

ALLOCATION OF RESOURCES IN THE SOVIET UNION AND CHINA

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BEFORE THE
SUBCOMMITTEE ON
TECHNOLOGY AND NATIONAL SECURITY
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ALLOCATION OF RESOURCES IN THE SOVIET UNION AND CHINA

FRIDAY, APRIL 20, 1990

CONGRESS OF THE UNITED STATES,
SUBCOMMITTEE ON TECHNOLOGY AND NATIONAL SECURITY
OF THE JOINT ECONOMIC COMMITTEE,
Washington, DC.

The subcommittee met, pursuant to notice, at 9:30 a.m., in room SD-562, Dirksen Senate Office Building, Hon. Jeff Bingaman (chairman of the subcommittee) presiding.

Present: Senators Bingaman, Sarbanes, and Roth.

Also present: Richard F Kaufman, general counsel.

OPENING STATEMENT OF SENATOR BINGAMAN, CHAIRMAN

Senator BINGAMAN. The hearing will come to order.

This hearing marks a milestone in Mikhail Gorbachev's efforts to reform the Soviet economic system. The past 5 years have witnessed a multitude of initiatives, shifts in basic policies, and reorganizations that have already permanently altered the political, military, and economic structures of the Soviet Union. Much has been changed for the better and the long-term prospects are probably good, provided the reforms go forward, but in the short term and the medium term, there are some very serious and potentially catastrophic problems.

The Soviet Union today is a more open society, more tolerant of diversity of views at home, more respectful of human rights, and less confrontational abroad. It seems to be moving toward a more democratic, pluralistic political system. It has been constructive in recent rounds of arms negotiations.

Perhaps the best news is that the Soviet military spending is going down. We will have testimony on that point during the hearing. The Soviet forces are being restructured along less threatening lines. In the past, we have seen a slowdown in the rates of growth in defense outlays. Now we see real cutbacks, and substantial reductions across the board. There is, at last, concrete evidence of a shift in priorities and resource allocations away from the defense sector. If these trends continue, we may actually see a significant slowing of the arms race. Most impressive to me is both the size and the composition of the military cuts that were made in 1990. According to the intelligence experts, there were declines in procurement of conventional and strategic forces, and military manpower, and operations and maintenance, and a leveling off of military research and development spending.

I might add that the findings of the intelligence community as described today paint a different picture from the one we get from certain administration officials who have argued that the Soviet defense spending is still growing, or that certain military capabilities are still increasing. Also this is a very different picture from that which we received last year in the DOD publication, "Soviet Military Power." The fact that outlays were being reduced for offensive strategic weapons, as well as for conventional weapons, indicates the seriousness of Soviet efforts to cut back on overall armaments.

News from the economic front is not good. Attempts to reform the economy have failed so far. The situation seems to be bordering on extreme instability. Last year, the CIA and DIA reported that another year of slow growth had prompted Mr. Gorbachev to change course. This year the intelligence agencies conclude that the Soviet economy stumbled badly in 1989, that the economy is in an unstable state, and that living conditions have worsened. Just how bad conditions are, and the implications and prospects, together with the significance of the changes in the military policy, will be discussed by the spokespersons for the two agencies.

Let me just state the ground rules here before I defer to my colleague, Senator Sarbanes, for any opening comments he has.

The ground rules that we've agreed to are that the Government witnesses will summarize the intelligence report, which is unclassified and is available to the press and public; however, the intelligence agencies prefer not to respond in open session to questions from members of the subcommittee. Following the presentation of the CIA and DIA report, we will hear from two of the most respected scholars in the field of Soviet studies, who I will introduce at that time. We will also put any questions to those public witnesses at that time. At the conclusion of their testimony and questions, the subcommittee will adjourn to a different room for a closed session in which questions will be addressed to the CIA and DIA spokespersons.

Before I introduce our two speakers today, let me call on Senator Sarbanes for any comments he would like to make.

OPENING STATEMENT OF SENATOR SARBANES

Senator SARBANES. Thank you very much, Mr. Chairman. I will be very brief. First, I want to commend you for continuing the JEC's longstanding program of receiving these reports on the Soviet economy. We also do them on the Chinese economy, and I think over the years they have been very helpful in public policy-making. I am very pleased we have the CIA and DIA people here with us, and I am looking forward to hearing from Murray Feshbach and Seymour Goodman, two of our outstanding experts in this area.

The hearing could obviously not come at a more timely moment. I was part of a Senate delegation, headed by the majority leader, Senator Mitchell, which was in the Soviet Union last week and which met with President Gorbachev a week ago yesterday for over 2 hours. President Gorbachev took a very long period at the outset of that meeting to discuss perestroika and their efforts at economic

reform. To make the point that they were at a critical juncture in their efforts to address the economy, that they had left the old system but not yet reached the new system and, therefore, they were in a very critical transitional period.

It is apparent to anyone who has eyes simply to see on a visit the very deep difficulties in which their economy now finds itself, and I think the regime there is coming under increasing criticism and pressure from the populace for its inability to address these economic questions. He had indicated there was a weekend session coming with his presidential council, federation council to try to consider major economic reforms, radical reforms. They met but didn't agree. So they're obviously having a great deal of difficulty amongst themselves figuring out what the next step is going to be.

One of my colleagues suggested that they had described it as a swamp that they were trying to go around of economic difficulties, and he put it to them that maybe it was really coming to the edge of an abyss and you had to make a great jump forward in order to bring about the changes that were necessary.

This was not with Gorbachev. This was with one of the other high officials with whom we met. His response to that, interestingly enough, was, "Well," he said, "that's not a bad example. But the difficulty," he said, "if you come to the edge of an abyss and try to jump across, and don't make it, fall down into the abyss, no one ever comments later about how far you jumped."

So they are obviously wrestling with some very serious problem, and I think this hearing comes at a very opportune time.

I thank you for your leadership in bringing it about.

Senator BINGAMAN. Thank you very much. Let me call upon our first panel, John Helgerson, CIA Deputy Director for Intelligence, and Dennis Nagy, who is the DIA Acting Director for Foreign Intelligence. Each will make an oral statement, based on the report that the two agencies produced. I understand Mr. Helgerson will speak mainly about the Soviet economy and also address recent economic developments in Eastern Europe. Mr. Nagy will then discuss the changes taking place in Soviet military spending and military policy.

Mr. Helgerson, please go ahead.

STATEMENT OF JOHN L. HELGERSON, DEPUTY DIRECTOR FOR INTELLIGENCE, CENTRAL INTELLIGENCE AGENCY

Mr. HELGERSON. Thank you. I am pleased to appear before your subcommittee as you consider recent economic developments in the Soviet Union, and this year in Eastern Europe as well.

As you know, this is the sixteenth year that we have testified here on these issues, and certainly, the last year has been one of the most historic in terms of political, economic, and military change in all countries of the region. It has been a challenge to those of us in the intelligence community to keep up with the avalanche of raw information and to develop new analytical tools to analyze and project economic policies and trends in the region.

In many ways, the historic changes of the last year have been less radical in the Soviet Union than in Eastern Europe. Political-

ly, President Gorbachev is the only leader, aside from Yugoslavia's premier, who has remained in the job since this time last year.

SOVIET ECONOMY NEAR CRISIS

On the economic side, the Soviet leadership's policies have plunged the economy into a near crisis at home but have not as yet produced the radical economic reforms that have been adopted in many of the East European countries. Soviet economic performance in 1989 was abysmal, the worst since Gorbachev took over. Industry, construction, and transportation stagnated or declined. Widespread breakdowns in transportation and distribution interfered with the delivery of output, both to producers and to consumers. Notably, the vital energy sector led the downturn in industry. For the first time since the 1940's, total energy production fell, compared with the previous year.

There was a bright side, in that agricultural production increased, but on the other hand, this gain too represented largely a rebound from a 2-year decline.

All of these problems impacted most heavily on the consumer, which was a particularly bitter pill because the leadership had promised to give top priority over the last year to consumer welfare. Per capita consumption did increase in statistical terms, but this was largely due to sharp increases in the sales of alcoholic beverages and imports of consumer goods.

More important, certainly, the gap between consumer demand and supply widened as the growth in money incomes soared. This made daily life seem all the more difficult for all but the most privileged in the Soviet Union. Even in state-run stores, where price controls were in force, prices increased by an estimated 6 percent, which was the highest rate since 1950. Empty shelves in the state stores forced consumers to turn increasingly to the black market and to the new cooperative enterprises, where prices are often several times higher. Meat and sausage, for example, were rationed in one-fifth of the major cities and such essentials as soap, detergent, and sugar were rationed almost everywhere.

By the end of 1989, by the Soviets own reckoning, only 50 of some 1,200 basic consumer goods were readily available.

At the same time, Gorbachev's policy of openness, or glasnost, has served to make the difficult economic situation all the more important in political terms. As a way out of this mess, the Soviets boosted consumer-related imports last year, and to do so, they paid a substantial price in hard currency. This went awry also, because export growth did not keep pace, largely because oil sales tapered off. The Soviets incurred a \$1.4 billion trade deficit last year and were forced to borrow heavily.

Gold sales remained brisk for the 4th consecutive year as Moscow once again sought to limit this borrowing.

TRADITIONAL MEASURES OF PERFORMANCES LESS USEFUL

Mr. Chairman, I would like to underscore to the subcommittee that all of these imbalances that I mentioned have made our traditional measures of Soviet economic performance less useful this year than at any time in the recent past. True, the Soviet produc-

tion wheel kept turning and Soviet official statistics showed a growth of about 3 percent in national income in 1989.

Our translation of these statistics into GNP reduced that growth figure to 1.5 percent, but even that number is illusory. First, it is based on increasingly dubious statistics from the Soviets. Second, and most important, it is just not a good index of performance for an economy afflicted with such major dislocations. Much of the Soviet output never reached its intended consumers, for example. It went into inventories, whether in factories, warehouses, construction sites, or even household hoards.

Again, glasnost has helped provide us with information which, while often anecdotal, has supplemented our quantitative measures and provided us ample evidence of the economy's mounting problems.

UNDERLYING FACTORS

The Soviet economy's sorry performance, we believe, can be traced to a number of factors.

First, and probably foremost, certain major policy decisions have carried with them substantial and apparently unforeseen costs. The decision to allow rapidly increasing budget deficits after 1985, for example, stimulated very strong inflationary pressures.

Second, the plan—or I should say several plans—for economic reform was poorly conceived or at a minimum, poorly implemented. The traditional administrative methods of directing the economy from the center were abandoned long before decentralized market reforms were in place.

Third, central planning has been particularly detrimental to progress in information technologies that are essential to modernizing the Soviet Union's industrial base and making that country more competitive with the West. We estimate that the Soviet Union lags behind the United States by 7 to 15 years in various areas of computer technology.

Fourth, and this was important last year, Mr. Chairman, the Soviets were just plain unlucky. Natural and manmade disasters like the earthquake in Armenia, the Chernobyl incident, and then labor and ethnic strife, together caused supply disruptions and squeezed already limited resources; 7 million man-days, for example, are estimated to have been lost last year due to strikes and internal unrest.

And finally, in the problem area, Gorbachev inherited, of course, a legacy of overcentralized planning and ossified managerial bureaucracy that conflicted with his program and discouraged innovation at many levels.

STABILIZATION PROGRAM

In response to the country's deepening crisis, the leadership last year initiated a series of emergency stabilization programs and laid out a broad and deep economic reform blueprint. The stabilization program included budget cuts, notably in defense and investment, a shift of investment from heavy industry to consumer-oriented industries, and the sale of bonds and state assets to soak up excess purchasing power. The reform package included new laws on land-

use and property rights that broke with old Marxist-Leninist tenets. These laws are supposed to lead to further reforms in key areas such as prices and planning that are to be implemented after the stabilization program takes hold.

None of these programs went far enough, as many of the Soviet leadership's economic advisers have said all along and in public. Now Gorbachev has promised bolder stabilization measures and a more radical and accelerated reform program.

As Senator Sarbanes mentioned, the new presidential council met to consider the draft plan for these changes last Saturday, and part of the package is to be ready for Supreme Soviet approval next month.

We wonder if this will finally be the strong medicine the economy needs, or more likely another compromise. In any case, we doubt that it will approach the Polish shock treatment, if I may describe it that way, and in fact Gorbachev's chief reform architect has tried recently to dampen enthusiasm for such measures.

DEFENSE SECTOR

Diverting resources from the defense to the civilian economy has become an integral part of Gorbachev's program for economic renewal and a more satisfied consumer. This subcommittee will recall that in December 1988, Gorbachev announced that convention ground and air forces would be reduced and restructured. In January 1989, he revealed a 3-year program of force and budget reductions that is scheduled to continue through 1991.

In 1989, we saw the first fruits of his actions as overall defense spending fell by 4 to 5 percent in real terms, according to our estimates. An important aspect of this is that procurement outlays dropped most sharply—on the order of 6 to 7 percent—while expenditures on personnel and operations and maintenance also fell. It is worth noting, however, Mr. Chairman, that even with these reductions, defense expenditures last year still exceeded the level of Gorbachev's first year in power.

Moscow has also tasked the defense industry with sharply increasing its production of consumer goods and equipment for consumer-oriented industries. For the most part, defense plants have been reluctant to embrace the program enthusiastically. They have attempted, instead, to preserve their military production by increasing the output of civilian goods already in production rather than expanding their product lines. But increased civilian demands, combined with cutbacks in orders for weapons production, raised the pressure on the defense industry to shift the material and financial resources from weapons production and to begin the slow process of conversion.

Moscow has claimed that over 400 defense plants and 200 research organizations increased production for the civil sector during 1989. By the end of the year, these efforts were beginning to pay off in increased production of consumer durables. Output, however, needless to say, still did not come close to meeting demand.

PROSPECTS FOR 1990

Mr. Chairman, as we look ahead, the prospect of even a modest economic recovery in the Soviet Union seems to us remote at best. We offer this judgment despite recognition of Soviet initiatives with respect to stabilization, reform, and conversion.

The most likely outcome for 1990 is that the Soviet economy will stagnate or decline slightly, that inflationary pressures will remain strong, and that widespread shortages will persist.

The Soviet economy's performance during the first quarter of 1990 indicates that the administrative measures taken so far to stabilize the situation, by and large, have failed to take hold. At the same time, ethnic and labor unrest, if anything, has been more disruptive than in 1989. This leads us to observe that under certain circumstances the economy, in fact, could deteriorate sharply in 1990. It is in a fragile state and a severe shock could cause output to drop precipitously. Such shocks could result from prolonged strikes in key economic regions, ethnic unrest in vital economic areas, or consumer panic that brings hyperinflation.

Whatever the prospects for economic performance, however, we believe that further reductions in military spending are all but certain in 1990 and 1991. Moreover, despite initial conversion problems, the Soviet leadership appears to be firmly committed to converting defense industrial capacity to civilian uses.

EASTERN EUROPE

If we may turn for a moment to Eastern Europe, Mr. Chairman, let me say simply, what a difference a year makes. The end of Communist control over the individual societies and the end of Soviet hegemony over the region have given the peoples of Eastern Europe a great opportunity to take control of their own destiny. We have not seen such a time since the collapse of the multinational empires after World War I. The East European states are now trying, each in a different fashion, to head in the direction of the model that they clearly believe works, which is democracy with market-based economies.

I would like first to discuss the region's prospects for economic change and recovery following 40 years of economic mismanagement. I do not intend to focus on political change, but as this subcommittee recognizes, the two are intertwined. Clearly, the ability of these fledgling democracies to improve their people's economic well-being will be perhaps the most important determinant of political stability. If they are to hold public support, the new governments must do far better than their predecessors in narrowing the economic gap with the West. Progress in matching Western standards of living increasingly will be the benchmark by which East Europeans reach the capabilities of these new governments. Certainly, this has been President Gorbachev's experience in the Soviet Union.

RECORD OF 1980'S

Over the past decade, Eastern Europe's economic performance, in fact, has fallen further behind the West. In 1989, for example, average per capita GNP in the region fell to 27 percent of that of the

United States, down from 32 percent in 1975. Living standards in most of the region have improved slowly, at best. In the cases of Poland, Yugoslavia, and Romania, they are clearly no higher today than they were at the end of the decade of the 1970's.

The road to economic recovery, however, will not be an easy one. The realities of the economic situation cannot be overcome simply with good intentions. Elections are taking place throughout the region between now and mid-June, and once all of the new governments have taken hold they will face the daunting task of changing four decades of economic behavior. As one East European official recently put it, "It's easier to make democracy than to make bread."

The new governments must begin by confronting the disastrous economic record of their predecessors. This record is basically one of slow or stagnant growth, declining productivity, investment in energy-intensive heavy industries, uncompetitive and poor quality goods, massive environmental problems, and deteriorating infrastructures.

The new governments are learning day by day that performance was often far worse than had been acknowledged by the past regimes. This was particularly notable regarding the amount of foreign debt, budget deficits, rates of inflation, and insolvent domestic firms.

There is some reason for optimism, however. Over the past 6 to 9 months, the new governments in Eastern Europe have pressed ahead boldly and courageously. Despite often lengthy delays and compromises, they have passed unprecedented constitutional amendments and supporting legislation designed to transform these essentially planned economies into market-based economies. Virtually every country is now undertaking institutional changes aimed at decentralizing management, freeing prices, and expanding the private sector. They are also increasing competition, liberalizing private and foreign investment rights, and enhancing individual incentives.

REFORM STRATEGIES

As we look at the various reform strategies being pursued in the region, it is important to note that economic reform in East Germany is unique. There it is entwined with and clearly subordinate to the process of German unification. The newly elected government is strongly committed to unification and a market economy, and now in power is expected to move quickly to copy the legal, tax, and regulatory framework of West Germany's social-market economy.

Reform programs in the rest of the region, Mr. Chairman, differ considerably in terms of the pace, the scope, and the sequence of events. This reflects important diversities in the degree of economic development and the political situations of the several countries in the region. Programs range from Poland's rapid and comprehensive big bang approach to Romania's efforts to stabilize the economy and more clearly inventory its problems.

Neither of these approaches is risk free. Moving rapidly may mean an advantage in the competition to gain financial assistance

and attract foreign investment, but the big bang approach also risks severe economic disruptions and political instability. Moving slowly, on the other hand, may mean less chance of political unrest, but it runs the clear risk that piecemeal change will prove ineffective.

Initial efforts to stabilize the East European economies are generally encouraging. In Poland and Yugoslavia, while hyperinflation raged unchecked last year, tough stabilization measures have now reduced inflation to single-digit figures. Exchange rates of the Polish zloty and of the Yugoslav diner remain stable this year. Market supplies have improved in Poland, and Western private investors have already shown new interest in the region, with several new and large joint ventures announced.

Nevertheless, the most formidable obstacles to genuine reforms undoubtedly lie ahead. Implementation of reforms dealing with politically sensitive issues such as bankruptcy, privatization, and unemployment has not kept up with recent legislation, and unemployment is likely to soar if the new governments vigorously pursue efforts to break up unprofitable state enterprises, restructure their economies away from the noncompetitive heavy industries, give a greater emphasis to light manufacturing and consumer goods, eliminate state subsidies and let the market determine winners and losers.

PROSPECTS

We estimate that unemployment in Poland, for example, could easily exceed 1.5 million, almost 9 percent of the work force, by the end of 1990. Similarly, our estimates put potential unemployment at 15 to 20 percent in East Germany over the next year or so, 15 to 20 percent in Yugoslavia, and 5 percent or more in Bulgaria and Hungary.

In the region as a whole, price increases and falling wages are certain to be troublesome, but this loss of jobs will be even more traumatic, both for the unemployed and for the governments that will have to answer to them. The new governments emerging in Eastern Europe almost certainly will be hybrid coalitions that will take some time to get their bearings and come to grips with problems that are severe enough to challenge even the most stable and experienced democracies.

In the face of rapidly rising public expectations in the region, there will eventually be reluctance to translate these economic priorities into tough reform initiatives, particularly if public disappointment turns to active protest. The East European governments clearly recognize the challenges that are facing them, and they have sought Western support that is critical to the success of political and economic reforms. They want direct financial assistance, access to modern technologies, and closer integration into Western markets. Western nations have responded in all of these areas. The G-24 countries; that is, the EC, United States, Japan, and other smaller states, have already pledged to Poland and Hungary alone nearly \$11 billion in new credits, loan and investment guarantees, food aid, and grants.

Official government creditors have also agreed to reschedule \$9 billion in official Polish debt falling due before March 1991. The same countries are ready to assist the rest of the region as various of them establish their credentials as democratic nations. Western nations are also considering reduction of some COCOM restrictions on the import of certain Western technologies. For example, the United States has developed a number of proposals to liberalize controls on computers, machine tools, and telecommunications equipment.

Finally, the United States and other Western countries have taken steps to ease trade restrictions and support East European membership in world financial and trade institutions, including the World Bank, IMF, and GATT. In the final analysis, however, the key to the region's economic recovery clearly will be attracting greater private investment. This, in turn, will depend on the governments' success in creating stable political and economic environments.

Poland, we believe, is well on the way, and in some of the other countries—East Germany, Czechoslovakia, and Hungary, for example—a good start is likely by the end of the year.

At the other extreme, we think countries like Yugoslavia and Romania are still grappling with more deeply rooted problems that will present greater impediments to near-term progress.

In sum, Mr. Chairman, Eastern Europe is now emerging from a year of exhilarating revolution and entering a period of democratic consolidation and institution building. As this continues, the courage that was shown by the East Europeans in 1989 and the progress already evident in 1990 give us cause for considerable optimism, but they and we should not underestimate the difficulties that still lie ahead. These difficulties could still undermine progress if they are not met by the same persistence and skill that the East Europeans have shown in ending Communist rule of the region over the past year.

Mr. Chairman, this concludes my remarks, and I would propose to turn the floor over to my colleague from the Defense Intelligence Agency, Mr. Nagy.

Senator BINGAMAN. Thank you very much. Mr. Nagy, why don't you go right ahead.

STATEMENT OF DENNIS M. NAGY, ACTING DEPUTY DIRECTOR FOR FOREIGN INTELLIGENCE, DEFENSE INTELLIGENCE AGENCY

Mr. NAGY. Thank you very much, Mr. Chairman. I am very pleased to represent the Defense Intelligence Agency before your subcommittee this morning.

As Mr. Helgeson has observed, the past year has been one of historic political, economic, and military change. As in past joint appearances, I will focus my observations on those changes that have most affected the military.

I have divided this short presentation into six parts. I will look at force withdrawals, the influence of the military, weapons production, military spending, industrial conversion and, finally, military and economic assistance.

SOVIET FORCE WITHDRAWALS

The Soviets are well on their way to accomplishing the unilateral troop and conventional arms cuts announced by President Gorbachev in December 1988. Though we cannot fully confirm all of the withdrawals, we now believe the Soviets have completed at least half of the tank reductions and, based on very recent analysis, about three-fourths of the artillery and combat aircraft reductions from the Atlantic-to-the-Urals zone.

Even so, the unilateral reductions have been overtaken radically by the political changes sweeping Eastern Europe. The Soviets signed bilateral agreements with the new Czechoslovak and Hungarian Governments earlier this year to remove all Soviet forces by mid-1991, and now even some Polish leaders are calling for withdrawal of all Soviet troops, except 15,000 noncombatant personnel. In contrast, the Soviet pledge to remove unilaterally two tank divisions from East Germany in 1990 evidently has been put on hold at least until required by a Conventional Forces in Europe Treaty. This suspension is probably due to the Soviets' desire to slow the rush toward German unification, to sustain their leverage in the Two-Plus-Four Talks, and finally to ease difficulties they are having in relocating withdrawn units.

Gorbachev is carrying out his pledge to reduce and restructure forces on the U.S.S.R.'s southern and eastern borders as well. In this manner, he addresses China's concerns about the Soviet military presence in Asia.

Air Force reductions along the Sino-Soviet border and the withdrawal of 75 percent of the ground forces in Mongolia will likely be completed by the end of this year, and we expect all Soviet ground forces in Mongolia to be gone by the end of next year.

Air and ground force reductions and restructuring in the rest of the region are moving more slowly. The unilateral reductions have been offset somewhat, however, by modernizing and restructuring ground forces along the southern and eastern borders and by introducing more advanced aircraft to replace older, less-capable models.

Moscow will continue to maintain its ability to defend this region but will be less capable of offensive operations.

Thus far, the modern equipment the Soviets are withdrawing from the ATTU zone has not been destroyed as the West had hoped, but rather has been redeployed or stored in the interior of the U.S.S.R. beyond the Urals. In fact, the equipment with the remaining active units in Europe and the western military districts is becoming increasingly more up to date. For example, 70 percent of the equipment in those units now consists of T-72 and other modern tanks. Moreover, the Soviets are also establishing stocks of new or more modern artillery in depots just outside the ATTU zone, probably in anticipation of a CFE treaty.

In addition, only limited destruction of the combat aircraft removed from the zone has taken place so far. About two-thirds of the withdrawn aircraft have been openly stored in the outside in the zone, but we believe that those aircraft could not be returned to operational status without substantial refurbishment.

Turning to the Soviet Navy, one dramatic change under Gorbachev has been a 20-percent decline in out-of-area operations, with reductions in deployments to the Mediterranean, the Indian Ocean, and Southeast Asia.

In a second important change, the Soviets have in 1989 decommissioned over 80 warships. Most of these warships were more than 30 years old. By their reduction, the Soviets have reduced operational, maintenance, personnel, and logistics costs. Many of the ships have been sold to foreign scrapping yards for hard currency or bartered goods.

Even with these changes, the Soviet Navy has emerged from Gorbachev's first round of defense cuts relatively unscathed. The Navy has been excluded from current CFE negotiations, and its modernization program has so far shown few signs of a slowdown. The Soviets continue to build a broad range of new combatants and submarines that tend to offset the capabilities lost by the Navy's quantitative decline. In addition, Soviet naval aviation in the Baltic has recently been strengthened with the formation of new units using aircraft previously assigned to the Soviet Air Force.

The impact of perestroika on naval construction programs, with the notable exception of the KIROV heavy cruiser remains to be seen, in large measure because of the very long leadtimes that are required for ship construction.

One area of continued concern to Western military planners has been the extensive stockpiles of munitions and materiel remaining in place in Eastern Europe, despite the ongoing Soviet troop and weapon reductions. The current Warsaw Pact logistics system, which centralizes most supplies and support units at the Army front level, was designed to support offensive operations; however, significant changes may now be under consideration. Recently, the Soviets and East Europeans have indicated that logistic stocks and units will be decentralized, providing tactical commanders with more reliable support during defensive operations, but restricting the mobility of stocks required for offensive operations.

The expected Soviet withdrawal of some share of their forward-based stocks will further increase the time required for them to mobilize and redeploy a logistically sustainable force into the forward area. As it stands now, the withdrawal of most, if not all, Soviet forces from Eastern Europe appears to be only a matter of time. The Soviets probably can no longer independently commit non-Soviet Warsaw Pact forces to war without the consent of the East European governments; nor can the Soviets count on those governments for offensive operations.

The orderly reentry of Soviet forces into Eastern Europe during a crisis would be possible only with the consent and cooperation of those states. The Soviets would like for the East European states to maintain a buffer zone by defending their own territory and providing forward air defense, buying the U.S.S.R. time to mobilize and deploy forces in anticipation of conflict. Soviet leaders may attempt to renegotiate current arrangements with the East Europeans by using mutual defense treaties or status of force agreements that will allow the Soviets to maintain some military support infrastructure in the East European region even after Soviet forces are removed.

EAST EUROPEAN FORCES

For their part, the East Europeans are reducing and restructuring their own forces and posturing themselves to protect national borders and sovereign airspace.

With ongoing force reductions, slow and uneven East European force modernization programs, impending German unification, new national priorities and dwindling political support for pact commitments, the Soviets will find it increasingly difficult to plan for coherent and organized forward operations.

MILITARY INFLUENCE

Let me turn now to the factors influencing the morale and influence of the Soviet Armed Forces. The overall impact of the military on Soviet decisionmaking has declined, despite some recent hints of assertiveness. Indeed, the Soviet Armed Forces, previously much respected and privileged, is an institution in turmoil. One particularly painful reminder to the military of its declining prestige is the growing number of instances of harassment of servicemen, reflected in the increase in crime against them and their families.

Another reflection of declining prestige is a drop in living standards of military professionals. Disenchanted Soviet officers claim that salaries and perquisites for military professionals have fallen below those for comparable civilian jobs.

Failure to solve these and such other problems as the ethnic composition of the armed forces will have some effect on the combat capabilities of certain segments of the Soviet military. Some in the military now apparently regard Gorbachev's reform efforts as a failure, even though military leaders were among those arguing strenuously before Gorbachev came to power that economic restructuring and military changes were essential if the U.S.S.R. were to remain competitive. These developments have fueled continuing rumors of military-initiated or military-backed coups. The military leadership, however, would be extremely reluctant to involve the armed forces in a move against Gorbachev. Indeed, we believe that such a move would be highly unlikely without a consensus for change among key political leaders.

ARMS PRODUCTION

Turning now to military production. The Soviets last year carried out Gorbachev's January 1989 announcement that weapons output would be reduced. Tank production took the deepest cut, being halved to about 1,700. I might add, as a matter of comparison, that this is still about twice the total tank production of NATO. The Soviets have indicated that production in 1990 will be even further reduced to 1,300 to 1,400. The output of field artillery and multiple rocket launchers also fell substantially in 1989, but still outnumbers NATO output by a factor of about 10 to 1. The Soviet cuts, especially in tank production, complement the reduction and restructuring of ground forces. In this respect, the Soviets did increase the production of other armored vehicles and anti-aircraft artillery, apparently because of greater requirements for these systems in restructured ground force units.

Soviet bomber production also declined, primarily because of a slowdown in the BEAR H program. Only seven of those aircraft were built in 1989. Output of some of the intermediate-range BACKFIRE remained essentially constant at about 30 a year, and long-range bomber production involving the BLACKJACK continued at a relatively low level.

Production of fighters and fighter-bombers fell by about 10 percent. This will not significantly affect overall air force capabilities because of the large numbers in the Soviet inventory and enhanced performance of current models such as the FENCER, FOXHOUND, FROGFOOT, FULCRUM, and FLANKER. The combat ranges of these aircraft are being extended by the continued output of tankers and airborne warning and control aircraft.

Surface warships completed in 1989 include the first Soviet conventional takeoff and landing aircraft carrier—the TBILISI, another SLAVA cruiser, UDALOY and SOVREMENNYI destroyers, KRIVAK III class frigates and GRISHA V corvettes. KIROV heavy cruiser construction has evidently ended with the launch of the fourth unit. The Soviets have also indicated that the current aircraft carrier program will end when the third unit is finished.

During 1989, the Soviets produced the sixth DELTA IV nuclear-powered ballistic missile submarine and another has been launched since. The sixth and last TYPHOON SSBN was also launched in 1989. We expect SSBN production to proceed at a rate of about one per year and that the output of attack and guided-missile submarines will continue at about six to seven per year.

The Soviets turned out strategic offensive missile systems at or about the same levels as the previous year, emphasizing SS-24 and SS-25 mobile ICBM's, while maintaining production of silo-based ICBM's sufficient to modernize forces within the prospective START limits.

These developments, when combined with continued output of modern sea-launched ballistic missiles, move the Soviets further toward their objective of a survivable missile force with hard-target kill capabilities.

Production of the SS-20, eliminated by the IMF Treaty, has ended, but tactical forces are still being provided with somewhat increased numbers of short-range ballistic missiles, such as the SS-21.

Production of space systems apparently declined in 1989. This estimate is based predominately on a launch rate reduction and may not actually reflect booster and satellite procurement reductions. A decline in launch rates could be attributable to unexpected technical problems, longer system lifetimes, and possible budget constraints.

A number of other indicators—such as new systems, construction of support facilities, and the increased significance of military space as a force enhancement when other components are being reduced—suggest that military-related space programs are progressing, even though there are voices in the Soviet press calling for a reduction in overall space efforts to redirect resources to more earthly economic concerns.

MILITARY SPENDING

With regard to military spending, the foregoing changes in force levels, production rates, and operating tempos has, as Mr. Helgeron indicated, led to a significant decline, 4 to 5 percent, in Soviet defense spending in 1989. Procurement outlays dropped most sharply, about 6 to 7 percent, both because of the earlier-than-usual maturation of a number of major weapon production programs and, more important, the absolute production cutbacks that I've just outlined.

Spending on operations and maintenance fell by an estimated 5 percent last year, and expenditures for personnel declined by about 4 percent as a result of an estimated drop in Soviet uniformed manpower of approximately 200,000.

The intelligence community believes that military R&D spending has leveled off, as you mentioned in your opening remarks, Mr. Chairman, although this estimate is subject to somewhat greater uncertainty than estimates of other components of Soviet defense expenditures. The Soviets indicate that military R&D spending is not exempt from budget cuts and have announced a 14-percent reduction for 1990. Nonetheless, no major weapons development program appears now to have been stretched out or canceled at this point, and research and development of follow-on systems in all major military categories appear to be continuing without signs of decline.

Reductions in overall spending so far do not yet meet Gorbachev's pledge to reduce outlays by 14 percent and production by 19 percent. A further drop in military spending is likely this year and next. The Soviets are continuing to reduce and restructure their forces, and the economic urgency of cutting the defense burden persists.

The Soviets will continue to underwrite military R&D, but they probably will move to reduce some of the waste and redundancy in their R&D programs, and may tailor development efforts to support changing force structures.

In addition, Soviet statements indicate they intend to shift some R&D efforts from the design and experimental stages that precede production toward more fundamental research into new technologies potentially applicable to economic as well as military modernization.

CONVERSION

The Soviets continue to talk and write a great deal about redirecting resources released by spending and production cuts toward the civilian economy, but it became clear during 1989 that the defense industry conversion program is proceeding slowly. Moscow claims that over 400 defense plants and 200 research organizations out of several thousand defense-related facilities increased production for the civil sector last year. Pressure on the defense industry to assist the civilian economy did result in some increased production of consumer durables, but output still fell short of plans and far short of satisfying demand.

Conversion has consisted primarily of diverting labor and material resources toward increasing output on existing civilian lines in

defense plants. In other cases, new civilian product lines are being started using idle plant capacity. Where military production is being reduced, military lines have for the most part either continued operating at lower rates or are being mothballed. To date, the Soviets have designated only three plants—a small shipyard and two minor ammunition plants—for total conversion.

A long-awaited, but not yet released, national conversion plan will apparently assign the defense industrial sector the authority for developing and implementing conversion, a move that could place the entire program at risk. The defense sector's approach thus far has been to spread conversion inefficiently across hundreds of military plants, muting the impact on military production capabilities.

Until the Soviets reform the existing command economic system into a more efficient market-driven one, the defense industry conversion program could become yet another ineffective half reform that is dissipated in the system's ingrained inefficiencies.

MILITARY AND ECONOMIC ASSISTANCE

Soviet military and economic assistance. The value of Soviet military deliveries to Third World countries declined by nearly \$2 billion in 1989 to approximately \$17 billion. Despite the decline, the Soviets remain the world's largest arms exporter. The majority of the 1989 reduction resulted from Iraq's lowered military requirements due to the standdown in the war with Iran. Deliveries to other Middle East clients were also down, mostly due to contracts nearing completion with those nations. Other states, such as Afghanistan, Angola, Cambodia, and Ethiopia, received about the same level of support in 1989 as they did in 1988.

Soviet officials, faced with their own serious domestic economic problems, have indicated that foreign economic aid levels will be reduced, and that aid decisions will no longer be based solely on political or ideological considerations. The Soviets want to eliminate inefficient use of their aid and to shift some of the aid burden to international organizations. Soviet economic aid in 1989 was the equivalent of nearly \$8.5 billion, a decrease from the \$10 billion annual average of the previous 5 years.

Moscow will not, however, abandon its major Third World allies. The Soviets recognize that there are economic, as well as military and political benefits from their foreign assistance programs; however, many military and economic aid agreements expire in the next 2 years and the value of new agreements is expected to decline. Moreover, the Soviets are warning their allies to reform their own economies and begin using Soviet aid more effectively, and encouraging them to seek more assistance from the West.

MILITARY CAPABILITIES

I would like to conclude my remarks this morning, sir, by describing expected developments in Soviet military capabilities.

The Soviets have continued vigorous and broad-based modernization of both their strategic offensive and defensive forces, and the extent of change in these forces will be much less than the changes we expect in conventional forces.

Intercontinental systems will be extensively modernized by the late 1990's, and will be more capable, diverse, and survivable, but, of course, their numbers will be reduced, assuming a START treaty is signed in the coming months. This effort will enable the Soviets to maintain their relative strategic nuclear capabilities even under a START agreement. The Soviets continue to invest about as heavily in active and passive strategic defenses as they do in offensive forces, and their capabilities are improving in each of these areas.

Soviet ground, air, and naval forces will become smaller but more modern. The ground forces will retain the goal of fielding fully modernized maneuver formations capable of conducting high-tempo operations, based on mechanized infantry and tanks, and, of course, supported by artillery, air power, electronic warfare, and extensive command, control, communications and intelligence systems.

Aircraft improvements will emphasize range extensions, better reliability, and advanced avionics and aerial weapons. Combat crew capability should increase with the development of new tactics and training as the Soviets take advantage of high-technology systems.

The Soviet Navy will continue trends already evident in the 1980's, notably the development of carrier fighter aviation; the integration of nuclear-armed, submarine-launched cruise missiles into theater operations; and the incorporation of the more capable BACKFIRE C medium bomber.

The Soviets' capability to provide space-based support to their military forces will continue to improve and expand, as will the capability to orbit and return payloads. The Soviets will maintain a large constellation of military satellites, encompassing an array of imaging reconnaissance, ocean surveillance, missile warning, military communications, and other missions.

In general terms, over the next few years, the Soviet Union will continue to undergo significant social, political, economic, and military changes. In the near term, internal economic and nationality problems will direct the Soviet leadership's attention inward. At the same time, the trend toward modernization of a smaller military force will continue.

Thank you very much, Mr. Chairman.

Senator BINGAMAN. Thank you very much for that testimony. I think there is a lot of interesting information in both the CIA statement and the DIA statement.

As I indicated at the beginning of the hearing, our procedure is going to be, at this point, to dismiss the two Government witnesses and go directly to our two public experts. They will testify on the issues in their areas of speciality and comment on the testimony we have heard. We will then ask questions of those two public witnesses.

Later, in closed session, we may have questions for both of you gentlemen regarding your testimony.

[A joint paper by the Central Intelligence Agency and the Defense Intelligence Agency presented to the subcommittee follows:]

The Soviet Economy Stumbles Badly in 1989

20 April 1990

Not to be released without permission of the Chairman.

A paper presented by the Central Intelligence Agency and the Defense Intelligence Agency to the Technology and National Security Subcommittee of the Joint Economic Committee, Congress of the United States.

The Soviet Economy Stumbles Badly in 1989**Summary**

Soviet economic problems reached near-crisis proportions in 1989, as severe consumer goods shortages, inflation, and rising social and ethnic violence left Gorbachev searching for ways to put his economic program back on track.

After the economy's disappointing performance in 1987-88, the leadership had hoped for better things last year--especially for a tangible improvement in consumer welfare. Although agricultural output rebounded after a two-year decline, widespread breakdowns in the transportation and distribution networks interfered with the delivery of all kinds of goods from producers to consumers, causing goods to pile up in freight cars and warehouses, instead of reaching store shelves.

Dissatisfaction over inadequate supplies of consumer goods and inequalities in their distribution contributed to rising social tensions and played a role in the growing number of strikes and ethnic clashes. The combination of inflation and shortages made daily life miserable for all but the most privileged segments of society. According to Prime Minister Ryzhkov, some 43 million people, or 15 percent of the population, were living in poverty last year.

Besides having to grapple with rising consumer discontent, the leadership found its investment policy stalled. Completions of investment projects fell, and the backlog of unfinished construction rose sharply. Additions to new capacity were far below plan in many industries--especially in the vital fuel-energy complex, which experienced a dip in total production for the first time since the 1940s. These events were especially bad news for Soviet leaders as they struggled to overcome large and--in many areas--growing technological lags behind the West.

In an effort to increase consumer goods availability, the leadership did move forcefully to enlist Soviet defense industries in the civil economy. After years of asking defense industries to step up their civilian production, Gorbachev announced major force reductions in December 1988 and pledged to convert the freed-up capacity for civil use. In 1989 we observed the first fruits of these actions as overall defense spending fell by 4 to 5 percent in real terms, according to our estimates. At the same time, Moscow claimed that over 400 defense plants and 200 research organizations increased production for the civil sector last year. By the end of the year these efforts apparently were beginning to pay off in increased production of

consumer durables, although output still did not come close to meeting demand.

The Soviets also tried to deal with their consumer goods shortages by boosting imports, particularly for hard currency. Because export growth did not keep pace, however--largely because oil sales tapered off in the latter half of the year--Moscow incurred a \$1.4-billion trade deficit last year and was once again forced to borrow heavily. Gold sales remained brisk for a fourth consecutive year as Moscow sought again to use this option to limit borrowing.

Underlying the economy's sorry performance were a number of familiar problems, as well as mistakes in economic policy and changes in the system itself. In particular, the economic stall-out last year can be traced in part to the abandonment of many of the "administrative methods" traditionally used to direct the economy from the center without waiting for the "economic levers" needed to guide decentralized decision-making to be put in place. State enterprises, for example, often found themselves scrambling to obtain whatever supplies they could from a fledgling wholesale trade system that was not ready for the burden. Similarly, although many enterprises were given greater freedom to produce what goods they wanted, the lack of competition and market prices

often resulted in the production of high-priced goods that were not needed or wanted.

In response to the country's deepening economic difficulties, the leadership has initiated a series of "emergency" stabilization programs and has begun to give greater consideration to far-reaching, near-term economic reforms. In March 1989 a Council of Ministers' commission recommended cuts in budget expenditures on investment, defense, subsidies to unprofitable enterprises, and government administration. The economic plan and budget for 1990, adopted in September 1989, embrace these recommendations and also call for a shift of investment from heavy industry to consumer-oriented industries. Finally, last December, the Congress of People's Deputies approved a government economic program that reaffirms this basic strategy and prescribes additional measures to stabilize the economy by 1992.

On the reform front, after several months of continuous debate, the Supreme Soviet in March 1990 passed new laws on property and land use that break with a basic tenet of Marxist-Leninist ideology: that the state represents society as the sole owner of land and the means of production. Shortly thereafter, Gorbachev appointed Nikolay Petrakov--one of the most reform-

minded economists--as his personal adviser on economic issues and as head of a new institute on marketization. Then he appointed Stanislav Shatalin, a prominent reform economist, to his new Presidential Council. Meanwhile, a package of 29 measures is reportedly being prepared for early adoption to provide a framework for a more market-oriented economy. Nonetheless, the government's (and the country's) willingness to accept private property and market reforms is by no means assured.

Despite these actions on the stabilization and reform fronts, we see little prospect that the performance of the economy will improve substantially in the near term. The most likely outcome for 1990 is that the Soviet economy will stagnate or decline slightly, and output will remain at or below last year's level, inflationary pressures will remain strong, and widespread shortages will persist. Indeed, the economy's performance during the first quarter of 1990 indicates that the administrative measures taken so far as part of the government's stabilization program have failed to take hold and dampen inflationary pressures, while ethnic unrest, if anything, has been more disruptive to the economy than in 1989. Meanwhile, although defense spending should decline again this year as the Soviets continue with the military force reductions and restructuring Gorbachev announced at the UN, defense conversion

is still in its infancy. The Soviets are unlikely to come close to the 1990 targets they have established for production of consumer goods by defense industry.

Under certain circumstances the economy could deteriorate sharply. The economy is in an unstable state, and a single major event could lead to a substantial drop in output and bring about chaos in the distribution of both producer and consumer goods. Although it is not hard to imagine events that would cause output to drop precipitously--prolonged strikes in key economic regions, ethnic unrest in vital economic regions, or consumer panic that brings hyper inflation--it is more difficult to determine how far the leadership would allow the economy's deterioration to proceed before it took decisive action or what type of action this would be. If the cause of the deterioration is perceived as systemic, it might persuade the leadership to reject the past completely and turn in a much more radical reform direction. On the other hand, widespread strikes and growing regional autarky might lead the leadership to seek more control and a return to a strict command economy. In either case it seems unlikely that increased defense spending would be favored. The leadership would have its hands full regaining control and restoring growth without adding to its defense burden.

The Soviet Economy Stumbles Badly in 1989

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Introduction

Last year was a time of turbulence in the Soviet economy as the bill came due for the leadership's failure to address longstanding systemic weaknesses and for mistaken policies followed in the first years of the Gorbachev era. This report will first attempt to explain why the economy finds itself in its present state. It will then describe how the leadership's economic policies have evolved in response to the problems encountered and assess the chances that these policies will be successful.

1989: A Poor Year for the Economy

After the economy's disappointing performance in 1987-88, the Soviet leadership hoped for better things in 1989--especially for a tangible improvement in consumer welfare and an easing of inflationary pressures. The 1989 economic plan called for a substantial shift of resources toward the consumer at the expense of defense and investment. While making this shift, the government also launched a major campaign to reduce the newly acknowledged budget deficit and stabilize the USSR's finances.

Summary Results

Economic problems in 1989, however, proved much less tractable than the leadership anticipated. According to our

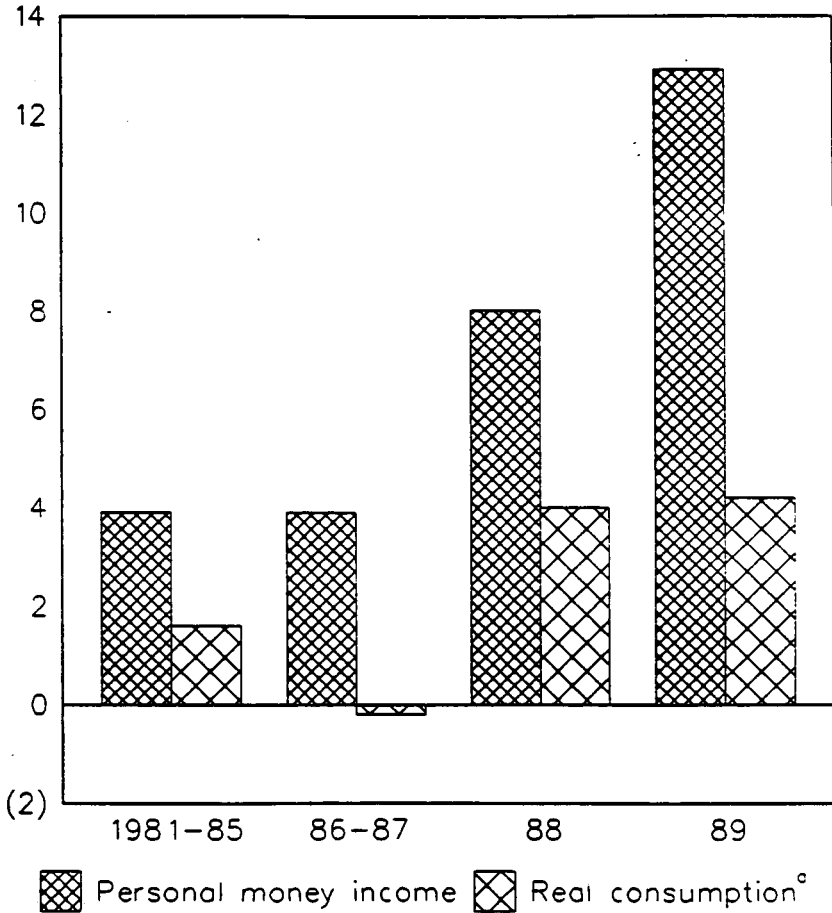
preliminary estimates, industry, construction, and transportation stagnated or declined, and while agricultural output did increase, this marked a recovery from a two-year decline. Moreover, widespread breakdowns in transportation and distribution interfered with the delivery of output from producers to both factories and final consumers. As a result, unintended inventories grew in the form of goods piling up in freight cars and warehouses instead of reaching store shelves. Inflationary pressures also continued to mount, reflecting the impact of rapid increases in budget deficits and the money supply since 1985. The imbalance between consumer demand and supply became particularly acute as growth in money incomes far outstripped increases in the output of consumer goods and services (see figure 1).

