aid. Albania's unwillingness to accept long-term credits from the Soviet bloc or the West is based on the notion that such aid brings with it political constraints on the PLA's freedom of action with respect to Albania's further development. While there can be no doubts that the Soviet aid invariably has strings attached it is not clear that the Albanian leadership would lose out if it carefully sought sources of aid in the West.

²² A Schnytzer. *The Albanian Economy*. op. cit., Chapter 5.

For the time being, however, there seems little likelihood that this will happen.

(4) Throughout the past decade, the PLA has shown an awareness of the fact that a strategy of self-reliance must be tied to a successful agricultural sector. Measures taken to assure this end include a redistribution of income from urban to rural Albania and increased investment in agricultural mechanization. It was this shift in priorities which probably led to Albania's achievement of self-sufficiency in bread grains in 1976, 1977 and 1978. [The data for 1979 are not yet available.] Given the relatively modest targets set for agriculture in the Sixth Five-year Plan, they may be achieved for the first time in communist Albania's history.

(5) Considered in terms of the Albanian past, the lot of the consumer continues to improve but at a very slow pace. Political considerations appear to have forced the PLA to allow regular increases in the level of per capita consumption. Not surprisingly, the difficulties facing the Albanian economy have led to regular failures on the part of the light and food industries in their attempts to meet recent plans.

(6) The Albanian engineering industry has been, since 1968, the high priority sector of Albanian industry. It has been charged with making Albania 95 percent self-sufficient in spare parts by 1980 and, although the precise meaning of this task has never been clear, official reports suggest that this goal will be met. If so, it will be one of the few successes in an otherwise bleak five-year plan period for Albanian industry.

(7) It seems certain that there will also be shortfalls in the state's investment and construction plans. An interesting aspect of recent Albanian literature on this sector is the admission that construction activity was still—in 1978—subject to severe seasonal fluctuations. That these fluctuations have been planned is an admission by the planners that the Albanian economy is still very much an underdeveloped economy with prerevolutionary rural attitudes to labour more widespread among the population that Albania's impressive industrial growth rates over the past thirty-five years would suggest.

(8) There can be no doubt that the difficulties experienced by the Albanian economy in recent years are directly related to the crisis in relations with China. The latter's insistence that Albania begin to repay its extensive debt in 1975 placed enormous pressures on the Albanian economy and global industrial output has not grown by more than 6 percent in any year since that time. This is a considerable drop for an economy which had been averaging well over 10 percent industrial growth per annum since 1950.

Under these circumstances, it is not unlikely that the PLA leadership began to feel that economic relations with China had outlived their usefulness to the Albanian economy. Given the Albanian propensity for debt annulment in the event of a split with a communist ally, it would not be surprising if the PLA leadership precipitated the final break with China. On the basis of internal Albanian evidence alone, the above conclusion cannot be dismissed.

Even if this scenario is not correct, the modest targets of the Sixth Five-year plan leave no doubt that the PLA was aware that China would no longer finance a huge balance of payments deficit. This made a final break inevitable and there is no evidence to suggest that when it finally came it had any further significant effect on the Albanian economy.

(9) Finally, it is difficult to envisage any major upturn in economic activity in Albania in the near future unless it accompanies a departure from the stalinist development strategy or a change in the Albanian constitution permitting foreign aid from the Soviet bloc or the West. In other words, for the first time in its history, the PLA appears to be faced with economic problems which its ideological framework cannot support. It remains to be seen whether the Albanian government remains content with slow growth in heavy industry and diverts resources to the further development of agriculture or whether it attempts to finance continued rapid industrialization with ideologically tainted foreign capital. One thing seems certain: whereas the rhetoric may persist while Enver Hoxha remains in control of the PLA, the stalinist development strategy—at least in Albania—has joined its founder in the dustbin of history.