These gross macroeconomic imbalances and microeconomic distortions have made our traditional overall quantitative measure of economic performance--GNP--much less informative now than in the past. From the late 1950s to the mid-1980s--when the underlying structure and dynamics of the economy were fairly stable--our summary quantitative measure was a satisfactory shorthand for calibrating year-to-year changes in Soviet economic performance. Since the mid-1980s, the stability of the Soviet economy has progressively deteriorated as the leadership pursued both structural and systemic changes, and as the economy reacted

Figure 1

USSR: Growth in Personal Money Income and Real Consumption

Percent growth



^a The decrease in real consumption in 1986-87 and the increase in 1988-89 in large part reflect sharp changes in legal sales of alcohol as a result of the rise and fall of Gorbachev's sobriety campaign.

to natural and man-made catastrophes, ethnic violence, and indecision and mistakes in fiscal and monetary policy. These dynamics cannot be captured in a summary measure of national output--comparing economic performance in the late 1980s with that in other periods by comparing rates of growth of GNP misses too much of the story.

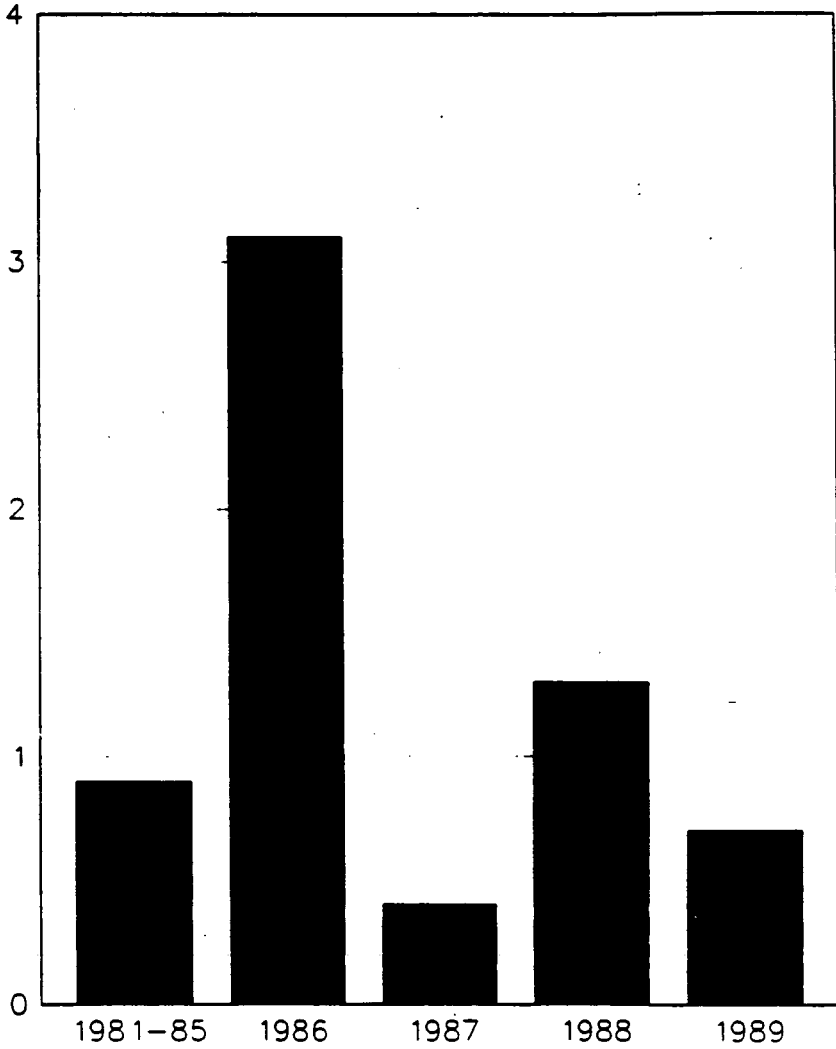
Therefore, in assessing economic performance in 1989, qualitative assessments are more revealing than quantitative measures. On the supply side, the Soviet production wheel kept turning, and the good harvest pushed the aggregate production of goods and services to a level almost 1-1/2 percent higher than in 1988 (see figure 2). But the match between what was produced and what consumers wanted widened considerably. In addition, because of the deterioration in the national distribution network much of the increase in production found its way into inventories--either at factories, in warehouses, at construction sites, and even in household hoards. (See Appendix A for further evaluation of the GNP measures.)

For a leadership that had come to power with a commitment to revitalize industry, the dismal performance of the industrial sector last year must have been particularly disturbing. Soviet industrial production stagnated in 1989--its worst performance in the postwar era (see Appendix B for a more detailed discussion of developments in individual sectors of the economy and Appendix C

Figure 2

USSR: Annual Growth of Per Capita GNP

Percent



for a statistical wrap-up of Soviet performance). Output of energy and industrial materials fell, interrupting production in other sectors that rely on these essential inputs. Oil output dropped by about 2.5 percent, and coal production also fell, largely because of miners' strikes. Even machinery output--usually the fastest growing category of industrial output--registered zero growth, and a decline in defense production offset the increase in production of civilian goods. Press reporting indicated that many producers were fulfilling their plans by shifting the mix of output in favor of higher-profit items and raising prices.

Production of consumer goods did rise last year, but the rate of increase excluding alcoholic beverages was only about 1 percent--barely above the rate of population growth. Although output of consumer durables picked up in the fourth quarter, the machinery sector failed to meet the leadership's ambitious targets for big-ticket items, and passenger car output fell. Output of clothing, shoes, and most processed foods also grew at painfully slow rates.

Aided by favorable weather in 1989, agricultural output reversed a two-year downturn. Grain production increased to 211 million tons--about the same as in 1986 and 1987, the last good grain years--and the potato and sugar beet crops were up substantially. Meat output rose by nearly 2 percent, but part of

this growth resulted from increased slaughtering due to shortages of livestock feed. End-of-year inventories of cattle, sheep, and goats declined to their lowest levels in six years.

Consumer Hardships

Despite Moscow's efforts to increase supplies of consumer goods and services, 1989 was a frustrating year for Soviet consumers who became increasingly impatient for real improvements in living standards. We estimate that per capita consumption rose by about 3 percent, but roughly four-fifths of this growth resulted from sharp increases in sales of alcoholic beverages and in imports of consumer goods.

Even including imports and alcohol, consumption fell far short of the population's demand, as money incomes soared by 13 percent, according to official Soviet statistics. The resulting imbalance led to a combination of rising prices--an estimated 6 percent in state retail stores, where price controls are supposedly in force--and proliferating shortages where open inflation was repressed by price controls (see inset 1). The Soviet statistical agency reported that by the end of 1989 the excess purchasing power accumulated by consumers as a result of repressed inflation had climbed to 165 billion rubles--or 40 percent of the annual value of retail sales.

INSET 1

Inflation in Soviet Consumer Prices

'For many years, the statistical services claimed that prices in the consumer market were scarcely rising. Through personal experience, millions of people were convinced of the opposite. Given this situation, society is ready to believe virtually any figure characterizing the rate of price increase as long as it is sufficiently high.'

V.N. Kirichenko
Chairman, Soviet State Committee
for Statistics

Western experts have long believed that the official Soviet retail price index has understated inflation, mainly by excluding new products introduced at artificially high prices. During the past year, Soviet leaders and statistical officials have acknowledged the deficiencies of this index and admitted that inflation is now a serious problem. The State Committee for Statistics (Goskomstat) is under orders to abandon its flawed methods and calculate a reliable index by June 1990.

According to Goskomstat, its estimate of retail price change in 1989 is based on a Western-style market basket of 700 consumer goods and reflects increases in "new-product" prices (the hidden price increases that take place when a new product only marginally different from an existing product is sold at a substantially higher price). Despite this apparent procedural improvement, the claimed rate of inflation of two percent is suspiciously low. In contrast, the CIA calculates that retail prices in state stores and collective farm markets increased by 6 percent last year. Some Soviet estimates of consumer inflation are as high as 11 percent, but most of these estimates apparently reflect rough allowances for repressed inflation as well as actual price increases.

Of the alternative Soviet estimates, those published by the economic research institute of the State Planning Committee (Gosplan) appear to be the most carefully prepared and documented (see table below). According to Gosplan, the overall inflationary pressure on consumer prices last year amounted to 10 to 11 percent. About half of this amount consisted of actual price increases, while half reflected repressed inflation--that is, how much prices would have had to rise to eliminate the unwanted additions to savings that occurred last year.

Percent

**CIA and Soviet Estimates of Soviet Retail Price Change,
1981-89**

	CIA ^a	Goskom- stat	Gosplan	
			Open Inflation	Repressed Inflation
1981-85	2.2	1.0	1.6	4.1
1986	4.4	2.0	3.0	3.2
1987	2.2	1.7	3.1	4.2
1988	3.1	0.3	4.1	4.3
1989	6	2 ^b	5	5.5

^a Calculated by dividing official Soviet estimates of retail sales of consumer goods in current prices in state stores and collective farm markets by corresponding CIA estimates in constant prices.

^b For 1989 only, Goskomstat's estimate includes sales on collective farm markets and by individuals and cooperatives, in addition to state retail sales. They have also acknowledged repressed inflation is running at 5.5 percent.

END INSET 1

The combination of inflation and shortages made daily life miserable for all but the most privileged segments of Soviet society. The impact of open price increases was particularly severe for people with low and fixed incomes. Chairman of the Council of Ministers Ryzhkov has said that about 43 million people, or 15 percent of the population, lived in poverty last year. Shortages had the heaviest impact on low-income groups who rely on state stores for the bulk of their shopping needs. Given the pervasiveness of shortages, however, no group was exempt. Last August a Soviet survey of state stores found that only 200 of 1200 standard consumer goods were readily available; by the end of the year, the number of readily available items fell to 50.

To provide consumers with minimum quantities of scarce necessities, rationing was introduced by local authorities in many parts of the USSR. Special distribution systems, notably food sales at workplaces, also helped individuals with access to obtain scarce consumer goods. The rapid expansion of these special channels, however, reduced the flow of goods to the general public. Consumers without access to special distribution systems had to turn increasingly to the black market and to new cooperative businesses, where prices were much higher than in state stores.

As the difficulty of meeting everyday shopping needs increased, popular discontent rose as well. In 1989 consumer concerns found a new forum in the debates of the Supreme Soviet and Congress of People's Deputies. Official trade unions, seeking worker support, also attempted to establish themselves as spokesmen for consumers by campaigning against price increases in general and high cooperative prices in particular.

The upsurge in crime last year also reflected rising social tensions. The Soviets reported a 32-percent increase in the total number of crimes and a 70-percent increase in the number of thefts and violent robberies. In addition, dissatisfaction over inadequate supplies of consumer goods and inequalities in their distribution played a role in the growing number of strikes and ethnic clashes.

Investment--A Program in Disarray

Investment's priority claim on Soviet resources--established in 1985 by Gorbachev's industrial modernization drive--ran out last year. Moscow's 1989 annual economic plan called for investment growth to slow to about 2 percent, but centralized funds for investment were later cut in a effort to reduce the budget deficit. As a result, investment spending increased only slightly--by 0.6 percent, according to official Soviet statistics.

Meanwhile, completions of investment projects fell, and the backlog of unfinished construction rose sharply. Only half of the state-ordered investment projects scheduled for completion last year were finished, and additions to production capacity were far below plan in many industries--especially in the vital fuel-energy complex. Even the high-priority state program for machine building was not fulfilled--a development that must have been bad news for Soviet leaders as they struggled to overcome large--and in many areas, growing--technological lags behind the West (see figure 3).

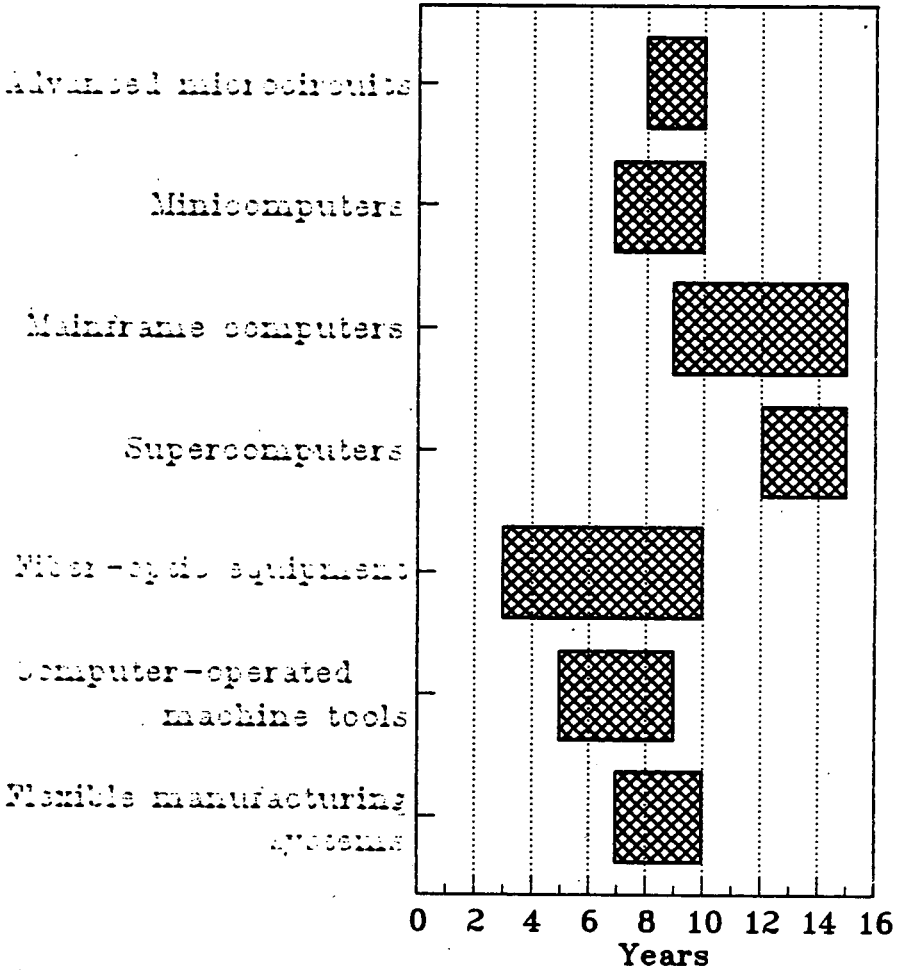
The much-publicized effort to shift more investment to consumer needs also paid few dividends. Despite higher spending on housing and other social-cultural investment, fewer projects were completed in 1989 than in 1988. Moscow blamed local authorities for not meeting the new responsibilities they had been given to oversee these investments.

Reduced Priority for Defense

From his very first days in office, Gorbachev had argued that Soviet national security had relied too heavily on military power at the expense of political and economic development. Nevertheless, in his first three years in office Gorbachev did not alter the broad-based military modernization effort he inherited from his predecessors. Indeed, Chairman of the Council

Figure 3

Approximate Length of US Lead¹



¹ US lead is based on our estimate of the time required for the USSR to achieve series production of technologies like those in series production in the United States.

of Ministers Ryzhkov said last year that the original 1986-90 plan called for defense spending to increase faster than national income--or by more than 4 percent per year. By 1988, however, we believe Moscow had concluded that it could not sustain this military buildup. In December 1988 and January 1989 Gorbachev announced that conventional ground and air forces would be reduced and defense spending cut over a three-year period.

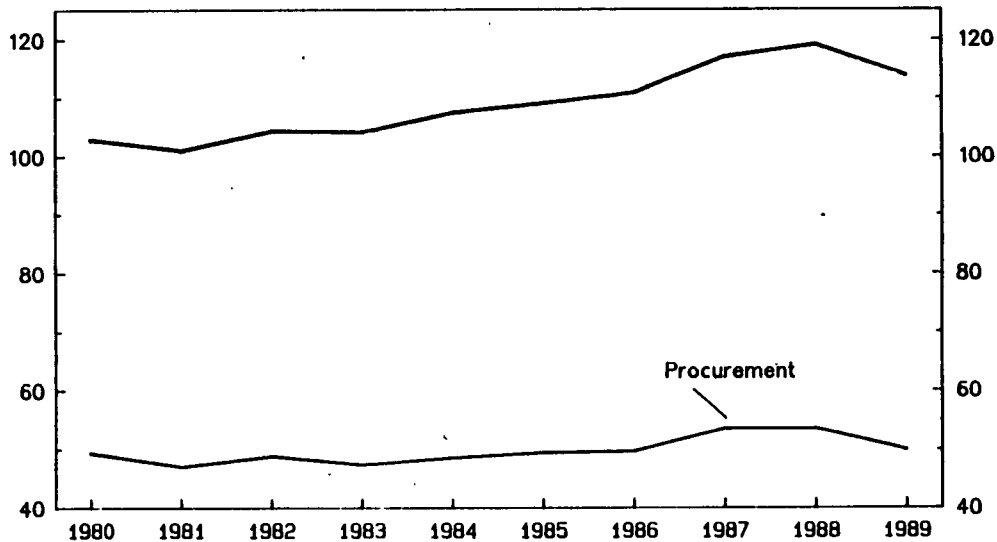
We estimate that the initial implementation of Gorbachev's promised cuts resulted in a 4-5 percent real decline in Soviet defense spending last year (see figure 4 and inset 2). Procurement outlays dropped most sharply, while expenditures on personnel and operations and maintenance fell moderately. The available evidence suggests that expenditures on weapons R&D leveled off in 1989, but this estimate is subject to much greater uncertainty than our estimates of the other components of defense expenditures.

Taking into consideration the changes we observed in Soviet forces and military production, we estimate that Soviet outlays for weapons procurement declined about 6 to 7 percent last year both because of the earlier-than-usual maturation of a number of major weapon production programs and, more important, because of absolute cutbacks on several production lines.

Figure 4

USSR: Estimated Total Defense and Procurement Expenditures, 1980-89

Billion 1982 Rubles



This chart is unclassified.

INSET 2

Estimating Soviet Defense Spending

Over the past year the Soviets have made a number of pronouncements about their resource commitment to defense. Last May, Gorbachev stated that defense spending in 1989 would be 77.3 billion rubles, and in December the Soviets claimed spending would fall by more than 8 percent to about 70.9 billion rubles in 1990. These figures are substantially larger than the roughly 20 billion rubles per year the Soviets had claimed since the mid-1960s, but still only about half the level of spending estimated by the US Intelligence Community. The CIA and DIA--as well as some Soviet sources--attribute the continued Soviet understatement of defense spending to the exclusion of some defense programs and forces from the budget and the underpricing of military equipment procured by the Ministry of Defense.

Because the Soviet claims are neither sufficiently informative nor persuasive, the Intelligence Community continues to develop independent estimates of Soviet defense spending. The estimating cycle begins in the late summer of each year when teams of experts on Soviet military forces and production are assembled. These teams estimate procurement on a system-by-system basis, analyzing weapon production facilities and tracking equipment delivered to units in the field. Other analysts then apply prices to come up with an initial estimate of total procurement. Other analysts review and correct estimates of military manpower, operating tempos, R&D, and maintenance rates and practices. We have just completed this year's update, and--barring new evidence--we will not substantially revise our estimates until next summer.

END INSET 2

As a result of the ongoing force reductions and restructuring, the largest reductions in procurement were concentrated in general purpose forces, especially in ground forces equipment. Procurement for strategic forces declined by about 3 percent last year, while outlays for strategic defense remained essentially unchanged.

We estimate that Soviet uniformed manpower dropped by about 200,000 last year. As a result, personnel costs declined by 4 percent. Soviet spending on operations and maintenance fell by an estimated 5 percent in 1989, largely because of a decline in the number of space launches and reductions in the inventories of tanks and aircraft.

Rising Foreign Debt

The USSR's international financial position deteriorated considerably in 1989 as it borrowed heavily for a second consecutive year to finance increased imports--especially of light industrial equipment, agricultural products, and manufactured consumer goods. Moscow looked largely to hard currency markets for its additional purchases, pushing the USSR's hard currency trade balance from a \$2.6-billion surplus in 1988 to a \$1.8-billion deficit last year. Hard currency imports climbed an estimated 20 percent in 1989 to \$34.2 billion. Buoyant export growth early in the year tapered off largely as a

result of declining oil deliveries. Oil exports fell about 200,000 barrels per day from the record 4.1 million barrels per day recorded in 1988 because of a decline in oil production, labor unrest, distribution bottlenecks, and lower resales of Middle East oil.

Borrowing to finance import growth and debt service obligations raised the USSR's estimated gross hard currency debt to about \$47 billion at year end 1989, as compared with just under \$43 billion a year earlier and \$22 billion in 1984. Moscow has added very little to its assets on deposit in Western banks of about \$15 billion during the past three years. Soviet net debt, therefore, climbed from about \$11 billion in 1984 to \$32 billion by the end of last year. Although a good portion of the debt buildup in 1986-88 resulted from exchange rate movements as the US dollar fell vis-a-vis foreign currencies in which the Soviets borrowed heavily, the more recent climb is due primarily to new borrowings. Gold sales remained brisk for a fourth consecutive year as Moscow again used this option to limit borrowing.

Worry about the USSR's rising foreign indebtedness intensified in both Moscow and West European capitals as the year passed. The Soviet leadership's criticism of Moscow's growing debt was addressed by the Congress of People's Deputies last December when that body asked that the 1991-95 economic plan take

measures to reduce foreign debt. Western lenders, for their part, also began to pay more attention to the USSR's creditworthiness, despite sizable Soviet assets on deposit in Western banks, gold reserves valued at roughly \$28 billion, and a manageable debt service ratio of about 25 percent. Over the course of 1989, Western bankers decided to tighten credit to the USSR because of the slow pace of domestic reforms, growing unrest in the republics, and lack of financial information on enterprises and foreign trade organizations that have been seeking loans as a result of decentralization but have no credit record.

Moscow's financial situation worsened by the end of the year as a number of Soviet enterprises were late in making payments to Western creditors. Bureaucratic problems and the inexperience of some first-time Soviet traders appeared to explain most of the arrears. Some Soviet enterprises, after winning the right to engage directly in foreign trade, have run up foreign debts, and central authorities have been slow to bail them out when they have been unable to generate hard currency revenues to repay the loans. Bureaucratic infighting over scarce hard currency may also be leaving some enterprises short of funds to which they are entitled.

The USSR found some relief for its domestic shortages in its trade with client states. In 1989, Moscow recorded its second

straight trade deficit with Eastern Europe--an estimated \$3.9 billion last year compared with \$2.3 billion in 1988. Meanwhile, Soviet trade with the Chinese was up sharply for the second year in a row, while Vietnam boosted deliveries to Moscow in response to Soviet pressures to narrow its large deficits with Moscow. Some of the East European states, however, grew wary of their accumulating trade surpluses with the USSR and responded by cutting back on planned deliveries to the Soviet Union.

What Went Wrong

The Soviet economy's poor performance last year can be traced partly to unrealistic planning and partly to mistaken policies. Bad luck also played a role in the economy's poor showing. The Armenian earthquake of December 1988, for example, diverted construction crews from other investment projects and added to the strain on the budget.

Unrealistic Planning

As usual, Soviet economic plans for 1989 set overly ambitious targets for increasing output and conserving inputs. The leadership's goals for converting defense plants to the production of consumer goods and equipment for consumer-oriented industries were particularly unrealistic (see inset 3). When output predictably failed to reach plan targets, supply

INSET 3

Defense Conversion--Slow to Develop

The Soviets talk and write a great deal about their plans to convert defense industries to the production of civilian goods, but when they do so they generally define "conversion" in a very broad fashion. For the Soviets, conversion includes the release of formerly classified technical data, the expansion of defense industry via the subordination to it of hundreds of formerly civil plants, the increase in existing production of civilian goods, and the actual conversion of military production lines to civil products at defense-industrial enterprises.

Even under the broadest definition conversion has proceeded slowly. Production lines are beginning to be converted at only three plants chosen as models and, even there, conversion has encountered delays. The Soviets claim that over 400 defense plants and 200 research organizations have increased production for the civil sector. Until now, however, most defense plant managers have been instructed to increase civil output without benefit of either detailed guidance or additional resources for retooling. As a result, the payoff from all this effort has been far less than planned. Most of the conversion activity detected to date appears to consist of diverting labor and material resources from military to civil production.

Recently, however, the State Planning Committee (Gosplan) presented to the Council of Ministers Presidium its long-awaited plan for defense industry conversion during 1991-95. Although details are still sketchy, Gosplan claims the defense industry's civilian production will double to 110 billion rubles per year between 1988 and 1995. The defense industry is to concentrate conversion efforts on equipment for the food processing, light and medical equipment industries, and on computers, consumer goods, and civil aircraft. It is also to adopt a "dual purpose" rule so that its scientific and technological developments will have both civil and military applications. The plan establishes a scientific research institute for conversion to devise strategy and to solve problems, and a marketing center to facilitate transfers of technology and consumer goods from defense industry to the civilian economy. In taking these steps, the plan plays to the defense industry's traditional strengths in development and use of key technologies and to its experience in producing such highly sought after consumer durables as VCRs and color TVs.

END INSET 3

shortages--especially of energy and industrial materials--reverberated throughout the economy. According to the head of the Soviet statistical agency, these supply problems were aggravated by "excessive concentration and monopolies" in industry. Output of diesel locomotives fell, for example, largely because of shortfalls in deliveries by the only manufacturer of crucial electrical parts. Transportation bottlenecks also worsened as the rail system, after years of complaints about the inadequacy of its track and rolling stock, reached the limits of its capacity (see inset 4).

Policy Mistakes

The economy also had to bear the consequences of misguided decisions on the part of the Gorbachev leadership. The rising inflationary pressures that plagued the Soviet economy last year, for example, can be traced largely to policy mistakes. In particular, these pressures resulted in large part from the leadership's decision to allow rapidly increasing budget deficits after 1985 (see figure 5), which were financed by an expanding money supply.

These sharp increases in the deficit reflect primarily stagnating revenues, as well as rising expenditures. On the expenditure side of the ledger, subsidies on consumer prices have mounted rapidly, reaching 110 billion rubles in 1989. Spending

INSET 4

Railroad Backups

The performance of Soviet railroads has deteriorated in recent years, mainly because Moscow has not provided the investment and material resources needed to meet the rising demand for services. Locomotive and rail car modernization programs are years behind schedule, and the track network is reportedly in its worst condition since World War II. Moreover, railroad operations remain grossly inefficient despite the implementation of economic reforms.

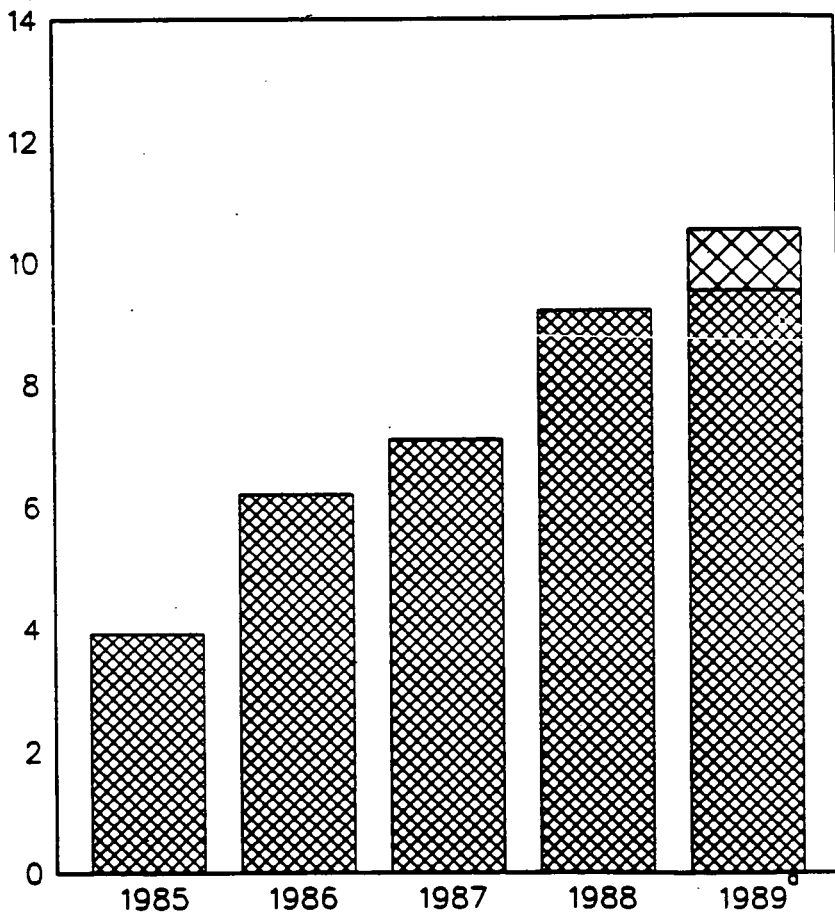
Nearly half of the USSR's railroads failed to meet their freight shipment targets in 1989, and rail bottlenecks became massive in the second half of the year. Disruptions from the blockade of Armenia, slowdowns by workers loading and unloading trains, and a surge in demand for shipment of imported consumer goods combined to create what Soviet officials described last October as a "transportation emergency." With seasonal demands to move the harvest and winter fuel supplies already at a peak, the overtaxed rail system had no extra capacity to compensate for these unforeseen problems.

END INSET 4

Figure 5

USSR: Estimated State Budget Deficit

Percent of GNP



^a The range in the 1989 estimate reflects uncertainty about the legitimacy of some of the revenues reported for that year.

on defense and investment--especially for Gorbachev's industrial modernization drive--also increased until last year. In addition, unexpected budget outlays were required to clean up after the Chernobyl' nuclear accident and to repair the earthquake damage in Armenia. Meanwhile, revenues from turnover taxes dropped sharply as a result of Gorbachev's anti-alcohol campaign, and the budget's share of export earnings fell when world market oil prices collapsed. Budget receipts from profits leveled off because of economic reforms allowing enterprises to retain a larger share of profits in order to finance more of their own investment.

Difficulties of Transition to Reforms

Another and more important reason for last year's economic stall-out was that the leadership abandoned many of the "administrative methods" traditionally used to direct the economy from the center before the "economic levers" needed to replace them were in place. By all accounts the implementation of the economic reform package adopted in 1987 played a key role in the disruptions of production and distribution that occurred last year.

In particular, serious problems surfaced when most state enterprises began operating under new rules requiring "self-financing," which placed them under greater pressure to earn profits. As part of the transition to the new regime,

enterprises were given greater control over their output mix, the prices of new products, wages, and the bonuses awarded to workers and managers. Thanks to a reduction in the number of centrally mandated output targets--called state orders--enterprises were often able to exercise this authority to produce more items that brought high prices and high profits. Given the lack of competition in the Soviet economy, however, those items were not necessarily what purchasers wanted or needed. To make matters worse, the central allocation of industrial supplies was also cut back, often leaving enterprises to hunt for supplies from a fledgling "wholesale trade" system that was not ready for the burden or to work out barter agreements with each other.

Gorbachev's economic reforms also contributed to the chaos in consumer markets. Greater enterprise autonomy, for example, was responsible for the rapid rise in workers' incomes as enterprises raised wages and used their growing profits to pay bonuses--sometimes by diverting money from funds earmarked for housing and other social-cultural purposes. With supplies of consumer goods and services lagging behind, it was easier for cooperative and individual entrepreneurs--and black marketeers--to charge whatever the market would bear. As a result, cooperatives became the target of widespread popular resentment, which led to restrictions on cooperative activities and prices.

Impact of Popular Discontent

According to the official Soviet report on economic performance in 1989, the erosion in labor discipline and record losses of work time--resulting from workers' frustration over shortages, strikes, and ethnic unrest--were also major factors behind the economy's poor showing last year. A team of Soviet researchers calculated that the number of strikes reported in the press rose from two dozen, involving a few thousand workers, in 1987-88 to more than 500, involving several hundred thousand workers, in the first seven months of 1989. The decision in 1987 to permit workers to elect enterprise management also played a role in weakening labor discipline and promoting wage growth as more compliant managers replaced their more unbending predecessors. And, throughout the year, ethnic tensions disrupted production and transportation.

Environmental concerns also forced shutdowns of factories in many parts of the Soviet Union last year. Many of these closures were carried out with little recognition of the impact they would have on supplies of vital industrial inputs. As the economic consequences of those plant closings have become apparent, the government has reversed itself in a number of cases. In February 1990, for example, the Council of Ministers ordered regional authorities to reopen plants supplying raw materials needed to produce medicine.

The Government's Economic Stabilization Program

The Soviet government has responded to inflationary pressures and the disarray in consumer markets with a series of "emergency" programs. In March 1989 a Council of Ministers commission recommended cuts in budget expenditures on investment, defense, subsidies to unprofitable enterprises, and government administration. At the same time, the commission called for increases in domestic production and imports of consumer goods, both to improve supplies and to augment budget revenues. The economic plan and budget for 1990, announced in September 1989, reinforced these initiatives and also shifted investment from heavy industry to consumer-oriented industries and services--especially housing. Last December, the Congress of Peoples' Deputies approved a government economic program that reaffirmed the strategy adopted earlier and prescribed additional measures to stabilize the economy by 1992. The major objectives of this program are to:

- Increase the production of consumer goods and services by 10 to 12 percent per year during 1990-92. To meet these targets, Moscow is diverting resources from defense and investment in heavy industry and counting on major gains in productivity and efficiency.

- Slash the budget deficit from about 10 percent of GNP in 1989 to 2 or 3 percent of GNP by 1992. Budget expenditures are to fall with cuts in defense and investment, and revenues are to increase because of turnover taxes on the rising output of consumer goods.
- Finance the budget deficit in less inflationary ways than in the past and soak up excess purchasing power in the hands of the population. Thus, the government plans to sell bonds mainly to banks and enterprises and warrants for durable consumer goods to the population, which will pay cash in advance for guaranteed delivery in 1993. Local authorities are to organize sales of state-owned apartments and land for dachas.
- Tighten administrative controls. The government is expanding state orders, especially for consumer necessities, and limiting exports of consumer goods in short supply. Increases in payments from wage funds are to be taxed heavily if they exceed 3 percent, and price ceilings are to be strictly enforced for a long list of consumer goods.

The government's program has several positive features. Accelerated imports of consumer goods, for example, should provide some quick relief from shortages and buy time for the Soviets to complete the process of reorienting domestic

production to consumer needs. In addition, the diversion of resources from defense to consumption is long overdue. The priority allocation of the USSR's best talent and highest-quality inputs to the defense sector has been a major drag on the economy for years. Similarly, efforts to economize on new investments make sense, given the large volume of construction already underway. Finally, the return to heavy reliance on state orders, although a backward step from reform, could prevent some of the cutbacks in output of inexpensive goods that occurred last year.

All of that said, the program has major flaws which, in our judgment, not only will severely limit its effectiveness but could give rise to new and serious problems. Given the backward state of Soviet consumer industries, their production record in recent years, and the sluggish pace of defense industrial conversion, the ambitious output targets for 1990-92 probably are far out of reach. With production of consumer goods falling short of plan, moreover, revenues from turnover taxes on these goods are also likely to be lower than projected, thus hampering the government's efforts to reduce the budget deficit.

Worse still for the economy, Moscow's crash campaign to shift investment from heavy industry to consumer-related projects could leave the producers of energy and raw materials without enough resources to maintain output at current levels. Unless there are major improvements in the efficiency with which energy

and materials are used, supply shortages will translate quickly into declining production of both consumer and investment goods. When Soviet officials reduced the growth of investment spending in the mid-1970s, bottlenecks proliferated, and industrial growth slowed markedly. Now, when the Soviet economy is in a weaker condition than in the mid-1970s, the consequence of investment cutbacks could be more serious. Reductions in energy investment, for example, could precipitate a fall in oil production. The government's program counts on decentralized investment to make up for some of the cuts in centralized funds, but energy producers will be unable to finance major investments until they receive higher prices for their output.

Plans to finance the budget deficit by selling securities that will tie up purchasers' funds--rather than by increasing the money supply, as in the past--also do not appear to hold much promise. The chairman of the Soviet State Bank has said that the five-percent interest rate on securities being sold to enterprises is too low to attract purchasers for the 60 billion rubles of bonds the government hopes to issue this year. Sales of warrants for durable consumer goods are projected to bring in only 5-10 billion rubles--enough only to draw away a small part of the excess purchasing power in the hands of the population. In our view, sales of state-owned housing and land for dachas

could soak up a great deal of money, but local authorities have been slow to make the necessary arrangements.

Another serious weakness of the government's program is that the wage and price controls on which it relies so heavily are unlikely to be effective. Personal incomes in the first two months of 1990 were 15 percent higher than in the same period of 1989 as enterprises found ways to evade the government's various attempts to curb wage increases. Controls on the prices of essential consumer goods and services have fared little better, and to the extent that such controls do hold down prices, they will only worsen repressed inflation and its attendant shortages.

Even without the design flaws just described, the government's economic stabilization program could run into difficulties. Pressures for government spending, especially on social welfare, are likely to rise, and Moscow's ability to control such spending could weaken as more economic powers are delegated to republic and local authorities. Similarly, enterprise expenditures on decentralized investment have risen rapidly in the last few years and in the absence of effective monetary and fiscal controls will continue to add to inflationary pressures on the prices of construction work and investment goods.

Searching for a New Reform Strategy

As the government concentrated on restoring stability to consumer markets, economic reform lost much of the centrality it earlier seemed to have enjoyed on the regime's economic agenda. Although the economic problems that characterized 1989 provided the impetus for a rethinking of Moscow's approach to reform, rethinking has not yet led to action. At the beginning of 1989, Leonid Abalkin--a prominent reform economist with ties to the Soviet leadership--was made deputy premier of the Council of Ministers and put in charge of a new Economic Reform Commission that has ministerial status. The Economic Reform Commission immediately began to draft legislation on property rights, land use, taxes, enterprise rights, regional financial autonomy, local economic management, and other issues where action was needed to create the legal and institutional underpinnings for a more market-oriented system. By the end of the Supreme Soviet's autumn session, however, agreement had not been reached on many of the new laws, and only one law--on leasing--had been passed.

By October, Abalkin and his reform commission had also prepared a blueprint for moving toward more market-oriented reforms. This reform strategy clearly put price deregulation on the legislative agenda, supported the development of markets, and recognized the importance of property rights. It included a

timetable indicating that the bulk of the transition would occur in 1991-92 and that the entire process would be completed by the end of 1995. Gorbachev actively campaigned for this program, and he chaired a Central Committee meeting and a joint academic-government conference that were convened to build support for it. Neither meeting, however, was able to attract much backing for the program, and Abalkin expressed surprise at the amount of opposition to the goal of a market-oriented economy.

In December, when Ryzhkov presented the reform blueprint to the Congress of Peoples' Deputies as part of a six-year economic program, the blueprint had been watered down and the schedule for its implementation had been drawn out. Moreover, the emphasis had changed from economic reform to stabilization through traditional administrative methods of central control before proceeding to a more market-oriented system. Whether Gorbachev supported the revised program is unclear--he was notably silent during the legislative debate, and two months after it had been adopted he publicly called for an acceleration of economic reform.

Deputies who opposed the delay in the reform gained some ground when Gorbachev won approval of a resolution calling on the Supreme Soviet to expedite the stalled legislation on property rights, land use, taxes, enterprise rights, regional financial autonomy, and local economic management. Still, it was several

months before the legislation was revised and reintroduced. In March 1990 the Supreme Soviet finally passed new laws on property and land use and proceeded on with its work on the other laws.

The legislation on property and land (see inset 5) breaks with a basic tenet of Marxist-Leninist ideology: that the state, acting as the representative of the people, is the sole owner of land and the means of production. The property law gives equal recognition to three broad categories of ownership--state, collective, and individual--and although stopping short of using the term "private property," it sanctions a wider range of private economic activities than had previously been permitted and deprives the state of a legal basis for arbitrary interference in the activities of nonstate enterprises. The new law permits lifelong tenure by peasant farmers and grants them the right to pass this tenure to their heirs, although they cannot sell, mortgage, or give it away. The law could lead to a substantial shift toward private farming in the Baltic states and the Caucasus where there is a tradition of family farms and strong local support for private farming. But it will not lead to a widespread dismantling of state and collective farms.

As the new economic program was being developed in late 1989, the economy was clearly in serious trouble. Prompted by this, and persuaded by reform-minded economists, Gorbachev

INSET 5

The New Property Law

The new property law liberalizes the old law by giving property rights to individual businesses, farmers, cooperatives, and joint stock companies that are commensurate with state property rights. This protects nonstate businesses by depriving the state of a legal basis for confiscation of their property and arbitrary interference in their activities. The new property law, however, does not explicitly condone or use the word "private property," and its implementation will require the development of procedures to ensure the fulfillment of contracts, determine liability, and protect property rights in the courts. Procedures to determine property values and rents must also be worked out until markets are developed.

Citizens

- Can own their own apartment or house. Renters have the right to purchase the state apartments they live in.

Individual Businesses

- Can own and sell equipment, workshops, buildings, and vehicles used in running small businesses and farms.
- Do not own the land. Therefore, they cannot sell, mortgage, or give it away.
- Cannot "exploit labor," which could mean they cannot hire labor. However, it may be possible to hire labor on a contractual basis.

Farmers

- Do not own the land. Therefore, they cannot sell, mortgage, or give it away. However, they can retain land during their lifetime and pass tenure on to their heirs.
- Can hire a nominal number of non-family workers.

Cooperatives

- Can acquire the right to use land either for an open-ended period or a fixed term.
- Can hire people without limits.

END INSET 5

apparently decided that the Ryzhkov reform blueprint was inadequate. Gorbachev signaled his inclination toward more radical economic reform by appointing Nikolay Petrakov--one of the most reform-minded Soviet economists--as his personal adviser on economic issues and as head of a new institute on marketization. Petrakov has since been publicly campaigning for faster progress toward a market economy. In a series of interviews he has advocated removing price controls for almost all categories of products and dismantling government ministries through the sale of their capital assets to stockholders. He has also called for widespread cooperative ownership of housing and introduction of a parallel hard currency ruble.

The Soviet government and the new legislature have been unwilling to pass reform and stabilization measures that are unpopular with constituents. Although the Supreme Soviet has laid the groundwork for reform by passing key legislation on property rights and land use, it has also imposed a number of new restrictions on cooperatives and refused to pass a tax on the sale of beer and tobacco that would have helped reduce the budget deficit. The Council of Ministers also has backed down when official trade unions protested against measures that would have required price increases. It postponed wholesale price increases on energy and transport set for 1 January and is working out a program to compensate workers for wages that will be lost when

higher prices reduce enterprise earnings. It also agreed to scale back plans to auction, presumably at very high prices, quality consumer goods in high demand and short supply.

This repeated backtracking and hesitation to proceed with reform may have helped to convince Gorbachev to take matters into his own hands. In his March inaugural address, Gorbachev declared that his first priority as President would be to radicalize and accelerate economic reform, and he called for a "full-blooded domestic market" and a dismantling of the bureaucracy. He alleged that the economy could not get by without price reform, wholesale trade, reduced reliance on state orders, and the creation of financial markets. He said he would issue presidential decrees that specify the required changes, responsible officials, and the time frame for implementation because "laws won't work by themselves."

Gorbachev may be moving quickly on his promise to speed up the economic reform process. A package of 29 measures reportedly is being prepared that would provide the basis for a market-oriented economy. It deals with such issues as price reform, banking reform, demonopolization, the expansion of stock and share-owning arrangements, denationalization of property, and steps toward ruble convertibility. The package apparently includes measures that will be issued as presidential decrees as well as those that require Supreme Soviet approval.

Outlook

Given the extent of the economy's problems and the inadequacy of the leadership's response thus far, the economy's performance in 1990 is likely to at best remain at the 1989 level or deteriorate slightly, and under certain circumstances it could worsen rapidly. It is only remotely possible that the economy could stage a recovery. In the sections below we review the evidence for our view that the economy's near-term prospects are poor and identify the factors that might lead the economy's performance to be substantially worse or substantially better than we project.

Stabilization and Recovery

The three major factors behind the poor Soviet economic performance in 1989 were the growing imbalance in consumer markets, supply and distribution problems, and, simply, bad luck. If we assume simultaneous improvement in these areas GNP growth of perhaps up to 3 percent could be achieved. The first necessary ingredient is good luck, that is, factors completely beyond the control of the leadership. This would include a good harvest of grain and other major food and feed crops, an absence of natural or man-made calamities such as the Armenian earthquake

and Chernobyl', and a minimum of economic losses from labor and ethnic strife.

Some success in correcting the severe imbalance in consumer markets is also needed to restore work incentives and the value of the ruble. Bolder stabilization and reform programs could accomplish this objective by reducing demand and/or increasing the supply of goods and services. The agenda might include:

- A currency reform that would reduce the monetary overhang and repressed inflation.
- Selective increases in retail prices (with or without compensation) and wholesale price revisions that would reduce subsidies and improve economic signals and incentives for both producers and consumers.
- Increased production of consumer goods reflecting initial payoffs from defense conversion and priority resource allocation and the delivery of imported consumer goods.
- Strict controls over enterprise payment of wages and bonuses.
- The removal of restrictions recently imposed on cooperatives, especially on wholesale traders.

A better balance in the supply and demand for consumer goods would reduce hoarding and free up additional supplies for sale, and halt the spread of rationing. The leadership could also take measures specifically aimed at increasing output. In a sellers

market, monopoly producers have been able to refuse state orders with impunity and raise prices to compensate for lower output. The government could levy harsher penalties to punish those producers who raise prices and renege on state orders.

Stagnation or Slow Decline

We believe, however, that the Soviet economy will at best stagnate in 1990--output will remain at last year's level or decline slightly, inflationary pressures will remain strong, and widespread shortages will persist. This judgment is based primarily on our assessment of the recent performance of industry, construction, and transportation and on the likelihood that agriculture will be unable to contribute much to growth in 1990. Most important, the policies being pursued by the government are unlikely to effect a turnaround in any of the factors that caused last year's poor performance. Indeed, the economy's performance in the first few months of 1990 indicates that:

- Administrative measures are failing thus far to curb enterprise tendencies to go their own way; enterprises continue to subvert the intent of the 1987 reforms by raising prices, paring output, and increasing wages.
- Defense conversion and increased allocation of resources to the consumer goods industries, while beginning to

yield some positive results, have not been enough to restore balance to consumer goods markets.

- Ethnic unrest has, if anything, been more disruptive to the economy than in 1989. The number of workdays lost from labor and ethnic disturbances during the first two months was higher than in all of 1989.
- Complaints about too many construction starts and shortages of investment goods persist, making it unlikely that unfinished construction will decline substantially.
- The still-large budget deficit and continuing wage increases are increasing inflationary pressures.
- Consumer shortages, together with fears of retail price reform and a currency changeover, continue to feed consumer discontent and the flight from the ruble.
- The leadership's concern about hard currency constraints and the USSR's creditworthiness make it unlikely that the government will relieve consumer discontent by importing large amounts of consumer goods.
- Regions continue their slide into autarky, increasing bottlenecks and hoarding.

Because weather has been mild this winter, farm output may again be a bright spot in 1990. Because 1989 was a good agricultural year, however, more than another good year will be needed if

agricultural performance is to support an increase in food supplies.

Although Gorbachev apparently realizes that his policies are not working and must be corrected, the continued dominance of the bureaucracy in the commissions responsible for drafting the reform legislation argues for caution in assessing the prospects for decisive action on the economic reform front. Moreover, even if the package is enacted, it is not likely to have a large impact on growth in the near term; the package reportedly will not be completed until May and not implemented before July. Indeed, a very radical program could have a short-term destabilizing effect on economic growth until the kinks are worked out and all economic units adjust to the new conditions. A sudden decontrol of prices, for example, certainly would bring rapid inflation.

Deterioration

We judge that there is a reasonable chance that the economy could deteriorate markedly. It is in an unstable state, which many Soviets describe as a crisis. A single major event or series of smaller linked events could push the economy over the edge into sharp deterioration--that is, a substantial drop in output (perhaps 20 percent over a year or two) and lead to chaos

in the distribution of both producer and consumer goods.

Possible catalysts for such a deterioration would be:

- Strikes in such key economic sectors as fuel and power and transportation.
- Ethnic unrest in such vital economic regions as the Ukraine.
- Regional economic autonomy that turns into pervasive autarky.
- Consumer panic that brings hyperinflation and greater reliance on barter trade.
- Sudden and complete marketization (decontrol of prices, abolition of ministries, and privatization).

Although we believe these events certainly could push the economy into a downward spiral, it is more difficult to determine how far the leadership would allow the economy's deterioration to proceed before it took decisive action or what type of action this would be. If the cause of the deterioration was perceived systemic, it might convince the leadership that the best strategy is a complete rejection of the past and a turn toward a much more radical reform direction. On the other hand, strikes and regional autarky might lead the leadership to try to exercise more control and attempt to restore a command economy.

The Longer View

Although there is little Gorbachev or any other leader can do this year to accelerate economic growth, we believe that the leadership could begin to lay the foundation for longer term improvements. In our view, a recovery program must go beyond stabilization and embrace reform measures, such as:

- Wholesale price reform that raises energy and raw material prices and lowers machinery prices and allows them to fluctuate in response to changes in supply and demand.
- Retail price reform (with partial compensation) that reduces government subsidies and gives more rational economic signals to both producers and consumers.
- Banking and fiscal reforms that give the government control over monetary aggregates, while preventing arbitrary confiscation of enterprise profits.
- Breakup of large enterprises and encouragement of new entry into the sectors of the economy dominated by a few firms.
- Much greater role for long-term leasing in agriculture.
- Removal of restrictions on cooperatives and private businesses, especially those on wholesale traders.
- Development of a wholesale supply network.
- Elimination of the branch ministries.

This is a tall order, however, and policies that promote economic recovery and a more dynamic economic system able to compete in the international arena do not necessarily coincide with a more stable political environment and a more contented populace. Many reformers argue that the strength of the antireform forces in the Soviet Union today precludes the Polish reform model, where necessary but painful economic policies like price hikes and wage controls can be implemented boldly because citizens trust the government. Instead, some reformers say markets must be introduced with an iron fist to force compliance from the government bureaucracy and to control social upheaval. In any event, no centrally-planned economy has as yet successfully made a complete or smooth transition to a market economy. In this sense, Eastern Europe, China, and the Soviet Union face an uncertain and probably prolonged period of trial and error.

Even if economic reform is implemented in the USSR over the next few years and social and political disruptions are kept to manageable proportions, the benefits will accumulate slowly. Greater equilibrium in producer and consumer markets should be apparent early on. It will take longer for managers and workers to adapt to a new array of incentives and still more time--probably not until the next century--for the Soviet Union to carry out the structural changes necessary to modernize the

Soviet capital stock and produce world-class civil products on a broad scale.

Implications for Defense Programs

Whatever the Soviet economy's prospects in the longer term, further reductions in military spending are almost certain in 1990 and 1991. Moscow continues to reduce and restructure its forces, the economic urgency of reducing the burden of defense shows no sign of abating. Trends in force structure and leadership statements suggest that the Soviets plan to procure smaller numbers of aircraft, tanks, infantry combat vehicles, strategic missiles, and other military hardware during 1991-95 compared to the previous five-year period. Long-term cuts in procurement and stocks of weapons--and especially military manpower--will be even more substantial if future Soviet force levels are constrained by CFE and START. Some preliminary guidelines set out for the next five-year plan, however, suggest that the leadership hopes to stabilize or even increase expenditures for procurement after 1991, although this may only reflect an increase in unit prices. On balance, most indicators point to continued conversion and further reductions in defense spending through 1995.

Despite the problems encountered so far in defense industrial conversion, the Soviet leadership remains strongly

committed to converting defense industrial resources to civilian uses and expects that conversion will play a vital role in boosting welfare. Chairman of the Council of Ministers Ryzhkov recently declared that Moscow would give defense industry 350 million rubles to help defray the costs of "reprofiling" 100 defense plants and shifting 500,000 workers from military to civil work in 1990. The Soviets are debating different options for implementing conversion. More specifically, they are weighing the benefits of fully converting many defense facilities versus partially converting these plants, boosting civil production on existing lines or constructing entirely new civil plants. Whatever path the leadership chooses, the conversion program's ambitious targets for consumer goods production are unlikely to be met, although more production capacity will become available to the civil sector.

Implications for External Economic Relations

Whether the economy stagnates or declines, the Soviets will continue to pursue an expanded role in the world economy. For the near term at least, however, Moscow will continue to be shackled by hard currency constraints and reluctant to repeat the mistakes of the 1970s--made by both the USSR and many East European countries--when imports of costly Western equipment and technology did not stimulate economic growth or narrow the East-

West technological gap. As a result of these constraints, Moscow's initiatives are likely to be focused on obtaining Western technical assistance to make the Soviet Union a more efficient and cost-effective player, although not necessarily a larger one. If continued consumer shortages and discontent require increased imports, however, the Soviets still have some options. They could use some of their hard currency reserves, increase exports of timber and fish, sell additional gold and diamonds, sell obsolete military hardware (especially decommissioned ships and submarines) as scrap, and pressure on military clients to repay their debts in some combination of hard currency or increased exports to the Soviet Union.

Moscow's pursuit of membership and agreements--or at least greatly stepped up contacts--with various international organizations (particularly the GATT, the EC, and the IMF) is central to its efforts to expand its role in the world economy. Some progress was registered last year when Moscow signed a trade accord with the EC and received support from the United States for eventual observer status in the GATT. The Soviets believe that association with such institutions will provide "technical expertise" to help implement economic reforms and enhance the competitiveness of their products. The USSR will also look for further improvements in bilateral relations; last year, for example, it concluded a number of investment treaties and began

direct trade with South Korea, and it is now negotiating trade and investment treaties with the United States. Finally, Moscow probably will soon initiate further reforms in the foreign trade sector, such as establishing free economic zones, changing joint-venture legislation, and taking some first steps toward ruble convertibility. The success of these foreign economic measures, however, will depend on the degree of systemic reform in the domestic economy.

Elsewhere, the Soviet leadership is trying to free up resources for the domestic economy by cutting its cost of empire. In Eastern Europe, the Soviets have essentially decided to let these countries look westward, not only to reduce near-term subsidization of their economies but also to benefit over the longer term from technological improvements in the goods they provide the USSR. The pace of change in Soviet-East European economic relations has been hectic, as evidenced by CEMA's increasing irrelevance as a trading organization and the movement toward hard currency trade at world market prices. According to some Soviet calculations such a changeover would increase the USSR's hard currency earnings by \$10 billion a year--assuming existing trade patterns persist. Even though these patterns will change, heavy trade dependencies and the difficulty Eastern Europe faces in making both the structural changes and reforms needed to integrate with the West suggest that East European

bilateral economic relations with the Soviet Union will remain important.

In the Third World, Moscow almost certainly will cut back on politically and strategically motivated aid to client states. Over the past year, domestic criticism of Soviet foreign aid policy has intensified, and critics have lamented its wastefulness while citing domestic shortages and the budget deficit as reasons to reduce aid. Moscow is likely to honor commitments but will try to reduce its burden by trying to ensure that aid is better utilized, insisting that aid recipients increase compensation for aid already provided, and urging client states to look more to Western assistance. For Moscow to realize any significant savings in the Third World, however, deliveries to Cuba and Vietnam--who together gobble up more than 50 percent of annual Soviet economic aid flows--will have to be reduced.

Appendix A

Assessment of CIA Measures of Soviet Economic Growth

CIA Estimates of Soviet GNP

Western specialists on the Soviet economy have argued for years that Soviet measures of macroeconomic performance exaggerate real growth, poorly reflect actual patterns of resource allocations, and do not allow meaningful comparisons with Western data. For these reasons the CIA constructs estimates of the size, structure, and growth of the Soviet economy using Western GNP definitions and concepts. The procedure is to develop a detailed set of accounts for a base year (currently 1982) and then move the components over time with indexes that reflect changes in real output. Historically, CIA estimates of rates of Soviet growth are well below those which the Soviets officially claim to have achieved.¹

Sector-of-Origin Indexes

Indexes of output for the individual producing sectors such as industry, agriculture, and services are based for the most part on samples of products or activities measured in physical

¹ CIA's methodology of computing Soviet GNP has been documented in Joint Economic Committee, US Congress, USSR: Measures of Economic Growth and Development, 1950-80 (Washington, D.C.: US Government Printing Office, 1982) and Joint Economic Committee, US Congress, Measures of Soviet Gross National Product in 1982 Prices (Washington, D.C.: US Government Printing Office, forthcoming).

units.² However, published Soviet measures based on ruble values in allegedly constant or, in Soviet parlance, "comparable" prices also are used to estimate growth for some products. Although there are reasons to doubt that these ruble measures have been properly deflated, we employ them to obtain more complete coverage and to include new and complex products for which physical quantities either are unavailable or would fail to capture changes in quality and mix. The following tabulation shows the percentage share of sample data represented by physical units and value data in 1982:

	<u>Physical Units</u>	<u>Value Terms</u>
GNP by sector of origin	89	11
Of which:		
Industry	82	18
Agriculture	100	0
Services	89	11

End-Use Indexes

Indexes of output are also calculated for the major end uses of GNP. As with the sector-of-origin indexes, most end-use

² The Soviet Union recently began to publish its own GNP calculations. In 1985, for instance, the Soviets estimated that their GNP was equal to 777 billion rubles--as compared with CIA's estimate of 782 billion rubles.

indexes are based on data in physical units. The magnitude and growth of Soviet military expenditures in rubles are estimated independently and do not rely on Soviet statistics. A direct costing (building-block) approach is used that requires the identification and enumeration of the physical elements constituting Moscow's defense effort over time and the application of cost factors to them. The percentage shares of the end-use sample represented by physical units and value data in 1982 are as follows:

	<u>Physical Units</u>	<u>Value Data</u>
Consumption	78	22
Investment	58	42

While CIA estimates imply that the economy grew last year, if one looks behind the numbers it is clear that the economy is performing poorly in many ways:

- While the production of consumer goods and services has increased, Soviet citizens have ample reason to believe living conditions have become much worse because not all these consumer goods being produced are reaching the market and because the far larger increase in money incomes has led to an extreme imbalance between demand

and supply in the consumer economy. As a result, inflation is continuing and long lines, chronic shortages, hoarding, and rationing have become commonplace, along with widespread diversion of supplies from state stores to special distribution systems.

- Investment spending is increasing but is being wasted as local authorities disperse resources over an enormous number of new projects while ongoing projects stand unfinished. This increase in unfinished construction is reflected in additions to inventories in our estimates of GNP for 1989.
- The regime's control over the economy has declined as a result of half hearted moves toward the creation of a more market-oriented system.

Comparing Soviet GNP with US GNP

To make estimates of the comparative size of Soviet and US GNP, the CIA methodology begins with estimates of Soviet GNP in rubles and US GNP in dollars. The various components of each of those two estimates are converted into the other currency using ratios of the purchasing power of the ruble relative to the dollar for a sample of individual goods and services produced both in the Soviet Union and the United States. Although qualitative differences between US and Soviet products are taken

into account in preparing these ratios, such intangible differences as convenience of purchase and the availability of maintenance and repair services cannot be accounted for in some of them. As a result, the ratios probably overstate the purchasing power of the ruble relative to the dollar, perhaps by as much as 10 percent.

After each component of Soviet GNP has been converted into dollars and each component of US GNP has been converted into rubles the components are added together to yield estimates of total GNP. Two ratios of Soviet to US GNP are computed--one with both economies valued in dollar prices and one with both economies valued in ruble prices. An average of the two ratios is then calculated. For 1989 this average indicates that Soviet GNP was about 50 percent of US GNP.³

This estimate of the size of the Soviet economy relative to that of the United States is often misused--especially when used as an indicator of how well off the Soviet populace is relative to US citizens. To compare relative living standards requires at

³ CIA's methodology of comparing the Soviet and US economies has been documented in Joint Economic Committee, US Congress, Consumption in the USSR: An International Comparison, Washington, D.C.: US Government Printing Office, 1981 and Imogene Edwards, Margaret Hughes, and James Noren, "U.S. and U.S.S.R.: Comparisons of GNP," in Joint Economic Committee, US Congress, Soviet Economy in a Time of Change, Vol. 1, (Washington, D.C.: US Government Print Office, 1979), pp. 369-401.

a minimum that the estimates be expressed in per capita terms, and that attention be focused not on the overall levels of goods and services produced but on those goods and services directly related to consumer welfare. According to CIA estimates, in 1989 the ratio of Soviet to US GNP per capita was about 44 percent and the per capita availability of consumer goods and services in the USSR was only 30 percent of that in the United States. Because the factors leading to an overstatement of the purchasing power of the ruble in general apply equally to consumer goods and services, the level of Soviet per capita consumption could actually be little more than one-fourth of the US level. Even if unadjusted for possible overstatement, CIA's index of per capita consumption suggests that the quality of life in the USSR is well below that in Western industrialized countries and closer to that in such less developed nations as Mexico and Portugal.

The following estimates for 1985 provide some perspective:

	Index of Per Capita GNP in 1985 (US = 100)	Index of Per Capita Consumption in 1985 (US = 100)
United States	100	100
West Germany	74	69
Japan	72	66
Spain	46	46

USSR	46	32
Portugal	34	32
Mexico	32	31

Appendix B

Soviet Economic Performance in 1989, by Sector

The USSR's economic problems worsened in 1989 according to our preliminary estimates. The output of industry, construction, and transportation all failed to grow. Agricultural production increased, but this marked a rebound from a two-year decline. At the same time, the imbalance between consumer demand and supply became more acute as growth in money incomes far outstripped increases in the output of goods and services.

Industry

Industrial production showed no growth last year after a nearly 3-percent gain in 1988. Workers saw little reason to put in more effort on the job at a time of growing shortages of consumer goods and decline in the real value of the ruble. Increased worktime losses led to greater underutilization of production capacity, transport bottlenecks, and supply disruptions.

Energy

In 1989, for the first time since the 1940s, total energy production declined in absolute terms. Oil output fell 2.5

percent to 12.1 million barrels per day, forcing Moscow to draw down domestic stocks to maintain exports. Although Soviet petroleum reserves are among the world's largest, the Soviets lack the necessary technology to fully exploit major new areas in West Siberia and in the North Caspian Basin and the Barents Sea. These problems were compounded by inadequate investment, shortfalls in equipment production and installation, labor unrest, and a major administrative restructuring of West Siberia's oil industry. Production of natural gas rose to 796 billion cubic meters or by 3.4 percent--the smallest annual increment in more than a decade. Output suffered somewhat from supply constraints similar to those that plagued the oil industry as well as from reduced investment and the increasing costs of maintaining the vast gas pipeline network. Coal output fell by 32 million tons, the first decline in annual production since 1984. Last summer's strikes caused a direct loss of 7 million tons of coal and slowed mining operations for several months after the strike ended. Mine operations were also hampered by a shortage of railcars. Electricity production increased by only 1 percent. Past failure to complete sufficient fossil-fuel-fired plants and the slowdown in nuclear reactor construction have resulted in a severe shortfall in generating capacity.

Industrial Materials

Production of industrial materials (metals, chemicals, construction materials, and wood products) declined by about one-half of a percent last year, according to our estimates.

- Output of most metal products fell after posting healthy increases in 1988. Crude steel production declined by nearly 2 percent--largely because of shortages of coking coal and scrap--and plans for aluminum, copper, lead, and zinc went unmet.
- Output of chemicals fell sharply. Production of fertilizers, caustic soda, and sulfuric acid all declined in absolute terms, and ministry officials were faulted for not meeting targets for consumer goods production. Environmentalists forced a cutback in production of medicines and sulfur, and the explosion of a liquefied petroleum gas pipeline in June affected output of plastics and synthetic rubber.
- Cement production grew slightly, but output of several other major construction materials fell (Moscow failed to report production of glass and precast concrete products). The laggard performance of these industries coupled with ever-present transport bottlenecks delayed construction projects throughout the country. Moreover,

both industrial buyers and consumers increasingly rejected deliveries of poor-quality building materials.

-- In the wood products industry, paper and cardboard output fell, and commercial timber production was 15 million cubic meters below plan. Several pulp and paper plants were forced to close or restructure their product mix as a result of increased local and regional concern for environmental damage. Only a 7-percent rise in furniture production--measured in value terms--saved the industry from an absolute decline in output.

Machinery

Overall, machinery output posted no growth in 1989 as gains in civil machine-building output were offset by a decline in production of military hardware. With the exception of automobiles, consumer durables output increased as compared with 1988. But Moscow's highly touted program to convert many military production lines to civilian use made slow progress. Only a heightened priority for raw materials and investment apparently allowed the defense industries to raise output at shops traditionally dedicated to producing consumer goods.

Output of producer durables also rose last year, but at a slower pace than in 1988. Much of the gain, however, is very likely the result of machinery producers raising prices on the

basis of spurious quality improvements in order to boost profits and meet plan targets. Senior officials blamed the machine builders for the slow replacement of obsolete equipment in enterprises and poor assimilation of scientific and technological advances into new models of equipment. At the end of year, according to Soviet data, the proportion of machinery in service in the USSR 20 years or longer had risen to 11 percent.

Consumer Goods

Output of the soft goods industry rose by only about 1 percent last year. Calculated from data in physical terms, growth rates for the major categories of light industry products all were below 1988 levels. The industry's failure to replace obsolete equipment in existing factories resulted in shortages of clothing and footwear. Excluding alcoholic beverages, growth of processed foods production rose by only about 1 percent. If alcoholic beverages are included--their production went up by almost 20 percent in 1989--the industry's estimated total growth was almost 5 percent. Production of granulated sugar and vegetable oil--both of which reportedly were in short supply in state stores--grew at healthy rates, and slow but steady growth in output of processed meat and dairy products was made possible by continued stability in livestock procurements. Edible fish production fell, and smaller state purchases of fruits and

vegetables forced a decline in output of some canned goods. Despite the increased production of most processed foods, shortages increased as a result of problems encountered in distributing these goods as well as from a surge in demand as a result of the hoarding of goods by households.

Agriculture

Aided by favorable weather, Soviet agricultural production reversed a two-year downturn in 1989. After falling by 15 million tons in 1988, grain production increased to 211 million tons--about the same as in 1986 and 1987, the latest good grain years. Production of sunflower seed reached a new high, and sugar beet and potato crops were up substantially.

In the livestock sector, production of meat increased by nearly 2 percent. Inventories of cattle, sheep, and goats declined, however, and were at their lowest levels in six years. Because production of hay silage and other roughage crops--which account for nearly three-fifths of animal feed--also declined, Soviet farms will be hard pressed to meet targets for increasing meat production this year.

Still, the overall increase in farm output last year was not large enough to have a substantial impact on the availability of retail food supplies in the USSR. According to Soviet commentary, the rapid growth in money incomes over the past two

years, combined with low retail prices, sharply stimulated demand for such higher quality foods as meat, dairy products, and fruits. To cope with the excess demand, local officials instituted rationing, which, in turn, led to more under-the-counter sales, theft, black-market activity, and hoarding. As a result, less food was available through state stores.

Transport

Freight shipments by all carriers fell by 116 million tons last year, a 2-percent drop from the previous year and one of the transport sector's worst annual performances in decades. Pipeline and river transport managed slight increases, but shipments by other carriers fell substantially. The railroads--the main carriers of the nation's freight--performed especially poorly. Compared with 1988, shipments by rail fell by 2 percent and by 116 million tons--about 10 days' worth of shipments and the largest annual drop since World War II. Nearly half of the nation's railroads failed to meet freight shipment targets.

Most of the railroads' problems surfaced in the second half of the year when strikes, ethnic unrest, and unusually long unloading delays in major cities combined to idle up to 100,000 freight cars--nearly 5 percent of the fleet. These tieups cascaded into freight car shortages across the country. The Soviet rail system, already severely overtaxed, had no extra

capacity to compensate for these disruptions, particularly in July-December, when shipping demand peaked because of the need to move the harvest, fuel for winter, and a high volume of imported consumer goods that had arrived at ports and border railroad stations. The disruptions peaked in October, when Soviet officials declared a "transportation emergency."

Foreign Trade

A surge in Soviet imports last year led to a rare deficit in the USSR's hard currency balance of trade. Hard currency imports jumped by an estimated 23 percent, following a leap of nearly 25 percent the previous year. Purchases of food, manufactured consumer goods, and equipment for light industry all increased sharply as the Soviets gave top priority to putting more consumer goods on store shelves:

- The Soviets placed \$165 million of orders with UK firms last July for footwear, soap, toothpaste, coffee, and other products.
- Early this year Japanese traders reported sharp increases in Soviet orders for cloth, shoes, detergents, medical supplies, and automobiles.
- Late last year the Soviets purchased about \$100 million worth of butter and processed chickens from the United States.

The Kremlin has also increased hard currency purchases of consumer goods from Third World countries--particularly from Thailand, South Korea, and Taiwan.

Meanwhile, hard currency exports increased by just 8 percent last year, in part because oil deliveries were about 100,000 barrels per day below the 1988 level. As a result the balance of Moscow's hard currency trade dropped from a record \$6-billion surplus in 1987 to a \$1.4-billion deficit last year. To finance the deficit and cover debt service and other necessary expenses, Moscow stepped up its borrowing abroad. Soviet gross hard currency debt rose to about \$47 billion at the end of 1989--more than double the level in the mid-1980s; Moscow's net debt climbed to \$32 billion at the end of last year.

The rising debt, together with the problems in the domestic economy, have sparked concern on the part of some Western lenders about the USSR's creditworthiness. Despite Moscow's sizable assets and gold reserves valued at about \$28 billion, Western bankers are tightening credit and charging higher interest rates. The oversupply of Soviet commercial paper to finance imports last year contributed to the upward pressure on lending rates.

Appendix C

Tables on Soviet Economic Performance

USSR: Estimated GNP by Sector of Origin at Factor Cost
USSR: Estimated Value Added in Industry at Factor Cost
USSR: Estimated Average Annual Growth of Per Capita Consumption
USSR: Estimated Growth of GNP, Industry, and Labor Productivity
USSR: Gross Fixed Capital Investment
USSR: Total Trade, 1981-89
USSR: Estimated Hard Currency Balance of Payments
USSR: Estimated Hard Currency Debt to the West
USSR: Selected Indicators of Agricultural Output

Table C-1
USSR: Estimated GNP by Sector of Origin at Factor Cost
(billion 1982 rubles)

	1970	1975	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989
GNP	491.8	569.5	624.8	630.3	646.7	667.1	676.6	682.6	710.3	719.5	735.2	745.8
Industry	137.9	181.3	204.2	206.5	209.3	214.3	220.4	225.1	230.7	237.8	244.7	245.1
Agriculture	139.6	124.7	125.6	122.5	133.4	141.3	138.3	132.9	147.5	141.8	141.0	145.8
Construction	42.0	51.6	51.4	51.5	50.6	52.2	53.1	54.3	56.4	57.7	59.2	59.2
Transportation	35.9	49.3	58.8	61.0	61.6	63.3	64.1	65.5	67.5	68.2	70.0	69.9
Communications	3.1	4.2	5.3	5.5	5.7	5.9	6.1	6.4	6.8	7.2	7.6	8.1
Trade	28.5	36.1	40.9	41.5	41.9	43.0	44.1	44.6	44.5	45.2	46.7	48.1
Services	93.3	109.8	124.9	127.9	130.1	133.0	136.2	139.4	142.5	147.0	151.4	155.5
Other (including military personnel)	11.4	12.6	13.6	13.7	14.0	14.2	14.3	14.3	14.5	14.5	14.5	13.9

1989 figures preliminary.

Components may not add exactly to total because of rounding.

Agriculture net of feed, seed, waste, and purchases from outside the sector.

Table C-2
USSR: Estimated Value Added in Industry at Factor Cost
(billion 1982 rubles)

	1970	1975	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989
Industry	137.9	181.3	204.2	206.5	209.3	214.3	220.4	225.1	230.7	237.8	244.7	245.1
Ferrous metals	9.8	11.9	12.6	12.6	12.5	12.9	13.0	13.1	13.6	13.8	14.0	14.0
Nonferrous metals	5.8	7.6	8.2	8.2	8.3	8.5	8.8	9.0	9.3	9.5	9.8	9.8
Fuels	13.1	16.8	19.4	19.7	20.0	20.2	20.3	20.2	20.9	21.3	21.6	21.2
Electric power	8.1	11.4	14.2	14.5	14.8	15.3	16.0	16.5	17.1	17.8	18.2	18.4
Machinery	44.1	62.3	72.6	72.7	74.0	75.0	77.8	80.2	82.3	85.4	88.4	88.4
Chemicals	8.5	12.6	14.6	15.2	15.5	16.4	17.0	17.7	18.5	19.0	19.4	18.9
Forest products	11.1	12.6	12.3	12.4	12.5	12.9	13.3	13.5	14.1	14.5	14.9	14.9
Construction materials	9.1	11.8	12.3	12.7	12.5	13.0	13.2	13.5	14.0	14.5	14.9	15.0
Light industry	11.0	12.5	14.1	14.3	14.2	14.4	14.8	15.2	15.4	15.7	16.0	16.2
Food industry	12.0	14.7	15.7	16.1	16.6	17.1	17.5	17.2	16.4	17.0	17.7	18.5
Other industry	5.5	7.2	8.1	8.2	8.3	8.5	8.8	8.9	9.2	9.4	9.7	9.7

1989 figures preliminary.

Components may not add exactly to total because of rounding.

Table C-3
USSR: Estimated Average Annual Growth of Per Capita Consumption
(percent change)

	1956-60	1961-65	1966-70	1971-75	1976-80	1981-85	1986	1987	1988	1989
Total consumption	3.9	2.6	4.9	3.0	1.8	0.7	-2.1	0.4	3.0	3.2
Food	3.2	1.7	4.2	2.3	0.9	-0.4	-7.2	-0.9	3.0	3.4
Soft Goods	5.7	2.1	7.2	2.7	2.8	1.3	2.2	0.5	3.1	3.4
Durables	10.4	6.1	7.1	9.4	4.1	2.9	3.0	0.3	3.0	3.1
Services	3.3	4.5	4.0	2.9	1.9	1.6	1.4	2.7	3.0	2.9
Housing	3.0	2.4	2.0	1.5	1.2	1.6	1.7	2.0	2.0	1.9
Utilities	4.7	7.8	5.5	5.3	3.7	3.3	3.0	3.3	2.5	1.4
Transportation	9.3	9.0	8.2	6.3	2.2	1.7	2.3	1.4	1.3	0.5
Communications	5.4	5.7	7.6	5.4	3.7	2.9	4.6	5.9	4.1	6.2
Repair and personal care	3.5	4.8	6.2	4.3	4.0	3.0	3.1	6.3	7.5	7.1
Recreation	5.3	3.2	2.2	2.9	0.7	0.6	-0.6	0.4	0.3	0.2
Education	1.5	5.2	2.9	1.5	1.3	0.9	0.8	1.2	1.0	2.2
Health	3.5	2.2	3.2	1.6	0.8	0.8	-0.8	2.7	4.3	2.2

1989 figures preliminary.

Based on 1982 established prices.

Table C-4
USSR: Estimated Growth of GNP, Industrial Production, and Labor Productivity
(average annual percent change)

	1966-70	1971-75	1976-80	1981-85	1986	1987	1988	1989
Gross national product	4.9	3.0	1.9	1.8	4.1	1.3	2.2	1.4
Labor productivity	2.8	1.2	0.7	1.1	3.7	1.4	3.0	0.9
Industrial production	6.0	5.6	2.4	2.0	2.5	3.1	2.9	0.2
Labor productivity	2.8	4.1	1.0	1.4	2.1	3.3	4.7	1.2

CIA's procedures for calculating total factor productivity are being revised and, therefore, estimates of total factor productivity are not available at this time.

1989 figures are preliminary.

GNP based on indexes of GNP (1982 rubles) by sector of origin at factor cost.

Table C-5
USSR: Gross Fixed Capital Investment
(billion 1984 rubles)

	1970	1975	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989
Total investment	92.2	128.5	150.9	156.5	161.9	171.0	174.3	179.5	194.4	205.4	218.2	219.4
By Source:												
State	79.4	111.8	133.1	138.5	143.2	150.7	153.7	157.9	172.0	182.6	192.9	196.0
Collective farms	8.6	12.2	13.3	13.4	13.9	14.8	14.7	15.4	15.5	15.2	16.5	NA
Cooperative enterprises and organizations	2.6	2.7	2.9	2.9	3.1	3.5	3.6	3.7	4.1	4.3	4.7	NA
Private housing and apartments	1.6	1.8	1.6	1.7	1.7	2.0	2.3	2.5	2.8	3.3	4.1	NA
By Sector:												
Industry	32.5	44.9	53.3	55.3	56.8	60.5	62.7	65.5	71.0	75.0	79.5	NA
Agriculture	16.0	26.1	29.8	30.5	30.9	32.0	31.0	31.5	33.5	34.4	36.5	NA
Transportation and communication	9.0	14.4	18.1	18.8	19.8	21.6	22.3	21.9	22.8	24.0	25.1	NA
Construction	3.3	4.8	6.0	5.9	6.4	6.6	5.8	6.1	6.8	6.9	8.3	NA
Housing	15.8	19.2	21.1	22.5	24.0	25.8	27.3	28.1	30.9	33.5	35.6	NA
Trade and services	15.6	19.1	22.6	23.4	24.0	25.0	25.2	26.4	29.4	31.6	33.2	NA

Source: Narodnoye Khozyaystvo v SSSR, 1988 and earlier years; and 1989 plan fulfillment report.
 NA = Not available.

Table C-6
USSR: Total Trade, 1981-89
(billion current US dollars)

	Average Annual 1981-89	1981	1982	1983	1984	1985	1986	1987	1988	1989
USSR: Exports by region										
Total	95.6	79.4	87.2	91.7	91.5	87.2	97.0	107.7	110.7	109.3
Communist	57.8	43.4	47.2	51.0	51.9	53.5	65.0	70.0	71.0	67.1
Developed countries	24.2	24.4	26.2	26.7	26.4	22.5	18.8	22.7	24.6	26.5
Less developed countries	13.7	11.6	13.8	13.9	13.2	11.2	13.2	14.9	15.2	15.7
USSR: Imports by region										
Total	88.8	73.2	77.8	80.5	80.3	83.3	88.9	96.0	107.3	114.7
Communist	54.4	37.2	42.5	45.5	47.0	51.0	59.4	66.6	71.6	71.0
Developed countries	25.3	25.4	26.2	25.4	24.2	23.3	22.7	21.1	27.2	33.1
Less developed countries	8.9	10.6	9.1	9.6	9.1	9.0	6.8	7.3	8.5	10.6

Includes both hard currency trade and trade conducted with soft currency on clearing account basis.
 1989 figures preliminary.

Table C-7
USSR: Estimated Hard Currency Balance of Payments
 (million current US dollars)

	1975	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989
Current account balance	-4565	1470	-387	4293	4760	4664	137	1383	5116	1172	-3243
Merchandise trade balance	-4804	1814	365	4468	4712	4727	519	2013	6164	2647	-1400
Exports f.o.b.	9453	27874	28254	31975	32429	32173	26400	25111	29092	31165	33600
Imports f.o.b.	14257	26060	27889	27507	27717	27446	25881	23098	22928	28518	35000
Net interest	-521	-1234	-1752	-1275	-1052	-1163	-1482	-1730	-2148	-2575	-2993
Other invisibles and transfers	760	890	1000	1100	1100	1100	1100	1100	1100	1100	1150
Capital account balance	6981	284	5430	-2965	-1541	-124	1869	1794	-738	1378	4348
Change in gross debt	6786	-792	1977	-640	116	224	6804	6811	5011	1990	4120
Official debt	1492	-280	-1370	967	340	-375	463	391	480	-1240	252
Commercial debt	5294	-512	3347	-1607	-224	599	6340	6420	4532	3230	3867
Net change in assets held in Western banks	-163	-35	-166	2122	277	-664	1787	1595	-527	1119	-505
Estimated exchange rate effect	-22	-411	-1457	-817	-1070	-688	3248	3322	4977	-2205	-1722
Net credits to LDCs	715	950	870	2120	3200	2700	1700	4100	4800	5500	5665
Gold sales	725	1580	2700	1100	750	1000	1800	4000	3500	3802	3665
Net errors and omissions	-2416	-1754	-5043	-1328	-3219	-4540	-2006	-3177	-4378	-2550	-1105

1989 figures preliminary.

Change in gross debt includes additions to short-term debt.

Net errors and omissions includes hard currency assistance to and trade with Communist countries, credits to developed Western countries to finance sales of oil, and other nonspecified hard currency expenditures, as well as errors and omissions in other line items of the accounts.

Table C-8
USSR: Estimated Hard Currency Debt to the West
(billion current US dollars)

	1975	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989
Gross debt	12.5	20.5	22.5	21.9	22.0	22.2	29.0	35.8	40.8	42.8	47.0
Commercial debt	8.2	11.0	14.4	12.8	12.6	13.2	19.5	25.9	30.4	33.7	37.6
Government and government-backed debt	4.3	9.5	8.1	9.1	9.4	9.1	9.5	9.9	10.4	9.1	9.4
Assets in Western banks	3.8	10.0	9.8	11.9	12.2	11.5	13.3	14.9	14.4	15.5	15.0
Net debt	8.7	10.6	12.7	10.0	9.8	10.7	15.7	20.9	26.4	27.3	32.0

1988 and 1989 figures preliminary.

Estimates of government-backed and commercial debt are measured in current dollars and reflect fluctuations in exchange rates. Commercial debt also includes estimates for promissory notes held outside banks.

Table C-9
USSR: Selected Indicators of Agricultural Output

	1970	1975	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989
Value of output (billion rubles)	112.5	109.4	113.7	112.5	120.8	128.5	127.7	125.8	136.5	133.1	133.5	138.1
Commodity production (million metric tons)												
Grain	186.8	140.1	189.1	158.2	186.8	192.2	172.6	191.7	210.1	211.4	195.0	211.1
Potatoes	96.8	88.7	67.0	72.1	78.2	82.9	85.5	73.0	87.2	75.9	62.7	72.0
Sugar beets	78.9	66.3	81.0	60.8	71.4	81.8	85.3	82.4	79.3	90.7	87.9	97.5
Sunflower seed	6.1	5.0	4.6	4.7	5.3	5.1	4.5	5.3	5.3	6.1	6.2	7.0
Cotton	6.9	7.9	9.1	8.4	7.9	8.2	8.1	8.8	8.2	8.1	8.7	8.6
Vegetables	21.2	23.4	27.3	27.1	30.0	29.5	31.5	28.1	29.8	29.2	29.3	28.5
Meat	12.3	15.0	15.1	15.2	15.4	16.4	17.0	17.1	18.1	18.9	19.7	20.0
Milk	83.0	90.8	90.9	88.9	91.0	96.5	97.9	98.6	102.2	103.7	106.8	108.1
Wool	0.42	0.45	0.44	0.46	0.45	0.46	0.47	0.45	0.47	0.46	0.48	0.47
Eggs (billion)	40.7	57.4	67.9	70.9	72.4	75.1	76.5	77.3	80.7	82.7	85.2	84.6

1989 figures preliminary.

Value of output is net of feed, seed, and waste, in constant 1982 prices.

Grain figure is bunker weight. To be comparable to Western measures, an average reduction of 11 percent is required.

Cotton figures for 1981, 1983-84 estimated.

Senator BINGAMAN. We will now hear from our two expert witnesses, both of whom have reached levels of preeminence in their professions, and both of whom have prepared excellent prepared statements, reflecting their recent research.

Murray Feshbach is an economist who served as the Chief of the U.S.S.R. Population, Employment, and Research and Development Branch of the Census Bureau. In 1981, he became a research professor at Georgetown University. He has also served as a Sovietologist in residence in the Office of the Secretary General of NATO, under Lord Carrington. Mr. Feshbach is a prolific author of studies on Soviet economics, demographic trends, health, and the environment, and has contributed to numerous Joint Economic Committee studies of the Soviet economy. He is in the process of completing a book on Soviet health and environmental issues that will be published by Basic Books.

Seymour Goodman is a professor of management information systems and policy at the University of Arizona. He is a specialist on computer technologies in the Soviet Union and Eastern Europe and technology transfer. He has authored numerous studies on the technical aspects of those subjects as well as related public policy issues. He has served in various capacities with more than a dozen national advisory and study committees, including the chairman of the National Research Council's committee that produced that 1988 report entitled "Global Trends in Computer Technology and Their Impact on Export Control."

Before we defer to Mr. Feshbach, let me just see if Senator Roth had any opening statement he would like to make.

Senator ROTH. Thank you, Mr. Chairman, I do have an opening statement, but I will just include it as part of the record.

Senate BINGAMAN. We will include that at this point in the hearing record.

[The written opening statement follows:]

WRITTEN OPENING STATEMENT OF SENATOR ROTH

I am very glad to have our distinguished experts from the intelligence community and academia here today to discuss the issue of Soviet economic performance and related topics. The reform of the vast Soviet state is a complex and fascinating phenomenon, and I look forward to hearing your assessments of a process that can have immense international consequences.

Without a doubt, many of the economic reforms announced by the Soviet Union have been very positive. We have witnessed an increased willingness by Soviet officials to discuss such serious questions as monetary and price reform, private property, and privatization of industry and banking.

On the other hand, talk has not always resulted in action in the Soviet Union, and over the past year the new democracies of Eastern Europe have far surpassed the U.S.S.R. in the pace of economic reform.

There are a number of topics I hope will come up in today's testimonies and discussion. I am particularly interested in hearing our witnesses comment on the relationship between the military and the economy in the Soviet Union.

As the United States begins to assess its own defense strategy and requirements in a new European environment, it is im-

portant for us to know to what extent perestroika has impacted on Soviet defense spending and its support for client states around the world.

It would be very difficult for us to accept the fact that Soviet intentions have changed unless the Soviet defense manufacturing sectors reflect a reduction in modernization plans for strategic and armored weapons. Nor should we provide any hard currency to a state that continues to funnel it to repressive regimes from Havana to Hanoi.

Other economic factors influencing U.S.-Soviet relations include the willingness and ability of the Soviet Government to engage in the kind of economic warfare we see in Lithuania today; its policy toward economic freedom, autonomy and private property in the Soviet Republics; and its ability to meet its debt commitments abroad.

I am very pleased to welcome our distinguished experts on today's panel.

Senator BINGAMAN. Mr. Feshbach, we appreciate your being here. Go right ahead and proceed as you desire.

STATEMENT OF MURRAY FESHBACH, PROFESSOR, GEORGETOWN UNIVERSITY

Mr. FESHBACH. Thank you, Mr. Chairman, Senator Sarbanes, and Senator Roth. As always, I would like to thank the Joint Economic Committee for their continuing interest in holding these hearings.

I thought I would make sure that everybody hears that I do want to thank the subcommittee not only for these hearings but also for the series of publications, both the small and the big green books, as they are known, and of course, which it has been my privilege to participate in.

I won't read my previously submitted prepared statement, but I would like to highlight a few of the key items and perhaps add some details with regard to health conditions in the Soviet Union in a comparative mode and leave time for questions by members of the subcommittee.

POPULATION TRENDS

Issues such as population, health, environment tended to be ignored in the Soviet Union until fairly recently. This is no longer the case. If nothing else, linked to the population distribution of the 130 or so nationalities, the shifting population structures particularly leading to the aging of the traditional Slavic population, the growing proportions of young people among the southern tier, the larger populations of Muslim origin have economic, military, and political consequences. These consequences are clearly seen in the lack of migration by the Muslim populations to the labor-deficit regions engendering greater need for technology transfer and assistance from the West in raising capital/output ratios and labor productivity.

Simultaneously, available cohorts of 18-year-old males for the military has shifted dramatically in the last decade. Thus, as is noted in my prepared statement, the share of draftees coming from the south has increased from 28 percent in 1980 to 37 percent in 1988. As such, their Russian-language capabilities, especially their health, also become very germane to plans for recruitment and disposition of these potential military forces.

If we add to this the complications of assigning Armenia and Azerbaijani conscriptees to the same unit, the antagonisms expressed repeatedly against the draftees from the Baltic regions by other nationalities who resent their independence drive and other examples of the nationality conflict potential level, then the likelihood for a professional army in several years becomes more likely—smaller, undoubtedly, but likely much better trained.

And if the recruits from the south, that is, from Central Asia and the Trans-Caucasus comprise such a large percentage share of all recruits then their health status becomes even more germane.

HEALTH ISSUES

In a prior paper submitted to the committee on military health issues in the Soviet Union, I described in that report about the

actual possible and probable cases of diphtheria among 611 new recruits from the rural south. While this report may not have been fully representative of all of the recruits from Central Asia in particular, the fact that 9 per 100 were categorized as having signs of diphtheria, hardly seen at all in the United States at present, maybe 2 for 245 million population—through March of this year, only 2 cases are reported so far—but it may be another warning for the Soviet leadership to consider a professional military sooner rather than later.

It is not just diphtheria about which the Soviets have to worry regarding the health of young males from the south. Hepatitis occurs more frequently among southern recruits if they follow the pattern of overall population figures. Typhoid, infectious and parasitic diseases are also much more rampant in this region of the country. Indeed, the comments in the *Armed Forces Journal* just issued in April 1990 flatout states that there has been a decline in the health of the members of the Soviet Armed Forces.

This would also go along with lack of proper facilities likely due to the lack of proper training of medical personnel, of which many examples can be given. One may be perhaps germane, because it also affects the infant mortality rates. Among pediatricians with 5 to 20 years of experience in Kazakhstan, who were tested for their knowledge of 16 modern medications of wide use, one-half knew 0, one-quarter knew 3, one-quarter knew 4. Not very helpful, to say the least.

Shortages of medicine and equipment abound. In terms of domestic production of medicines, they supply only 35 percent of the demand, which they themselves determine that they need. It gets up to 74 percent with imports, but it is still far short of what they need. Equipment: The state planning committee purchases only 10 percent of the demand level set by the ministry of health. Again, not very helpful and perhaps one of the causes of much higher levels of infant mortality in the southern tier of the country.

In addition, new information on the deliberate falsification of figures in infant mortality; current reported figures show it to look better under the conditions of a major new drive to reduce these rates of infant mortality. But my rough estimate shows that the rate should be 33 percent and not 25 percent for the country. This would again place the Soviet Union at a larger disparity with the United States. Our rate last year declined to 9.7 percent. Our rate is not the best in the world, certainly, perhaps 13th. We have many problems, certainly, in the District of Columbia and in many other areas—rural health delivery, et cetera. But again, there is a large disparity.

As a consequences of this increase in the rate of infant mortality, life expectancy, therefore will decline from what the results report. They report a figure of 70 combined. It is probably closer to 69. And indeed, if you do make the comparison, it is approximately halfway between 70 and 69, lower because of the impact of the revised figure.

THE ENVIRONMENT

There is, in addition, the whole issue of environmental issues. Environmental minister Vorntsov, whom I met in Moscow in January of this year, is extremely concerned about the issue. He also recently noted that the ecological black book, to use his term, was very full. There is evidence, not only about air pollution and land and water pollution, but there also is, of course, the shortage of facilities. These facilities contributing to the lack of purification and of the bad effluents. One example would be, of course, air pollution, where 70 million of the 185 to 190 million urban population live in cities in which their own maximum pollution concentrations are exceeded by 5 or more times, 50 million in cities where it is 10 or more times, 40 million in cities where it is 15 or more times the maximum—the maximum where it should be. And that doesn't include bursts made at night which is not monitored at all.

The state statistical committee has revealed, in addition, that 15 percent of all towns in the Soviet Union do not have a sewer system; 44 percent of all villages do not. Worse than that, of course, is the figure that I gave in my prepared statement that 65 percent of all rural hospitals do not have hot water and 27 percent do not have any sewerage at all. Not very helpful, particularly when there is a threat of a major explosion of AIDS, let alone the very high level of hepatitis.

Well, I think I'd better stop at this point, not only because of the time but also because to give time to answer questions from the subcommittee.

Thank you very much.

[The prepared statement of Mr. Feshbach follows:]

PREPARED STATEMENT OF MURRAY FESHBACH

**SOCIAL CHANGE IN THE USSR UNDER GORBACHEV:
POPULATION, HEALTH AND ENVIRONMENTAL ISSUES**

AT THIS 5-YEAR POINT IN HIS REGIME, GORBACHEV HAS TWICE REPLACED THE MINISTER OF HEALTH AND ORGANIZED A NEW AGENCY FOR ENVIRONMENTAL PROTECTION, WHOSE FIRST CHIEF WAS DISMISSED AND REPLACED BY A NON-PARTY MEMBER. BOTH THE MINISTRY OF HEALTH AND GOSKOMPRIRODA (THE NEW ENVIRONMENT AGENCY) HAVE MAJOR PROBLEMS IN RESOLVING THE ISSUES WITH WHICH THEY ARE CHARGED, BUT, IN CONTRAST TO THE PRE-GORBACHEVIAN PERIOD, THERE IS A QUALITATIVE DIFFERENCE IN APPROACH. IN ADDITION, MORE MONEY IS BECOMING AVAILABLE FOR THEIR ENORMOUS NEEDS. NONETHELESS, HEALTH AND ENVIRONMENTAL PROBLEMS AND THEIR IMPACT ON THE POPULATION ARE SO SERIOUS, SO WIDESPREAD, AND SO DIFFICULT, THAT THESE PROBLEMS WILL PROBABLY WILL GET WORSE BEFORE THEY GET BETTER SOMETIME AFTER THE END OF THE CENTURY.

DESPITE SOME ELEMENTS OF CHANGE, ONE NEEDS ALSO TO SPEAK ABOUT THE CONTINUITY OF PROBLEMS IN HEALTH AND ENVIRONMENT: FOR EXAMPLE POPULATION SHIFTS, WHICH BESET THE SOVIET UNION OVERALL, AND WHICH DEMONSTRATE DISTINCT

REGIONAL DIFFERENTIALS; THESE IN TURN HAVE NEGATIVE IMPLICATIONS FOR THE GENERAL HEALTH STATUS OF THE SOVIET POPULATION AS THE PROPORTIONAL SHARE OF THE SOUTHERN TIER'S POPULATION BECOMES EVEN LARGER. GORBACHEV WILL HAVE TO ADDRESS THE POLICY IMPLICATIONS OF THESE CHANGES FOR RESOURCE DEMANDS, FOR THE MILITARY, AND FOR THE NATIONALITY PROBLEM.

THUS, THE OVERALL SOVIET POPULATION CONTINUES TO GROW, BUT AT A SLOWER PACE AMONG THE SLAVS. INDEED THE INITIAL SUCCESS OF THE 1981 PRO-NATALIST POLICY SEEMS TO HAVE DISAPPEARED AMONG THE RUSSIANS, UKRAINIANS AND BELORUSSIANS. THE RESULTS OF THE 1989 CENSUS OF POPULATION DEMONSTRATE THAT RUSSIANS NOW COMPRISE 50.78 PERCENT OF THE TOTAL SOVIET POPULATION (DOWN FROM 52.4 PERCENT IN 1979). I BELIEVE THAT IF THE CENSUS HAD BEEN TAKEN SAY IN APRIL OF 1989, THE NUMBER OF RUSSIANS WOULD HAVE BEEN EVEN LESS, AND THEIR CORRESPONDING SHARE CLOSER TO 50 PERCENT. A MULTITUDE OF ISSUES ENGENDERED BY ENVIRONMENTAL DEGRADATION IN BELORUSSIA AND THE UKRAINE SUGGESTS TO ME THAT RUSSIANS, UKRAINIANS AND BELORUSSIANS CAN NO LONGER BE CONSIDERED AS A SINGLE SLAVIC BLOC. THE KEY EVENT BEHIND THIS MAJOR CHANGE WAS THE PUBLICATION ON 20 MARCH 1989 IN PRAVDA OF THREE MAPS REVEALING THAT LOCAL POPULATIONS IN AREAS IN THE UKRAINE AND BELORUSSIA, AS WELL AS IN PARTS OF THE RSFSR, HAD NOT BEEN INFORMED OF THE REAL HAZARDS OF THE CHERNOBYL ACCIDENT THREE YEARS EARLIER; THAT THEY HAD BEEN RESIDING IN AN AREA WITH HIGH LEVELS OF CURIES OF CESIUM-137 RADIONUCLIDES) BELIEVING, AS THEY WERE TOLD, THAT THEIR AREAS WERE NOT AFFECTED. PERHAPS ONE MILLION PERSONS IN THE UKRAINE ALONE ARE NOW ESTIMATED TO BE LIVING IN HAZARD ZONES. EVEN IF IT DOES NOT "BOTHER" THE "RUSSIAN" UKRAINIANS, THAT IS, THE EASTERN UKRAINIANS, THE OTHER WESTERN (POLISH) UKRAINIANS HAVE BEEN RADICALIZED FURTHER THAN THEY WOULD HAVE BEEN IF JUST

RUKH, THE NEW UKRAINIAN POPULAR FRONT-TYPE ORGANIZATION, HAD APPEALED TO THEIR REFORMIST LEANINGS (IF ANY). THE BELORUSSIANS ARE MAKING VERY STRONG COMMENTS IN THEIR LOCAL PRESS, MOSCOW NEWS, AND ^{at} THE SUPREME SOVIET OF THE USSR ABOUT THE UNTRUTHFULNESS OF THE CENTER, ABOUT THE DECEPTION BY DOCTOR (AND ACADEMICIAN) IL'IN OF THE ACADEMY OF MEDICAL SCIENCES AND OTHERS. (PERHAPS THEY WOULD HAVE BEEN LESS CULTURALLY "ASSIMILATED", THAT IS LESS APT TO CALL THEMSELVES RUSSIANS, IN APRIL RATHER THAN IN JANUARY, IE, PRIOR TO YURI IZRAEL'S ARTICLE IN PRAVDA, NOTED ABOVE.) THUS, I AM LESS SANGUINE ABOUT ADDING THE NUMBER OF UKRAINIANS AND BELORUSSIANS TO THE NUMBER OF RUSSIANS TO OBTAIN A FIGURE OF SOME TWO-THIRDS OF THE SOVIET POPULATION AS SLAVIC, WHICH MIGHT PERMIT THE CENTER ^{to} DISREGARD THE GROWTH OF THE POPULATION OF MUSLIM ORIGIN.

BUT THE GROWTH AMONG THE LATTER NOMINAL--IF NOT ACTUAL DEVOUT--BELIEVERS (AGAIN EXCLUDING VERY CURRENT EVENTS WHICH WOULD TEND TO ENHANCE THEIR BELIEFS AGAINST OUTSIDERS, IE, CHRISTIANS AS WELL AS ATHEISTS), IS STILL EXTRAORDINARILY HIGH, ALTHOUGH THERE HAS BEEN SOME REDUCTION IN THEIR TOTAL FERTILITY RATES (THE NUMBER OF CHILDREN BORN TO WOMEN OVER THEIR CHILDBEARING AGES IF CURRENT FERTILITY PATTERNS BY AGE WERE TO HOLD). NUMERICALLY TADZHIKS GREW BY 45 PERCENT DURING THE INTERCENSAL DECADE (OF WHICH, OVER HALF IS IN THE GORBACHEVIAN PERIOD OF SPRING 1985 TO SPRING 1990 AT PRESENT) AND THIS WILL LEAD TO FURTHER DEVELOPMENT OF A YOUNG POPULATION IN THE SOUTHERN TIER. IN CONTRAST, THE RUSSIANS GREW BY LESS THAN 6 PERCENT OVER THE SAME INTERCENSAL PERIOD; UKRAINIANS BY SLIGHTLY OVER 4 PERCENT, AND THE BELORUSSIANS, BY SLIGHTLY OVER 6 PERCENT. RETURNING TO THE GROWTH OF THE POPULATION OF MUSLIM ORIGIN, UZBEKS GREW TO ALMOST 17 MILLION AT THE BEGINNING OF 1989 FROM

12,456,000 AT THE BEGINNING OF 1979, OR 34 PERCENT; NOT QUITE AS MUCH AS THE TADZHIKS BUT STILL VERY RESPECTABLE AT MORE THAN QUINTUPLE THAT OF THE RUSSIANS. IN PART THIS HAS OCCURRED BECAUSE THE FERTILITY RATES AMONG THE SLAVS--WHETHER ADDITIVE OR NOT--DECLINED IN RECENT YEARS, AND THE CORRESPONDING FIGURES FOR THE POPULATIONS OF MUSLIM ORIGIN REMAIN FAR ABOVE THE SLAVS. NEW PRO-NATALIST POLICIES, ISSUED IN APRIL 1990, SEEK TO INSTILL A NEW IMPETUS AMONG THE POPULATION TO REPRODUCE--ESPECIALLY AMONG THE "SLAVS" SINCE THE "MUSLIMS" DO NOT SEEM TO NEED ANY ENCOURAGING LEGISLATION TO PRODUCE LARGE FAMILIES.

LOOKING AT THE NEW AGE DATA FROM THE 1989 CENSUS OF POPULATION, IT BECOMES APPARENT THAT DIFFERENTIAL RATES OF GROWTH HAVE AFFECTED THE OFFICIALLY-DEFINED POPULATION OF ABLE-BODIED AGES (MALES, 16 TO 59 YEARS OF AGE, AND FEMALES 16 TO 54 YEARS OF AGE, INCLUSIVE) AND THUS THE LABOR SUPPLY IN DIFFERENT REGIONS. DURING THE JANUARY 1979 TO JANUARY 1989 CENSUS PERIOD, THE TOTAL NUMBER OF SUCH PERSONS IN THE COUNTRY GREW BY A TOTAL OF 7 MILLION PERSONS (ON A NET BASIS). OF THESE, SOME 70 PERCENT, OR ALMOST 5 MILLION RESIDED IN CENTRAL ASIA AND KAZAKHSTAN. CENTRAL ASIANS AND KAZAKHS PRESENTLY COMPRISE OVER 25 MILLION OF THE 158.9 MILLION SUCH ABLE-BODIED PEOPLE, OR A BIT LESS THAN 16 PERCENT. BUT 70 TO 75 PERCENT OF THE INDUSTRIAL BASE (MEASURED AS GROSS INDUSTRIAL PRODUCT) STILL IS LOCATED IN THE RSFSR AND THE UKRAINE; AND THE POPULATION OF MUSLIM ORIGIN STILL IS NOT MOVING TO THESE REPUBLICS IN ANY SIGNIFICANT NUMBERS. PERHAPS THE DEMOBILIZED ARMED FORCES WILL BE RECRUITED FOR WORK AT THE LABOR DEFICIT ENTERPRISES, PUTTING ASIDE FOR THE MOMENT ANY QUESTION OF WHERE TO HOUSE THE NEW INCREMENTS TO THE CIVILIAN LABOR FORCE. AGING OF THE POPULATION WAS DEMONSTRATED BY THE GROWTH OF MALES

60 AND OVER AND OF FEMALES 55 AND OVER BY 21 PERCENT COMPARED TO A TOTAL POPULATION GROWTH OF ONLY 9 PERCENT. LIMITED REGIONAL DATA ONLY NOW AVAILABLE REVEALS THAT THIS AGE GROUP'S SHARE IN THE SLAVIC AND BALTIC REPUBLICS IS CURRENTLY 19 TO 21 PERCENT OF THE TOTAL POPULATIONS OF EACH REPUBLIC, COMPARED TO ONLY 8 TO 10 PERCENT FOR THE POPULATIONS OF THE CENTRAL ASIAN REPUBLICS, WHICH AGAIN EMPHASIZES THE MAJOR STRUCTURAL DIFFERENCES IN THE POPULATIONS OF THESE REPUBLICS. THE GROWTH AMONG THE POPULATION OF MUSLIM ORIGIN WOULD BE MUCH HIGHER WERE IT NOT FOR THE EXTREMELY POOR HEALTH CONDITIONS IN THESE REPUBLICS. DESPITE THE APPOINTMENT OF ACADEMICIAN AND (CO-) NOBEL LAUREATE YEVGENIY CHAZOV AT THE BEGINNING OF 1987 (AND RESIGNATION ON MARCH 20, 1990), THE WORK AHEAD TO RECTIFY THE PROBLEM OF HEALTH DELIVERY, SERVICES, SUPPLIES, SANITATION, INFANT MORTALITY, FACILITIES, STRUCTURE OF CAUSES OF DEATH, LACK OF SEWAGE, IS ENORMOUS, AS CHAZOV HIMSELF HAS MADE CLEAR. IN THE MEANTIME, INSUFFICIENCIES IN THESE AREAS AFFECT THE NUMBER AND "QUALITY" (READ HEALTH) OF THE LOCAL POPULATIONS, BEGINNING WITH INFANT MORTALITY AND INCLUDING DEATHS OF THE ELDERLY FROM RESPIRATORY ILLNESS AND DIGESTIVE ILLNESSES CAUSED BY LAND, WATER AND AIR POLLUTION.

MANY YEARS OF BAD PLANNING AND BAD SOLUTIONS TO WATER PROBLEMS OF THE REGION, THE DESSICATION OF THE ARAL SEA IN PARTICULAR, HAVE RESULTED IN AN INFANT MORTALITY RATE IN THE ARAL DISTRICT AS HIGH AS 111 IN SOME LOCALITIES (ABOUT FOUR TIMES THE RATE FOR THE DISTRICT OF COLUMBIA NOW AT BETWEEN 25 TO 30 DEATHS PER 1000 LIVE BORN CHILDREN). MOREOVER, TWO-THIRDS OF THE LOCAL POPULATIONS HAVE TYPHOID, HEPATITIS, AND/OR CANCER OF THE DIGESTIVE SYSTEM, AND ALL WOMEN WHO HAVE JUST GIVEN BIRTH ARE FORBIDDEN TO BREAST-FEED THEIR CHILDREN DUE TO THE CHEMICAL PESTICIDES IN THEIR BREAST MILK. OBVIOUSLY THIS

WILL ALSO HAVE A LONG-TERM AFFECT ON THE SURVIVORS. THE SURVIVORS IN OTHER REPUBLICS OF THE CENTRAL ASIAN REGION SIMILARLY ARE --AGAIN--UNHEALTHY.

MANY YOUNG MALES ARE NOW (CORRECTLY) DETERMINED TO BE UNFIT FOR SERVICE NOW THAT THE RULES OF CONSCRIPTION WERE REVISED IN SEPTEMBER OF 1989; PRIOR TO THAT POINT, FOR A NUMBER OF YEARS THE LAME, THE HALT AND THE BLIND WERE DRAFTED. MOREOVER, NOW THAT IT HAS BEEN REVEALED THAT DRAFTEES OF THE TRANSCAUCASUS PLUS THE CENTRAL ASIAN REGION COMPRISED 37 PERCENT OF ALL DRAFTED IN 1988 (UP FROM 28 PERCENT IN 1980), THE QUESTION ARISES WHETHER RECRUITS ARE HEALTHY ENOUGH TO SURVIVE THE RIGORS OF MILITARY SERVICE. ALSO WHETHER THEIR RUSSIAN LANGUAGE CAPABILITY IS SUFFICIENT TO ENTER INTO A MILIEU IN WHICH RUSSIAN IS THE KEY COMMAND, CONTROL AND COMMUNICATIONS LANGUAGE.

INDEED, THE NEW CENSUS RESULTS HAVE CONFIRMED MY PREVIOUS EVALUATION THAT THE 1979 SOVIET CENSUS INDICATORS FOR RUSSIAN-LANGUAGE ABILITY AMONG UZBEKS WAS INCORRECT AND INCONCEIVABLE. THUS, UNDER GLASNOST' IT HAS BECOME POSSIBLE TO PUBLISH THAT 90 PERCENT OR MORE OF RURAL UZBEKS DO NOT KNOW RUSSIAN, AND EVEN THAT AMONG URBAN YOUTHS THIS FIGURE IS GROWING. THE 1989 CENSUS RESULTS NOW TELL US THAT THE GROWTH FROM 14.5 PERCENT OF ALL UZBEKS WITH RUSSIAN LANGUAGE FLUENCY ACCORDING TO THE 1970 CENSUS TWO DECADES AGO, THAT THE ASTONISHING FIGURE OF 49.3 PERCENT FOR ONE DECADE AGO (IN 1979) COULD NOT BE CORRECT; THIS LATER FIGURE HAS NOW BEEN "CORRECTED" TO 23.8 (!) PERCENT FOR THE BEGINNING OF LAST YEAR. THUS, THE 1979 FIGURE WAS EXAGGERATED BY AT LEAST 100 PERCENT. ALL THE POLICY IMPLICATIONS OF THAT ORIGINAL FIGURE, FOR EXAMPLE, THAT THE SOVIET GENERAL STAFF NEED NOT HESITATE TO INCLUDE THE POPULATION OF MUSLIM ORIGIN IN ALL THEIR PLANS, NOW APPEAR TO BE IN NEED OF

MAJOR REVISION. MOREOVER, EXPECTATIONS THAT AZERIS AND ARMENIANS COULD BE POSTED TOGETHER, OR THAT THE BALTIC PEOPLES WOULD WILLINGLY SERVE OUTSIDE THEIR IMMEDIATE REGION, ALSO NOW NEED MAJOR RECONSIDERATION.

ON A MORE POSITIVE NOTE, THE CENTRAL LEADERSHIP HAS COME TO RECOGNIZE THE IMPORTANCE OF THE HEALTH OF THE POPULATION, AND HAS ASSIGNED A DOUBLING OF THE STATE BUDGET MONIES TO THE HEALTH SECTOR FOR THE NEXT FIVE-YEAR PLAN PERIOD, 1991-1995. BUT THIS WILL BE FAR FROM ENOUGH TO MEET ALL NEEDS OF THE SECTOR, AND THUS TO IMPROVE THE POPULATION'S HEALTH STATUS. TO GIVE ONE MAJOR EXAMPLE, IT IS NOW REPORTED (AGAIN THANKS TO GORBACHEV'S GLASNOST') THAT OF ALL RURAL DISTRICT HOSPITALS IN THE COUNTRY, SOME 65 PERCENT DO NOT HAVE HOT WATER, 27 PERCENT DO NOT HAVE SEWAGE, AND 17 PERCENT DO NOT HAVE ANY WATER AT ALL. THIS LACK OF SANITATION CONTRIBUTES TO A RATE OF HEPATITIS IN UZBEKISTAN 7 TIMES HIGHER THAN THE RATE IN ESTONIA (PER 100,000 POPULATION). INFECTIOUS AND PARASITIC DISEASES IN 1988 AS A CAUSE-OF-DEATH OF INFANTS RANGES BETWEEN THE NORTHERN AND SOUTHERN PORTIONS OF THE COUNTRY FROM 4.4 PER 10,000 LIVE BIRTHS IN ESTONIA AND 6.3 IN LITHUANIA TO 126.7 IN TADZHIKISTAN (AN INCREASE IN ITSELF OF OVER 10 PERCENT FROM THE PREVIOUS YEAR) AND 142.7 IN TURKMENISTAN. A DIFFERENCE OF OVER 34 TIMES AT THE EXTREME. THUS, CHAZOV'S POLICY INITIATIVE INVOLVING AN ASSIGNMENT OF 40 PERCENT OF NEW INVESTMENT TO MATERNAL AND CHILD HEALTH CARE HAS NOT YET HAD ANY IMPACT. GRANTED THAT THIS IS ONLY 1 YEAR AFTER ITS INITIATION, I DOUBT IF IT WILL BE REFLECTED IN THE SOUTHERN TIER ANYTIME IN THE NEAR FUTURE. PERHAPS THE DEATH OF SO MANY CENTRAL ASIAN CHILDREN (USING THE RATE ONLY) IS THE ONLY REASON WHY THE DISPARITY OF THE OVERALL POPULATION GROWTH RATES WAS "ONLY" SEVEN-AND ONE-HALF TIMES HIGHER FOR TADZHIKS (45 PERCENT, AS ABOVE) THAN FOR RUSSIANS (6 PERCENT). NEW EVIDENCE

OF AN "INJECTION EPIDEMIC" IN ONE OF THE CENTRAL ASIAN REPUBLICS INDICATES THAT CHILDREN IN THEIR FIRST YEAR OF LIFE ARE GIVEN 200 TO 400 (SIC) SHOTS, NOT THE 5 OR SO INJECTIONS OUR INFANTS ARE GIVEN OF BASIC VACCINATIONS--AND THEN LIQUIDS FOR MEDICATIONS AS NECESSARY WHEN ILL. IT IS A REFLECTION OF THE SHORTAGE OF KNOWLEDGE OF MEDICAL PERSONNEL WHO GIVE SHOTS FOR EVERYTHING, WHETHER NEEDED, WHETHER EXCESSIVE, WHETHER THE SYRINGES OR NEEDLES HAVE BEEN USED PREVIOUSLY (PROBABLY WITHOUT STERILIZATION GIVEN THE SHORTAGE OF FACILITIES AS NOTED ABOVE), AND WHETHER OR NOT THE HIGH RATE OF MEDICATION WILL AFFECT THE EFFECTIVENESS OF SUCH MEDICINES IN THE FUTURE WHEN NEEDED. MOREOVER, GIVEN THE DRASTIC SHORTAGE OF SINGLE-USE/DISPOSABLE SYRINGES AND NEEDLES IN THE COUNTRY, THE POTENTIAL FOR SPREAD OF AIDS, LET ALONE OF HEPATITIS IS A CLEAR AND PRESENT DANGER FOR THIS POPULATION. WHERE WILL THE RESOURCES COME FROM FOR ALL THEIR NEEDS?

A NEW ENVIRONMENTAL AGENCY, SUPPLEMENTING --BUT UNFORTUNATELY SO FAR, NOT SUPPLANTING--THAT OF AN OLDER AGENCY, THE STATE COMMITTEE FOR HYDROMETEOROLOGICAL SERVICES, CAME INTO BEING AT THE BEGINNING OF 1988. RECOGNITION HAD FINALLY COME THAT GREEN ISSUES WERE SERIOUS, POLITICALLY UNAVOIDABLE, DETRIMENTAL TO THE HEALTH OF THE POPULATION, AND, AS I ARGUE ELSEWHERE, HAD MAJOR IMPACTS ON THE ECONOMY AND ON THE MILITARY. FORMED AS NOTED ALMOST 2 YEARS AFTER THE CHERNOBYL ACCIDENT (ITSELF TAKING PLACE ONE YEAR AFTER GORBACHEV'S ACCESSION TO POWER AND THUS CHANGING HIS AGENDA FOREVER), THE INITIAL HEAD OF GOSKOMPRIRODA WAS FYODOR MORGUN. AN ACTIVE PARTICIPANT IN THE DEBATE TO MAKE THIS NEW AGENCY A PLAYER OF SIGNIFICANCE IN THE ENVIRONMENTAL ARENA, HE SHORTLY CAME UP AGAINST THE POWER OF GOSKONGIDROMET, AND LOST. RESIGNING IN 1989, IT TOOK 8 REFUSALS BEFORE NIKOLAY VORONTSOV, A NOTED BIOLOGIST, BUT NON-

PARTY MEMBER--THE FIRST MINISTERIAL POSITION HELD BY A NON-PARTY MEMBER SINCE THE 1920S--AGREED TO FACE UP TO THE PROBLEMS. AND HIS PROBLEMS ARE ENORMOUS, HE STILL DOES NOT HAVE A FULL BUDGET FOR HIS AGENCY, HE STILL FACES THE POWER OF GOSKOMGIDROMET IN THE MONITORING PHASE OF THEIR AREA OF RESPONSIBILITY, AND HE STILL, AS OF APRIL 1990, DOES NOT HAVE A ZAKON, AN AUTHORIZING LEGISLATIVE ACT TO GIVE HIM POWER TO ENFORCE HIS AGENCY'S PROGRAMS (WHICH IN ITS TURN HAD TO BE REWRITTEN/REDRAFTED FROM THAT PREPARED BY MORGUN A YEAR EARLIER). NONETHELESS, THE FIRST ANNUAL REVIEW OF THE STATE OF THE ENVIRONMENT OF THE USSR IN 1988 WAS JUST PUBLISHED. AND IT CONFIRMS ALL AND MORE OF THE PROBLEMS PREVIOUSLY KNOWN.

PERHAPS THREE FIGURES FOR AIR POLLUTION WILL SUFFICE--70 MILLION PERSONS LIVE IN 103 CITIES IN WHICH THE SOVIET-DEFINED MAXIMUM PERMISSIBLE CONCENTRATION (PDK) OF POLLUTANTS IS EXCEEDED BY 5 OR MORE TIMES; 50 MILLION WHERE THE NORM IS EXCEEDED BY 10 OR MORE TIMES; AND 43 MILLION WHERE IT IS EXCEEDED 15 OR MORE TIMES--ON THE AVERAGE OVER THE COURSE OF THE YEAR. BUT SINGLE BURSTS MAY BE AT A HIGHER LEVEL OF EXCESS. FOR LAND POLLUTION, MY "FAVORITE" IS THE CONTINUED, ILLEGAL USE OF DDT--ALSO BANNED BY THE USSR SINCE THE EARLY 1970S--TO SUCH A DEGREE THAT IN ONE PLACE, THE "NORM" WAS EXCEEDED BY 2,500 (SIC) TIMES; BY THE WAY HOW CAN THERE BE A NORM FOR SOMETHING WHICH IS ILLEGAL? MOREOVER, ITS USE MAY WELL BE MORE EXTENSIVE THAN JUST THE SCATTERED DATA FOUND IN THE PUBLISHED SOURCES. IN LITHUANIA, I WAS TOLD BY A LEADING ENVIRONMENTALIST THAT IT IS HIDDEN UNDER ANOTHER NAME AND USED EXTENSIVELY THROUGHOUT THE COUNTRY. AND LASTLY, AS TO EVIDENCE OF WATER POLLUTION ONE NEEDS ONLY TO CITE THE TERRIBLE EVENTS RELATED TO LAKE BAYKAL. IN THE PAST SCIENTISTS AND OTHER INTERESTED PERSONS FORMED THE FIRST SUCCESSFUL LOBBY TO

STOP THE OUTPUT OF A HEAVILY POLLUTING PULP AND PAPER PLANT ON THE LAKE SHORE. THIS SOURCE OF DIRTY EFFLUENT HAS BEEN REDUCED, BUT POLLUTION FROM FEEDER RIVERS AND OTHER SOURCES OF WATER FLOWING IN UNDERGROUND WATER, HAS RESULTED IN GREATER AMOUNTS OF UNCLEAN WATER NOW PENETRATING THE LAKE'S WATER THAN HITHERTO. THE ARAL SEA DISASTER WAS REFERRED TO ABOVE. MANY OTHERS CAN BE ADDUCED.

IF VORONTSOV SUCCEEDS IN GETTING A BUDGET OF SOME 450-500 BILLION RUBLES UNTIL THE YEAR 2005, IT STILL WILL NOT BE SUFFICIENT TO MEET ALL THEIR NEEDS. PRELIMINARY CALCULATIONS WHICH I HAVE MADE INDICATE THAT JUST THE CURRENT COSTS OF NEEDED REPLACING OF WATER PIPES, AMOUNTS TO ABOUT 800 BILLION RUBLES, SOME TWICE AS MUCH AS THE ENTIRE BUDGET FOR THE NEXT 15 YEARS FOR ALL NEEDS-- AIR, LAND, FORESTS, NATURE PRESERVES, EDUCATION OF THE POPULATION, AND OTHERS, AS WELL AS ALL WATER NEEDS.

ENVIRONMENTAL CONCERNS ARE BEHIND DEMANDS BY ESTONIANS TO GET RID OF THE DEFENSE INDUSTRY IN THEIR AREA. NOT ONLY DO DEFENSE ENTERPRISES ATTRACT RUSSIANS (AS AN ASIDE, THE NUMBER OF ESTONIANS IN THE COUNTRY AS A WHOLE GREW BY ONLY 8,000 PERSONS, THE NUMBER OF RUSSIANS IN ESTONIA, GREW BY SOME 66,000 OVER THE SAME INTERCENSAL PERIOD), BUT THEY POLLUTE. MOREOVER, LIKE ALL OTHER ESTABLISHMENTS OF ALL-UNION MINISTRIES', THESE ENTERPRISES ALSO IGNORE THE LOCAL AUTHORITIES. OBVIOUSLY THIS DOES NOT BODE FOR HAPPY DISCUSSIONS ON THIS AND RELATED CENTRAL MINISTRY ISSUES AT THE FUTURE MOMENT WHEN ESTONIA WILL ATTEMPT TO ENFORCE ITS AUTHORITY AS A SEPARATE TERRITORY.

YURI ISRAEL'S AGENCY, GOSKOMGIDROMET, DESPITE MUCH CRITICISM FROM GOSKOMPRIRODA, AND THE PEOPLE'S CONTROL COMMITTEE, AS WELL AS A WIDE VARIETY OF ENVIRONMENTALISTS--OFFICIAL AND UNOFFICIAL-- HAS BEEN ABLE TO DEFEND ITSELF BY CALLING IN THE SUPPORT OF THE POLLUTING MINISTRIES--MINISTRIES WHICH KNOW FULL WELL THAT IF POWER TO REGULATE THE ENVIRONMENT IS TRANSFERRED TO GOSKOMPRIRODA, IT WILL BE USED TO FINE THEM SEVERELY OR TO CLOSE THEIR ENTERPRISES. THE BIOCHEMICAL INDUSTRY HAS ALREADY EXPERIENCED THE IMPACT WITH THE CLOSING OF MANY OF ITS PLANTS FOR POLLUTION REASONS. THE NAIRIT COMBINE IN YEREVAN IS A PRIME EXAMPLE. THE RATE OF LEUKEMIA, RESPIRATORY ILLNESSES AND MANY OTHERS ARE MUCH HIGHER AMONG THE POPULATION RESIDING IN THE IMMEDIATE DISTRICT (MIKROBAYON) WHERE THE COMBINE IS LOCATED THAN FOR THE CITY AS A WHOLE OR FOR RELATIVELY CLEAN SMALL DISTRICTS. BUT THE MEDICINES OR BASIC CHEMICALS PRODUCED BY THIS COMBINE ARE ESSENTIAL TO HELP IMPROVE THE HEALTH OF THE POPULATION, IF NOT TO TREAT THEM IN THE FUTURE. NONETHELESS, THERE SEEMS TO BE RELATIVELY LITTLE OR NO UNDERSTANDING THAT SCRUBBERS AND FILTERS FOR VARIOUS SOURCES OF POLLUTION ACTUALLY NEED TO BE INSTALLED, AND IF INSTALLED, TO BE MAINTAINED--AS MOST ARE NOT. IT APPEARS THAT THE ECONOMIC IMPACT OF CHEMICAL PLANT CLOSURES IN PARTICULAR, BUT NOT LIMITED TO THEM, HAS MOVED THE PLANNERS TO CONVINC GORBACHEV TO ORDER NO MORE PLANT SHUTDOWNS FOR REASONS OF ENVIRONMENTAL POLLUTION. BUT AS FAR AS "CLEANING UP THEIR ACT" WITHOUT CLOSING PLANTS, ONE OF THE PROBLEMS IS THAT THERE IS NOT A SINGLE SPECIALIZED PLANT FOR THE PRODUCTION OF SCRUBBERS IN THE COUNTRY. IN MY RECENT DISCUSSIONS IN THE SOVIET UNION, MANY INDIVIDUALS DID NOT COMPREHEND MY STRESS ON ECOLOGY AND ECONOMY, NOT ECOLOGY VERSUS ECONOMY. BEING NOT UNAWARE OF THE COSTS OF SUCH INSTALLATIONS ON PLANTS WHOSE POLLUTION LEADS TO ACID RAIN IN THE UNITED STATES, THE SOVIET SITUATION IS FAR WORSE THAN THE BAD SITUATION WE HAVE IN

CERTAIN LOCATIONS AND INDUSTRIES IN THE UNITED STATES. IF IT WERE NOT SO BAD, WHY WOULD GORBACHEV HAVE MENTIONED THE ENVIRONMENTAL PROBLEMS OF HIS COUNTRY AND THE WORLD NO LESS THAN 9 TIMES IN HIS SPEECH TO THE UNITED NATIONS AT THE END OF 1988? OBVIOUSLY, IT MAY WELL BE WORSE THAN WE EVEN ARE AWARE. AND THAT WOULD BE QUITE SOMETHING.

THIS TESTIMONY IS ONLY THE BARE SURFACE OF THEIR PROBLEMS IN THE HEALTH AND ENVIRONMENTAL AREAS. IT WILL AFFECT THEIR RESOURCE ALLOCATIONS, IT WILL AFFECT THE MILITARY AND LEAD TO A PROFESSIONAL ARMY WITHIN 5 YEARS ALSO BECAUSE OF THE SHIFT TO THE SOUTH AMONG POTENTIAL DRAFTEES, IT WILL BE A MAJOR CONTRIBUTOR TO FURTHER RADICALIZATION OF MANY NATIONALITY GROUPS AS THE CENTER CONTINUES TO IGNORE THE IMPACT OF POOR HEALTH AND ENVIRONMENTAL POLLUTION AND IT WILL REMAIN UNSOLVED UNTIL THE NEXT CENTURY. THE PROBLEMS WHICH WE HAVE IN OUR COUNTRY ARE SERIOUS, ARE COSTLY, ARE IN NEED OF MUCH RECTIFICATION, BUT THE SOVIETS WISH THEY HAD OUR PROBLEMS (ITS LEVEL AND VECTOR).

THANK YOU.

Senator BINGAMAN. Thank you very much. Mr. Goodman, thank you for being here. Please go right ahead.

**STATEMENT OF SEYMOUR E. GOODMAN, PROFESSOR,
UNIVERSITY OF ARIZONA**

Mr. GOODMAN. Thank you very much, Mr. Chairman. I appear before you today to discuss some important trends and changes in the practice of East-West technology transfer. Virtually everything I say will apply directly to the Soviet Union and to the computer and information technologies, but there may be some more general applicability as well.

COMPUTER TECHNOLOGY

The Soviets have been pursuing Western computer technology for over 40 years. Nevertheless, the Soviet-United States or Soviet-Western gap in these technologies has increased, in fact, rather dramatically during that period. These gaps are the result of three general classes of reasons that I will briefly summarize.

First, there are U.S. and COCOM export controls, for example, the controls on the export of semiconductor manufacturing equipment.

Second, the limited business opportunities for Western companies. For example, restrictions on the earning and the removal of hard currency from the Soviet Union, limits on the direct access to the markets, bureaucratic constraints, and so forth.

Finally, and probably most importantly, are the self-imposed constraints the Soviets place on their own people and institutions with regard to dealing with the rest of the outside world. For example, the very small and highly controlled orifice to the outside world and, in particular, the very poor internal technology transfer mechanisms that limited the absorption of these technologies in that country.

It is impossible to do a quantitative factor analysis on the relative importance of these three general classes of retardance.

Nevertheless, all three, I think were very important. All three in a sense collaborate and result in essentially the same thing, and that is, they push the practice of technology transfer between the Soviet Union and the rest of the world, including between the Soviet Union and Eastern Europe, into the set of tech transfer mechanisms that might be described as most covert and most passive—as opposed to those mechanisms that are more active and more overt, as depicted in a graph that I put into my prepared statement.

For anybody who knows anything about the real practice of technology transfer, this is the worst set of transfer mechanisms to use. They tend to be risky, they tend to be weak, they tend to lengthen the technology transfer acquisition chain and make that chain a lot more fragile than the more active and overt mechanisms.

MAJOR INTERNATIONAL TRENDS

It is not difficult to think of significant possibilities for progress if one or more of these retarding classes of factors is removed or greatly reduced. With that in mind, I would like to talk about four

major international technological, business, and political trends that have been taking place over at least the last 10 years and then discuss what these have been doing to the practice of tech transfer.

The first is principally technological. There has been an extraordinary set of developments in high technology resulting in a worldwide incremental innovation rate that is extending and filling in technological gaps in ways that are almost impossible even for professionals to track.

We can put supercomputers on people's tables today. Different architectures in computers permit different approaches, much cheaper, sometimes simpler, sometimes more complicated approaches, to doing all sorts of things that could only be done in certain limited ways in the past. Generally speaking, these trends provide a greater range of possibilities—technological possibilities for accomplishing goals.

The second major trend is that of globalization. There has been an extraordinary spread of high or near high technology around the world, including to many countries—particularly in the Far East and South Asia—that were thought to have been relegated to being permanent left-outs in this kind of business. This provides a greater number of non-U.S. and non-COCOM sources for an increasing variety of technologies and products.

Third, there is commoditization. We are talking about the commoditization of high-technology products today in a sense similar to the use of that term for such agricultural products as wheat. We are talking about huge volumes of production, strong forms of substitutability, spot markets, and so forth.

Finally, there is a major trend that is, of course, one of the great objects of this hearing, and that is the economic and political reforms in the Soviet Union and some other countries as well. Much of this, of course, was intended precisely to improve the economic, social, and political climate for the development and absorption of technology. So now we see one of the more dramatic aspects of both glasnost and perestroika as bringing down some of the self-imposed barriers on such things as travel and joint ventures and other arrangements with foreign firms and foreign scientists.

Many handicaps still remain, one of which is the shortage of hard currency. It should be very obvious that every one of these trends weakens one or more of the major factors that I spoke of earlier. The net result is a significant change, and it was intended to be so, in the distribution of the practice of technology transfer by the Soviet Union. This is quantitatively and qualitatively true. We see more happening, and it is happening in ways that really have not taken place in any volumes before. So we see the practice moving through the more effective forms of technology transfer, the more active and the more overt forms.

Now furthermore, the first three of the four trends that I just passed through are really not of the Soviets doing. In a way there is a kind of membrane between the Soviet Union and the rest of the world and this technology modernization buildup puts a lot more pressure on the Western side of the membrane than on the Eastern side. Any opening up of holes in that membrane permits, and there is virtually nothing we can do about it, a lot of that pressure to be sucked in.

TRANSFERS TO MILITARY SECTOR

Some of this flow, of course, goes directly to the Soviet military industrial sector and there is little we can do about that. We are seeing an unprecedented phenomenon, in that there is a broad-based, modest level in terms of technological sophistication, low-cost and relatively high-volume transfer into the Soviet general economy. This, of course, presents a very awkward problem for the United States.

The primary reason the Soviets have sought to transfer Western technology to their military and military industrial sectors is because these badly needed technologies were not available from the Soviet general economy or from the military industrial ministries. So in this sense, the U.S. and other Western high-technology economies served as a surrogate for what the Soviets lacked at home. In the days before glasnost and perestroika, when export controls were more effective than most Soviets would care to admit, and other factors combined to make it relatively easy to pursue controls on dual-use technologies to the extent that controls very severely hurt the Soviet general economy. Over the long term, in fact, it may well have been the most important impact of controls, that is, beating up on the Soviet high-tech sector, and very possibly, a driving force which helped bring about perestroika.

So from a rather narrow military technological national security standpoint, building up the technology base of the Soviet general economy is probably the worst thing we can do. However, life is much more complicated these days, and we now supposedly have a much broader spectrum or perception of our national security, and it is, in fact, our stated intention to try to help perestroika succeed. One way to help bring this about is to provide very broad support for the technological base of the Soviet general economy.

Since many of the technologies and products that the Soviets need most are computer-oriented microelectronics, telecommunications, and so forth, there is no way that we can significantly help build up the technical base without also significantly helping the military technological industrial capability of the Soviet Union.

SUPPLY-SIDE CONSIDERATIONS

Now a partial solution of this dilemma, I believe, is to recognize that there are some supply-side considerations, mainly in the form of the first three trends that I mentioned, that make effective control much more difficult than it had been in the past. In particular, the rates of growth under those first three technological, economic, and international trends is much, much greater than the rate of growth that could conceivably be put into new resources for control. Continued control of commodity-type products, I would argue, not only would be relatively ineffective but would seriously threaten the credibility of the basic idea of high tech, military-oriented technology control.

So we should, therefore, consider taking a positive and constructive approach to selling such products to the Soviet Union in the hope of helping to bring about a freer, more democratic Soviet Union.

I might just briefly consider the converse here and note that life has become very much more difficult for the Soviets as well. The same international trends which have made this greater and more effective technology transfer flow into the Soviet Union possible has also made it much more difficult for the Soviets to establish themselves as a truly modern technologically competent and economically sound country. A simple fact of life is that this requires a whole lot more to do these days than it did 10, 15, or 20 years ago.

Thank you, Mr. Chairman.

[The prepared statement of Mr. Goodman follows:]

PREPARED STATEMENT OF SEYMOUR E. GOODMAN

Trends in East-West Technology Transfer

Mr. Chairman, I appear before you today to discuss some important trends and changes in the practice of East-West technology transfer. Most of these observations and conclusions are derived from our studies of Soviet computing over the last dozen years, but I suspect that much of what I have to say is applicable to other technologies as well. Similarly, although I will explicitly refer only to the USSR in what follows, much also applies to Eastern Europe.

The Soviets have been pursuing U.S. computer technology and products for over forty years. Nevertheless, for most of this period, US-USSR gaps in these areas have increased. These gaps are the result of several factors, and I would like to explicitly mention three that have collectively retarded computer-related technology transfer from the West to the Soviet Union for decades:

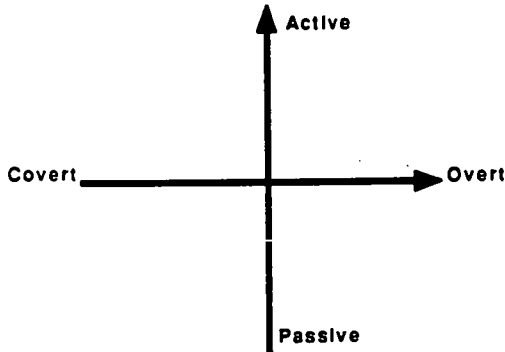
- **U.S./CoCom Export controls.** For example, controls on the sale of manufacturing know-how and equipment have contributed to the inability of the USSR to develop much stronger microelectronics and disk storage manufacturing industries.

- **Limited business opportunities for Western companies.** For example, restrictions on direct access to Soviet markets, bureaucratic constraints on the conduct of business, and limitations on the removal of hard-currency profits from the USSR have discouraged many Western firms from pursuing business opportunities in the Soviet Union on a long-term and profitable basis.

- **Self-imposed constraints.** For example, the long-standing stranglehold of the KGB and GRU on technology collection, the extreme protectionism for Soviet firms in the forms of national security controls, the lack of a convertible currency, travel restrictions, and poor mechanisms for internal technology transfer have all adversely affected the development of the Soviet computer industry.

It is impossible to do a detailed analysis on the relative importance of these three factors. However, I believe that all three factors have been important and collectively have severely retarded Soviet developments. This may be illustrated by considering the graphic representation of technology transfer mechanisms below.

TECHNOLOGY TRANSFER MECHANISMS



In this representation, each technology transfer mechanism may be seen as occupying a position on the graph. For example, reading the open technical literature would be a mechanism located in the (overt, passive) quadrant; building a turnkey plant with strong feedback processes between the provider and receiver would be located in the (overt, active) quadrant. Generally speaking, passive mechanisms are weaker than active mechanisms, and covert transfer is often riskier and weaker than overt transfer.

If one considers the three major retarding factors, it becomes immediately apparent that all three work together to push the practice of Soviet technology transfer towards the passive and covert sides of the graph. For most of the last 40 years, the distribution of Soviet technology transfer practice has been strongly skewed towards the (covert, passive) quadrant. It is clear that this is the least effective kind of distribution.

It is also not difficult to think of significant possibilities for progress if one or more of the retarding factors were to be removed or greatly relaxed. With that in mind, allow me to briefly consider four major international technical/economic/political trends:

- **Expansion and filling in of the technological spectrum.** For example, new materials for microelectronic devices now provide a wider choice of cost/performance possibilities and the fading of the dividing lines between micro-, mini-, mainframe, and supercomputers has resulted in the production of a large number of very capable small machines. These trends provide a greater range of possibilities for accomplishing goals.

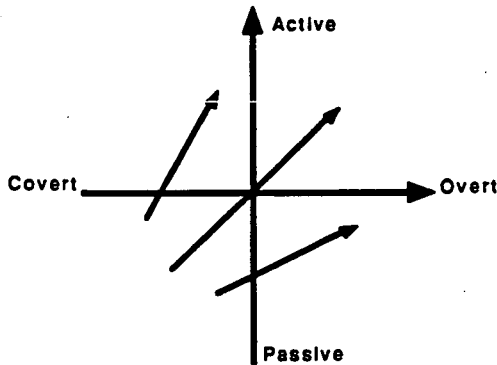
- **Globalization.** The spread of advanced, or near-advanced technology around the world, and especially to Asia, has been remarkable. The net result is a much larger number of non-U.S. and non-CoCom sources for an increasing variety of technologies and products.

- **Commoditization.** An increasing number of high-technology products are adding a very important "commodity" phase to their life cycles. The term may be used in much the same sense as it applies to grain commodities like wheat, that is, products produced in very large volumes, at low prices, with strong forms of substitutability, spot markets, etc. Such products tend to be easy to obtain and redistribute in large quantities.

- **Economic and political reforms in the communist countries.** Much of the Soviet program of *perestroika* (and its local equivalents elsewhere) is intended to improve the economic and political environment for the development and application of technology. So, for example, travel abroad for scientific and technological purposes and joint ventures are being encouraged in the USSR.

It should be obvious that every one of these trends weakens one or more of the major factors retarding technology transfer. The net result is a very significant change in the distribution of the practice of technology transfer and product acquisition by the Soviet Union and other communist countries. In particular, the result is a much increased use of the more active and overt (and therefore more effective) technology transfer mechanisms. This is illustrated in terms of our simple graphic representation as such:

**IMPACT OF INTERNATIONAL TRENDS
ON EAST-WEST TECHNOLOGY TRANSFER**



The first three of these international trends are primarily achievements of the world outside of the USSR. They are, however, so powerful and pervasive that relaxation of the self-imposed constraints by the USSR has provided and will continue to provide an unprecedented flow of technology and products into that country, although this flow remains small by West-West standards. On the other hand, many of the self-imposed retardants still exist and have been exacerbated by the current shaky and uncertain state of the Soviet economy.

Some of this flow, of course, goes directly into the Soviet military and military-industrial sectors. There is, however, also an unprecedented broad-based, modest-level, low-cost, and relatively high volume transfer into the Soviet general economy. Therein lies an awkward problem for the U.S.

The primary reason the Soviets have sought to transfer Western technology to their military and military-industrial sectors is because these needed technologies were not available from the Soviet general economy. In this sense, the U.S. and other Western high-technology economies served as a surrogate for what the Soviets lacked at home.

In the days before *glasnost* and *perestroika*, when export controls were more effective than most Soviets would care to admit, the other factors combined to make it relatively easy to pursue controls on dual-use technologies to the extent that they severely hurt the Soviet general economy, U.S. disclaimers on practicing economic warfare notwithstanding. Over the long term, this may well have been the most important impact of export controls and quite possibly a driving force which helped bring about *perestroika*. From a fairly narrow military-technological national security point of view, building up the technology base of the Soviet general economy is probably the worst thing we could do.

However, life is more complicated these days, and it is our stated intention to try to help *perestroika* succeed. One way to help bring this about is to broadly support the development of the technological base of the Soviet general economy. Since many of the technologies and products the Soviets need most are dual-use technologies such as microelectronics, computers, and telecommunications equipment, there is no way that we can significantly aid *perestroika* without also helping to develop the military-technological capability of the Soviet Union.

A partial resolution of this dilemma is to recognize that there are some supply-side considerations, both explicit and implicit, in the four international trends listed above, that make effective control much more difficult than had been the case in the past. We should, therefore, consider taking a positive and constructive approach to selling such products in the hope of helping to bring about a freer and more democratic Soviet Union.

I might also note one important and relevant way in which life has become more complicated for the Soviets. The same international trends which have made a greater technology flow to the Soviet Union possible has made it much harder for the Soviets to establish themselves as a truly modern, technologically competent and economically sound country. There is now much more to do to achieve this than was the case 10-20 years ago.

Finally, although I am not speaking to you in my former capacity as chairman of the NRC/NAS Committee to Study International Trends in Computer Science and Technology, I would be remiss if I did not draw your attention to our book: *Global Trends in Computer Technology and Their Impact on Export Control*. This book provides more details and arguments along the lines of what I have presented today, and a long and comprehensive assessment of the state of Soviet computing. Information collected since its publication provides additional support.

Mr. Chairman, that concludes my prepared statement. I will be pleased to try to answer any questions you or other members of the Committee may have.

Senator BINGAMAN. Thank you very much. Let me put a few questions to each of you, then defer to my colleagues.

MEDICAL CARE DELIVERY SYSTEM

Mr. Feshbach, let me first start with you. The description you have given of the health situation in the Soviet Union is dire, to say the least. I would especially note the suggestion that 65 percent of their rural hospitals do not have hot water. My question is whether there is any significant effort that you are aware of, by this country or any other, to help the Soviets upgrade their medical care delivery system to deal with some of the kinds of things that you describe? I would also be interested in hearing if there were such an effort, where you think it could be most effectively focused?

Mr. FESHBACH. I know of no concerted effort other than in the area of AIDS to help the Soviet Union, as well as in the area of radiation treatment for people suffering in Byelorussia and particularly in the Ukraine by, let's say, the diaspora outside, that is, Ukrainian-Americans and others, the Armenian community, to help with the consequences of the earthquake. But no countrywide assistance, partly because the Soviets themselves were not willing to acknowledge these problems until fairly recently. They were not willing to ask the World Health Organization for help, particularly in something like the extended program of immunization, which is designed for Third World countries. And that would, therefore, virtually require them to concede the status of that level in the health area.

That being the case, the efforts of the Soviets themselves might well increase. Most of those efforts, which are increasing dramatically, would be far short of need. The moneys for plans are diverted to other needs and particularly because I think it is because they lied to themselves in the past. They didn't realize how bad the problem was and partly because it is at such a high level.

The potential of the hot water issue, of course, refers to sterilization of syringes and needles. Syringes are so short it is almost incomprehensible. The demand level for use of syringes in the country is somewhere in the range of 4 to 6 billion. Let me use the low figure, because I don't want to use the high figure, because it is only 50 percent worse. The actual plan in 1987 was 100 million. They produced, actually, 7.8 million.

Senator BINGAMAN. 7.8 million?

Mr. FESHBACH. Out of a demand of 4 billion, but a plan to produce 100 million, in part, because of delays of production coming on stream, partly because of delays in the chemical industry and the supply of plastics, partly because of delays in just the rubber supply for the valves, or whatever the case may be. So it fed on itself.

The 1989 production, however, increased to 192 million, but again, we are talking about a demand level of 4 billion, but again, from domestic production. So they import 400 or 500 million. And there are many donations of syringes. But even if you have the syringes, you still have to wash them properly. You have to have water even just to heat them, let alone to have hot water. You

build a fire under the water. You have to do something about it. But they don't do it anyway and ignore it.

One of the biggest causes of the spread of AIDS and one of the reasons children came down with HIV is just because nurses do not take time to wash the needles. One reason that arises in Moscow, which is not, again, a rural area. One central sterilization unit returned 34 syringes, of which 7 still had evidence of blood in them. So part of it is just improper performance of requirements.

So I think the potential for the explosion of AIDS, let alone continued very high levels of hepatitis that many more people die of these than in the United States. We have enormous problems in this country, but whether because of the overuse of medication or the overuse of high technology, again, the difference is, when you have 4,800 CAT scanners in the country as we do, the Soviets have only 62, therefore the potential for diagnostics is not very hopeful for a country 11 times as wide as our country.

If you are out in Vladivostok, you might as well forget it.

Senator BINGAMAN. Let me ask Mr. Goodman one question. Two questions, I guess.

TECHNOLOGY TRANSFER TO THE U.S.S.R.

As I understand it, with regard to much of what we think of as modern technology, you advocate a policy where we promote the introduction of that modern technology and the export of that modern technology into the Soviet Union. You also advocate that while aggressively pushing that technology in to help them modernize their economy, we maintain so-called "high fences" around the more specialized technology that is essential for military needs.

Is that an accurate paraphrase of what you are saying? Maybe you can say it better?

Mr. GOODMAN. Shall I try to say it a little differently?

Senator BINGAMAN. Sure.

Mr. GOODMAN. Not necessarily better.

I personally advocate the infusion of the information technologies to help make the democratization process more irreversible and also to help make that country a better place for people to live. It is not such a good place for most of its population now, and these technologies are now virtually universally considered in one way, shape or form, to be at least partly synonymous with definitions of being modern or even of definitions of the quality of life. I would certainly, as an American citizen and a citizen of this globe, like to see that happen. It is not going to happen—even if we dramatically reduce our export controls—it's not going to happen in the short term because the volume of what has to be done is so enormous. The scale of the country, the condition of the economy, and the history of that country is such that we cannot expect this to happen too dramatically, too quickly, although at least by past standards, some of what has happened so far has, in fact, been dramatic.

I am not too comfortable predicting, given the very unstable and uncertain situation in the Soviet Union now, what is going to be there in 5 or 10 years. Frankly export controls have worked reasonably well, probably better than anybody had a right to expect. That is partly because the Soviets were helping us over the last 40 years,

and you cannot predict what the Soviet Union is going to look like in 5 years and the amount of money or benefits to U.S. industry that will be associated with the few truly critical technologies that could in the short term do something fairly dramatic for Soviet military-industrial capabilities.

I see no reason to give up on those right now.

EXPORT CONTROLS

Senator BINGAMAN. Let me just ask one other followup question of you.

Where is the administration today on dismantling some of the export controls which have been in place for several decades that keep us from shipping the basic technology to the Soviet Union?

Mr. GOODMAN. I shouldn't be speaking for the administration. I do serve on the National Academy Committee that was created by this Congress to comprehensively review the entire export control and related trade and competitiveness matters. Our committee is very deep in deliberations, and I was told not to tell you a thing about what we are thinking, because we are not supposed to do that until the final report is out. However, with regard to the Federal Government, more generally—and again, of course, I'm not speaking for them—there was an extraordinary meeting that took place in COCOM in February, as I understand it, that mandated an intensive list review and perhaps streamlining of the list in three areas—computing, telecommunications, and machine tools—with the hope of coming up with a shortening of the list or at least a modernization of the list by this coming summer.

A list review, in my opinion, without going into our deliberations, is not enough. One has to rethink the whole export control process and the whole product review process.

Senator BINGAMAN. Thank you very much.

Let me defer to Senator Sarbanes for his questions.

Under the early bird rule, I assume that you're next.

Senator SARBANES. Thank you very much, Mr. Chairman.

Let me pursue the point you were addressing with Professor Goodman. As I understand it, COCOM in early June will have a major meeting.

Mr. GOODMAN. Yes. This is the end result of that list review I just described.

Senator SARBANES. Within our government at the moment now, both the JCS and the intelligence community are engaged in a major reevaluation of how the export controls work.

Mr. GOODMAN. That is also my understanding.

Senator SARBANES. So the prospects are there for perhaps a major revision by the administration. They have all the authority necessary under the law to provide the export control regime. That is not fully appreciated, that the export control regime is not imposed by the Congress. We provide the authorization for the executive branch to put in place such a regime, but we don't define what that regime should be. Is that your understanding?

Mr. GOODMAN. I think there is much truth to that. You should ask the administration and not an academic.

Senator SARBANES. Well, we did. We had a hearing about 2 weeks ago and put some of these questions to them.

Mr. GOODMAN. They certainly have a great deal of authority in deciding on what should be on the control list and what should not be on the control list.

Senator SARBANES. There could be nothing on the control list, actually, if they so decided.

I take it's not your view that there should be no export control, is it?

Mr. GOODMAN. Right now, given the situation in the Soviet Union, given the fact that they have not, by any means, renounced their status as a military superpower, I personally believe it would be a mistake to abolish them entirely. There are certain technologies that I don't think would help accomplish the democratization and informatization processes that I have described to you and that would be militarily valuable to them.

Senator SARBANES. So we still have to deal with the problem of defining a line that prevents them from receiving the upper ranges of high technology, that, as you said, could easily be put to military use?

Mr. GOODMAN. Yes.

Senator SARBANES. Looking at the rest of the technology, particularly in computers, where changes occur rather rapidly, as I understand it.

Mr. GOODMAN. Yes, we often have product development life cycles of about a year or two on major products now.

SOVIET TECHNOLOGY GAPS

Senator SARBANES. How far behind would you say the Soviet Union is in this area from the West?

Mr. GOODMAN. The range of technology that we are talking about is not a simple one. The criteria for judging this rather complicated mosaic of interrelated technologies doesn't permit a single simple answer, but the span, the spectrum of, if you like, the gaps, run roughly from about 2 to 20 years, and the shorter number of years generally applies to technologies that have yet to get into mass production or widespread use and the larger number, roughly 20 years, applies to the absorption of these technologies into the country as a whole.

Senator SARBANES. For those who remain concerned about the potential use of this technology for military purposes, and even for those who are concerned that even if you improve the general level, aside from the specific technology, that you will have an impact, can the technology be transferred in a way that you narrow the timelag, but it still continues to exist?

Mr. GOODMAN. The whole situation, both what is happening in the West and what is happening in the Soviet Union, is so complicated that it is not possible to fine tune that. Nevertheless, I believe there are some technologies that can be carefully controlled, not absolutely perfectly by any means, to help maintain such a timelag, and these technologies all have very important military applications.

Senator **SARBANES**. So that their position would improve, but at the margin where the gap may well be important, that would not take place; is that correct?

Mr. **GOODMAN**. It depends on whether you think the gap is important. If you think the gap is important in helping to keep the entire Soviet economy backward, well, I'm not sure we really have much to say about that anymore, given the trends that I've described.

If we want to focus on those technologies that are, one, most controllable; two, very directly applicable to military and national security uses; and three, are really not that important to the democratization and informatization perestroika development idea; then yes, there are technologies in this category that I characterized that can be controlled: most notably, microelectronic manufacturing equipment, the most advanced supercomputers, and manufacturing equipment for disk technologies, for example.

The supercomputer problem, however, is suffering from a near continuum of development that basically no longer isolates those very topline machines from other much more capable, much more manageable—in terms of size, volume, and costs—smaller machines that now have very, very substantial computational capabilities and that will be very difficult for us to control. These might be described as the lower end of the high-performance spectrum.

Senator **SARBANES**. Thank you.

ENVIRONMENTAL AND HEALTH PROBLEMS

I would like to ask Murray Feshbach a couple of questions.

Are the environmental and health problems in the Soviet Union of such a dimension that one almost despairs of how to come to grips with them?

Mr. **FESHBACH**. Yes, but you have to. I think it is just a question of reducing some of its impact. I don't think they will solve their problems until after the end of the century, to reduce it but not totally solve it. That is partly because of the training of physicians. That is partly because of the demand for resources which cannot be met from resource allocation, let's say from the peace dividend, and partly because of the insufficient power which their environmental protection agency has relative to the ministry of chemical industry or the ministry of ferrous and nonferrous metallurgy, which are basically supported by the monitoring organization, that of the hydrological and meteorological services. And they have no authority.

Each year the problem is getting worse, particularly now as they have to increase their industry, they will have problems meeting the ecological control problems. And in fact, in some of the Western joint ventures, which they hope to put in, say, in the Oskar Hahn Chemical Combine area, it is perhaps not going to take place because of insufficient planning and controls. There is not a single plant in the Soviet Union that produces scrubbers, for example. And then when they put them in, they don't maintain them and it's bad anyway. So they put them into the plans, in the theoretical sense, and then when it actually comes to apply them, they don't do it at all.

URBAN, RURAL, AND REGIONAL DISPARITIES

Senator SARBANES. Let me ask you this question. One of the hallmarks of an advanced industrial society is that it tends to be able to even out the standard of living between urban and rural areas, and even regionally. Those differences remain, but they are not of great magnitude. One of the things that has happened in this country, for instance, is that now you can live on a farm and have all the conveniences that you would have if you lived in an urban area. The hospital that is available may not be quite at the same standard and so forth and so on, but don't have an enormous disparity.

Of course, with recent economic developments, we have even reduced the regional disparities in this country, and I think that is fair to see in places like West Germany or Scandinavia or the United Kingdom.

How glaring are these divergences in the Soviet Union? How severe a problem do you see that as being?

Mr. FESHBACH. I think there are enormous differences. First, regionally, by Republic, there are 15 Republics as it is presently constituted, between the north and the south in particular, and then within each Republic, the disparity between urban and rural areas is even more enormous.

So, for example, the supply of doctors in one of the southern Republics in the city would be perhaps about 80 physicians for every 10,000 population. In rural areas, the figure might be around 10 or 15. And then, of course, the need for specialists, such as pediatricians in the southern tier, particularly where the birthrate is so incredibly high, those are even less supplied proportionally than they should be.

They had a very good idea in paramedics. They were way ahead of us in that idea. The same thing with child care. They were way ahead of the United States. But then, they didn't keep it up in terms of quality, in terms of support, in terms of training, et cetera. And it is a fairly typical pattern. When they do get some ideas, then application within the system, essentially, doesn't get followed through and doesn't improve. In fact, it retrogrades.

LITERACY

Senator SARBANES. One final question, if I could.

On the literacy issue, what is your view of literacy in the Soviet Union?

Mr. FESHBACH. First, every figure that we had before was inappropriate, an incorrect figure which said that the Soviet literacy was 99 percent plus some other fraction of Ivory soap or whatever. No commercial intended. The problem with that figure was that it was a very restricted figure, and it didn't include the population, as ours does, of 10 years of age and older through the year 120. They claim numbers of people up to 120, but it only included the population 9 to 49, inclusive. In other words, those persons who are 50 and over were not included in their estimates. And these people from the past, particularly those with rural roots, in fact, in many cases, were illiterate.

I witnessed a precise example of that. I had the privilege really of being a census taker in the Soviet Union. Here we have a different source, but I don't always blame the Census Bureau, since I'm an ex-Census Bureau employee. I went to a home which was prearranged, but it was not a fancy professor's house or a fancy diplomat's house or a fancy house. It was an enormous highrise. And we got to the apartment, and when the enumerator asked grandma if she could tell her what her sources of income were, whether she was on a pension, whether she worked or even part time or whatever, she said, I cannot read. She was 75 at this time of January 1989. So 10 years earlier she had been 65. Then 10 years earlier from that, she would have been 55, approximately. And in all cases, she was not enumerated in the past, but she will be in the present.

I have now discussed this with them, the national census administration. They very likely will publish figures for those, let's say, 15 and over or 10 and over to include all these older persons. So I expect the figure to go down maybe into the 80 percent figure. It will vary by Republic very sharply, by urban and rural area very sharply, but nowhere being near 99.9 percent. If you see that, then they've fudged the figure again.

REGIONAL TECHNOLOGY DISPARITIES

Mr. GOODMAN. There are also huge gaps between regions in the Soviet Union, technologically, and also between the urban and rural areas, technologically, very similar to the health gaps he has described.

Mr. FESHBACH. That is one of the constraints on Gorbachev about the release of the Baltic Republics to the degree that they call it release, independence, or whatever. In fact, that is the area in which many of the technology experiments, many of the advanced experiments, economics, computers, et cetera, are taking place, because they are like a transition belt, in terms of their Hanseatic background, the German tradition, Polish, Swedish, et cetera, and therefore, it may even hurt them in these other areas as well as a major repository of precision instrument, read defense, industries, especially in Estonia.

Senator BINGAMAN. Senator Roth.

Senator ROTH. Thank you, Mr. Chairman.

CHERNOBYL NUCLEAR POWER

Mr. Freshbach, what has been the effect of the Chernobyl explosion on Soviet nuclear policy? Have the authorities closed down plants or taken significant steps to make them safer, and what action, if any, has been taken with respect to the officials responsible for that tragedy?

Mr. FESHBACH. Insufficient in the latter case, definitely, including one particular academician or medical scientist who practically lied to the population for a number of years, in terms of how much they had, shall we say, been irradiated. In fact, the date of March 20, 1989, I think has changed the Soviet political scene as well as the health scene, as well as the revelation itself. Three years after the event of the Chernobyl explosion, they have revealed to these

people in Byelorussia and the Ukraine that, in fact, they were living in extremely dangerous conditions. I would want to have an analysis done from the at-hazard region to see what is being sent from that region, in this case, to Moscow.

In terms of nuclear policy, they are no longer building an RBMK-type reactor and are switching to the FBB. I think they ought to switch away from that, and they ought to go to the Canadian system. Much safer than ours.

But we have issues here of a shift in the fuel/energy structure. If you reduce the amount of power generated by nuclear facilities, let's say, for all purposes, not just only military purposes, in terms that Chernobyl may have in part contributed to, it means that you are sort of expecting 10 percent of your fuel energy balance or 20 percent, you have to reduce it down to 7 or 8 percent, then that means you have to switch, not to oil, which they don't have any more of, but to very polluting coal; most of that coal is, in fact, very sulfurous and a lot of it is brown coal. Maybe 1 percent of our production is lignite or brown coal. Theirs is around a third, so they switch to more of that and that engenders more black smoke, et cetera, et cetera.

In addition, it also has created, as I said, the politicization of the population. That feeds back then on their ability to run these reactors, especially when they have an accident. Then there is an enormous protest, the likes of which we have never seen in the past in the Soviet Union.

Right now, what is going on in Kazakhstan, I think, endangers the United States in the following sequence of events:

Because of the publicity given to Chernobyl and all nuclear accidents, the people in Kazakhstan have become much more concerned about health in their own area due to leakages from the Semipalatinsk nuclear weapons testing site. There is a Semipalatinsk-Nevada group, which has tried to organize the population against the use of this particular weapons testing ground. The Soviets are beginning to talk about eventually closing it.

Senator ROTH. Closing what?

Mr. FESHBACH. Semipalatinsk. It is an area in Kazakhstan, which is a nuclear testing site. They will switch to Novaya Zemlya, which is an island up in the Arctic region. If they have any leakages from the 16 to 18 underground testings every year, then it may get into the Arctic weather pattern, which then may affect us, if the weather is generated in the Arctic as most people believe, and that may not be very helpful to our health as well, let alone to Kazakhstan.

Now in terms of how many people died in Chernobyl. First, not a single person died as far as we know, from the Three Mile Island accident. Second, the Soviets claimed only 23 deaths in the beginning. I think the number was at least 250, maybe more, even at that time, because those who were incarcerated were among those who died. And as we now see, the helicopter pilots being treated here. We now see a major increase in the number of cases of anemia, thyroid problems, and preleukemia incidents in the regions in which these people lived. They just moved out around 100,000 people from areas which had been subject to cesium 137 radionuclides at a rate of 40 curies per square kilometer, which is not very helpful to their health.

So it is feeding back into national policies, but they have to put more resources into it, they have to be concerned about the expansion of the nuclear area. Do I want to build a plant in my neighborhood? It is not a passing incident. The issue is here, too.

GROWING NATIONALISM

Senator ROTH. I believe in your prepared statement you stated nationalism in the Slavic Republics of Ukraine and Byelorussia has increased partly because of Chernobyl.

What do you see as the outlook for this growing nationalism?

Mr. FESHBACH. I think that the Byelorussians will want to have much more say about what goes on in their own Republic in terms of siting, locating of industrial factories, including chemical plants and others which, in their situation, pollute much more than ours, or at least some reasonable behavior patterns, especially of the plants described in the media. I think that the loyalty of these people to the center will be then more questioned.

I spoke to a leading member of the Rukh Council, the Ukrainian political front who recently was in my office, and I asked also about the Russian Ukrainians, not just the Polish Ukrainians, the eastern versus the western Ukrainians, and he said even they have been radicalized. They are very upset by the behavior of the center and this whole issue of the behavior of the center in terms of diversion of water, in terms of this pollution or that health issue, has made them much less trustful of Moscow.

I think this will feed back into controllability on top of all the economic and other issues which Mr. Gorbachev has. While I think the man is an incredible politician, the complexity of his tasks are just mind boggling.

A THIRD-AND-A-HALF WORLD COUNTRY

Senator ROTH. Mr. Feshbach, you gave a truly appalling description of Soviet health facilities. Some people say that, essentially, the Soviet Union outside of the military sphere is a Third World country.

Is that a fair description?

Mr. FESHBACH. In the past I hesitated to say it publicly, but let me with glasnost say, I think it is a big Third-and-a-Half World country with a bomb, and that is the problem. Plus also, I am more worried about biotechnology; but I do not think anybody has paid any attention to that issue—about biological warfare. We have conventional, we have START, we have arms control, INF, and we have chemical agreements coming up on stream this year, but very little attention has been made to biological areas, which do not require that much technology. You can do it in your backyard and mess up the world.

Senator ROTH. Are you suggesting the Soviet Union is?

Mr. FESHBACH. I am suggesting that we all should be paying much more attention to that area in the rest of the world, including Iraq and all those places, and I am very serious about that. I am trying to make it a little bit funny, but I am more serious about that.

I think that the Soviet health system is abominable; 40 percent of their brand-new medical school graduates cannot read a cardiogram. That's not very helpful. That's from a former minister of health; 5 to 10 percent do not know that you can treat cardiac problems; 15 percent do not know you can treat cancer problems, et cetera, et cetera. They have 38 shots when a kid comes in the first year of life for an uncomplicated upper respiratory illness. That is a child in the first year of life. We give liquids after the first four or five shots.

Senator ROTH. Are any steps being taken to reform by the private sector?

Mr. FESHBACH. Yes. Johnson & Johnson in the private sector are attempting to get in. But the question is, as I mentioned, issues of payments, issues of arrangements, issues of the difficulty of doing business with the Soviets. I understand that the whole Soviet joint-venture law is presently under review. I know there are at least 31 proposals on reform. Some by Presidential decrees, some by Supreme Soviet passage. Any delay, I think, makes it even more difficult in the initial transition period, to say the least.

I think eventually it will get better—perhaps in the next century—that's not that long from now, only 10 years; but it will take them that long to implement it.

REFORM FROM ABOVE

Mr. GOODMAN. There is a limit to reform from above. In both of our senses, we are all having trouble finding how it is coming from the ground up in both areas that we look at. This kind of problem is behavioral. It is a structural problem. It cannot simply be solved from above in a short period of time.

Senator ROTH. Some people argue that, even getting away from the central command of Moscow, when you get to the local level, the bureaucracy is even more entrenched and less flexible.

Is that a concern?

Mr. FESHBACH. Yes. You can have centers of excellence anyplace in the country, let's say, in Kazan, you can have a very fine medical institute, to use one example, people in hematology, et cetera, but not across the board and not all over the country—whether it be technology in this area or whatever. The problems are just enormous. One almost can't appreciate how bad they are.

OUTSIDE HELP AND THE REFORM PROCESS

Senator ROTH. Mr. Goodman, you make a very forceful argument for the need to relax controls on technology as a means of promoting and helping the democratic reform of the Soviet Union. As you know, there are some experts who assert that it was economic backwardness and increasing lack of productivity that caused the Soviets to move in the direction of reform. Some people would argue that assisting the Soviet Union at this critical stage could actually retard its reform process.

Do you see that as a valid argument?

Mr. GOODMAN. In a very broad statistical sense, I don't see that. In a very broad statistical sense, I think they very desperately need our help. The internal problems are so bad, they just can't help but

do better if we give them help. But, there's plenty for them to do themselves.

At the other end of that question, there is only so much we can do. So the problem is fundamentally theirs, no matter how hard we try to help them, within reason.

This country, in particular, right now, is probably in a weaker position to help them than some other Western countries or Far Eastern countries, notably, Japan or West Germany.

ECONOMIC ESPIONAGE

Senator ROTH. Let me tear into a slightly different question. Bill Webster said last November that the Soviet intelligence services are persisting in their effort to steal high-tech secrets. Recently, media reports indicate that they are shifting resources from political to economic espionage.

Do you believe that to be the case?

Mr. GOODMAN. I see less information than Director Webster, and I don't know the basis for his information. But on the limited basis of exposure that we get, both in the Soviet Union and dealing with people here and reading the literature and actually looking at the technology that they use, and given their past history, and given that the KGB has not been abolished and that they and the GRU have made a good living doing this, the logic of the argument and the limited number of examples would tend to indicate that Webster's statement is probably true. And the opportunities now are so much better. It is hard to see why they wouldn't be continuing.

Mr. FESHBACH. May I add that when I was the adviser to Lord Carrington during that period of time, not because of that, but during that period of time I was residing in Brussels. There was a revelation of what was called the "Farewell Report" by the French, which has received almost no attention in this country, and I mean that very strongly. This was a book by Thierry Voltan titled "The KGB in France." It has not been translated into English. This book described the operations of the military industrial committee and how it seeks to acquire technology and has an incredibly articulated program of overt and covert acquisition procedures and how they target this and that. And I think the question, of course, is this continuing? It is the equivalent of our Penkovsky papers.

I think that kind of material should be understood much better here, but it is very little understood, because almost none of the media picked it up. None of the administration's representatives other than Richard Perle in one report, entitled "Soviet Acquisition of High Level Technology," which was, I believe, a very small proportion of the entire report. It is a sort of a framework on which one can comprehend whether the Soviets are still seeking a large program for acquisition of technology through all means.

TECHNOLOGY TRANSSHIPMENT

Senator ROTH. One more question, Mr. Chairman. If it is determined that we ought to have a different policy, say, between Central and Eastern Europe with respect to high tech and the Soviet Union, is it possible that technology sent, say, to Bulgaria or Roma-

nia or Hungary will not land in the hands of the Soviet military establishment?

Mr. GOODMAN. It is impossible to assure that. But then again, it is impossible to assure that technology that gets sent to Singapore doesn't end up in the Soviet Union or technology that gets sent to Canada or stays here in Washington doesn't somehow find its way to the Soviet Union. I'm not trying to be flip here, but we do have with these commoditized technologies, and it is not difficult to move small, relatively inexpensive large volume kinds of things around.

Of course, in Eastern Europe, we have it quite different from the the situation than, let's say, in Singapore or Hong Kong. And that is that there are large, relatively important groups of people in those countries whose business has been to move technologies to the Soviet Union for their entire careers. So you can imagine a situation where, for example, a Hungary or Poland or Czechoslovakia, not only perhaps even conceivably pulls out of CMEA or falls apart or what have you and then tries to become part of a greater Central European economic system. And these people discover how hard it is to compete in the real world of high technology with the West.

It is not hard to imagine some of these people failing at their new jobs, and it's just not hard to see them going back to what they know how to do best. It's as simple as that. Even if Hungary or Czechoslovakia or Poland, in fact, become a 5K country agreeing, essentially on a bilateral basis with the United States to hold back any unwarranted illegal transfer to the Soviet Union, there is going to be some transfer.

The question for us, of course, is the risk worth it? And I think, given the extraordinary situation and the big bang in Eastern Europe, what we have been asking for for the last 40 years, I think, we should give at least a certain level of that risk some consideration.

Senator ROTH. Mr. Feshbach.

Mr. FESHBACH. I agree. I just don't see that Havel, the Hungarians or some of the others, the Romanians right now, are firmly in place; it's too early to tell. There's too much in flux. It's a very good question, but I don't know how we could answer it. I know a lot of people who would know beforehand what the answer is, but I don't think we can really be conclusive.

Senator ROTH. Gentlemen, let me thank you for your being here and your very helpful testimony.

Thank you, Mr. Chairman.

Senator BINGAMAN. Thank you both very much for testifying. We appreciate it.

We will adjourn the open session at this time and go ahead in closed session with the Government witnesses.

[Whereupon, at 11:40 a.m., the open session was concluded, thereafter, the subcommittee entered into a closed session.]

EXECUTIVE SESSION (CLOSED SESSION)

Senator BINGAMAN. Let's call the hearing to order again.

We have two new witnesses from the the CIA. Maybe you can identify yourselves and tell us your titles, if you would, please.

TESTIMONY OF GEORGE KOLT, DIRECTOR OF THE OFFICE OF SOVIET ANALYSIS, CENTRAL INTELLIGENCE AGENCY; JOHN McLAUGHLIN, DIRECTOR OF EUROPEAN ANALYSIS, CENTRAL INTELLIGENCE AGENCY; AND DENNIS M. NAGY, ACTING DEPUTY DIRECTOR FOR FOREIGN INTELLIGENCE, DEFENSE INTELLIGENCE AGENCY

Mr. KOLT. Yes, sir. I'm George Kolt. I am Director of the Office of Soviet Analysis. While I have the opportunity, I'd like to introduce three people whom I brought with me, whom I may call on for assistance.

Senator BINGAMAN. Please do.

Mr. KOLT. Bob Abbott, who is the head of our Economic Performance Division, John Young, Chief of our Defense Issues Group, and Louis Ludwick, from the Technology Transfer Assessment Center.

Senator BINGAMAN. Thank you very much.

Mr. McLAUGHLIN. Thank you very much. I am John McLaughlin, Director of European Analysis at the CIA.

Let me introduce as well my colleagues, Ron Miller, who is one of our senior specialists on Eastern Europe, and Lee Davis, also a specialist on Eastern Europe, along with Millie Schwenk and Bill Anderson, who also focus on Eastern Europe.

Senator BINGAMAN. Mr. Nagy, did you wish to make any other statements.

Mr. NAGY. I think I should. [Laughter.]

We also brought some folks and perhaps the total number looks a little imposing, but I wanted to make sure we had some experts here who could cover the range of questions your might have, sir.

Mr. John Gore, and I don't think that we will go up and down the line. Mr. John Gore, Norm Showd, Mike Barry, Linda Katz, and Steve Baum, who deal with military economics, defense economics for the Soviet Union for us.

Tom Hostetter, Lieutenant Henderson, Neal Cash, who are here to cover Soviet force developments, specifically in ground forces, NATO forces and air forces.

Dr. Helen Jones, who is one of our military experts. Paul Mekowitz, Dan Grenovitsky, who deal with industrial production and arms transfer issues, and finally, Jim Dearlove, who addresses technology transfer questions for us.

Thank you, sir.

Mr. KOLT. Sir, if I may, I wasn't going to introduce everybody, but everybody else did. I would like to introduce Laurie Kurtzweg back there who actually did much of the work of preparing the statement. [Laughter.]

Senator BINGAMAN. You know we are having a thorough hearing when you start hearing who actually did the work.

Let me just ask a few questions, then I will defer to Senator Roth.

First, I want to compliment both agencies for the excellent report that we have received. I do think there's an awful lot of very useful information in the report and the statements that were

given in the hearing I thought were very useful as well. I would just ask a fairly obvious question that strikes me.

SOVIET TROOP REDUCTIONS

You indicate in the report there's 200,000, approximately 200,000 troops have been turned out of the military in 1989. That was my understanding of what was said. Presumably, that same kind of decline is expected in 1990. What is happening to these folks? How is that impacting on the rest of the problems we have been hearing about?

Mr. NAGY. I can go ahead and start to address that.

With regard to the 200,000, as indicated in the statement, that is an estimate. It is very difficult for us to track precise numbers, and we can't be certain just exactly how many will be released this year, in fact, although we do know what the General Secretary and the President has said.

Senator BINGAMAN. What did he say on this year for 1990?

Mr. NAGY. For 1990, the total is 500,000.

Senator BINGAMAN. The total you said was 500,000 in 2 years?

Mr. NAGY. 265,000, approximately for 1990 or 1989.

With regard to the important question, what is happening to these folks as they're released and their families? We have widely varying reports. In some cases they are going back, they don't have jobs, can't find jobs, can't find places to live. There are some reports about military men themselves going back, just the returned units, those that are still in the service, they are having difficulty finding housing for them as well. So it is a very difficult situation for those individuals who are released, and an extremely difficult situation for the troops that remain in uniform when they return to the Soviet Union.

Mr. Kolt, you may have some amplifying information.

Mr. KOLT. The only thing I would like to amplify, of that number of 500,000, the most critical part for the Soviet leadership are the officers whose careers, in effect, have been cut short. That is about 100,000 people. There have been various statements on it. Let's say around 100,000. And those are the key people. They are trying to find housing and jobs, which is not easy to do. They are having a very hard time with it at any rate.

So to answer your question, they are trying to absorb these people into the rest of the economy, which, as you know, is not working very well.

SOVIET DEFENSE INDUSTRY

Senator BINGAMAN. Let me just ask, in the Soviet Military Power publication that we have received, the statement in the last one we got was that the defense industry has remained the fastest growing segment of the Soviet economy under Gorbachev. Now I take from what I heard this morning and what I read in your report here, that is no longer true.

No. 1, it is not the fastest growing sector and, No. 2, it is not even a growing sector of the economy, as best we can determine or was not a growing sector of the economy in 1989, is not expected to be in 1990 or next year.

Is that a fair statement, or am I mischaracterizing what you said?

Mr. NAGY. Since Soviet Military Power is a DOD publication, let me start out by answering that.

In terms of the situation up to 1988 and of course, the last edition of the pamphlet covered up to that point, 1988, I think that the statement in Soviet Military Power was true. Certainly, the changes that we have seen taking place as Gorbachev announced in military production in 1989 also support what you say, that dramatic changes have taken place, and it could not be characterized as fast growing at this point, not at all.

That is a change that took place in a year that we had not covered in the previous version.

Senator BINGAMAN. I am not trying to say that the statement was wrong when it was made, but I am saying that today your assessment is that not only is not the fastest growing sector of the economy, but it is not, at least in 1989, it did not grow.

Is that a fair statement, as a sector of the economy?

Mr. KOLT. Spending on procurement went down by about 7 percent. So it is a fair statement, yes.

Senator BINGAMAN. The defense industry, which is what this talks about, procurement dropped by 7 percent. Presumably, the defense industry had to contract.

Let me defer to Senator Roth.

MILITARY STRATEGY

Senator ROTH. Let me ask a followup question.

While they are spending less, one also understands that they seem to be continuing to modernize both their nuclear as well as conventional.

Do we have any indications that their strategy is changing, that they are—are they becoming—at least the perception is, they are becoming less a threat? Are they developing a new strategy that could be equally threatening?

Mr. KOLT. Well—

Mr. NAGY. Go ahead, Mr. Kolt.

Mr. KOLT. They are intent on remaining a military superpower. I think what has changed is how they go about this and the amount of resources that they devote to it. I think they see the military now as just one of the instruments of power overall, so that less resources can go into it. As far as their becoming nonthreatening, certainly, with the withdrawals from Eastern Europe accelerating, the capabilities of their general purpose forces are going down. On strategic forces, even though I think they will make some cuts, particularly under START, I think their overall capabilities will not decrease because with thorough modernization they will acquire more capable systems that can carry out their missions better.

MILITARY FORCE STRUCTURE

Senator ROTH. Do you see, as a matter of strategy, greater reliance on strategic weapons and less on conventional perhaps, as has been the case in the flexible defense of NATO?

Mr. NAGY. It is an issue that is very relative to the force balances on both sides, and it is difficult right now to assess just how that balance will show once CFE takes hold and follow-on agreements and further reductions that Gorbachev feels impelled to make with regard to ground forces and the related air and naval forces, of course.

There is no doubt as we look at the way they are restructuring their ground forces that they are moving from a force that is capable of long-term sustained, rapid offensive operations with that ground force as they told us they were going to do. But many of the assessments that we are making of that are placed in the context of existing NATO forces and other forces around the globe, and it is very difficult to assess how those forces have changed from a relative standpoint.

So it is a very difficult, simple, straightforward question, and it is hard to come up with a straightforward answer to it in that respect at this point.

Mr. KOLT. I would also say that in the general purpose forces, they had quite a bit of fat they could cut. Gorbachev has made the statement himself that some of these divisions that they had, low category divisions, were, in effect, just feeding at the public trough. So they could cut that, but it doesn't cut operational capabilities all that much. I would concentrate on the real cuts in forces, the area that Dennis Nagy has singled out.

RELIABILITY OF MILITARY

Senator ROTH. Let me ask a couple of questions on reliability of military forces. During your testimony I have seen some more of it but you touched on reports of the unreliability of the Soviet Army due to disaffection.

What does our intelligence tell us with respect to percentage of officers and regular soldiers being unreliable?

Mr. NAGY. There is no question of the ethnic difficulties that the armed forces face right now in terms of the composition of the army. There are many, many reports on that with regard to the reliability of troops, and I think it varies from segment of the armed forces to segment.

We have some reports back, for instance, in the strategic rocket forces, where our people have been in contact with members of the strategic rocket forces that handles their intercontinental rockets, it is still handling SS-20's, for example, where it appears that the morale seems to be high as it always has been in that particular segment. The difficulties arise, I think, in the ground forces that are stationed in various Republics around the Soviet Union and other locations where you have a large amount of different nationalities brought into those uniformed services. There, clearly, we have some reports that indicate some difficulties with regard to morale and willingness to work shoulder by shoulder with other nationalities.

Mr. KOLT. I think I would support that. The question is, reliability for what? I think if the strategic forces had to launch, they would launch, even though we know there are many officers there—this cuts along generational lines—younger officers wanting

a greater and faster speed of change than they have had. In the conventional forces, it does come to what would they be used for? I think they would really hesitate before launching an operation such as in Czechoslovakia in 1968, because of the morale of these forces. The same thing applies to using these forces to put down domestic problems at home, I think. They used them that way in Baku and the forces did what they were told.

If we had a similar situation in Russia itself, which may be coming—we will probably have strikes coming this spring—and they tried to use the forces that way, I think it would be a very risky proposition.

USE OF TROOPS IN BALTICS

Senator ROTH. What about the use of troops, for example, in Lithuania and the Baltics? Do we have any reason to believe that they would hesitate to do that?

Mr. KOLT. I think what they would do is use selected units, just as they have done before, that is, by airborne troops and the elite units of the interior troops. Those units probably could accomplish limited objectives. But if they have troubles in many parts of the empire at one time, it just gets more and more difficult to do.

Senator ROTH. What you are saying is, that in order to suppress, they do have to be selective. They can't rely generally.

Mr. KOLT. Yes.

Senator ROTH. Is there any evidence that, for example, in the case of Lithuania, that there are elements either in Moscow or in other Republics supporting Lithuania in its independence movement, is there any strong dissension from Gorbachev's policy?

Mr. KOLT. Let me get to the first part of the question. There are definite indications of dissent from Gorbachev's policies, in that democratic forces in the Soviet Union, such as the interregional group in the national legislature, supporters of the liberal democratic Russia group in the Russian republic, some people in Leningrad, the new Moscow City Council, do not want coercive measures to be used against Lithuania, and there are some indications that this is worrisome to the leadership. The leadership realizes that there are elements of the population which would accept, in effect, a Lithuanian secession.

On the other hand, I must say that there are also forces who are more in the organs of power, particularly in the military, who are violently opposed to secession and probably think that Gorbachev has not been tough enough.

GORBACHEV'S SUPPORT

Senator ROTH. With respect to Gorbachev himself, one constantly reads that his support is very—well, withering away, that the public generally is dissatisfied, the economy hasn't turned around in contrast to the West, who look upon him as somewhat of a hero. They don't see him as accomplishing the good.

Can we measure that in any manner? Is there any means of determining to what extent there is dissatisfaction, either on the part of the populace or at the higher levels of government?

Mr. KOLT. You know, measuring it in any precise way, no, I don't think there is. I think I'd characterize, it by saying there are three groups who have different views of Gorbachev. I certainly think that the orthodox, traditionalist elements of the Government in the party and bureaucracy are aghast at what Gorbachev is doing, and I think their views are best characterized by the former Soviet Ambassador to Warsaw, who spoke at the historic February plenum, in which he castigated perestroika for its motives and for the ill effects which he said it had brought to the country, both domestically and externally.

On the other side, among the politically active groups are what I would characterize as the democratic forces who, in effect, have a much more ambivalent view. It is not rejecting him so much, but an ambivalent view of what Gorbachev is really doing, because they welcome the fact that during his leadership, as the chairman has noted in his opening statement, the Soviet Union has become a more open country.

At the same time, Gorbachev has moved very slowly, sometimes, you know, changing his mind at the last minute or very late in the game, such as adopting the multiparty system, and they wonder what his eventual goal really is. Is it truly a democratic multiparty system or a milder autocracy under this own leadership?

As for the population at large, I think some of them are completely cynical, because they haven't seen progress in their whole lives. Others, overall, I would see as also having this ambivalent view of him—where is he really going?

In part, I would attribute this, not only to the lack of results so far, and certainly poor results in economics, but also to Gorbachev's inability or unwillingness, so far, to spell out in terms understandable to people what his vision is for the future.

WARSAW PACT

Senator ROTH. What is the future of the Warsaw Pact? Is there any way that can be reconstituted so that it is an effective pact from the Soviet point of view?

Mr. KOLT. I will turn it over to John McLaughlin.

Mr. McLAUGHLIN. The East European countries maintain the fig leaf of the Warsaw Pact. But one looks at their practical policies now, you see policies that clearly diverge from everything we have associated with the Warsaw Pact in the past. Perhaps the most dramatic example of this would be Czechoslovakia, where President Havel and his closest associates are now calling for a Pan-European security order that would essentially reach out over the two blocs and ultimately cause NATO and the Warsaw Pact to wither away.

On the narrower issue of military relations with the Soviets, there are some qualitative differences among the East Europeans. The Poles, in particular, believe events are moving too rapidly in the region and are not yet eager to push the Soviet troops out, whereas, places like Hungary are encouraging rapid withdrawal of Soviet troops.

Within the region as a whole, there is no sympathy in the populace for retaining Soviet troops, and the loyalty of the armies in

those areas is such that they are reorienting themselves toward national goals, and in my view, would not be trustworthy in a situation where they were asked to march westward and attack.

Mr. NAGY. Let me just add, if I might, as I mentioned in my statement, we clearly think that the Soviets in the long run will be looking for separate bilateral arrangements that in their longer term planning, they don't believe that the Warsaw Pact is a coherent military organization, one in which, in the past, they have had systems that enabled them to direct forces in the non-Soviet Warsaw Pact nations. They don't believe that that system will remain, and they are looking for some alternative arrangements with some of the Eastern European nations.

So I certainly don't disagree with anything my colleagues have said.

Senator ROTH. If I were the Soviet Union, I certainly wouldn't want to divvy up some of those 20,000 tanks, if that is the number we finally had agreed on, and see if the other Warsaw countries can depend upon them in my future calculations.

Mr. KOLT. No, we have evidence to the contrary that some of the more modern systems, particularly those in East Germany, they are trying to retrieve right now.

Mr. NAGY. The ones that are in the hands of the East Germans.

Senator ROTH. You discussed the decrease in Soviet energy production. Given the dependence of Eastern Europe on the Soviet Union, how much of a threat do shortfalls in Soviet production or deliberate withholding, as in Lithuania, mean to Eastern Europe, as well as Lithuania?

Mr. KOLT. To Lithuania, it certainly is critical. For example, it relies totally on natural gas for energy and the only way to get natural gas into Lithuania is from the Soviet Union. That is the way the pipelines are set up. That is the only way they can do it.

ENERGY

Senator ROTH. Is there anything the West can do with respect to energy or should do? What would be the reaction of the Soviets?

Mr. KOLT. Well, I won't get into the question of what we should do—

Senator ROTH. No, I'll withdraw that question.

Mr. KOLT [continuing]. Or not. You know, on oil, the Lithuanians rely on the Soviet Union for 185,000 barrels of oil a day, which is everything that they have. Over a year, that total is up to slightly over \$1 billion. With Lithuania, theoretically, the West could either provide that oil or give them the credits for it, because Lithuania does not have the resources to pay for that.

I think if this was tried in any way, I think the Soviet Union would not allow this to happen or would go to some effort so that it does not happen.

Mr. McLAUGHLIN. On the East European part of your question, Senator Roth, the East Europeans are indeed very dependent upon Soviet energy. About one-fourth of Eastern Europe's total energy needs are served by the Soviet Union, and in the area of oil, the figures are even more dramatic. Countries like East Germany, for example, get roughly 80 to 90 percent of their oil from the Soviet

Union at this point, and are almost totally dependent on natural gas from the Soviet Union.

At this point, we haven't seen from the East Europe perspective any indication that the Soviets are considering using that dependence as a weapon or tool either to reexert control in Eastern Europe or to manipulate East Europeans in some way, which is not to say—and I would defer to my colleagues on this point—that this is an inconceivable option in the future for the Soviets.

The caveat I would add, though, is that the dependence works very strongly both ways. The Soviets, for example, are dependent for about 60-65 percent of their industrial machinery imports on the East Europeans. The Soviets are especially dependent on East Germany which will, of course, soon be absorbed into the greater Germany. And so, any attempt by the Soviets to use that oil leverage in Eastern Europe could spark a reaction that would play back negatively in the Soviet economy as well.

Senator ROTH. That is very interesting.

Mr. KOLT. The same thing applies to Lithuania, by the way. There are exports which Lithuania has or products it sells to the Soviet Union. For instance, right now, the natural gas cutoff has resulted in the closing of a chemical plant that produces fertilizer for the whole northwestern section of the U.S.S.R.

USE OF TROOPS IN BALTICS

Senator ROTH. Going back to your earlier statement, if I understand you correctly, you don't rule out even the use of force if necessary, if the West tried to supply essential material to Lithuania?

Mr. KOLT. Imposing a blockade, you know, then it depends who uses force first. They have announced exercises, for instance, off the main port of Lithuania.

Now to complete the answer, the other possibility, if the Lithuanians wanted to pay hard currency to the Soviet Union for their oil and gas, I don't think the Soviets would accept this right now, but this is something that in the future may come up.

PRINTING OF MONEY

Senator ROTH. That is an interesting point, yes.

I know my time is up, but let me ask you, if I may, just one or two more questions.

In respect to the Polish and East German monetary reform, who controls the printing of the east marks, zlotys. Do we know?

Mr. McLAUGHLIN. Who controls the printing of the east marks in East Germany?

My understanding, Senator, is that at present that is still within the hands of the newly elected East German Government, which was installed just recently.

Senator ROTH. How about in Poland?

Mr. McLAUGHLIN. In Poland, the printing of the national currency is in the hands of the Government headed by Prime Minister Mazowiecki, the Solidarity led government, and that government has exercised restraint so far in its use of monetary policy under the new austerity program. That is, it is not responding to its economic problems by simply printing more money.

Senator ROTH. The hour is growing late, and I have a lot more questions, Mr. Chairman, I'd like to ask, but thank you gentlemen for your contribution.

NUCLEAR WEAPONS IN EAST EUROPE

Senator BINGAMAN. Let me just ask one question if I could that is a follow-on to one Senator Roth was asking. You are saying that the Soviets, there is some evidence that they are trying to withdraw some of their more modern equipment from the East Germans.

Is there apprehension growing in the Soviet Union about the remaining short-range nuclear weapons and nuclear artillery shells that are in East Germany? It seems to me, if things really got out of hand, there is a real question as to who would have control of those if push came to shove or who would assert control.

Am I wrong?

Mr. NAGY. The Soviets exercise control over all the nuclear weapons in any of the Eastern European nations at this point.

Senator BINGAMAN. But, as they withdraw conventional forces or as they agree to withdraw conventional forces, is it not also essential that they get those short-range weapons out of there? If, in fact, the timetable we have worked out with our allies is, first, we worry about conventional forces, then we worry about short-range nuclear forces, it just strikes me that the sequence may not be realistic. We need to worry about them both at the same time, and there is no way we can allow conventional forces to go down, and there is no way the Soviets will allow conventional forces to go down without taking those nuclear weapons with them.

Mr. NAGY. Yes. We have some precedent with this as to how the Soviets might accomplish it. As we look at the drawdowns in Hungary and Czechoslovakia as they are withdrawing their conventional forces in those nations, we are also aware that they are dismantling and removing the nuclear weapons that they had stored with those weapons and dismantling the storage locations where they were stored.

Senator BINGAMAN. So they are taking those back into the Soviet Union.

Mr. NAGY. Yes, sir, but it is a phased—this is what I can tell so far. As far as I can tell, it is in a phased manner with the forces themselves.

Senator BINGAMAN. But they have agreed to take all forces out by next summer from Hungary and Czechoslovakia.

Mr. NAGY. Yes, sir.

Senator BINGAMAN. So it is your conclusion that by next summer they will also have all nuclear weapons out of those two countries?

Mr. NAGY. Absolutely.

Mr. KOLT. As far as protecting the weapons that remain in East Germany, I don't think they worry about that. I think they are right not to worry about that. They will protect those weapons. I think they worry more about those divisions that they plan to leave in East Germany, which will be the eastern part of a united Germany, what will their status be? I think that is a much more

worrisome problem than the rather technical issue regarding nuclear weapons.

Mr. NAGY. I might add with regard to another aspect of the question, one of the things that we were referring to, there are fairly advanced weapons systems that the Soviets have placed in the hands of their Eastern European allies, and there is some concern exhibited by the Soviets with regard to that equipment falling into Western hands. They would like to see some of that returned, even though it was paid for, in a sense and provided to those other nations.

We are not talking nuclear weapons here, but other high-tech systems.

CONTROL OF NUCLEAR WEAPONS IN U.S.S.R.

Senator ROTH. Could I ask a question with respect to control of the nuclear weapons within the Soviet Union.

Is there any danger that the division may take place within the Soviet Union as to who will control those weapons? Do we know who actually is in control of nuclear weapons? Does the KGB control some of them? Does the military control others? What is the political position? Is there a danger that if the Republics begin to secede, that there could be some kind of internal nuclear problem?

Mr. KOLT. You know, I think there is that danger, but I see it as rather low. All nuclear weapons are controlled by Moscow with the KGB providing the security for them.

There are also safeguards built into those systems. I think that Moscow is aware and has been aware of the need to guard those weapons, and I think it is doubly aware of it, they are guarded, and I don't think that there is a significant risk at all of nuclear weapons getting into the hands of insurgents or groups not controlled by Moscow.

Mr. NAGY. Even if they did, it would be extremely difficult for them because of the codes and other safeguards that the Soviets have built into the system to use them in any way. It certainly would be a very difficult technical task for that to happen.

Senator ROTH. Thank you.

Senator BINGAMAN. We did request, I gather, several charts and tables which are still being prepared.¹ We would appreciate those whenever possible. I think we will also have some additional written questions that we would like to submit, and I gather we are also going to schedule testimony both on Eastern Europe and China sometime in the near future.

Thank you all very much. We appreciate your coming.

[Whereupon, at 12:35 p.m., the hearing adjourned, subject to the call of the Chair.]

[The following written questions and answers were subsequently supplied for the record:]

¹ The charts and tables were not available at the time of printing the hearings.

RESPONSES OF JOHN L. HELGERSON TO WRITTEN QUESTIONS POSED BY
SENATOR BINGAMAN

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Congress of the United States

JOINT ECONOMIC COMMITTEE
CREATED PURSUANT TO SEC. 540 OF PUBLIC LAW 304, 78TH CONGRESS

Washington, DC 20510-6602

June 14, 1990

Mr. John L. Helgerson
Deputy Director for Intelligence
Central Intelligence Agency
Washington, D.C. 20505

Dear Mr. Helgerson:

I am submitting to you a series of written questions for the record of the hearings on April 20, 1990, in which you testified. By the way, I am still waiting for the tables and charts requested in my March 8 letter to Director Webster.

1. One explanation for the changes in Soviet policy concerning East Europe is that the leadership realized it was too expensive to keep that part of its Empire. How do you explain the Soviet decision to let these countries go? What is your estimate of the cost savings the Soviets will realize as a result of withdrawing military forces and reducing direct and indirect subsidies from this region?
2. It is widely believed that modernization of Soviet strategic forces has not been cut back or slowed. What is your present assessment, and can you illustrate your response with specific examples?
3. In his preface to the 1989 edition of the DOD publication, Soviet Military Power, Secretary Cheney stated that "The most striking feature of Soviet military power is the extraordinary momentum of its offensive strategic force modernization." Is that an accurate statement of the current situation?
4. Secretary Cheney said in his preface that, despite Gorbachev's stated commitment to a defensive military doctrine, "the Soviet Union continues upgrading its forces and improving their capabilities." Does that apply today?
5. Secretary Cheney said in his preface that "The modernization of Soviet ground forces proceeds apace, with continued emphasis on tank production?" Is that statement correct today?

Mr. John L. Helgersøn
 June 14, 1990
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6. Would it be accurate to say that changes in the rate of defense spending do not necessarily affect modernization, that all or most modern military establishments engage in some modernization regardless of military spending trends, and that some modernization of both conventional and strategic forces will probably occur even if the Soviets reduce their defense outlays and the size of the military over the next several years?
7. Is it possible to measure Soviet modernization rates, and if you have done so, how have they changed in the past several years for conventional and strategic forces?
8. What are the significant indicators for measuring whether the Soviet military threat is growing, diminishing, or staying the same?
 - * How important is military spending as an indicator of the threat?
 - * How important is modernization as an indicator?
 - * What is your assessment of how the Soviet threat has changed since the end of 1988?
9. Some Soviet and U.S. experts believe the Soviet government spends as much as 200 billion rubles annually for the military and that military spending comprises 20-25 percent of Soviet GNP. Please comment on these estimates and whether there is sufficient evidence in recent military and economic developments to require that you revise your estimates upward?
10. In a speech at Nizhi Tagil on April 27, 1990, President Gorbachev said "National income was planned to grow by 21-22 percent, military spending by 45 percent. Military spending in our country amounted to 18 percent of national income, more than in any other state in the world." What do Gorbachev's remarks signify about planned and actual military spending and the military share of GNP?
11. The Soviet Military Power report stated that "The defense industry has remained the fastest-growing sector of the Soviet economy under Gorbachev...." Does that statement reflect the present situation?

Mr. John L. Helgerson
June 14, 1990
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12. The report you submitted this morning states that some military production lines have been cut. Can you specify which ones?
 - * You state that defense outlays fell in part because of reductions in the inventories of tanks and aircraft. Can you explain the reduction in inventories?
13. Was the 200,000 drop in uniformed personnel primarily in ground forces?
 - * Where did those people go after they left the military, and what provision has the government made for them?
14. Assume Soviet defense spending continues to decline over the next several years:
 - * What would be the size of the Soviet peace dividend?
 - * How might it be allocated and what difference would it make to the economy?
15. The Soviets have been advertising the conversion that is taking place from production for the military to the civilian sector.
 - * What quantitative data, if any, is there to indicate the extent and significance of the conversion that has taken place so far?
 - * Are the Soviets giving us access to defense plants so that we can observe conversion activities?
 - * Will they permit verification of conversion?
16. A vigorous debate over military policy has been taking place within the Soviet Union.
 - * Summarize the nature of the debate.
 - * What is the significance of the debate for military restructuring, the size of the defense program, and defense spending?

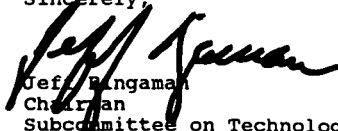
Mr. John L. Helgerson
June 14, 1990
Page Four

17. Will the Soviets adopt a volunteer army, and what would be the consequences of doing so with regard to military costs and the economy?
18. How do you describe the changes in Soviet forces deployed in the Far East and the Pacific Ocean, and the changes in the overall Soviet military threat to China and Japan under Gorbachev? Has the Soviet threat to these countries increased, diminished, or stayed the same during this period?
19. Assume a worse-case scenario for the economy. How bad can the situation get? How much distress, unemployment, and disruption can occur?
 - * What would be the consequences for the Soviet Union's major trading partners and creditors?
 - * What would be the consequences for East Europe and the reform efforts there?
 - * What would be the consequences for Gorbachev and the political leadership?
20. The Soviets seem to be falling further behind the West in some of the most critical advanced technologies, as your report indicates.
 - * How critical are the technology lags to economic restructuring?
 - * If Western export controls were dramatically reduced, what difference would it make to the Soviet economy?
 - * How much Western technology could the Soviets afford to import?
 - * What is the likelihood that the Soviets will divert advanced Western technology for military purposes?

Mr. John L. Helgersen
June 14, 1990
Page Five

Thanks again for your continued cooperation and assistance.

Sincerely,

A handwritten signature in black ink, appearing to read "Jeff Ringaman". The signature is written in a cursive style with a large, sweeping initial "J".

Jeff Ringaman
Chairman
Subcommittee on Technology and
National Security

JB:rkt

82

Central Intelligence Agency



Washington, D.C. 20505

23 July 1990

The Honorable Jeff Bingaman
Chairman
Subcommittee on Technology and
National Security
Joint Economic Committee
United States Congress
Washington, D.C. 20510-6602

Dear Senator Bingaman:

Enclosed are our responses to your questions of June 14, 1990. We have found it necessary to classify six of the responses because of their references to the sources and methods employed in reaching intelligence judgments. Please let me know if I can be of further assistance. (U)

Sincerely,

A handwritten signature in cursive script, appearing to read "E. Norbert Garrett".

E. Norbert Garrett
Director of Congressional Affairs

Enclosures:

1. Unclassified Responses
2. Classified Responses

UNCLASSIFIED WHEN SEPARATED
FROM SECRET ATTACHMENT

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Question 1: One explanation for the changes in Soviet policy concerning East Europe is that the leadership realized it was too expensive to keep that part of its Empire. How do you explain the Soviet decision to let these countries go? What is your estimate of the cost savings the Soviets will realize as a result of withdrawing military forces and reducing direct and indirect subsidies from this region?

Answer: The end of communism in Eastern Europe was not in Gorbachev's plan, but backtracking on his own 'new thinking' to shore up the foundering regimes would have threatened his more critical foreign and domestic priorities.

Gorbachev's initial analysis of the Bloc's problems assumed that socialism was in trouble, but still repairable. Long-term stagnation and eventual collapse of socialism were inevitable unless systemic reforms were carried out, because forcibly imposing the Soviet model on Eastern Europe had weakened the region's political and economic viability. The solution was to encourage both reform and East European independence from Soviet ideological and economic support. Underpinning this approach was the belief that the Bloc parties still had adaptable leaderships and could control the course of reforms on their own.

Gorbachev probably calculated that radical change in Eastern Europe would provide a variety of benefits for the USSR as well:

- Securing Western economic cooperation and aid for the USSR and Eastern Europe and expanding East-West trade.
- Speeding up the arms control process and heading off NATO's modernization programs by diminishing the perceived threat from the East.
- Improving US-Soviet relations, insulating the US-USSR relationship from crises in Eastern Europe, and helping to secure Moscow's role in a new European security order.
- Reducing Soviet responsibility for East European economies.

Until September 1989, Soviet efforts to encourage reform had had an impact only in Hungary and Poland, while the other regimes steadfastly opposed making any changes. The Soviet commitment to reform, apparent in public statements by academics and Ministry of Foreign Affairs officials last year that the Brezhnev doctrine was dead, was not put to the test until the conservative regimes encountered rising opposition. Events in the fall of 1989 went several steps further than Gorbachev had anticipated, but by then Gorbachev was too heavily committed to his other objectives to risk them in order to preserve East Europe's ineffective communist parties.

The growing costs of the USSR's economic relationship with Eastern Europe contributed to the decision to let the region go on its own. The collapse of oil prices on world markets in 1986 signaled a deterioration of Moscow's terms of trade advantage within CEMA and led to growing Soviet deficits in contrast to the large trade surpluses the USSR enjoyed during the 1970s and early 1980s. In 1989 the USSR's trade deficit with Eastern Europe reached \$6.5 billion, and the Soviets were forced to limit imports from the region to prevent even larger trade gaps. In addition, longstanding efforts by Moscow to boost the quality of East European imports and improve regional cooperation through CEMA programs have yielded few results and cast further doubt on the efficacy of traditional trade mechanisms.

With costs of holding CEMA together rising, the USSR has become an advocate of radical reforms. The Soviets want to abandon the transferable ruble for denominating CEMA trade and use current world market prices beginning in 1991. Moscow would gain from this move because more realistic pricing of bilateral trade flows would transform Soviet trade deficits into trade surpluses--as much as \$10 billion per year according to Soviet economists--and relieve pressure to increase exports to balance trade. Disruptions in trade brought about by the transition to the new pricing system, however, could lower the size of Soviet surpluses. Moscow may also benefit because trade imbalances will

eventually be settled through the exchange of hard currency, possibly adding sorely needed funds to Soviet coffers. Moscow's encouragement of market-oriented trade in the region, however will enable Eastern Europe to move away from dependence on Soviet deliveries of subsidized energy and raw materials and toward closer economic relations with the West.

Although the Soviets could realize a total peace dividend amounting to tens of billions of rubles, we do not have a firm estimate of the cost savings the Soviets will realize from withdrawing forces from East Europe. Any such savings will be determined by a number of still uncertain factors, including the magnitude of the withdrawn troops and equipment, and the impact the reduction has on procurement levels. More specifically, the size of the savings will depend on such factors as whether the withdrawn troops are discharged or simply relocated in the Soviet Union, and whether equipment continues to be maintained, is put into storage, or is destroyed.

There also will be offsets to savings in the short run for such activities as:

- weapons destruction,
- transportation of personnel and equipment, and
- severance pay and housing construction for the discharged troops.

According to one official Soviet statement, housing costs alone for the withdrawn troops will amount to several billion rubles. Non-quantifiable costs include the erosion in military morale and the increased strain placed on housing, employment, and services in the areas where the disbanded troops settle.

Question 3: In his preface to the 1989 edition of the DOD publication, Soviet Military Power, Secretary Cheney stated that "The most striking feature of Soviet military power is the extraordinary momentum of its offensive strategic force modernization." Is that an accurate statement of the current situation?

Answer: The statement accurately characterizes the Soviet determination to maintain state-of-the-art strategic capabilities. The Soviets modernize their strategic offensive forces in cycles and have been engaged in the current effort since the early 1980s. Like previous efforts, the current program extends to all legs of the triad. The strategic force modernization currently underway is not, however, as robust as in the 1960s and 1970s-- current modernization patterns indicate that the Soviets do not plan to replace older systems on a one-for-one basis, or to keep aging systems.

Question 5: Secretary Cheney said in his preface that "The modernization of Soviet ground forces proceeds apace, with continued emphasis on tank production?" Is that statement correct today?

Answer: That statement was correct when made but would have to be modified today. We estimate that the Soviets produced 1700 tanks in 1989, compared with 3500 in 1988. In 1990, production continues its downward trend. President Gorbachev's military adviser, Marshal Akhromeyev, stated that the Soviets would produce between 1300 and 1400 tanks in 1990, and we believe that Soviet production is conforming to these levels.

Uncertainties about the pace at which newly produced equipment is delivered to the Soviet ground forces and the ongoing reduction and restructuring of Soviet ground forces makes it difficult to assess rates of modernization precisely. It is possible that over time reductions in the size of the force will offset cuts in production, permitting the Soviets to maintain the same proportional rates of modernization. To date, however, we judge that the dramatic decline in tank production since 1988 indicates that major portions of the force will receive newer equipment at a slower pace than in the past.

Question 6: Would it be accurate to say that changes in the rate of defense spending do not necessarily affect modernization, that all or most modern military establishments engage in some modernization regardless of military spending trends, and that some force modernization of both conventional and strategic forces will probably occur even if the Soviets reduce their defense outlays and the size of the military over the next several years?

Answer: While it is true that as long as a country continues to procure weapons--regardless of the number--it is modernizing its forces, changes in defense spending for weapons procurement do indeed affect the rate at which military forces are modernized. In addition to new weapons entering the force, the other factor determining the modernization rate is the total size of the weapon holdings. If weapons production declines but overall weapons holdings do not fall correspondingly, modernization rates will fall. For example, the downturn in tank production noted last year reduced the modernization rate of Soviet tank holdings. It is possible, nevertheless, that over time reductions in the size of the force will offset declines in production permitting the Soviets to maintain the same proportional rates of modernization. Thus, owing to the USSR's large holdings of conventional weapons, it can maintain modernization rates in an era of defense cuts by reducing its vast stock of weapons.

Changes in defense spending can also affect the depth and breadth of force modernization efforts. During the past several years, the Soviets have engaged in a broad-based modernization of their general purpose forces and have fielded new types of tanks, armored personnel carriers (APCs), artillery, anti-tank weapons, fighters, and attack submarines. As spending is cut back, some programs may suffer more than others. Soviet statements, for example, have singled out tanks and APCs for sharp reductions. With regard to strategic offensive forces, the Soviets are engaged in a modernization effort that encompasses all three legs of their triad--ICBMs, SLBMs, and bombers. Despite cutbacks in expenditures noted during 1989, new systems continue to be deployed and we anticipate that Soviet strategic forces will be modernized even under START.

Question 9: Some Soviet and U.S. experts believe the Soviet government spends as much as 200 billion rubles annually for the military and that military spending comprises 20-25 percent of Soviet GNP. Please comment on these estimates and whether there is sufficient evidence in recent military and economic developments to require that you revise your estimates upward?

Answer: A wide variety of academics, Soviet officials and quasi-officials, as well as other experts have engaged in the daunting task of estimating Soviet defense spending and GNP. Up until 1988 the official Soviet claim was that just over 20 billion rubles was allocated to defense. In May 1989, Gorbachev stated that defense spending that year was actually almost four times greater--over 77 billion rubles. We estimate Soviet spending in 1989 at 130-160 billion rubles--roughly double the new official Soviet claim. As noted in your question, some Soviets and Westerners claim defense spending could run as high as 200 billion rubles.

To date, there is insufficient evidence to cause us to revise our estimate--either upwards or downwards. We believe our basic methodology is sound and that the evidential base is strong enough to support our estimate. On the other hand, we have examined other Soviet and Western estimates in detail and find them less than persuasive.

With regard to the share of GNP allocated to defense, there is a similar range of estimates. Some scholars accept a burden estimate on the order of 9 to 10 percent of GNP--as implied by official Soviet data. The CIA estimates that the Soviets allocate 15 to 17 percent of GNP to defense.

Finally, some Soviet and Western observers use their own perspectives on both the size of GNP and of defense spending to portray a burden as high as 25 percent. Once again, looking carefully at the estimators' access to information, their methodologies, and, in some cases, their obvious political agenda, we find no reason to adjust our estimate either upward or downwards.

CIA clearly recognizes the substantial uncertainties and the basic difficulty in attempting to estimate data that the Soviets attempted to keep secret until at least 1989. The CIA also has long been in the lead in warning about the dangers of naively accepting published Soviet economic data--especially when presented in value terms. Over the past 16 years CIA had shared fully with the Congress our concerns over methods and estimates of defense spending and GNP, and we continue both to stand by our own estimates--as caveated for uncertainty--as well as to engage in dialogue on these issues.

Question 10: In a speech at Nizhniy Tagil on April 27, 1990, President Gorbachev said "National income was planned to grow by 21-22 percent, military spending by 45 percent. Military spending in our country amounted to 18 percent of national income, more than in any other state in the world." What do Gorbachev's remarks signify about planned and actual military spending and the military share of GNP?

Answer: We believe Gorbachev's remarks refer to plans made in 1985 for the current Five-Year Plan, which ends this year. Politburo member Ligachev has also stated that defense spending amounted to 18-20 percent of national income. These numbers imply a level of Soviet defense spending of 100-115 billion rubles for 1985--very close to the low end of the Intelligence Community's range (in current prices), and well above the revised official Soviet defense budgets for the late 1980s. If Gorbachev's remarks referred to 1985 as the base, then military spending was scheduled to grow from 18 percent of national income in 1985 to 21 percent in 1990. Translating from Marxist to Western economic concepts leads to a planned rise from 13 percent of GNP in 1985 to 15 percent in 1990.

The Soviets claim to have revised downward their targets for defense spending early in the plan period, and in fact, we estimate that overall growth in national income, GNP, and defense spending were all less than Gorbachev's planned numbers imply. According to Intelligence Community

calculations defense spending rose by about 3 percent per year in real terms in 1986-88, but then declined by 4-5 percent in real terms in 1989. GNP grew by about 2.5 percent annually in 1986-88 and by 1.5 percent in 1989. The defense burden, as a share of GNP in constant prices, thus rose slightly in 1986-88 and declined slightly in 1989. Given uncertainties in our estimates, however we would characterize defense's share of GNP as 15-17 percent over the entire period.

Question 11: The Soviet Military Power report stated that "The defense industry has remained the fastest-growing sector of the Soviet economy under Gorbachev..." Does that statement reflect the present situation?

Answer: To the Soviets, "defense industry" refers to enterprises in six defense-industrial ministries, which in turn are subordinate to the Military Industrial Commission (VPK). These ministries produce the vast majority of Soviet weapons, but they also produce a wide range of producer and consumer durables for the civilian economy.

From 1985 through 1988, Soviet weapons procurement grew about three percent per year in real terms, about the same rate as the rest of the Soviet economy, excluding agriculture. In 1989 Soviet weapons procurement fell by six to seven percent, while overall Soviet economic output grew only slightly. Thus growth in civil industry matched the growth in weapons production from 1985 to 1988 and exceeded it in 1989.

Question 13: Was the 200,000 drop in uniformed personnel primarily in ground forces?

- * Where did those people go after they left the military, and what provision has the government made for them?

Answer: We estimate that reductions in ground forces in 1989 accounted for about half of the total manpower cut in that year. Moscow has announced that the ground forces will account for 300,000 of the total 500,000-man cut scheduled to be completed by 1 January 1991.

When the Soviets announced that they were unilaterally reducing their armed forces by 500,000 men, they further announced that this reduction would not be conducted like the one initiated by Khrushchev in the early 1960s, in which large numbers of officers were dismissed from the military with no pension benefits. This time, the officers are receiving pension benefits, but not housing. About 150,000 of the 500,000 men being released are professional military personnel who have been on active duty for several years and who have families. The Soviet leadership has said that military personnel will receive priority consideration for housing, but because of the severe housing shortage in the USSR there are not enough facilities in which to house these men and their families. As a result, many of these people have been forced to move in with parents or other relatives.

According to Soviet press articles, there is a shortfall of 50,000 to 100,000 apartments for released military personnel.

Aside from a lack of housing, the discharged officers and their families must contend with other problems, including unemployment, a lack of pre-school facilities, and the general shortage of services. The Soviets have said that few jobs are available for ex-military personnel and their families who are returning from Eastern Europe. Although there has been talk of retraining released veterans, we have seen no evidence that it is happening.

We have not observed any problems with the larger group of conscripts who are being released at the end of their two- or three-year tour of active duty. They return home to live with their parents, just as they would in the absence of force reductions.

Question 14: Assume Soviet defense spending continues to decline over the next several years:

- * What would be the size of the Soviet peace dividend?
- * How might it be allocated and what difference would it make to the economy?

Answer: Assuming that by 1991 Soviet defense spending is reduced by 14.2 percent as Moscow has promised and that this cut is applied to what we estimate the Soviets actually spend on defense, the peace dividend would amount to almost 20 billion rubles. This would be equal to about two percent of Soviet GNP in 1989.

Moscow's priorities for spending the peace dividend can be inferred from its plans to convert defense industries to the production of civilian products. Gosplan's plan for defense conversion during 1990-95 concentrates on providing equipment for the food processing, light, and medical equipment industries and on manufacturing computers, consumer goods, and civil aircraft. Soviet priorities might also be indicated by their purchases of Western goods and technology. Because the defense sector has traditionally commanded the best resources, the resources released could probably be most efficiently channeled to the production of items that the Soviets previously bought from the West. Western businessmen and senior Soviet officials indicate

that consumer goods, high-technology items, and equipment and technology for modernizing energy production are at the top of Moscow's shopping list.

We judge that the impact of using this "peace dividend" will not be immediate and that the transition from defense to civilian production will not be easy. The rigidities of the command economy that are still in place, particularly investment planning and the wholesale supply system, mean that plans and resources dedicated to defense must be formally switched to the civilian sector. Thus far conversion has proceeded slowly as plant managers await detailed guidance or additional resources.

Because of these rigidities and the lag between the allocation of resources and the production of output, the effects of focussing the peace dividend on these priority sectors probably will not be completely felt for at least 3-5 years. But the eventual impact of such an infusion of resources on the growth of the recipient sectors could be substantial, particularly in the long-neglected consumer area. Gains in particular areas, however, will not be self-perpetuating or have a multiplier effect on aggregate growth unless economic incentives for producers are improved dramatically. Ultimately, major improvements here depend largely on what the USSR is able to accomplish through basic systemic reform. The peace dividend will be largely squandered unless the old system that perpetuated waste and

inefficiencies and stifled innovation is replaced by a new system based on competition, market-determined prices, and private property rights.

Question 15: The Soviets have been advertising the conversion that is taking place from production for the military to the civilian sector.

- * What quantitative data, if any, is there to indicate the extent and significance of the conversion that has taken place so far?
- * Are the Soviets giving us access to defense plants so that we can observe conversion activities?
- * Will they permit verification of conversion?

Answer: Most of our quantitative measures of Soviet conversion comes from Soviet statements concerning the goals and results of their conversion efforts. The Soviets claim that over 400 plants are involved in conversion. We have been able to account for roughly one-quarter of these. The Soviets' declared intention is to change the share of civilian output in their defense industries from 40 percent of total output to 65 percent by 1995. Official Soviet statistics claim some success for conversion, including a 22-percent growth in defense industry's production of consumer goods in the first four months of 1990 compared with the same period last year, although we calculate that over half of the increase was the result of increased prices.

The Soviets have not invited the US Government to visit their plants specifically to monitor conversion, although they have hosted the Western press for a few one-time visits to show off some conversion efforts. It is unlikely that the Soviets would permit verification of conversion--at least our inspections of their facilities--without reciprocity.

Question 16: A vigorous debate over military policy has been taking place within the Soviet Union.

- * Summarize the nature of the debate.
- * What is the significance of the debate for military restructuring, the size of the defense program, and defense spending?

Answer: The debate in the Soviet Union over military policy is about "how much is enough?" in terms of military spending, capabilities, and activities. Gorbachev needs new approaches to divert resources towards civilian applications while maintaining the nation's security. Almost no cow is sacred in the debate he has encouraged. Some civilian writers and analysts have argued for radically new national security policies and much smaller military forces. Top military leaders are much more conservative, preferring changes that have limited impact on overall military capabilities.

Advocates of military reform assert that in the past Moscow relied too heavily on military force in pursuing its interests, which only served to spur the West to rearm. They argue that political and diplomatic levers are more useful in reducing the challenges to Soviet security, and they strongly endorse Gorbachev's policies toward arms control and Eastern Europe and his 1988 announcement of unilateral force reductions. Reformers maintain that in

part as a result of Gorbachev's diplomatic initiatives, the threat from the West has declined to the point that Moscow has great leeway in altering the structure of its defense establishment and in reducing military production.

Reformers also blame high defense spending for exacerbating the USSR's economic problems and support sharp cuts in military outlays.

Opponents of radical reform are not as sanguine about the threats facing the USSR. This group, which includes some senior military officials and party traditionalists, cite the reunification of Germany and the continued vitality of NATO as evidence that the threat remains. They say any changes should be made cautiously. Many opponents of reform recognize that changes in the military are inevitable, but they are intent on slowing the pace of reform and argue that force reductions should be negotiated with the West and not undertaken unilaterally. To soften the blow to the armed forces, defenders of the military also assert that better provision should be made to care for demobilized soldiers.

During the past few years, the debate on Soviet defense needs has moved beyond the simple split between recalcitrant military officials and civilian reformers and now involves a number of different factions and cross-cutting alliances. For example, there appears to be a growing generational split within the officer corps as many of the older officers hold the line against radical departures from current

policy, while a number of younger mid-level officers are among the most vocal in pushing radical reform.

The debate is significant to political leaders because it provides alternatives for reducing resource commitments to the military. Some radical ideas can gain a measure of legitimacy and support, while others elicit more modest, yet positive proposals, even from the military leadership. In addition, the debate encourages strong military support for arms control by raising the specter of unilateral Soviet concessions. For example, a rationale for unilateral Soviet reductions emerged initially from the debate and, more recently, the Soviets have shown a willingness to reduce Pact armed forces to parity with NATO at the CFE negotiations. The outcome of the debate is not yet clear. It is apparent that the debate has been moving in a direction that suggests that further reductions are likely, although the size of such reductions, and where they will fall, is still unclear.

Question 17: Will the Soviets adopt a volunteer army, and what would be the consequences of doing so with regard to military costs and the economy?

Answer: Historically, the Soviet military has been composed of a cadre of professionals supervising a large conscripted force in which young men serve their required two-to-three years of active duty and then are released into the reserves where they remain--largely ignored--until they reach age 50. At that age, they are released from all further military commitments. In recent months, Soviet military officials, politicians, and other interested parties have engaged in a spirited debate over the costs and benefits of a professional military. Generally, higher ranking military officers oppose the idea on economic grounds--some have estimated the cost at five to eight times that of the present conscripted force. Others who are opposed to a volunteer force cite the loss of huge numbers of trained reservists upon whom the military depends to fill out the cadre units that exist. Those who support the idea point to western armies as examples of how well a professional military works. They cite better training, higher morale and a smaller, more responsive and technically trained force as the rewards of a volunteer military.

The Soviets have stated that they plan to experiment with a professional military force on a small scale. The first unit manned entirely by volunteers is an operational MVD

unit in Moscow. The Soviets have also announced that they plan to man some naval units with professional military personnel.

It remains to be seen how successful the Soviets will be in recruiting young men to the professional ranks, particularly if they want to maintain a relatively large military (3.5-4 million). The cost of attracting enough men for such a large force would probably be prohibitive--an estimated two-to-three times what it currently costs. Instead, we would thus expect to see the Soviets continue to reduce the size of their uniformed military forces and to increasingly man the remaining units with extended-service personnel. Some of these personnel would make the military a career, while others probably would serve for a few years beyond their required conscripted service and then return to civilian life. We would expect the force to become more professional as it decreases in size.

Question 19: Assume a worse-case scenario for the economy. How bad can the situation get? How much distress, unemployment, and disruption can occur?

- * What would be the consequences for the Soviet Union's major trading partners and creditors.
- * What would be the consequences for East Europe and the reform efforts there?
- * What would be the consequences for Gorbachev and the political leadership?

Answer: A worst case for the Soviet economy would entail a major breakdown in the flows of raw materials and intermediate products that are essential to maintain production activity in the economy. What might precipitate such a breakdown is hard to predict, but a worst case scenario could result from a combination of factors-- including prolonged strikes, severe loss of central control of resources, a substantial loss of transportation capacity, or even civil conflict on a larger scale than has occurred up til now. A worst case could also include a crop failure, sharp declines in world prices of oil and gold, and higher world interest rates.

Major disruptions in supplies of raw materials and intermediate products would cause GNP to contract sharply, perhaps by 20 to 30 percent. Many workers could be laid

off. At a minimum, underemployment would increase substantially as lack of supplies would leave workers with nothing to do. The equivalent rate of unemployment could reach 15 to 20 percent. At the same time, inflationary pressure would rise dramatically, as a result of reduced real output and likely continued payment of wages and salaries. Hyperinflation probably would ensue. Rationing of consumer goods would be almost universal.

Such a crisis would severely disrupt flows of exports and imports. In this situation Moscow would probably give priority to imports of food, other consumer goods, and vital raw materials. Major food exporters, including the United States, would face much greater demand from the Soviet Union, while West Germany and the East European countries would face a much smaller Soviet market for machinery. Hard currency available to pay debt service would be in short supply, and Moscow would probably request relief from its creditors or consider taking unilateral steps to obtain relief.

Under a worst-case scenario, the USSR would not be able to meet payments on the approximately \$50 billion that is owed Western creditors. These obligations are distributed widely among Soviet trading partners, and large banks that have lent to the USSR probably could weather Soviet defaults. Many small- and medium-sized enterprises that have provided financing for Soviet purchases and that depend on trade with

the USSR, however, would be harder hit. Indeed, some small Western enterprises reportedly are close to bankruptcy because of recent delays in Soviet payments.

Soviet demand for machinery from Eastern Europe probably will fall in any event, as trade moves to a hard-currency basis. Similarly, Soviet energy is bound to become more expensive for Eastern Europe. But the region would be hard pressed to find alternatives to Soviet deliveries in the short run because of the logistical problems involved in finding substitutes for existing supply networks and the difficulty in coming up with sufficient hard currency. Under a worst-case scenario, however, the extent and the speed of such changes would both be much greater than under a simple continuation of current trends. There might also be a large inflow of Soviet refugees into Eastern Europe, if the crisis were severe enough.

The Soviet leadership would come under much greater strain in the event of severe economic crisis. President Gorbachev would be hard put to shift the blame to others, although he has shown great ability to survive so far and he could continue in office. Gorbachev, or a new leader, could be tempted to manage the crisis through a return to the command economy. On the other hand, the leadership could use the crisis to justify radical reform, including privatization and similar measures anathema to the Communist Party apparatus and much of the government bureaucracy.

Question 20: The Soviets seem to be falling further behind the West in some of the most critical advanced technologies, as your report indicates.

- * How critical are the technology lags to economic restructuring?
- * If Western export controls were dramatically reduced, what difference would it make to the Soviet economy?
- * How much Western technology could the Soviets afford to import?
- * What is the likelihood that the Soviets will divert advanced Western technology for military purposes?

Answer: The Soviets recognize that redressing their technology lag--particularly in information technologies such as microelectronics, computers, and telecommunications --will be critical to modernizing the USSR's industrial base and making that country more competitive with the West.

--Integrated circuits--especially microprocessors--are the essential components for the computers, telecommunications and factory automation systems needed for industrial modernization. The inability of the Soviet microelectronics industry to supply the requisite number of reliable ICs has been a major factor in Soviet shortfalls in computers, computer-controlled machine

tools, and telecommunications equipment.

--The Soviet computer sector's inability to meet its production goals has had a severe impact in areas such as manufacturing, railroad transportation, and air traffic control. The computer industry's inability to meet its goals for personal computers for schools has prevented Moscow's computer literacy program from reaching its objectives.

--Moscow's attempt to modernize its telecommunications network with fiber-optic equipment and digital switches has been hamstrung by problems in the Soviet industrial base. The poor transmission quality of the telecommunications system is a major barrier to projects requiring computer networking and to efforts by Western businesses to form joint ventures with Soviet firms.

A marked reduction in Western controls on technology would help the USSR to modernize its industrial plant, but it would do little to instill the technological dynamism in the Soviet economy that is likely to be a major determinant of the USSR's ability to be an economic superpower in the next century. To create the domestic, economic, social, and political environment conducive to innovation and broad technological advance, Moscow will have to make major changes in Soviet basic values and institutions.

Moscow's ability to import Western technology is limited by a shortage of hard currency and the increased priority for consumer items. Indeed, recent problems with late payments to Western suppliers are making it even more difficult and costly for Moscow to secure financing for imports. With funds scarce at present, the Kremlin probably will focus its technology purchases on priority areas that support Gorbachev's economic program and promise the biggest payoff. Equipment and technology to support the energy sector, food processing, and selected basic industries, as well as high-tech items such as computers, telecommunications equipment, and microelectronics manufacturing equipment will probably be at the top of the USSR's shopping list.

The Soviets traditionally have used Western technology both to enhance their military systems and to improve their industrial base and this trend can be expected to continue. For the next few years, however, Moscow probably will focus more heavily on technology for the consumer and the civilian industrial base. President Gorbachev realizes that failure to modernize the Soviet industrial base and create a technologically dynamic economy will place the USSR even further behind the West economically and militarily in the long run. Nonetheless, Moscow is continuing to pursue a number of weapons modernization programs and will undoubtedly make use of advanced Western technology and equipment appropriate to these programs.

ALLOCATION OF RESOURCES IN THE SOVIET UNION AND CHINA

WEDNESDAY, MAY 16, 1990

CONGRESS OF THE UNITED STATES,
SUBCOMMITTEE ON TECHNOLOGY AND NATIONAL SECURITY
OF THE JOINT ECONOMIC COMMITTEE,
Washington, DC.

The subcommittee met, pursuant to notice, at 10:18 a.m., in room SH-216, Hart Senate Office Building, Hon. Jeff Bingaman (chairman of the subcommittee) presiding.

Present: Senators Bingaman, Sarbanes, and Roth.

Also present: Richard F Kaufman, general counsel; and Kathy Chumachenko, professional staff member.

OPENING STATEMENT OF SENATOR BINGAMAN, CHAIRMAN

Senator BINGAMAN. This hearing will come to order. The hearing is the second in a series that we began a month ago, in which the subcommittee is examining economic developments in Communist and formerly Communist countries. It goes without saying that nothing could be more welcome than the liberation of Eastern Europe from communism and Soviet domination.

But I think as we will hear today this is not a time for euphoria. Many of the countries in this region are in for a period of recession and economic crisis, and things will likely get worse in some of these countries before they improve.

A new CIA report, which was prepared for the subcommittee, provides a detailed assessment of the economic performance of each of these East European countries. It also outlines the steps taken toward reform, and their prospects. The report indicates that these countries face severe difficulties because of the four-plus decades of economic mismanagement under Communist governments.

It foresees deep recession, declines in living standards, and high unemployment in some of these countries. I hope that our own long-term policy can help to provide stability and the necessary investments to work through these problems.

The two experts that we invited today—Mr. Jeffrey Sachs and Mr. Charles Wolf, Jr.—are extremely well qualified to provide guidance to the subcommittee about what is taking place in Eastern Europe. I have also asked them to comment on the CIA report. We look forward to their candid reactions to the report including their assessment what value that report has. Following the testimony of Mr. Sachs and Mr. Wolf, the subcommittee will adjourn to a closed session to question representatives from the CIA.

Jeffrey Sachs is professor of international trade at Harvard University. He has written many scholarly articles on developing country debt and relations, and on related subjects. He is an economic adviser to the governments in Poland and Yugoslavia, and also advises several governments in Latin America. He is widely credited with making a major contribution to what has become known as the "shock therapy" economic approach to fundamental reform.

Charles Wolf, Jr., is the director of the international economic research at Rand Corp., and dean of the Rand Graduate School. He has previously served with the Department of State, and has taught at Cornell, and the University of California, at Berkeley, and UCLA.

He has written numerous articles and books on economics, defense and international affairs, and he edited "The Costs of Soviet Empire," published in 1987, and most recently, "The Improvised Superpower," which was published this year.

Gentlemen, we are very pleased to have both of you. We would appreciate if you would take 10 or 12 minutes each to summarize your thoughts as to what we ought to concern ourselves with this morning. Afterwards, Senator Sarbanes and I will have questions.

Before I defer to the witnesses, let me just see if Senator Sarbanes has any opening statement that he would like to make.

OPENING STATEMENT OF SENATOR SARBANES

Senator SARBANES. Well, Mr. Chairman, I simply want to commend you for holding this hearing. It certainly comes at a very timely and appropriate point in our deliberations. It is my own view that the events taking place in Eastern Europe may well be the transforming events of the postwar period.

And whether in fact they measure up to the status in large part depends on how successful they are in accomplishing the economic transition in which they now find themselves. So, I am pleased to have these two very distinguished witnesses here with us, and this opportunity to participate in this hearing.

Senator BINGAMAN. All right. Mr. Sachs, why don't you go right ahead.

STATEMENT OF JEFFREY SACHS, PROFESSOR, DEPARTMENT OF ECONOMICS, HARVARD UNIVERSITY

Mr. SACHS. Mr. Chairman, thank you very much for the invitation. I apologize for not having a prepared statement. I have just returned from Eastern Europe and didn't have time to prepare, but I guess the tradeoff is that I bring you some fresh news at least, and I hope that you find it to be useful.

I want to spend a couple of minutes describing what is happening in several of the countries, but spend the bulk of my time on what the appropriate role for the United States and the West is. It is a role that I believe is not being effectively met to this point, and one which better soon be met if we are to avoid some of the great risks that are now confronting the countries in the region.

I also want to spend a couple of minutes on a very complicated topic, and that is what our response should be with respect to the Soviet Union, in terms of assistance perhaps, or a financial role in

their reform effort, and that is a truly complex topic which can easily be misunderstood, but I will hazard a few remarks about that.

TRANSITION TO MARKET ECONOMY

I think that it is clear that the countries of Poland, Hungary, Czechoslovakia, and Yugoslavia are embarked on a process of fundamental transition, and all of them are trying to move very rapidly to create a Western style market economy.

They are all engaged in ending planning, decentralizing economic decisions to the market, and privatizing state industry. The pace, of course, is different in the various countries, and the nature of the crisis is different because of the initial conditions that these countries found. Poland and Yugoslavia, for example, having fallen into hyperinflation in the course of 1989, and therefore, facing the most destabilized economic conditions.

Czechoslovakia, on the other hand, having remained stable but highly centralized up until its so-called velvet revolution in November. But while there are important distinctions, I think the main thing to stress there is the similarity, both in direction of change, and desire, and recognition of the need for rapid change.

And the rapidity of change that is desired there, and that I think is necessary in order to make an effective transition which requires on our side a counterpart rapidity in meeting the needs of these countries as this transition goes forward.

The main conceptual framework that I would stress is that none of these countries is necessarily a long-term ward of the West, in terms of being an economic basket case that one might talk about in parts of Africa, or in parts of Latin America.

These are all countries that can make it, and they are in the center of Europe, and they have a force which is highly educated and highly skilled, and particularly relative to the very low levels of income that they find themselves now.

So, if they can effectively make the transition to a market, a private market economy, there is every reason to believe that in the course of 5 to 15 years there will be sustained and rapid growth in these countries.

And I think that is very important for American policymakers to keep in mind. This is not a case where long-term assistance is needed in my view. What is needed is urgent help to make the transition possible to the kind of economic system that they want, and that means a well-defined process that will take place in the next 3 to 5 years, in which our help is most urgently needed.

But not for the long term, as in the case of a poor country with one export crop, that somehow has to find a new way to live, and these are diversified industrial countries that have a future in Europe, and a path for rapid growth.

POLAND

Poland, by virtue of having been in the deepest crisis and having gone first in political—in democratization, has taken the most decisive steps as of January of this year, in introducing quite radical measures of marketization, in the sense of freeing up prices, closing

budget deficits, and creating a convertible currency, and undertaking legal changes to allow for rapid creation of a new private sector, both by allowing new firms to develop, and by privatizing state enterprise.

Of the package of measures, the one key measure or one key legal step that is still being debated in the parliament right now, and actually this month is the privatization legislation, and that is a complex question which we may talk about later, but in general I would say that the program, as hard as it is, is on track, and has the recognition of the Polish people that they must proceed in this way.

The Government remains very popular, and the population to this point remains willing to endure the hardships, because they recognize that that is necessary if they are going to make this leap to a functioning economy. It is important to remember that this isn't a reckless gamble, starting from a stable situation, but rather a transition starting from a very acute crisis, and massive instability, which had reached proportions of hyperinflation last fall.

So, Solidarity had to move dramatically, and they did in the package of measures that they have put in place. The reforms they are having, are having many positive effects already, in the sense of ending inflation, and bringing it down very sharply, and the estimate for May is that inflation will be on the order of 1 to 2 percent for the month, down from 40 to 50 percent in the final months of—per month, in the final months of 1989.

And ending shortages, and expanding exports, actually, quite dramatically; and the export growth was 37 percent higher in April in dollar value to the West, relative to April of the previous year. So, there are positive developments.

On the negative side, of course, is the drop in living standards, and the internal recession, which is an almost inevitable counterpart of a stabilization program; whether of a Socialist economy, or a market economy that is trying to end a hyperinflation, and I would like to stress that the hyperinflationary aspect that Poland had was something that could—that requires drastic action, whether it is in this process of transition or not.

I think what Poland teaches is the kind of assistance that is needed for these countries, because the kind of assistance that Poland urgently needs right now is very similar to the package of support that will be necessary for Czechoslovakia, or Hungary, or Yugoslavia, though of course with the particular parts of the package tailored to the needs of the individual countries.

THREE KINDS OF BASIC SUPPORT

What I have in mind is that Poland clearly needs three kinds of basic support. First is the balance-of-payments support, which means financing during the transition process, so that the short-term pain is bearable, and so that the country does not collapse in the midst of macroeconomic adjustment and structural change.

The balance-of-payments support comes in part through IMF loans, World Bank loans, the special billion dollar stabilization fund that was created for Poland, and similar packages will be needed for Hungary and Czechoslovakia.

It is ironic that in Hungary, the great question in the West, rather than the question of how to put together adequate balance-of-payments support right now, seems to be whether we can press Hungary to keep servicing its debt, despite the urgency of its short-term financial crisis.

And so not only are we not organizing a package that is relevant for Hungary's needs right now, the West is putting on pressure, which is very deleterious to Hungary—to the new government in Hungary getting underway with its stabilization, and reform program.

The second kind of need, in addition to the balance-of-payments support, is technical assistance; and here I very much applaud the sentiment of the President's initiative announced last weekend, of a volunteer corps of businessmen for Eastern Europe, but I think we have to speak clearly and honestly to the American people that we are not meeting our obligations by having the Government put in \$300,000 to an effort like this.

That, according to my calculations, is about 1 penny per every four people of Eastern Europe, and that is not going to meet America's responsibility, nor begin to address the real problems of Eastern Europe, and that is even true if there is an outpouring of volunteer support.

They need real money for real technical assistance, in the form of management audits, financial audits, help with the supervisory functions in the banking system, and a broad array of other kinds of legal, administrative, financial, and technical assistance, to make this transition to a market economy.

I would say that technical assistance is one of the most obvious ways that we can help, and it pains me greatly that in this calendar year there is almost no money for technical assistance for Poland in the budget. There was no interest in the administration for introducing any supplementary moneys, despite the fact that the Polish Government requested them, and explained why they were so urgently needed.

And I think that with all due respect, \$300,000 for volunteer service, while it made the news and may make Americans feel good that we are doing something, does not address at all in an adequate way by any way, shape, or form, the real needs for technical support.

That will run into tens of millions of dollars at a minimum for Poland, and proportionately similar funds for other countries in Eastern Europe, we should be doing this with enthusiasm, and we should be doing it with realism, and we are not doing it in either way right now.

FOREIGN DEBT RELIEF

The third kind of support that is needed particularly for Poland, but also for Hungary, is relief on the foreign debt. These countries have been strangled by 45 years of Communist mismanagement, and one of the things that the Communists did in the course of running the economies into the ground was leave them in total financial bankruptcy.

Poland's debt burden relative to its exports to the West is about the highest debt burden in the world. It has the added feature, unlike Latin America, of being almost entirely—I'm sorry—or, three-fourths of it being owed to Western governments rather than to commercial banks.

The U.S. Treasury, to its credit, has recognized that commercial bank debt must be reduced, and that is the Brady plan, but it has not taken any serious steps to recognize the crushing burden of the official debt that Poland owes, and therefore, has not really addressed in any serious way Poland's long-term needs with respect to debt reduction on government-to-government debt.

I think that there is no more essential step for Poland's future, and I would put the same for Hungary, though it is not as acute, but there is no single step that we could take; no official funding, no European Bank for reconstruction and development, no technical assistance, that can solve their problems without deep and significant official debt relief.

And I would say that if one achieved deep relief on the official debt, that many of the other measures would become unnecessary, because that would free up the process for private capital to begin participating in the Polish economy again.

There is a cruel paradox in the current strategy. As long as the Treasury and the other of the G-7 finance ministries pretend that this debt is going to be paid by rolling it over year after year, we make it impossible for private capital to enter Poland, or Hungary, on the scale that will be needed to finance the economic growth.

And, therefore, we fall back on third-best solutions, like the new European Bank for Reconstruction and Development, which becomes the only way to get large scale medium- and long-term financing to the country, because we are blocking the private capital, which knows very well that the first lien on the country is the official creditors.

So, we have a paradoxical situation, and one that I would say is particularly poignant for me as I have made the rounds of talking to senior officials in all of the G-7 countries in the last 2 months, and every senior economic official in the G-7, I would say, knows full well that this debt is unpayable.

They understand that, and there is no argument about it. The Financial Times says it in its lead editorial this morning as well, but yet they say that we can't deal with it, and it is too hard, and they don't have to pay this year, and what are they complaining about, and we will just push it to next year.

That is not an answer for a country that is struggling with the political crisis of change, and that is struggling to attract capital necessary for economic recovery. Pushing it, but keeping it on the books, condemns them to being redlined by the international capital markets, and by the private capital community, and we have to do better than we have done.

And I regard this as the central step, the central realistic step that the West can take to substantially reduce the debt burden of Poland, and to a lesser extent, because it is not needed as much, to do the same for Hungary, and to do that on an urgent basis during 1990, during the year when we are hosting the economic summit, and during the year when the political map of Europe is being re-

organized, this is the time when these needs have to be met, and it is with some urgency that they should be met.

SOVIET UNION

Finally, let me say a couple of words about the Soviet Union if I could. I believe that we are facing one of the most challenging questions of foreign policy that this country has faced in the last 40 years, in the question of how to engage with the Soviets in support and discussion of their economic reform program.

In my estimation, there is, and as I think everyone recognizes that is even casually watching this, or intimately involved, there is a deep and perhaps decisive debate underway in the Soviet Union right now as to whether they will move ahead with a sharp turn toward a market economy.

They have profound obstacles in achieving that goal. They are so far more distant from achieving that goal than the countries of Eastern Europe, that it is not right analytically to put them in the same category. The nature of the program, the reform would have to be vastly different, and the timing would have to be vastly different, and the hopes for accomplishment would have to be vastly different.

But what I fear very much is that if the reform does not move ahead quickly, the risks of real chaos and real costs to the United States and the rest of the world are profound. Whereas, on the other side, if they can move down the path of market reform, as President Gorbachev has called for 2 months ago, then while the results will not be as rapid or as hopeful as in Eastern Europe, there is a real chance to escape calamity.

And calamity is the word that I would emphasize as the real risk that we are facing if an utter economic collapse takes place. I agree with those who say that giving financial assistance to the Soviet Union right now would be—under present economic conditions—putting money down a rat hole. That is absolutely an accurate assessment.

But I do believe that there is a possibility, as in other cases of conditional assistance, of engaging in extended dialog and policy of supporting, and finding ways in a measured way, and in a timely way, to support policy change in the right direction, and on a more ambitious timetable and in larger amounts than anybody has yet talked about in Washington.

And I regard it as absolutely critical that we be examining that option with far more seriousness than we have to date, because it could be the decisive choice that we face, and if the Soviets were to be interested in a policy of radical reform, and backed by a much larger scale of Western assistance, it could be the best money that we have ever spent.

I think it is a long shot for all the pieces to be put together, but I am afraid that we may miss a very decisive opportunity if we don't explore with great seriousness and vigor right now the opportunity of engaging in such a long-term policy with the Soviet Union.

There is much to say about that, and I have well exceeded my time, but I would be happy to answer questions about that in the question-and-answer period. Thank you very much.

Senator BINGAMAN. Thank you very much. I think that is very interesting and useful testimony. Mr. Wolf, why don't you go ahead and give us your views, and then we will have questions for both of you.

STATEMENT OF CHARLES WOLF, JR., DEAN, RAND GRADUATE SCHOOL OF POLICY STUDIES, AND DIRECTOR, INTERNATIONAL ECONOMIC RESEARCH, RAND CORP.

Mr. WOLF. Thank you, Mr. Chairman, and Senators. It is a pleasure for me to appear before this timely hearing. I want to say at the outset that I appear not as a specialist in Eastern Europe like Professor Sachs. My perspective is that of someone with experience in international economics, macroeconomics, and economic policy, who has devoted considerable attention in the last 7 years to the Soviet economy.

I would like to make one general comment related to the prepared statement that I filed with you, and then turn to address several of the questions in your letter of May 8.

TRANSITION TO MARKET ECONOMY

To move—what I will call nonmarket economies or “NME’s,” like those of Eastern Europe and the Soviet Union—toward a market system in which free markets, competitive pricing, and international trade play decisive roles, requires the formulation and implementation of a package of related and mutually reinforcing measures.

SYSTEMS APPROACH

It requires what I refer to in my prepared statement, as a systems approach to reform and restructuring. The effectiveness of individual measures, like price deregulation, privatization, and monetary and fiscal discipline and currency convertibility, is contingent on implementation of other measures in the package.

As far as economic reform and restructuring of NME’s is concerned, the whole is greater than the sum of its parts. There are synergies and reinforcements among the interacting components. Putting it another way, the chance of success of each component is diminished by the absence of reinforcement for other components, if the package is segmented into separate parts.

What I am suggesting is analogous to the restructuring of any large and complex system in education, in the military, or in the health care system, and it is also analogous to the problem of turning a failing company around from decline and red ink to renewal and profitability.

In that scenario, and in that circumstance, an effective salvage and revitalizing strategy usually requires a comprehensive restructuring package that covers the full gamut of the company’s operations—production, quality control, planning, finance, marketing, recruitment, training, and so forth.

I would like to illustrate what I am describing by asking you to refer to figure 1 of the prepared statement, and what I referred to as the reinforcements and synergies among the seven components.

For example, if one embarks on price and wage reform, item 3 in the diagram, for the prospects of success from that measure to be enhanced, the price and wage reform has to be coupled with monetary and credit control, and fiscal reform—respectively, items 1 and 2 in the diagram.

If state enterprise reform and privatization is to be effective, it is dependent on price and wage signals that come from the third box in the diagram; and, in light of the expected downsizing of enterprises once they are privatized, there has to be some form of social security net to undergird the process of transitional unemployment and reemployment. And all of the above measures are essential if currency convertibility and integration with the international economy—item 6—is to be effective.

Now, I think this general approach is relevant to Eastern Europe, in that both Poland and Hungary, as Professor Sachs has indicated, are following something along the lines of what I have referred to as a systems approach.

This is in sharp contrast to developments in the Soviet Union. Consequently, I am more optimistic in assessing the prospects of successful economic reform in Eastern Europe relative to those in the Soviet Union.

EFFECTS OF PROBLEMS IN U.S.S.R.

Now, let me turn to the questions raised by Senator Bingaman in his letter of May 8. The first question relates to whether supply disruptions and other shortfalls in the Soviet economy have contributed to East European difficulties. My impression is that the Soviet Union has sustained its commitments with respect to oil and natural gas supplies to the countries of Eastern Europe, but I am not informed about the possible shortfalls in other commitments.

On the second question, Senator Bingaman asked what will be the consequences for Eastern Europe of present Soviet policies or of a prolonged Soviet recession. I think that actually the two alternative scenarios that are implied there represent a distinction with a difference. That is, the present Soviet policies seem to me to pretty well guarantee a prolonged Soviet recession. So, the consequences of present Soviet policies and of the Soviet recession that I think is associated with it, will partly be a hindrance, but partly and inadvertently will be helpful for Eastern Europe. They will partly hinder Eastern Europe's development because they foreclose, or at least reduce, opportunities for mutually advantageous trade and capital flows between the Soviet Union and Eastern Europe that would arise if the Soviet Union were to embark on the kind of systems approach to restructuring I have described earlier.

But partly and inadvertently, I think that will be helpful to Eastern Europe, because it will intensify the already strong inclinations in the Eastern European countries to turn to the West and to international markets.

RESPONSE TO EASTERN EUROPE

The third question is whether the West, and in particular, the United States, response is appropriate to the economic needs in Eastern Europe. My understanding, besides the reference that Pro-

fessor Sachs made to the President's call for volunteerism, is that the U.S. response has had two major parts.

The first one is reflected in the Support for the East European Democracy Act (SEED) that the Congress passed, and the President signed at the end of 1989, authorizing something over \$900 million for Hungary and Poland, and appropriating something over \$500 million to advance what are referred to in the act as democracy, pluralism, and free markets.

The other part of the response is reflected by the efforts of American firms to send their representatives to explore opportunities for joint ventures and licensing, and other transactions in the East European countries, especially Poland and Hungary.

In considering other forms of response, in addition to the two that I have mentioned, as well as the volunteerism and technical assistance that was referred to earlier, I think it is important to acknowledge that we really don't know what is best to do. We can't say with much confidence what the precise and reliable means of linking the appropriations of dollars—either those in the SEED Act, or additions—to these laudable objectives of democracy, pluralism, and free markets.

We are planning a workshop at Rand in the next 3 or 4 months to try to bring together ideas and experience of business, academic, and government people to see what one can distill and derive from those different perspectives, with respect to how one can knowledgeably connect dollars to these three laudable objectives.

THE MARSHALL PLAN

There has been from time to time a reference to the Marshall plan after World War II as a model. I think this is not an apt model for a number of reasons, one of which is that the international capital markets in 1946, and 1947, were very different—in terms of their activity, their scale, their integration—from their situation now.

For this reason, I also have some reservations about the East European Development Bank that Professor Sachs referred to, because it runs the risk of fencing off the East European countries from the healthy interaction with the highly articulated international capital market that prevails currently.

CIA ASSESSMENT

Now, to turn to the last question: "To what extent do you agree or disagree with the CIA's assessment of the East European economies?" I think that the report is thorough and informative, and I guess that my assessment is somewhat more optimistic, precisely because Poland and Hungary appear to be pursuing what I have referred to as a systems approach to restructuring and reform.

The prospects of achieving improved economic well-being in a timely manner are better than suggested by the "long term, long road ahead" prognosis, and some of the CIA text that accompanies that title.

Let me make a couple of comments about the twin bugaboos that characterize much of the conventional rhetoric about the dangers

and difficulties of market oriented reforms in nonmarket economies: namely, inflation and unemployment.

INFLATION

The concern about inflation is, according to the conventional view, due to removal of price controls and subsidies, and the ensuing unemployment is due to the privatization and downsizing that accompanies the removal of bailout credit and subsidization that has sustained many of the state enterprises.

I think this reasoning is erroneous. With respect to inflation, what systematic reform of the sort that I referred to means is that the inflation that has typically been hidden in nonmarket economies—reflected in queues and waitingtime, and deteriorating product quality as generic characteristics of NME's—becomes visible. In the process, a stimulus is provided to increased production and market supplies.

So, it is not a case of inflation versus noninflation. It is a case of visible inflation replacing hidden inflation.

UNEMPLOYMENT

With respect to unemployment, unemployment is typically hidden by the makework, featherbedding, pay-without-product forms of wage compensation. What is typically hidden unemployment in NME's becomes visible with economic restructuring of the sort that I have described earlier.

This recalls the standard joke about the Soviet Union, where there is no unemployment, but nobody works. So, again, I think it isn't a case of unemployment impending or threatening. It is a case where the unemployment that has been concealed becomes visible.

To push the point one step further, where state enterprises can't survive because subsidies are withdrawn, I think the correct economic inference is that aggregate economic well-being will usually be improved by reducing output, and using the misallocated inputs for other purposes, or for export.

For these reasons, my own assessment of the prospects in Eastern Europe is somewhat more optimistic than that of the CIA report, and more pessimistic in the case of the Soviet Union. Thank you.

[The prepared statement of Mr. Wolf follows:]

PREPARED STATEMENT OF CHARLES WOLF, JR.

My name is Charles Wolf, and I am Director of international economic research at The RAND Corporation in Santa Monica, and Dean of The RAND Graduate School.

I will comment briefly on two subjects prior to addressing the questions posed by Senator Bingaman in his letter to me of May 8, 1990: First, economic reform as a systems problem; and second, the serious unreliability of statistics pertaining to nonmarket economies in general, and those of Eastern Europe and the Soviet Union in particular.

I. ECONOMIC REFORM IN NONMARKET ECONOMIES (NME) AS A SYSTEMS PROBLEM

It is a truism that all modern economies comprise a mixture of market-based and government-based roles and influences. Thus, while the economy of Hong Kong is often cited as an example of unfettered capitalism dominated by market forces, nevertheless government plays a key economic role in several ways: regulating the provision and pricing of electric power and telecommunications, although these services are produced by private firms; providing essential infrastructure and public services; and controlling monetary policy. At the opposite extreme, while the Soviet economy is predominantly controlled (and confined) by the central authorities, nevertheless small private or cooperative establishments provide a range of services (e.g., restaurants, television maintenance, automotive repair, etc.) through the market mechanism.

The generic issue that economic systems face is not that of a pure choice between markets or governments, but instead is a more complex choice of where to draw the line in defining the appropriate balance between the roles of markets and governments. Previous economic studies at RAND and elsewhere strongly suggest that economic efficiency and rapid economic growth tend to be advanced by a predominant role for the market, and impeded by a predominant role of government.

To move the economies of Eastern Europe toward a balance between markets and governments that will be efficient and dynamic, as well as equitable, plainly requires enormous expansion of the market's role and corresponding diminution of the government's role. In turn, moving toward this goal depends on a package of related and mutually reinforcing reform measures. Thus, the effectiveness of individual reform measures--such as price deregulation or currency convertibility--is contingent on effective implementation of other measures in the package. In considering the issues of economic reform in nonmarket economies (NMEs), it should be realized that the whole is greater than the sum of its parts. Indeed, without the "whole," the effectiveness of individual parts will be severely handicapped.

In this sense, reforming the economies of Eastern Europe is analogous to restructuring any large system: for example, in education, in the military, or in the health care industry. The problem is also analogous to the choice of a strategy for turning companies around from decline and losses toward renewal and profitability. Numerous cases illustrate the central point that success is more likely if a comprehensive restructuring strategy is followed that encompasses the full gamut of operations (production, marketing, recruitment, management, finance, etc.), rather than addressing each element in a piecemeal fashion. Restructuring large systems in government or business requires that the component parts be revised and recast in concert with one another.

This view of economic reform as a systems problem is illustrated in Fig. 1. The arrows and circled numbers in the figure suggest some of the connections and interactions among the seven aspects involved in

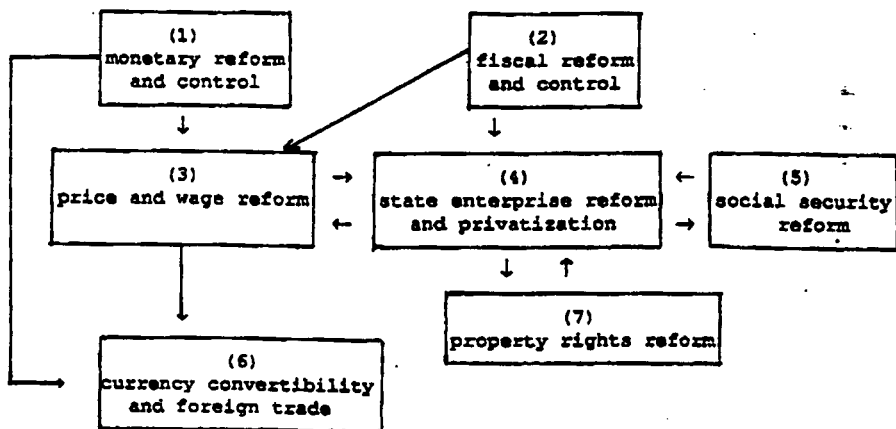


Fig. 1--Components of Economic Reform in Nonmarket Economies

moving the economies of Poland and Hungary from a system of central control and state planning to one in which the market plays an enlarged and decisive role.

By way of illustration, it is essential that reforms of the monetary system (1) to ensure control of credit and the money supply, and of the tax and revenue systems (2) to assure that the budget is in reasonable balance, should be conjoined with price and wage deregulation (3), if the latter is not to lead to sustained inflation, but instead to an adjustment that accords with relative costs, market demand, and market clearing prices.

Moreover, enterprise reform and privatization of most state enterprises (4) are essential to provide appropriate incentives to both workers and management to encourage and accelerate appropriate supply responses as relative prices change. Privatization of state enterprises can also help the process of credit and monetary control by absorbing

some of the initial "overhang" of accumulated local currencies that is usually one of the characteristics of nonmarket economies. In some cases, enterprise reform and privatization is likely to lead to unemployment. Many state enterprises that have to meet a market test, rather than simply conforming to centrally determined production norms, will have to be "downsized" in both their employment of labor and capital. To assure that this process proceeds both rapidly and equitably and doesn't impose undue hardship on temporarily unemployed workers, a social security system (5), or other form of "safety net," is needed. Finally, currency convertibility (6), and clarification of property rights (7), along with a restructuring of the legal order, depend on the other measures shown in Fig. 1, thereby contributing to integration of the East European economies with the world economy.

Because economic reform in NMEs is essentially a systems problem, attempts to liberalize these economies by piecemeal steps are more likely to founder than to succeed. The seven components shown in Fig. 1 support one another. Each is less likely to work effectively without that reciprocal support.

II. THE UNRELIABILITY OF STATISTICS PERTAINING TO NONMARKET ECONOMIES

I am somewhat familiar with the vagaries, distortions, and pervasive unreliability of Soviet statistics. I am much less familiar with the unreliability of the statistical base in the East European economies. However, for reasons that relate to the fundamental character and operation of NMEs, their prior and current statistics, should be viewed with skepticism and caution. The essential reason for this pervasive unreliability is that NMEs typically provide rewards on the basis of what is reported and recorded, rather than on the basis of real economic value.

A striking example of what I mean is provided by the standard comparisons that have been made of the economies of East and West Germany: The *Statistical Abstract of the United States* for 1989 shows

per capita GNP figures for East Germany that are slightly above those for West Germany (\$10,330 and \$10,320, respectively in 1984 dollars); and the CIA *Handbook of Economic Statistics* shows per capita gross domestic product figures for East Germany that are 89 percent of those of West Germany in 1987!¹

To cite another example of statistical unreliability, at a recent conference I attended with 17 Soviet economists, including the First Deputy Chairman of the State Commission on Statistics of the Soviet Union, and several Soviet academicians and members of the Soviet Congress, estimates of the size of the Soviet economy relative to that of the United States, ranged from 14 to 50 percent!

With these brief comments as background, let me turn to the specific questions raised by Senator Bingaman.

III.

Senator Bingaman has raised four questions: *Question (1)*: To what extent have supply disruptions and other shortfalls in the Soviet economy in 1989 and so far in 1990 contributed to East European difficulties?

(I don't have an answer to this question, although I have the impression that the Soviet Union has generally maintained its intended deliveries of oil and natural gas to the Eastern European countries.)

Question (2): What will be the consequences for Eastern Europe of present Soviet policies, or a prolonged Soviet recession?

(Answer: To distinguish between "present Soviet policies" and a "prolonged Soviet recession," seems to me to be a distinction without much of a difference. If the view that I've advanced above about economic reform in NMEs is correct, present Soviet economic policies will virtually assure a prolonged recession in the Soviet Union.

¹See *Statistical Abstract of the United States, 1989*, p. 822, and the Central Intelligence Agency, *Handbook of Economic Statistics, 1988*, pp. 24-25.

For Eastern Europe, this can partly hinder and partly help. It will partly hinder progress in Eastern Europe because opportunities for mutually advantageous trade and capital flows between the Soviet Union and the Eastern European countries would be enhanced if serious and effective Soviet reform policies were forthcoming.

On the other hand, the Soviet Union's present policies may inadvertently help by providing further encouragement to the strong inclinations that the Eastern European countries already have to turn toward the West, and to international markets more generally, for trade, capital, and for essential demand and price signals.

Question (3): Is the West, and in particular, the United States, responding appropriately to the economic needs in Eastern Europe?

(Answer: The United States' response to Eastern Europe's needs was reflected in the "Support for East European Democracy" Act, which the Congress passed and the President signed last year, authorizing over \$900 million to advance three worthy objectives: democracy, pluralism, and the promotion of free markets in Hungary and Poland. The U.S. response has also taken the form of a large number of American firms sending their representatives to undertake or to explore opportunities for direct investment or joint ventures in these countries.

The response of the West, more generally, has taken the form of commitments of substantial amounts of government assistance (for example, the commitment by Prime Minister Kaifu of Japan to provide \$1.9 billion for assisting Poland and Hungary), as well as commitments of capital and other forms of assistance from West European governments. Also, representatives of individual business firms from Western Europe and Japan, as well as those from the U.S., have descended in large numbers on Hungary and Poland and the other countries of Eastern Europe to seek and to develop opportunities for profitable enterprises and joint undertakings.

I think there's no question that the objectives set forth in the SEED Act of 1989 are worthy and important ones. It's also important to acknowledge that we really don't know how to connect, in any very reliable or predictable way, inputs of dollars in the substantial

amounts that I've mentioned above to advance these SEED goals. I recently asked a highly influential figure in the Japanese policy community what precisely is to be done with the substantial amount of assistance promised by Mr. Kaifu? My interlocutor candidly acknowledged that Japan did not have a very clear idea about what to do with the funds. In effect, the commitment was more in the nature of a gesture than a project or series of projects.

Although the objectives set forth in the SEED Act are eminently sound and laudable ones, it is not at all clear how to use money to advance these very general objectives. We are planning to have a RAND conference on this subject sometime in the next few months to bring together the views, ideas and experiences of the business, academic, and government communities on precisely how one can use funds to advance democracy, pluralism, and free markets.

In this connection, there is a tendency to think of the Marshall Plan for European recovery at the end of World War II as a model in thinking about "the economic needs in Eastern Europe." But I think this is not an apt parallel. One reason is that, after World War II, international capital markets were dislocated, narrowly confined, and ill-functioning. By contrast, today they are active, competitive, and increasingly integrated. The current problem is to get the incentive structures and information flows within the East European countries to function properly. Foreign assistance, even when it is extended with the best of intentions, is not immune to the risk of providing perverse incentives and misguided information. As an example, I have reservations about whether the proposed East European Development Bank may have such perverse consequences because it fences off Eastern Europe from what would be a healthy process of operating in the active, flexible, and responsive global capital market.

Question (4): To what extent do you agree or disagree with the CIA's assessment of the East European economies?

(Answer:) I have only had a brief opportunity to scan the Agency's impressive report: *Eastern Europe: Long Road Ahead to Economic Well-Being*. The Agency's discussion of the unreliability of East

European economic statistics (Appendix B) is very sound, and consonant with the observations I've made earlier on this subject.

I disagree to some extent with the pessimistic assessment reflected in the title about the "Long Road Ahead" for the realization of "economic well-being" in Eastern Europe. As I indicated in my earlier remarks on economic reform as a systems problem, simultaneous and comprehensive liberalization and reform in the seven dimensions I referred to earlier, while not a sufficient condition for achieving "economic well-being," is a necessary one. Furthermore, I think that the prospects and probabilities that such a comprehensive systemic reform will achieve significant results in a timely manner are quite good.

According to the current conventional rhetoric, pervasive economic reform in NMEs--the standard, although in my judgment, malapropos shorthand is "Polish shock therapy"-- implies unemployment and inflation. I think this is a misleading characterization of what is going on. What systemic reform means is that inflation that has typically been "hidden" in these economies (e.g., reflected in the long and uncertain waiting-times accompanying the acquisition of consumer goods, as well as the deterioration in their quality over time) becomes conspicuously visible in the form of price increases. The important point that is ignored in the standard formulation is this: where genuine reform is both sustained and systemic, supply responses will damp the visible price increases, as indeed they have been doing in the last several months in Poland.

Similarly, what is manifest as unemployment is really making visible the unemployment that was "hidden" by the make-work, featherbedding, pay-without-product regime of the command economies of Eastern Europe.

To push the point one step further, where state enterprises are obliged to cease production because subsidies they have been drawing from the state budget are terminated, the economy's "well-being" is probably improved. If an enterprise can't survive without subsidy, the economic inference is that the value of its inputs exceeds that of its

output. Consequently, economic well-being will generally be improved by curtailing output and using the previously misallocated inputs for other purposes or for export.

Viewed in this light, my own assessment of Poland's and Hungary's prospects is more optimistic than that presented in the CIA paper.

Senator BINGAMAN. Thank you very much for that testimony. We will follow a 10-minute rule this morning so that everybody here can get a chance to ask questions.

SEED ACT

Professor Sachs, could you just give your view on the bill that Professor Wolf referred to—the bill we passed last year calling for \$900 million to be authorized, although less than that was appropriated, at least last year.

What in your view was the problem with that bill: just the magnitude of it or what it was focused on? I would be anxious to hear your thoughts.

Mr. SACHS. Well, I thought that in basic design it was a good start. I was particularly pleased with the \$200 million for the stabilization fund, which I think I played a crucial role in getting the Polish reforms off in the right direction.

The food aid was critical at the right moment, and it is not a long-term need for Poland, but at the moment of chaos it was definitely a need; and the funding for the private sector which will come on line, I think, on the whole, will be useful both politically and economically.

But it is just a start, and the magnitude is modest, and the measure of the modesty is that given the depth of the Polish crisis the amount of suffering and the political risk of going ahead even with a well-articulated stabilization plan and so forth, still means a tremendous decline in the country, and tremendous political risk from it.

TECHNICAL ASSISTANCE

It is the kind of political risk that the West, I think, need not run, or could help ameliorate by somewhat more or somewhat greater amounts of funds. What is missing specifically for Poland from that package is adequate technical assistance, and I think it was a matter of phrasing. First, get the program started, and then it became clearer in the last 6 months of the kinds of technical assistance that were urgently needed.

And that was basically to help the enterprise survive in the market environment. Some are learning how to do so, and some will not, unless they get—some are learning how to do so under their own, and some will not if they don't get proper assistance in this emergency phase.

And so there is a very critical period of 6 to 18 months right now where technical assistance will be vital in keeping the process going, and avoiding the political calamities that will come if unnecessarily several large enterprises go belly up for want of proper contacts with the West, or proper design specifications for their products, or other things that well-placed management consultants could help them with on an emergency basis.

FOREIGN DEBT

Finally with respect to Poland, this SEED legislation does not at all address the long-term problem of the debt which I have already mentioned, and I cannot stress enough, and probably people are

tired of hearing me stress it, but this debt is a fundamental barrier to the future for Poland. It must come down.

We are not going to collect it any way, and every policymaker involved in this knows it, and they tell you, don't worry. Next year we will roll it over again, and next year we will roll it over again, but that is not an answer politically or economically for the country, and I think we have to come up with ways, given the fact that we are not getting this money any way.

And if actually Poland started to pay, all of the money that the United States is putting in would simply go to West Germany in any event in the form of interest payments, and we don't want that, nor do the West Germans particularly want it. We must do better and make real what is already obvious—make real on the books what is already obvious in the minds of the policymakers.

Now, let me make another point as clearly as I can. The balance-of-payments package of a stabilization fund loan, short-term financing, World Bank and IMF loans, is a package which is vital in the beginning of a sharp reform program.

HUNGARY AND CZECHOSLOVAKIA

Hungary needs the same, and Czechoslovakia soon will need the same, and I don't see our policymakers working in a concerted, coherent way to recognize that such packages of support, designed for the specific needs of the countries, must be made available in a timely way.

As I have said, the great drama for Hungary is to keep paying the banks, and somehow that is the policy goal in many parts of the G-7, which to me is an extremely unrealistic and unproductive priority when this month they are debating whether to go ahead full fledged, or whether as some people in Hungary think, the balance-of-payments constraint is so serious that they dare not take the steps of introducing convertability and other very vital reform measures.

So, we are not doing our job in terms of setting the international environment appropriately to be the counterpart of radical reform in these countries, and that is a job for the executive largely. There is a legislative component to it, but it is that that is missing now for Hungary, Czechoslovakia, and Yugoslavia, and the same example.

They are in the midst of a very daring and impressive reform which is producing huge economic successes and end of hyperinflation, and an opening to the world at the same time that they are under tremendous political strain, and pulling apart in many ways.

Despite the strain, and despite the impressive steps that the Yugoslavs have taken, the Paris Club, the official creditors of Yugoslavia, have refused so far even to roll over the principal payments that are due on government-to-government debt for 1990.

I find this mindboggling frankly; that we don't have enough empathy to understand from the point of view of a government struggling to survive with quite remarkable economic measures, that we can't even roll over for a year the principal payments due on government-to-government debt.

It just does not make sense, and I am wondering who is watching this process, and who is managing it.

FOREIGN DEBT

Senator BINGAMAN. You are suggesting that we, the United States, our administration, should take the lead in this upcoming economic summit to have the G-7 essentially forgive the debt of these countries, and in addition, put together packages to deal with this balance-of-payments problem?

Mr. SACHS. That is correct, although I would stress so that a strawman isn't created, that any debt forgiveness should be sequenced, conditioned on radical reform, phased in, and tailored to the particular needs of the country, and realistic financially, and not just a blank check. That is the last thing that we want to do.

But to have some realism about this, a realism which exists in the private discussions, but not in the public discussion of these issues, and what is ironic is that our Treasury lags this issue for 3 years and whether it is commercial bank debt, where they say we can't have debt reduction, and then the Brady plan comes along 3 years after, and it becomes painfully evident that it was needed.

Or, official debt relief for Sub-Sahara and Africa, which lagged 3 or 4 years from the painful obvious need. We can't afford such a lag right now. We can't afford the lag. We have too much at stake.

In purely financial terms, we have our own peace dividend at stake. So, it is not enough now to have the private discussion, saying, yes we know it all, and don't bother us now, but maybe in 1992, or 1993, we will be able to find our way to do it. That is not an answer when so much is at stake right now.

TECHNICAL ASSISTANCE FROM OTHER COUNTRIES

Senator BINGAMAN. How does the technical assistance that we are providing, or proposing to provide, compare to what the Western European countries, or the Japanese, or anybody else, are providing?

Mr. SACHS. Senator, I can't give you a fully authoritative answer. I can give you some impressions, because adding up all the pieces I can't be absolutely sure, but my very strong impression is that other governments have responded with far more vigor and with far more support to the Polish call for management consultants, for example.

Canada immediately responded with 40 management consultants. In the United States, as far as I know, they are offering two or three for a few weeks; whereas, Germany, Canada, Turkey, Italy, and others are offering help, and this is disadvantageous for American business, not to mention for the Polish needs.

And for the life of me I just can't understand how—again, it is recognized in the discussions that this is urgently needed, and that it makes sense, and that it is market supporting, and that it is pro reform, and you just can't get movement. You see the blank face, and nothing we can do.

Senator BINGAMAN. All right. My time is up.

Senator Roth.

EUROPEAN DEVELOPMENT BANK

Senator ROTH. Thank you, Mr. Chairman. Mr. Wolf, you have mentioned your opposition to the new European Development Bank. I wonder if you could discuss at greater length your problems with that concept.

Mr. WOLF. Well, the problem that I have with that concept is similar to the problem that I have with the regional development banks generally. They fence off particular regions, whether it is Asia or in this case Eastern Europe, or Central America, from the international capital market.

And, consequently, they impede what I think is a healthy process of interacting with competitive market forces in that market. This is connected to the one problem I see in Mr. Sachs' eloquent and convincing statement about the importance of sovereign debt relief.

And that is the problem of precedent. What impedes the very sensible course that he refers to in that context is the concern that this will then lead to a sort of most-favored-nation debt relief plea from Mexico, Brazil, and Argentina, among others.

To the extent that there is a way of making a special case for East European debt relief without creating this precedent, this would be a healthier thing to do.

My concern about the East European Development Bank is essentially that Eastern Europe should be an active and increasing participant in international capital markets, rather than have a preferred treatment, especially if the preferred treatment through the regional development bank comes on top of special debt forgiveness for Eastern Europe.

SOVIET UNION

Senator ROTH. I wonder, Mr. Wolf, if you would care to comment on Mr. Sachs' very eloquent proposal in respect to what needs to be done for the Soviet Union, and whether you share the same approach, or what you think we can do?

Mr. WOLF. Well, I have more doubts than some, or indeed perhaps most, about the extent to which Mr. Gorbachev is really committed to the sort of systems approach to economic reform that both Mr. Sachs and I have been describing, with somewhat different terminology.

The most recent indication of Soviet movement toward economic reform is in the drafting of some two dozen significant reform laws. Had they been passed and implemented, this would have effectively represented the kind of package of measures summarized in that diagram that I led you through a few minutes ago.

And having looked at that set of measures, which was analogous to a similar plan of 2 years ago, Gorbachev backed away. The usual explanation for that is that there is a polarization of political forces, and a fear of strikes and demonstrations and so forth, and a division of views within the Politburo.

That certainly may be the case. However, it is not clear to me that it is the case. So, I am somewhat more dubious about policy measures that provide support for Gorbachev *per se*, rather than for a package of reforms that is initiated and implemented. Once the latter has been demonstrated as an effective operating pro-

gram, this might elicit responses in the international capital market that I referred to before.

So, I am somewhat more dubious about an all-out program of support for Gorbachev on the premise that he is committed to reform. Of course, Mr. Sachs emphasized the conditionality of assistance. I would much prefer to see evidence of enactment and implementation of a systems approach to reform in the Soviet Union, such as has been amply demonstrated in Poland and Hungary, before considering any assistance, conditional or otherwise, to the Soviet Union.

Senator ROTH. Mr. Sachs, would you care to comment?

Mr. SACHS. Sure. There is an important dynamic at work in any country in serious economic crisis, in terms of actually giving birth to a reform process, and it is always an extraordinarily confused and heated environment, and I would say that the Soviet Union is such a place right now.

What I am proposing is certainly not an all-out program, and I am not proposing to tie it to Gorbachev or anybody else. What I am proposing is to make clear to the Soviet Union that the West will participate actively, and even support radical reform, in a measured, sensible responsive way, phased and conditioned.

The reason that is so important for us to do is precisely so that we can't sit here and wonder, well, what does he have in mind? That is not—from my point—a productive question for us on the question of what we ought to be doing, because we don't have to know the answer to that just now in order to be able to design contingencies.

And that under certain circumstances we would go ahead, and it is important for any government that is contemplating radical reform to know that there are options out there of support. In the case of Poland, there were intensive discussions for 4 months with the Western governments that played back and forth in order for Poland to be able to make the program that it started January 1.

There were very intensive discussions with the U.S. Government, and the IMF, with the World Bank and with the European Community, and with the other G-7 governments, and actual negotiations, and the stabilization fund was fundamental in getting the program designed in a particular way, which I find absolutely of central importance.

And in order to get the political support and the galvanizing of a consensus within Poland, it was important to have the understanding that there was help out there that would make it possible to move ahead and not just produce chaos from the kinds of measures that were being contemplated.

That is missing completely in the internal Soviet discussion right now, because no one is coming with the idea, and no one can speak with that authority yet, with the idea that if it is actually true, and if you are actually committed as you say to a full-blooded market economy, if you are really going to do the radical measures, and if you are really going to put forth a coherent sequence of steps, after step 3 we come in with some measured support.

And then if you make it to step 5, there is more, and so on and so forth. It is wholly in my view unconstructive, and it is good from

the point of view of intelligence analysis to make judgments of will they or won't they.

We have to understand probabilities, but it is not constructive from the point of view of thinking about our involvement to just step back and say we don't know what they are doing, and therefore, we can't risk anything. We have to make conditioned commitments, it seems to me, that if it actually were to go forward, we would help this process not be one of chaos, but actually one of measured, sensible and rapid and radical reform.

Who knows what they are going to do. I know that there is a very heated and live debate, and nothing is off the table in my view so far, but it is a very heated and intense debate right now in Moscow, and to have a debate where the West feels that it plays no role is a totally unrealistic and unnecessary risk that we are putting ourselves in, and that the wrong choices will be made, or that no choices will be made, and that they will just descend into a paralysis in the decisions that have to be taken.

And I believe that we have a vital stake in trying to avoid chaos there.

Senator ROTH. My time is up. Thank you, Mr. Chairman.

Senator BINGAMAN. Senator Sarbanes.

REGIONAL BANKS AND CAPITAL MARKETS

Senator SARBANES. Thank you, Mr. Chairman. Mr. Wolf, I want to address the assertion that the regional banks fenced the region off from the international capital market, particularly in the case of the Inter-American Development Bank and Latin America, in light of the fact that so much of the Latin American debt is in fact in the private capital market.

Latin America had a regional bank, and yet it didn't seem to fence the region off from the international capital market.

Mr. WOLF. Well, I think to the extent that the regional banks operate as a preferred form of lending, they do manifestly and intentionally fence off the recipient beneficiaries from the international market, in the sense—

Senator SARBANES. Then how in Latin America did the countries enter so heavily into the international private capital markets? It does not seem to me certainly in that situation that they were working against one another. They seem to have gone along with one another.

Mr. WOLF. Well, I guess maybe I am not being clear. The regional banks, to the extent that they make loans, fence off the region they make preferred loans to, and I think that—

Senator SARBANES. Fenced off from what?

Mr. WOLF. Fenced off in the following sense—

Senator SARBANES. Why isn't it the case that the regional banks made loans that the private market would not make, and the private market made loans that it is prepared to make. Isn't that the case in Latin America? Where the private market is predominant.

Mr. WOLF. Well, let me try to clarify what I have in mind. I am not saying that the regions are excluded from the international market. What I am saying is that to the extent that the regional

banks operate, they target their lending, and that is their purpose, to the region rather than to the world.

So, at the margin, the Inter-American Bank the Central American Bank, the East European Bank, the ADB, the Asian Development Bank, will make a loan to a country within the region where there is a possibly higher yielding project outside the region. That is their intention, and that is why they are set up, which is to accord preferment to the region that the bank is cognizant of.

That does not mean that the region doesn't also have access to the international market, but it means that to the extent the regional bank operates, it is giving, and intended to give preferment, exclusive of preferment, to countries within the region.

Senator SARBANES. Oh, I see.

Mr. WOLF. That is its purpose.

Senator SARBANES. So your point is not that the region gets less capital, but it actually gets more capital?

Mr. WOLF. Right.

Senator SARBANES. So, you would rather do away with the regional banks, and have the region get less capital, and go into the broader competition?

Mr. WOLF. Exactly; the latter.

Senator SARBANES. The latter.

Mr. WOLF. And then the region or the countries within the globalized economy that we really are increasingly dealing with, would acquire more loan capital, direct investment, joint ventures, equity, portfolio capital, in accord with the opportunities for a yield and—

Senator SARBANES. You would slow down their ability to accomplish the economic transition?

Mr. WOLF. Well, I guess I certainly don't want to be put in the position of slowing down their progress through this difficult and crucial—

Senator SARBANES. But that would be the result of it would it not, the practical result?

Mr. WOLF. It could be the result of it. I am not suggesting that the international or domestic capital markets are perfectly efficient.

Senator SARBANES. I am not trying to put you in that posture. I am just trying to find out what the practical consequences of—

Mr. WOLF. The practical consequence would be that the East European countries would get more or less of the international capital flows, depending upon the incentives that were developed within those countries. I have a sort of ambivalence toward the program that Mr. Sachs is outlining about our conditioning assistance to step 3 of a 7-step or whatever program, and then making the next step conditional on further movement.

I think that in principal that is—

Senator SARBANES. I don't want to get into Mr. Sachs' proposal. I want to kind of stay with yours.

Mr. WOLF. OK.

U.S. ROLE IN EBRD

Senator SARBANES. Let me ask you this question. Is it your position that the United States should stay out of the European Bank for Reconstruction and Development, assuming that it goes forward; that the Europeans are committed to go forward with it, along say with Japan, and in fact there are some 41 countries that are going to participate. Is it your view that the United States should stay out of it?

Mr. WOLF. If there were no political repercussions of doing so.

Senator SARBANES. I am assuming that there would be political repercussions.

Mr. WOLF. There would be, and——

Senator SARBANES. Would you be happy if your statement here today were to be the direct causal factor in the United States' not participating in the European Bank, and the bank going ahead with all of the other countries——

Mr. WOLF. No, I would be unhappy with that, right.

Senator SARBANES. You would be unhappy with that?

Mr. WOLF. In light of the political realities, I would much prefer to see the U.S. participate, and not play a sullen, critical role. On the other hand, I would be happy were my statement to be, or to lead to the inference that the scale, or the size, and the activity of the East European Development Bank were to be constrained, rather than——

Senator SARBANES. I think the Treasury has done a pretty good——

Mr. WOLF. Already.

Senator SARBANES. They have done a pretty good job of that in their bargaining position. I think if you want to see some fairly effective bargaining and shaping of the institution, and I am talking just about bargaining skills, they have done a pretty good job of it. You don't disagree with that, do you?

Mr. WOLF. No, I don't disagree with that.

Senator SARBANES. Well, how about you, Mr. Sachs? You wanted a different outcome, but you don't disagree with that assessment of their bargaining success?

Mr. SACHS. Absolutely not.

AID TO U.S.S.R. AND EASTERN EUROPE

Senator SARBANES. All right. Mr. Sachs, let me ask you this question. You know, resources are finite. At the margin, would you have the United States put them into this Soviet effort, or put them into Eastern Europe?

Mr. SACHS. Well, they are not as finite as we think they are.

Senator SARBANES. Let's assume for the purpose of this question that they are finite. In your priority of thinking, how do you see this?

DEBT RELIEF

Mr. SACHS. It depends on how you score it, because to duck your question for one more moment, since we are not—I think that there are things that we can do that have absolutely no cash-flow

consequence that would be of enormous significance, such as the debt relief.

And so I would look for ways to make the dollar go—

Senator SARBANES. You mean the debt relief in Eastern Europe?

Mr. SACHS. In Eastern—for the case of Poland, for instance.

Senator SARBANES. What percent of the official debt is held by the United States?

Mr. SACHS. One-ninth.

Senator SARBANES. One-ninth?

Mr. SACHS. Yes.

Senator SARBANES. And who holds—what country has the largest percent?

Mr. SACHS. West Germany.

Senator SARBANES. And what is that percent?

Mr. SACHS. That percentage is roughly—7 out of 27—about 20 percent.

Senator SARBANES. And are there other countries after West Germany, but ahead of the United States?

Mr. SACHS. No, I think that Canada is actually close, and the United States—there is a group that is bunched together—France, Canada, and Italy. I don't know the exact rankings. Let me also make clear—

Senator SARBANES. Why is addressing the official debt question primarily a U.S. responsibility then?

Mr. SACHS. It is not, and we should not do it by ourselves. This must be multilateral to make sense, and—

Senator SARBANES. But at the outset you kept talking about American policymakers.

Mr. SACHS. Yes.

Senator SARBANES. And I was sitting here and asking myself why you would not be talking about Western policymakers.

U.S. LEADERSHIP ROLE

Mr. SACHS. Well, I was raised to believe that America plays a leadership role in the world, and I meant by that was that we have a decisive role, whether in the shaping of financial institutions, or the debt policy, and what I find negligent in that, or in carrying out that role right now, is that we are not leading a multilateral effort.

I happen to think from a tactical point of view, and a substantive point of view that what we really ought to be doing is pressing Germany to lead the effort, because both on moral, historical, and financial grounds, they are the ones that ought to lead it.

But we do have a role to play, and we talk to them every day, and—

Senator SARBANES. You are getting a bit at the point that I am trying to make, but how does the assertion that you have just made square with your earlier comment that you have been brought up to believe, or led to believe, that America had a leadership role to play, and now—

Mr. SACHS. I think it would—

Senator SARBANES [continuing]. You are telling me that the American leadership role ought to be to get Germany to play its

leadership role, which seems to me to moving back to my observation that you would be talking about Western policymaking rather than American policymaking.

Mr. SACHS. Well, I—you know, by leadership I mean taking initiative to produce results—and for us to do it is a matter that comes to the question of what will be most effective.

But I think that in all of these things, as in the billion dollars for the stabilization loan, there I congratulate the White House. It took the United States to put the package together, and they did put the package together in the end, and that was a very important achievement, but—

Senator SARBANES. I think there is a leadership role for the United States to play, but I think it has to be played in concert with other countries.

Mr. SACHS. I agree with you completely.

Senator SARBANES. Particularly given the relative strength of these various economies. I mean, Japan and West Germany are large current account surplus countries, and they are not beginning to assume anywhere near the range of responsibilities that should correlate with that economic strength.

Mr. SACHS. I agree with you completely.

Senator SARBANES. OK.

Mr. SACHS. I have absolutely no dispute with that, but we still are a key participant in any multilateral effort, and I would say in practice we remain the key participant.

And if we want Germany to lead, this is a darn good year to ask them to do so, because they need us just the same way, and this is from a practical matter something of enormous urgency it seems to me. This is a good year to take care of these problems.

It also, I find particularly poignant, particularly important, that Germany was a major beneficiary of official debt reduction in 1953, when we canceled a great many of the U.S. claims against Germany for the precise purpose of allowing them to return to the community of nations with a fresh start.

And so they should understand very well from their own history how important it is to proceed, and we should understand that given this year of reshaping Europe's map, that we have a role to play in making sure that the map gets reshaped in a healthy way.

But I could not agree with you more, and I do not want to be misunderstood into saying that the United States should unilaterally act, and that would be a big mistake, and it would also be useless for Poland. We should be participating at the summit when we bring together the G-7 countries to do the right thing then.

And that is the venue that I think is most appropriate for taking action on this, especially since we are the host this year.

Senator SARBANES. Do you think it is possible for the Eastern European economies to accomplish the transition, and move as it were upward, and for the Soviet economy not to do so?

Mr. SACHS. Certainly.

Senator SARBANES. Then, going back to my previous question about decisions at the margin, where would you put the resources? Would you put moving the Eastern European economies on that path ahead of trying to put the Soviet Union on that path?

Mr. SACHS. I really find it hard to address in those terms. I know that is the way it may come or may seem to come in a budget, but let me make clear that if we help the Soviet Union, it is a far larger scale than anything that would have to be done for Eastern Europe.

Second, the real resources that we need to do the job for Eastern Europe are very limited. They are small if we act effectively and target the assistance well. So, I don't believe that there is a practical tradeoff. Helping the Soviet Union means a major increase of commitment, because small-scale volunteer efforts, or efforts on the level that we are talking about in the budget right now would be useless.

It would be major commitment, which I believe would be returned in the form of greater security and a peace dividend seen on even a year-to-year basis.

STANDARD FOR HELPING SOVIETS

Senator SARBANES. Your standard for helping the Soviets would be radical economic reform; is that right?

Mr. SACHS. Well, it would be—no, it would have to stretch across the whole range of issues.

Senator SARBANES. To include what else?

Mr. SACHS. Certainly a fundamentally demilitarization.

Senator SARBANES. OK. Standing down their military would be an integral part of that; is that correct?

Mr. SACHS. Absolutely.

Senator SARBANES. All right.

Mr. SACHS. That, and a commitment to a private market economy, and continuation of the democratization process, I think are all fundamental. This is not an economic relationship primarily. It is a far more complex relationship, but I believe there is potential for an extraordinary useful and mutual participation, or at least a possibility of that that has to be explored. That's all I am saying.

There is an opportunity that we may well miss, and it is the next few months that are going to be crucial, and even the next few weeks that could be crucial in this.

Senator SARBANES. I take it that in your view the West should approach the Soviets and sort of lay it out. It was my impression that the Poles approached the West and laid it out; is that not correct?

The Poles, in effect, said, look, this is the program that we want to do and are going to do, but we don't think we can do it on our own. We need some help in order to do it. We think it is possible, and we are willing to take the risk, the chances, but we need your help. We need some assurances from you that you will do this and this for us.

The question was put to the West, but the Poles had themselves internally made the judgment to go ahead. Now, you are reversing that, I take it, in the Soviet case. Is that right, and if so, what is the basis for doing so?

Mr. SACHS. Well, I think that the basis—I would hope that it would go the other way, also.

Senator SARBANES. Doesn't it almost have to go the other way, even more so with the Soviet Union, since the problem is so much bigger?

Mr. SACHS. In my view—

Senator SARBANES. You have a huge country, Mr. Sachs, and a large economy, and if they are going to do it, they have to do it themselves, so to speak. Now, why all of a sudden, are you turning the initiative around, as it were, on this thing? As I understood your testimony this morning, you are critical of the West for not putting the package together and going to the Soviet Union with it.

In the Polish situation, and in the other Eastern European countries, it is my impression that they are putting the package together, and making those basic commitments internally, and then coming for the support to make it work.

Mr. SACHS. I think that it always works in both directions, and I think that the Soviet situation is so complex that it will require a leap of imagination on both sides to have a good chance of success. The situation is critical, and we at least are living comfortably and stable right now, and so we can think about these things, I think, in an organized way that could be helpful.

But, yes, it would please me enormously were they to come with a firm commitment that they are doing a particular radical reform, and that they need help, and that it is well spelled out, and so forth. In practice in all of these things, and in Poland as well, requests were made and negotiations took place, and it went back and forth, and it was the knowledge that there was a mutual engagement of interests that was key to keeping the process moving and parallel. It was not one direction.

Senator SARBANES. No, no, no. I don't agree with that. I think that the response in the Congress certainly, and the response on the part of administrations in the West was very much influenced by the willingness of the Poles to take or to reach a judgment themselves to take these major, major steps. That same judgment or decision has not yet been made, clearly has not been made, in the Soviet Union.

Mr. SACHS. But, Senator, even—I basically agree with you, but even in the case of Poland, it was important to—

Senator SARBANES. Your answer should be that the Soviets should take you on as an economic adviser, so that you can get them to make those decisions as the Poles did.

Mr. SACHS. I think that the point that I am trying to stress is that even before the solidarity government was formed there was an important dialog underway, which gave confidence on both sides that this kind of program of radical reform could go forward based on mutual support and a firm commitment on the Polish side.

My feeling is that to get to that point with respect to the Soviet Union would take an active dialog. Who says the first word is, I think, less important than the willingness to engage in the dialog.

But I take your basic point that in the end what will be fundamental, and is always true in any reform process is that the government involved is firmly committed, because it is a hard, long road, and if you are not firmly committed, you don't make it to the other end.

But my guess would be that the idea of Western assistance in return for following that hard path does not seem plausible on either side right now, and so maybe it just is not discussed, and I regard that as a possibility of a fundamental missed opportunity, and that is the risk that I am flagging.

Senator SARBANES. Well, I have imposed on my colleagues, and they have been very gracious to let me exceed my time.

Senator BINGAMAN. Well, we have enjoyed the testimony very much. Senator Roth, did you have any additional questions?

Senator ROTH. No, I do not.

Senator BINGAMAN. We do have another part of the hearing which will be in closed session with the CIA discussing their report. We appreciate very much both of you being here. I think you made some excellent suggestions. We do have two or three other questions on the whole value of economic intelligence and how that might be improved upon. I would like to send those to each of you and get your reaction as time permits.

Mr. SACHS. Very good.

Senator BINGAMAN. Thank you very much, and we will close the—

Senator ROTH. Mr. Chairman.

Senator BINGAMAN. Senator Roth.

Senator ROTH. Mr. Chairman, I have a number of other questions, but because of a shortage of time, could we submit those for answer in writing?

Mr. SACHS. I would be delighted.

Senator BINGAMAN. All right. Thank you all very much. We will adjourn the open session at this time and go ahead in closed session with the Government witnesses.

[Whereupon, at 11:40 a.m., the open session was concluded, thereafter, the subcommittee entered into a closed session.]

EXECUTIVE SESSION (CLOSED SESSION)

Senator BINGAMAN. Let me just say here that we appreciate you being here for this closed session, and we have read your report, and we had something of a summary, and in fact, right after part of that April 20 hearing, something of a summary on Eastern Europe, and we appreciate getting more of an indepth view of it.

If you could go ahead and summarize your report, and then we will ask you some questions.

STATEMENT OF JOHN McLAUGHLIN, DIRECTOR OF EUROPEAN ANALYSIS, CENTRAL INTELLIGENCE AGENCY

Mr. McLAUGHLIN. Yes, sir. As suggested, I will give you about a 5-minute overview of where we were, or where we left off.

Looking back at the session that we had on April 20, let me just give you a few highlights of what we put on the table at that time, and more specifically, what John Helgerson, our Director of Intelligence, put on the table.

COMMUNIST PARTY ROLE IN EASTERN EUROPE

I guess the overarching point was that the Communist Party role in Eastern Europe is finished, and none of us as we think through

the situation can see a way that is going to come back, or that the Communist Party is going to be resuscitated.

Today all of these countries in Eastern Europe are trying in their own ways to move toward a model that would be best described as a market-based economy, and to some degree, or in fact to a large degree, the ability of all of these countries to improve their people's economic well-being would be an important determinant of a broader problem in the region, political stability.

On that score, living standards in the region today have improved slowly, at best, and in the cases of Poland, Yugoslavia, and Romania, in particular, are no higher today than they were in at the end of the 1970's.

As we look ahead, it is clear that the realities of the economic situation cannot be overcome simply with good intentions, and much will be determined, for example, by the kind of governments that are emerging from the elections that are now taking place.

ELECTIONS

And as you know, elections have been held in Poland, Hungary, and East Germany, and will be held this weekend in Romania, and looking down the road next month in Czechoslovakia, and in Bulgaria.

And the kinds of governments that come out of these elections will affect dramatically the economic record and programs that emerge; and what is the record that these governments will be up against.

ECONOMIC CONDITIONS

It is one of slow and stagnant growth, declining productivity, and investment in energy and intensive heavy industries, uncompetitive and poor quality goods, and massive environmental problems, and a deteriorating infrastructure.

In short, a disaster left by Communist regimes, and more important, perhaps, some of these governments, such as the East German one and the Romanian one, are learning that the records that they inherited are even worse than they thought as the lid comes off, and as the data are examined and get out on the table.

Now, despite this grim backdrop, we do see reason for optimism in the area. Virtually every country is now undertaking in various degrees institutional changes aimed at decentralizing management of the economy, and freeing prices, and expanding the private sector, and encouraging competition, liberalizing private foreign investment, and enhancing individual incentives.

I would underline, of course, that it is in varying degrees that all of these countries are doing that. If we were to quickly categorize what is going on in the region, first, it has to be said that in the case of the GDR, the East German economy is unique, because it is embedded in the broader problem of German unification.

And it will be brought along by that process, and the newly elected East German Government is fully committed, not just to unification, but to a market economy, and that will be part of the unification process. In fact, moving toward a market economy is one of

the things that it must do to qualify for monetary union on July 2 with West Germany.

EAST GERMANY

One indication of how costly it is going to be to bring about economic improvement over the area comes from the West German Government itself, which now estimates that over a 10-year period it will cost about \$500 billion to bring East Germany up to the standard of life in West Germany.

So, the GDR is unique, and in the rest of the region, reform programs differ, with the pace depending on the commitment to reform. At the extremes, of course, are the ones that you have heard about in your earlier session today, and the ones that I assume you want to get additional facts on, like Poland, where a comprehensive big-bang approach to problems is having some positive payoffs.

ROMANIA

And at the other extreme are cautious programs, such as those in Romania, which focus mainly on inventorying the problems that they have, and figuring out how bad it is, and then moving very slowly to deal with those problems.

As we see it, neither of these approaches is risk free. The big-bang approach, obviously, is an inducement to increase foreign investment, and bring about some immediate positive consequences, but it also risks economic dislocation, and greater political instability.

On the other hand, moving slowly may minimize those problems, particularly political unrest, but obviously the lesson throughout the region is that where piecemeal change has been tried, it is not very effective.

POLAND AND YUGOSLAVIA

So, the initial efforts to stabilize these economies have much in them that we would characterize as encouraging. The best news, as you know, comes from Poland and Yugoslavia, where hyperinflation raged unchecked last year, but where inflation has now been reduced to single-digit figures by tough stabilization measures.

Market supplies have improved in Poland, although access to them is limited, of course, by the prices; and as we look ahead, against these improvements one must say that the most formidable obstacles to genuine market reform lie ahead.

Maybe the biggest thing is that the public's tolerance for the kind of austerity required remains largely untested, even in Poland. Many things will happen, such as bankruptcies, and privatization will bring some dislocation. Perhaps the biggest problem on the horizon that these countries will have to deal with is unemployment, which is likely to soar.

As we look at Poland, for example, we think that unemployment could exceed about 1.5 million by the end of the year, and this would be about 9 percent of the Polish work force. It has the potential to reach something like 20 to 25 percent in the GDR, and

maybe 15 to 20 percent in Yugoslavia, and 5 percent or more in countries like Bulgaria, or Hungary.

And even if governments are able to persevere with reform efforts in the face of the problems, one of the real tragedies of the region, and I think you have heard again about this in the session with Jeffrey Sachs, is that the region will face heavy foreign debt burden that will minimize or will at least limit its ability to move ahead with reform, even if it makes some of these tough decisions.

ECONOMIC RECOVERY

It will simply be difficult for many of these countries to modernize their economies and service their debts at the same time. Economic recovery will be difficult in the absence of more effective long-term debt removal.

And with expectations of rapid improvement rising in the region, the risk of failure, whether perceived or real, is very great. All of these countries need help, and it must be said that Western Nations have responded impressively.

The G-24 countries—the United States, Japan, and other smaller countries, have currently pledged about \$12 billion in credits, loans and investment guarantees, food aid, and other kinds of grants, to Poland and Hungary alone.

The official government creditors have also agreed to reschedule about \$9 billion in official Polish debt falling due before March 1991; and Western countries, as you know, are looking at reducing some COCOM restrictions, and steps are being taken to ease trade restrictions.

TRANSITION TO MARKET ECONOMY

What does it all come down to? Once again, in summary fashion, the bottom line has to be that progress toward market reform in Eastern Europe is likely to be uneven, and economic recovery, at best, will take some years.

If aggressive implementation coincides with consumer shortages and a prolonged decline in real incomes, workers may take to the streets, and in such circumstances, Western donors would be likely to encounter pressure for additional aid, and a high degree of criticism if none were available.

PRIVATE INVESTMENT

In the final analysis though, the key to the region's economic recovery will be in attracting greater private investment, which in turn depends on the governments undertaking steps to create a stable political and economic environment, that political-economic nexus that I referred to at the outset.

As we look at the region as a whole, there is cause for optimism that in places like East Germany, Poland, Czechoslovakia, and Hungary, a good start is likely at the end of the year; and at the other extreme, we think it likely that countries like Yugoslavia and Romania are still far from domestic tranquility.

In sum, Eastern Europe is now emerging from a year of exhilarating revolution, and entering a transitional period of democratic consolidation and institutionalization as a whole. As this period

begins, we all would have to take heart from the courage shown by the East Europeans in 1989; and the progress already evident this year.

This is all cause for considerable optimism, but they, and we, should not underestimate the difficulties that lie ahead; the difficulties, that in our view, could still undermine the progress that East Europeans have made. Sustaining that progress will require the same persistence that the East Europeans showed in shattering the Communist rule in the region during 1989.

And that concludes our opening summary.

[A paper by the Central Intelligence Agency presented to the subcommittee follows:]

"EASTERN EUROPE: LONG ROAD AHEAD TO
ECONOMIC WELL-BEING"

A PAPER

BY THE

CENTRAL INTELLIGENCE AGENCY

PRESENTED TO THE

SUBCOMMITTEE ON TECHNOLOGY AND NATIONAL SECURITY

OF THE

JOINT ECONOMIC COMMITTEE

Eastern Europe: Long Road Ahead To Economic Well-Being**SUMMARY**

The end of Soviet hegemony and Communist control over Eastern Europe gives the peoples of this region the greatest opportunity to take control of their own destiny since the collapse of the multinational empires after World War I. The East European states are now trying, each in its own fashion, to head in the direction of the model they believe works--democracy with market-based economies. The ability of the new fledgling democracies to improve their peoples' economic well-being will be an important determinant of political stability.

In recent months the new reform-minded governments of Eastern Europe have pressed ahead and passed unprecedented legislation designed to transform their centrally planned economies into market based economies. Real progress has been achieved toward decentralizing management, freeing prices, expanding the private sector, encouraging competition, liberalizing private and foreign investment rights, and enhancing individual incentives. Most importantly, events in Poland in recent months have demonstrated at least one country's willingness to endure hardships imposed by a popularly elected government in exchange for the opportunity for a better future. Popular response to Warsaw's reform efforts has also shown that an entrepreneurial spirit survives; there are indeed risk takers and people with vision.

Nonetheless, the realities of the economic situation facing the region are daunting. The new governments must begin by confronting the legacy of their Communist predecessors--slow or stagnant growth, declining productivity, energy-intensive and obsolete heavy industries, heavy foreign debts, poor quality goods and noncompetitive exports, massive environmental problems, and deteriorating infrastructures, to name a few. Such problems will be difficult to overcome, require tremendous energies and investment, and act as a brake on future growth.

Despite the initial success of Poland and Yugoslavia in stabilizing their economies, and real progress in legislating reforms throughout most of the region, the most formidable obstacles to reform lie ahead. Implementation of

fundamental reforms dealing with politically sensitive issues such as bankruptcy, privatization, and unemployment has not kept pace with recent legislation. Unemployment is likely to soar if the new governments vigorously pursue plans to break up large single-enterprise state monopolies, restructure their economies away from noncompetitive heavy industries to light manufacturing and consumer goods industries, eliminate state subsidies, and let the market determine winners and losers. We estimate that unemployment could easily exceed 1.5 million in Poland--nine percent of the work force--by yearend. Similarly, we estimate potential unemployment at 15-20 percent in the GDR and Yugoslavia over the next year or so, and 5 percent or more in Bulgaria and Hungary.

Price rises and falling wages--attendant hardships of the reform process--are likely to be troublesome, but the loss of jobs is certain to be traumatic both for the unemployed and the new governments that will have to answer to them. These new governments will probably be hybrid coalitions that will take some time to get their bearings and come to grips with problems severe enough to challenge even the most stable and experienced democracies. As long as aggressive implementation of austerity measures coincides with prolonged decline in living standards, there will be a risk of public protest that could set back reforms and economic recovery.

Even if governments do persevere with reform efforts and the people respond favorably, overall economic growth in the region is likely to deteriorate further in the short term. Stabilization programs designed to rein-in inflation, growing budget deficits, and hard currency debt will make it difficult to sustain growth. Performance may be poorest in those countries pushing reform the hardest--Poland, Hungary, and Yugoslavia--with output slowing and even declining as efforts to stabilize the economy and implement structural reforms prove disruptive. Although many East Europeans clearly have shown impressive boldness and courage in pushing ahead with reforms--and although these reforms should remove most of the worst features of Communist central planning--significant growth and improvement in living standards in the region, at best, will take years.

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Eastern Europe: Long Road Ahead to Economic Well-Being

1989: The Worst of Times, The Best of Times

1989 was a year of sharp contrasts in Eastern Europe. On the one hand, the region's poor economic performance was a fitting end to a decade characterized by slow or stagnant growth, declining productivity, deteriorating industries, poor export performance, increasing foreign debt, and the failure of many regimes to meet even the most basic of growing consumer demands. Following ten years of economic deterioration, Eastern Europe, like the Soviet Union, had lost much of its already limited international competitiveness. It was rapidly falling behind many of the newly industrialized Third World countries, especially on the technology front.

On the other hand, 1989 was a year of revolutionary changes that are cause for optimism, both political and economic, in much of the region. Events in the autumn of 1989 marked the beginning of the end of forty years of Soviet hegemony and Communist control over the region, and the beginning of a transition to more democratic governments and market-oriented economies. With the Stalinist centrally-planned economic model declared bankrupt, nearly all of East Europe has begun economic reforms that offer a chance for a better economic future.

Problems Multiply

The most recent data indicate a further decline in Eastern Europe's economic performance and standard of living last year.* The region's aggregate economic output (GNP), declined an estimated 0.3 percent following a modest rebound in 1988. The poor showing was even below the decade's dismal 0.7 percent average annual rate of growth, and was in sharp contrast to the high rates of growth posted in the 1970s (See Box 1). Output fell in all countries except Czechoslovakia and East Germany, and even there the rates of growth were down from 1988. (TABLE 1)

Eastern Europe's external trade and financial balances fared no better. Hard currency imports grew 8 percent while exports rose only 5 percent, as consumer shortages and rising wage levels sucked in imports and diverted domestic production from export markets. As a result, the Polish and Hungarian current account deficits worsened considerably. Regional indebtedness continued its upward trend, rising 5.5 percent to \$116 billion. Only Yugoslavia managed an improvement in its debt situation.

* See Appendix B for a discussion of East European Economic data.

Table 1
Eastern Europe: Annual Average Growth of GNP

	1971-75	1976-80	1981-85	1986-88	1989	1990-1991*
Eastern Europe (excl. Yugoslavia)	4.8	1.7	1.1	1.3	-0.3	-1.1
-Bulgaria	7.5	1.0	0.9	1.6	-0.1	-2.5
-Czechoslovakia	4.7	2.2	1.2	1.7	1.0	0.0
-East Germany	3.1	2.3	1.9	1.4	1.2	0.5
-Hungary	3.3	2.0	0.7	1.6	-1.3	-0.4
-Poland	6.5	0.7	0.7	0.8	-1.6	-3.0
-Romania	6.8	1.3	1.0	1.5	-1.5	-2.0
Yugoslavia	4.6	5.5	1.3	1.1	-1.0	-1.0
OECD	3.1	3.6	2.6	3.4	N/A	N/A
-US	2.2	3.4	3.0	3.6	3.0	N/A
-Japan	4.7	5.0	1.5	2.9	5.5	N/A
-EEC 4	2.8	3.0	3.9	4.2	N/A	N/A
Developing Countries	7.0	5.5	2.5	3.6	N/A	N/A

* Estimated

BOX 1

Economic Performance in Perspective

Until the late 1970s, several factors combined to give the East European economies a reasonably good growth record:

- A rapid expansion of the industrial labor force.
- The ability to maintain a high level of investment in heavy industry without serious constraints from competing consumer demands.
- Buoyant growth of Western markets and relatively stable terms of trade with the West.
- Increasing supplies of Soviet raw materials and energy at attractive prices.
- A guaranteed and growing Soviet market for Eastern European manufactured and consumer goods.

Growth rates peaked in the early 1970s as Eastern Europe turned to Western credits to help sustain levels of investment and support rising consumption. The region's need for hard currency credits and goods coincided with Western interest in promoting political detente and opening up new markets for capital goods and agricultural products. The massive surge in Euromarket liquidity stemming from the recycling of OPEC funds provided even greater credit sources to Eastern Europe.

The economic momentum dissipated quickly after the mid-1970s. Hard currency debt rose much more rapidly than planned as Western inflation boosted import prices and recession in the West cut markets for Eastern Europe's exports. Despite ambitious and costly modernization programs, gains in productivity and competitiveness of East European industries fell far short of expectations. Overly centralized bureaucratic management lacked the ability to cope with increasingly complex problems. Resources were wasted on unpromising investments, while critical sectors such as agriculture, energy, and transportation were often neglected.

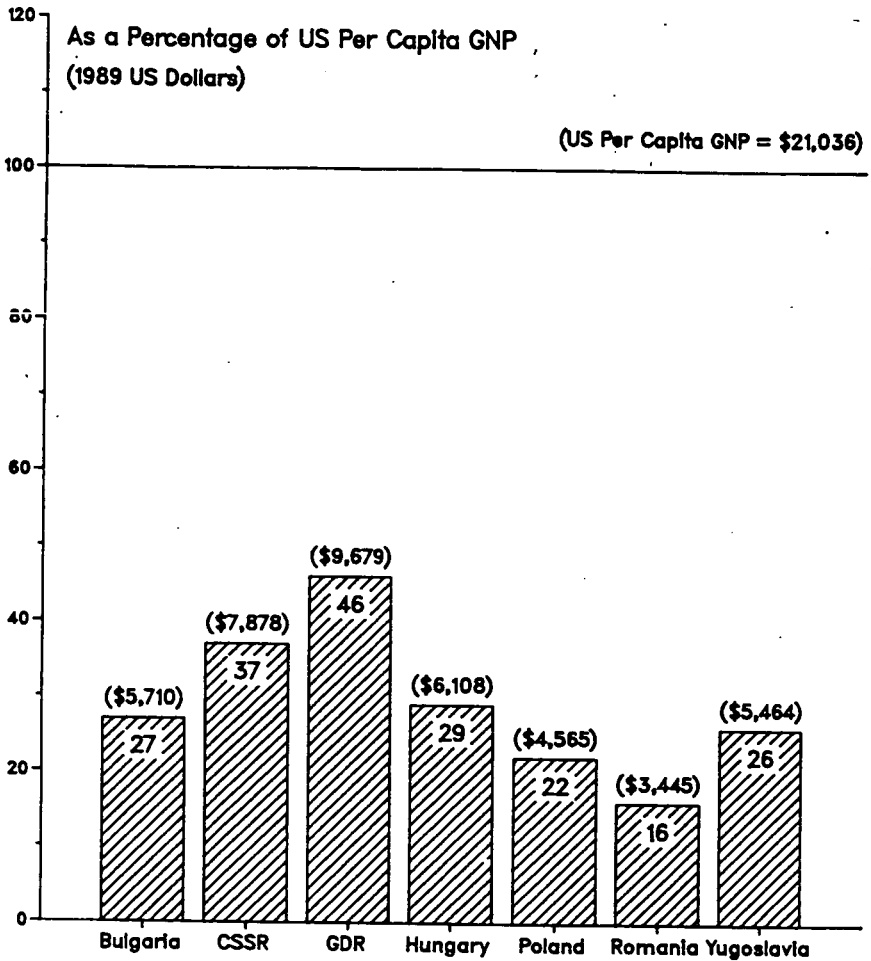
The era of heavy foreign borrowing came crashing to an end in 1981 with Poland's near economic collapse and the subsequent reduction in credits to the region. Eastern Europe then began a period of retrenchment, slow growth, and austerity. The region's slowdown would have been even steeper except for Moscow's willingness to shoulder much of

the adjustment burden. Despite its own production problems and opportunities to sell in the West at skyrocketing world prices, Moscow continued to supply growing quantities of energy and raw materials on favorable terms while extending sizable long-term credits to cover the region's rapidly mounting trade deficits with the USSR.

As a result of 1989's poor showing, the gap in economic performance between Eastern Europe and the West widened further last year; per capita GNP in Eastern Europe fell to 27 percent of that of the US, down from 32 percent in 1975. In Poland, Yugoslavia, and Romania, the standard of living is no higher today than at the end of the 1970s, and elsewhere it has improved slowly at best over the past decade. (FIGURE 1)

The region's poor performance can be attributed to a number of traditional factors--energy shortfalls, labor disruptions, declining labor and capital productivity, crumbling infrastructures, excessive bureaucratization, technological stagnation, and distorted incentives. All have plagued the region for a decade. At the same time, new factors have contributed to the region's economic downturn. These include labor shortages brought on by the massive emigration of East Germans out of the GDR and ethnic Turks from Bulgaria, and the absence of a firm hand at the economic controls as political changes have taken hold. In some cases, the downturn also reflects the onset of stringent economic stabilization measures.

Figure 1
 Estimates of 1989 East European Per Capita GNP ^a



^a These figures represent point estimates.
 Confidence in these estimates is greatest for Hungary, Poland and Yugoslavia and least for Romania.

Economic Performance By Country

Bulgaria

New economic data released in late 1989 revealed a picture of a rapidly deteriorating economy. Gross foreign debt reached \$10.0 billion, up from an estimated \$7.5 billion in 1988; and inflation was in double digits. Real wages declined a reported 2.4 percent last year and shortages of food and consumer goods were widespread. GNP was flat; energy shortages, unprecedented labor unrest and supply problems played havoc with industrial output. Transportation and construction sectors were also down, and agricultural production--despite a good grain harvest--was stagnant in large part due to labor shortages resulting from the exodus of some 300,000 ethnic Turks last summer.

Czechoslovakia

Although it can still claim one of the highest standards of living in Eastern Europe--second only to East Germany--the coalition government dominated by the Civic Forum inherited an outmoded and virtually stagnant economy. Total output grew only 1.0 percent last year, less than half the rate of the 1970s. Growth in industrial production slowed but agriculture performed well with a good grain harvest and livestock production. Industrial productivity showed no improvement due to excessive raw material and energy usage and slow application of new technologies. Real wages and consumption rose slightly but consumers were still plagued by a number of shortages and the rate of housing construction continued to lag far behind demand. A sharp rise in borrowing in the last half of the year apparently boosted gross foreign debt nearly 30 percent to \$7.8 billion. Nevertheless, it remains--with the exception of Romania--the lowest in the region in per capita terms.

Poland

By almost any measure, Poland's economy deteriorated sharply last year. Living standards today are no higher than they were at the end of the 1970s, and output has surpassed the level achieved in 1978 only twice in the last decade. The Mazowiecki government, which took office in September, was not able to get its promising reform program in place or to arrest negative economic trends before yearend. Inflation rocketed from 74 percent in 1988 to 640 percent in 1989, spurred by a large budget deficit, excessive money creation, decontrol of most food prices and agricultural inputs, and generous wage settlements in the wake of numerous strikes. GNP fell 1.6 percent last year, with steep falls recorded in coal and steel output, construction, and food processing. Panic buying and hoarding worsened chronic shortages of consumer goods and

Table 2
 Eastern Europe: Population and Labor Force in 1989
 (year average, in millions)

	Population		Labor Force		Industrial Employment
		Total	Non-Agricultural	Agricultural	
USSR and Eastern Europe	425.00	215.04	171.85	44.19	59.76
USSR	288.70	152.30	121.84	30.46	37.98
Eastern Europe	136.30	63.74	50.01	13.73	21.78
-Bulgaria	9.00	4.30	3.44	0.86	1.42
-Czechoslovakia	15.60	8.20	7.19	4.01	3.03
-East Germany	16.50	8.96	7.99	0.97	3.36
-Hungary	10.60	4.86	3.95	0.91	1.50
-Poland	37.80	17.13	12.25	4.88	6.25
-Romania	23.20	10.69	7.70	2.99	3.63
-Yugoslavia	23.70	9.60	7.49	2.11	2.59
OECD	830.00	N/A	N/A	N/A	N/A
-US	248.20	125.56	122.36	3.20	30.13
-Japan	123.20	63.33	58.90	4.43	20.90
-EEC 4*	231.60	103.80	98.45	5.35	30.17

* France, Italy, UK, and West Germany.

food despite higher farm output. On the external side, the hard currency trade surplus fell almost 75 percent and the hard currency current account deficit tripled to an estimated \$1.8 billion.

Hungary

The economy deteriorated in 1989 after showing mixed results in 1988. Total output fell 1.3 percent with industrial production declining 3.4 percent. Inflation accelerated to 17 percent and living standards fell. The government's failure to control expenditures resulted in a 55 billion forint budget deficit--over five times that planned--leading the IMF to suspend the last drawing of a standby loan. Although trade performance improved, higher interest payments on Hungary's \$20.4 billion debt and a foreign buying spree by Hungarians taking advantage of liberalized travel laws, widened the hard currency current account deficit from \$807 million in 1988 to \$1.4 billion in 1989.

Romania

The National Salvation Front (NSF), successor to Romania's ousted Nicolae Ceausescu, is just beginning to realize the magnitude of the former dictator's disastrous economic legacy. Ceausescu's gross personal mismanagement of the economy and his obsession with paying off Romania's foreign debt--which dropped from \$10.1 billion in 1981 to around \$400 million by yearend 1989--has left the economy on the brink of collapse. Living standards are the lowest in Europe, except for Albania.

Romania has an antiquated industrial base, poor infrastructure, and struggling energy and agricultural sectors. With few data yet released, we estimate GNP fell 1.5 percent last year, with both industrial and agricultural production down from year earlier levels. The economy's only bright spot in 1989 was trade, where Bucharest apparently was able to wring out a \$2.5 billion surplus by boosting exports and further restricting domestic consumption.

Yugoslavia

Yugoslavia's near decade-long economic deterioration entered a new phase in 1989 with the onset of hyperinflation; over 2,800 percent for the year, and running at an annualized rate of 27,000 percent by yearend. Unemployment totaled 15 percent, the highest reported rate in Eastern Europe, and was heavily concentrated among the young and educated. Living standards continued their decade long fall and the number of strikes--nearly 1,900 involving 470,000 workers--increased. Total output last year fell 1.0

percent, with declines in industry, transportation, and trade more than offsetting an upturn in agricultural output.

In contrast, the external financial accounts showed sharp improvement; the current account registered a \$2.6 billion surplus, foreign exchange reserves rose from \$2.3 billion to about \$6.0 billion by yearend, and foreign debt was reduced from \$18.0 billion to \$16.5 billion, lowering Yugoslavia's debt service ratio to around 28 percent. Large disparities in income and wealth remain between the country's more prosperous northern republics and the poorer southern regions, exacerbating ethnic and regional tensions and complicating the government's efforts to legislate economic stabilization and reform programs.

GDR

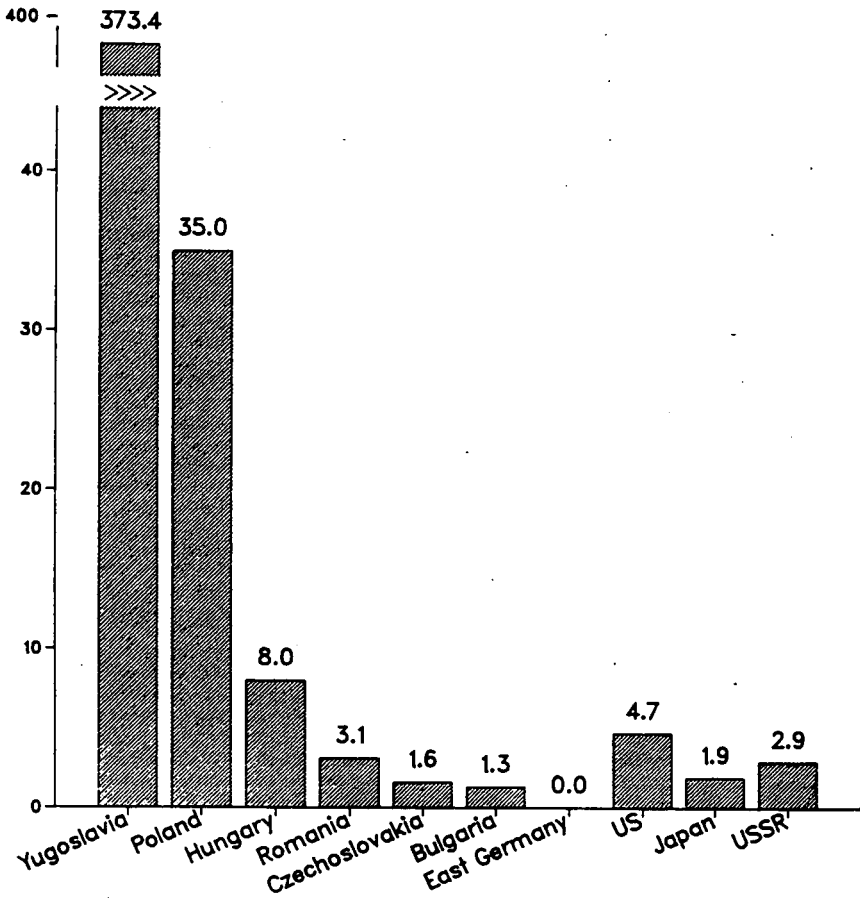
Political turmoil and severe shortages of labor and energy tipped East Germany into a recession in the fourth quarter 1989 and pulled down annual GNP growth to 1.2 percent, one of the lowest growth rates ever. The crippling drain to the West of young and skilled workers--340,000 in 1989 alone--forced thousands of East German shops, health clinics, municipal services, and factories to limit or halt operations. Morale fell sharply among those left behind who had to work poorly-compensated overtime shifts. There was a notable fall off in performance in most sectors of the economy except agriculture. The fourth quarter slump in industrial output reduced the annual growth of industrial production to one of the lowest on record.

Officials have admitted that the economy--long touted as an example of centrally planned efficiency--is in far worse shape than acknowledged by the Honecker regime. They have conceded that the 1989 state budget was in deficit by some 5-6 billion marks, that subsidies were growing at twice the rate of national income, and that foreign debt payments were eating up nearly half of total hard currency export earnings. The populace is waiting for a unification with West Germany that it hopes will bring massive material and technical assistance to smooth the path to a "social" market economy.

Initiating Economic Reforms--Hope for the Future

Over the past six to nine months the new reform-minded governments of Eastern Europe have pressed ahead and despite often lengthy delays and compromises, have passed unprecedented constitutional amendments and supporting economic legislation designed to transform their centrally planned economies into more market oriented economies. Virtually every East European country is now pursuing some mix of the following changes, albeit with varying degrees of intensity:

Figure 2
Inflation: Average Annual Growth of Consumer Prices
1980-1989



- **Decentralizing Management.** Economic decisionmaking authority and responsibility are being transferred from central planning agencies and ministries to firms and workers.
- **Changing performance indicators.** Profit is becoming the key measure of economic performance, in place of total output and sales.
- **Freeing prices.** Supply and demand are being permitted to have a greater role than administrative directives in determining prices and allocating scarce resources.
- **Expanding the private sector.** Private enterprise is being encouraged from above through the privatization of state enterprises. It also is being stimulated from below by the removal of restrictions on the entry of new firms into the marketplace and by providing incentives--such as start-up funding and preferential loans--to stimulate competition and improve the quality of goods and services.
- **Increasing financial discipline.** Subsidies are being reduced or eliminated and inefficient firms are being allowed to go bankrupt. Credit is being extended on the basis of projected profitability rather than in response to plan directives and political influence.
- **Encouraging competition.** Single enterprise dominance is being eliminated in wholesale, retail, and foreign trade, and in the industrial and banking sectors. Import controls are being lessened to permit greater foreign competition in domestic markets.
- **Liberalizing restrictions on foreign investment.** Joint ventures and direct investment by foreign firms are being permitted to attract Western capital, technology, marketing and management skills. Restrictions on foreign-ownership equity, management control, and profit repatriation are being eased, and the fields open to foreign investment are being broadened to include banking and other financial services.

- **Establishing contract law.** Producers are beginning to obtain inputs and distribute output on the basis of contracts negotiated with suppliers and customers rather than in accordance with plan directives.
- **Enhancing individual incentives.** Wages and bonuses are being increasingly linked to productivity, with more highly skilled workers rewarded through pay differentials and managers free to fire incompetent workers.

Economic reform programs differ considerably from country to country in terms of their pace, scope, and sequencing of events. These differences reflect the diversity in the region's economic development, previous experience with reform, and the severity of problems such as foreign debt. They also reflect the differing degrees of leverage that Western official and commercial creditors have on each country. National programs range from Poland's sudden and comprehensive "big bang" approach to Romania's cautious efforts to stabilize its economy and inventory its problems.

Both bold and cautious approaches have their benefits and potential dangers. Moving rapidly may mean an advantage in the competition to gain Western financial assistance and attract foreign investment, but risks severe economic disruptions and political instability. Moving slowly may facilitate a less painful transition to a market economy, but risks economic failure as the economic institutions of incomplete market and socialist systems come into conflict.

National Economic Reform Efforts

Reform programs and actions have advanced the furthest in Poland, Hungary, and Yugoslavia. Reform efforts in these countries predate both Gorbachev's perestroika and the political upheaval in Eastern Europe last fall. They are attempting to build on previous efforts which partially dismantled central planning institutions, gave some day-to-day decision making authority to enterprise managers, broadened the role of private enterprise and increased reliance on markets.

Poland--The Big Bang Approach

On 1 January 1990, the Mazowiecki government went "cold turkey" and initiated an economic program of unprecedented magnitude, designed to simultaneously halt hyperinflation, stabilize the economy and transform it into a market system. Prices for most goods and services were decontrolled and consumer and producer subsidies were slashed. To limit the inflationary impact, Warsaw reduced the level of wage

indexation, targeted the budget deficit at only 1 percent of GNP, tightened monetary and credit expansion, and instituted punitive taxes on unauthorized wage increases. It also eliminated the remaining vestiges of central planning, devalued the zloty by allowing it to float at market rates, and made it fully convertible for most transactions.

To promote further structural change, the government has submitted legislation to parliament which provides for the privatization of a large share of Poland's 7,600 medium and large state owned enterprises, starting with the most profitable. The government is drafting legislation to put teeth into bankruptcy laws, create a securities market, develop a regulatory framework for the banking system, and overhaul budget and tax systems.

The government also is moving to follow up on legislation aimed at opening the economy to greater competition, which the outgoing Communist government approved last year. These measures include:

- Legislation placing private and state firms on an equal regulatory footing, removing hiring limits on private enterprise, and opening most economic sectors to private activity,
- Legislation abolishing restrictions on foreign ownership in joint ventures and establishing the right of foreign firms to form fully-owned subsidiaries.
- Legislation strengthening anti-monopoly laws.
- Legislation creating a Western-type banking system composed of a central bank and independent commercial banks.

Initial Results: The program has shown some impressive early results: inflation has fallen sharply--from a monthly rate of nearly 79 percent in January to an estimated 6 percent in March; the zloty exchange rate has remained stable, and market supplies have improved. The costs--deep recession and a sharp drop in living standards--however, have been high.

The balance in supply and demand has been achieved largely through a sharp decline in consumer purchasing power; real incomes have fallen roughly 35 percent since December. Industrial sales in the first three months fell 27 percent, and unemployment has emerged for the first time, rising from 9600 in December to 266,000 by the end of March--roughly 1.5 percent of the work force.

The private sector has been hit hard; tighter credit and falling demand have forced many firms to suspend operations, and private farmers have been squeezed by rising input prices and the high cost of credit. Meanwhile, little progress has been made in breaking up and selling off large state firms and none has been forced into bankruptcy. Plant managers have thus far relied on furloughs to avoid laying off employees. Somewhat surprisingly in view of the cuts in real income, there have been few strikes and Prime Minister Mazowiecki retains a high level of popular support.

Outlook: The Polish economy's troubles are among the most acute in the region, and the reform process is likely to be a long-term and socially painful proposition. For now, the government shows every indication of persevering, despite criticism from many special interest groups. It is bolstered by a relatively broad consensus that there are no alternatives to the present shock therapy. Moreover, local elections May 27 should sweep roughly 200,000 Communist officials from power, many of whom have stalled past reform attempts. At the same time, reforms will be impeded by the same financial constraints and lack of skills that plagued previous programs. In addition, the government has yet to devise ways of coping with unprecedented unemployment, which could top 1.5 million this year. As layoffs and plant closings grow, still-strong public support for the government could be jeopardized.

Hungary--Going One Step Further

Hungary has captured both Eastern and Western attention as a daring pathbreaker of reform since it began implementing its "New Economic Mechanism" in 1968. Though often piecemeal and halting, such reforms have decentralized economic decisionmaking, prompted an expansion of private and cooperative enterprise, and resulted in the selective introduction of "market forces" into the economy on a scale not matched in any other East Bloc country. However, while such reforms have contributed to improved consumer supply, they have done little over the years to promote industrial growth, to make exports more competitive, or to reduce the country's growing hard currency debt. Recognizing these deficiencies, various "reformist governments" in Budapest have in the last three years, passed during the last three years a number of key reforms that it is now trying to refine and broaden.

- **Bankruptcy**--A bankruptcy law was adopted in 1986, although state enterprises are still largely immune to bankruptcy proceedings. Commercial banks can initiate proceedings against insolvent borrowers, but they have been reluctant to do so because their portfolios are riddled with bad debts assigned

to them when the banking system was reorganized.

- Banking system--In January 1987, a Western-type banking system with a central bank and independent commercial banks was established.
- Private and foreign ownership rights--
Legislation passed in 1989 allows private and foreign shareholding in state enterprises and permits the establishment of wholly foreign-owned companies. It also permits private firms to hire up to 500 employees. In addition, Hungary has already established small markets for stocks and bonds.

The leadership has also taken steps toward market-based wages and prices, but it is moving slowly due to concerns about setting off an inflationary spiral. About 70 percent of prices are "free", although, in an effort to control inflation, the government still indirectly influences many prices. Ongoing reforms envisage further gradual freeing of wages and prices over the next several years.

In March 1990, Hungary concluded an agreement with the IMF for a new \$206 million standby loan which mandates reducing the current account deficit from last year's \$1.4 billion to \$550 million in 1990, slashing the budget deficit by more than 80 percent, and balancing trade with CEMA countries. To these ends, Budapest has raised interest rates, cut rent and consumer price subsidies, devalued the forint, and instituted restrictive licensing requirements for exports to its CEMA trading partners.

Initial Results: Budapest's austerity program initially caused more public backlash than previous rounds of austerity; there were more strikes and a demonstration by about 30,000 workers when the program was implemented in January. Prices of many basics--food, rents, gas, electricity, transportation, medicines--have risen 30 percent or more since the first of the year. Some plants largely dependent on export to the Soviet market are threatened with closure because their subsidies have been cut substantially; some government officials are warning of a drop in engineering output of 8-10 percent and that 100,000 workers may be laid off as a result.

Outlook: The new coalition government led by the Hungarian Democratic Forum will undoubtedly seek to continue and broaden Hungary's long-running economic reform efforts. With all the parties in the coalition subscribing to the need for a market economy, closer integration with the West, and a larger private sector, debates over the next few months are likely to focus on the pace of reforms,

particularly that of privatization, rather than on goals. Its policy options will be constrained by Hungary's precarious financial position and by the conditions of its new IMF standby program. Like its predecessors, however, the new government will not have a clear mandate to speed up industrial restructuring and market economic reforms and will probably have a tough time selling its austerity policies to the public.

Yugoslavia--Implementation Is the Critical Test

The onset of hyperinflation in 1989 was a clear signal that Belgrade needed a comprehensive reform program to head off economic collapse. Premier Markovic's economic program, much of it adopted at the end of last year, is aimed at stabilizing the economy and building on Yugoslavia's halting, four-decade transition to a more market-oriented economy.

The stabilization program makes bringing down inflation its first priority and has currency reform and a tight monetary policy as its centerpieces.

- A new, fully-convertible dinar was created as of 1 January and pegged to the Deutschemark; Yugoslavia is the first East European country to take this step.
- A wage freeze is in effect until 30 June.
- The 1990 budget has been reduced in real terms and includes many items--such as central bank subsidies to agriculture and quasi-state operations--that were previously off-budget expenditures.
- Measures aimed at reducing Yugoslavia's \$2 billion clearing trade surplus with the USSR--essentially an interest-free loan to Moscow that is highly inflationary--have been implemented.

Markovic has also pushed through some key systemic legislation aimed at broader structural and financial reform:

- A law on bankruptcy allows creditors and debtors, rather than governments, to initiate bankruptcy procedures.
- A law on consolidation of the banking system requires all banks to be audited and limits rechartering only to those which are solvent; unprofitable banks are to be closed.

- An enterprise law grants private and mixed ownership firms the same legal status as cooperatives and socially-owned enterprises.
- A law on social capital allows for the privatization of social-sector property.
- A law on foreign investment provides foreign investors all the rights of domestic investors, including full ownership in most sectors, and guarantees repatriation of earnings in hard currency.
- Progress also has been made in establishing stock and bond markets, in reforming the tax system, and in unifying accounting practices.

Initial Results: Markovic's stabilization program has shown some favorable initial results: monthly inflation has fallen from a rate of about 60 percent in December into single-digits, the dinar has remained steady, and foreign exchange reserves have risen dramatically. Hard currency exports jumped 35 percent in January-February 1990, reflecting confidence in the government's new exchange rate policies. At the same time, the value of exports to CEMA countries fell 4 percent, in line with Belgrade's policy of redirecting trade toward the West. Foreign investment last year topped \$800 million, more than in the previous 22 years, according to press reports. Many tougher measures, however, have yet to be implemented; no large unprofitable firms have been closed, and wage increases that violate the government's wage freeze are widespread.

Outlook: The success of the reforms is still in doubt, and historical precedents are not encouraging. Yugoslavia has a long history of passing good laws and failing to follow through. Although Premier Markovic appears more committed to genuine reform than did his predecessors, and his program is basically sound, major political and economic obstacles remain. The Premier lacks the constitutional authority to overcome them on his own; he must sell his program to powerful regional governments with a record of putting their own interests ahead of national concerns. The sharp rise in ethnic nationalism over the last year will add to the difficulties of formulating and implementing economic policy.

Economic reform efforts have proceeded much more slowly in Czechoslovakia and Bulgaria, which begin from a much lower base. Previous experimentation with reforms in these countries has been limited, narrowly focused, and for the most part, confined to administrative reshuffles and modest devolution of decisionmaking power to enterprises.

Czechoslovakia--An Economy in Transition

The new Civic Forum dominated government is pushing ahead with initiatives intended to transform the country into a mixed economy, while preserving an extensive social welfare net and a relatively large state industrial sector. Beyond its own borders, the new government aims at closer economic ties with the developed West and at cutting back on existing links with the Soviet Union and CEMA.

Although political reform has been dramatic, economic progress to date has been modest. This is in large part because the government recognizes there is no popular consensus for dismantling existing benefits for workers, such as subsidized consumer prices and rents, free health and educational programs, and guaranteed employment. Most of the measures enacted thus far--the creation of a new commercial banking system and central bank, tax cuts, and granting citizens access to foreign exchange--have been follow-ons to reforms initiated even before the overthrow of Communist rule.

The new government places a high priority on economic stabilization as a prerequisite for reform. It holds that restrictive monetary and fiscal policies are necessary to avert rapid inflation and rising debt. It has passed an "anti-inflationary" budget for 1990 which is in surplus and calls for reductions in industrial subsidies and in defense and administrative expenditures.

The government also believes that successful reforms will require an appropriate institutional and legal framework has proposed the following measures:

- A private investment law that will give equal status to all forms of ownership, unconditionally guarantee the right to acquire property for business use and to hold foreign currency, and remove restrictions on the number of employees permitted to private businesses.
- A joint-venture law that strengthens investment guarantees, permits the repatriation of profits earned either in crowns or in hard currency, and probably will allow for companies that are fully foreign-owned. Repatriation may be restricted to 20 percent of capital investment each year.
- Laws dealing with property crimes are being amended, and proposals for a new commercial code, a bankruptcy law, a tax code, and the

establishment of commercial courts, are being debated.

Outlook: The government chosen after parliamentary elections in June 1990 will probably include many current economic policymakers, including Finance Minister Vaclav Klaus and Planning Minister Vladimir Dlouhy. It is likely to concentrate on demonopolization of state industries, opening the economy to foreign competition, and expanding the role of the private sector and market forces. The country's current lack-luster economic prospects may push economic reform toward the faster, but measured pace, advocated by Finance Minister Klaus. Many government officials believe the populace, although worried about unemployment and an erosion in "socialist" benefit programs, is willing to accept belt-tightening if it eventually will bring higher living standards. As a result, Prague may, at a minimum, speed up its plan to free prices. Officials, however, are not likely to opt for a Polish-style "shock treatment" approach to economic reform. Currency convertibility probably will be phased-in, tight capital controls will be maintained to constrain foreign borrowing, and significant privatization is likely only after the break-up of large state conglomerates and the enactment of anti-trust legislation.

Bulgaria--Inching Towards Market Reform

The new Communist reform government has announced a program of economic change aimed at gradually moving Bulgaria to a market economy, but it has left the door open to more sweeping change. In introducing the plan, Prime Minister Andrey Lukanov stressed that it was only an interim program designed to bridge the gap until the election of a new National Assembly in June. Lukanov also contended that Bulgaria's economic crisis is a result of a centrally planned economic system and that there is no alternative to a market economy.

Central to the interim program are austerity measures designed to stabilize the critical internal financial and balance-of-payments situations. It calls for a 20 percent reduction in capital investment to cut the budget deficit and for redirecting remaining capital spending to renovation of existing factories rather than to building new ones. Lukanov set a target of \$700 million for the hard currency trade deficit, compared to a \$1.3 billion deficit last year, and for reorienting trade toward the West to increase hard currency earnings. Bulgaria also has announced a moratorium on the repayment of foreign debt, although this action was not explicitly part of the program.

The program begins to lay the groundwork for a transition to a market economy. The constitution already

has been amended to legalize private property and to eliminate all references to socialism and communism. Looking ahead, it calls for privatizing state enterprises, for allowing joint-stock companies, and for revising foreign investment laws. Forty percent of product prices are to be determined by the market by mid-year, although price subsidies will continue on staples. The plan also foresees a progressive income tax and the creation of financial markets and an independent central bank. It also contains measures to deal with the social cost of reform. A new multiple-exchange rate regime announced on 31 March is a small step toward the long-term goal of making the leva a convertible currency.

The Lukanov government already had taken a few limited steps toward a market system before announcing its stabilization and reform program, including:

- Broadening individual property rights to housing, vehicles, machinery, and agricultural buildings and implements.
- Lifting restrictions on the size of private farms, the selection of crops, and the export of unprocessed agricultural commodities.
- Increasing land leasing privileges, although ownership and use of land continues to be restricted.
- Removing some limitations on small businesses such as limits on the number of employees.

Outlook: The Lukanov program avoids measures that would have a negative impact on the average Bulgarian. This is in line with Lukanov's public commitment to gradualism and reflects nervousness about the political consequences if austerity hits hard before the elections.

The pace of reform probably will pick-up after the elections, particularly if the Union of Democratic Forces--the umbrella opposition group--does well. The UDF advocates faster implementation of reforms and quick conversion to a market economy. No matter who is in power, however, Bulgaria is at the beginning of a process that is likely to bring economic hardship and to challenge the political will of any government.

Romania--Starting from Ground Zero

The successful uprising against the Ceausescu regime last December raised the hope that economic reform would follow revolution. A multitude of problems--political and economic--have limited progress, however, and have kept

Romania at the back of the reform pack. The shaky provisional government has opted to boost living standards through measures targeted at increasing supplies of food and consumer goods instead of addressing the painful steps necessary to improve the economy. Only minor changes have been put into effect, and these have not altered the foundations of the system.

- Farm managers have been given greater authority to make production and marketing decisions, and small parcels of land--no more than 0.6 hectare--have been distributed to farmers who continue to work on cooperative farms. The government claims that up to one-third of total crop land is now in private hands.
- State procurement prices have been increased and private agricultural producer prices have been decontrolled.
- Privately-owned firms employing fewer than 20 people have been legalized; this measure has already spawned an increase in personal services, such as taxi cabs and repair shops.
- The rigid joint-venture law has been overhauled to permit 100-percent foreign ownership.

Efforts to redress underlying structural economic problems have been limited. Nearly all decisions on the national economy continue to be made by much the same economic bureaucracy as existed under Ceausescu.

- It has been reluctant to allow more market-determined prices outside of private agriculture for fear of consumer unrest; rationing of many items continues in much of the country.
- Consumer and producer subsidies have increased sharply, straining the state budget and adding to inflationary pressures.
- No progress has been made toward restructuring and privatizing state-owned heavy industries. The lei remains overvalued despite a modest devaluation.

Initial Results and Outlook: The diversion of energy and food from the industrial and export sectors to consumers has helped moderate public discontent, but the costs have been high. Industrial production and exports were off about

20 and 40-percent respectively in January. More extensive reforms and any hope of economic recovery will require the election of a new government that can maintain stability and willing to pursue reforms, despite public opposition to the higher prices and large scale unemployment that would follow industrial restructuring. In the near term, a combination of ethnic tensions, political instability, labor unrest, and a generally atomized society make this an uncertain proposition at best.

East Germany--Reform a Prerequisite to Unification.

Economic reform in the GDR is unique in that it is intertwined with and subordinate to, the process of German unification. East Germans tend to view the debate on economic reform as a subset of the larger question of how to shed East Germany's condition as the smaller, Communist, Soviet-allied part of the divided German nation. The newly-elected government is strongly committed to unification and a market economy, and it will move quickly to copy the legal, tax, and regulatory framework of West Germany's "social" market economy.

The former government under Premier Modrow went part way towards instituting a market economy. To promote limited administrative decentralization, the government in late November cut by more than 50 percent the number of central plan production quotas for the state enterprises and abolished monthly and 10-day output plans. The old Volkskammer also passed legislation to adopt a two-tier banking system. As a first step, it passed a law making the state bank independent of the Council of Ministers and giving it powers and duties similar to that of the West German Bundesbank.

The new central bank's mandate will be to stabilize the economy and fight inflation; its primary instrument will be control of the money supply. In all likelihood, both the power and tenure of the GDR's independent state bank will be strictly limited by its need to follow the lead--even before official adoption of the German economic and monetary union (GEMU)--of the Bundesbank in synchronizing the two Germanys' fiscal and monetary policies. It probably will be absorbed by the Bundesbank or even abolished after adoption of the GEMU.

The former Volkskammer also approved formation of commercial banks that will operate independently of the state bank under various forms of ownership. The new governing coalition is likely to take an even more permissive view regarding rules for establishing and regulating private banks. West German banks are likely to dominate this field; many--including the Deutsche Bank--already have begun to set up subsidiaries in East Germany.

The Modrow government tried to begin limited privatization of state-owned industries and promote private business while preventing what it called a "buyout" by West Germany. East Berlin began to sell shares of state-owned industries to private investors on 15 March but the process has gone slowly due to administrative inexperience and political uncertainties. According to the position enunciated by the Modrow government, land and fixed assets were to be available only to East Germans, not to foreigners--including West Germans. The incoming government has not yet revealed the specifics of its privatization policy, but it is sure to adopt much of West Germany's property, tax, and contract law in order to minimize the legal and economic frictions of GEMU.

Other bills passed by the former legislature to encourage private enterprise include:

- Legal guarantees of East Germans' right to establish private businesses provided the government is notified, and provisions that regulatory restrictions will only apply to enterprises that could effect environmental or health conditions;
- Agreement that the over 10,000 firms confiscated by the state after 1972 are to be offered back to their original owners.

East Germany is trying to encourage foreign investment, which until February was constitutionally banned. In an effort to attract foreign expertise and capital, the previous Volkskammer approved legislation in February that allows joint ventures in the GDR. The law limits foreign ownership to 49 percent except for small-and medium-sized enterprises or in cases where new technology is introduced. The Modrow government lacked the mandate and the political will to reduce consumer subsidies--which drain about one-fifth of the GDR state budget--or permit market pricing.

Initial Results. The election campaign, unification politicking, and negotiations over a new government have hampered the government's ability to implement many of these reforms. Following the election, however, average daily emigration--a key barometer of the GDR's economic non-viability--dipped from over 1,500 to well under 1,000. So far, industrial output (as measured by the East Germans) for the first quarter was expected to be about five percent off the pace for the same period in 1989, but the rate of decline may be falling.

Outlook: Despite severe structural problems and serious shortages of labor and energy, East Germany's long-

term economic future is bright because of the nearness of unification. West Germany will step in with massive aid, trade, investment, and technical and managerial expertise. West German businessmen have already begun to invest what could amount to several hundred billion dollars over the next half decade. The new government is certain to be more aggressive in pushing for radical market reforms as a precursor to monetary union with West Germany. The most serious potential problem would be a renewed surge in emigration. If sustained, it could kill off any economic recovery. High unemployment could also be a problem if it leads to political instability.

The Next Stage--Making Reforms Work

Formidable Obstacles Ahead

Despite real progress in moving the East European economies toward a market economy, the most formidable barriers to genuine economic reform still lie ahead. As the euphoria of political revolution begins to wane, the new governments face the daunting task of recovering from four decades of economic mismanagement and changing deeply rooted patterns of economic behavior.

They must deal with the absence of the institutions, legal framework, and business practices that support a market system. They must cope with an inadequate infrastructure--roads, railways, telecommunications--which prevent business from being carried out on a timely basis. They confront an obsolete, uncompetitive, and energy intensive industrial base; a weak and neglected agricultural sector; inadequate R&D capabilities, massive environmental problems, and a distorted pattern of economic incentives.

In addition, at least four other major threats stand in the way of successful reform.

The Prospect of a Deep Economic Recession: The region's economic situation is deteriorating. Strong inflationary pressures, growing budget deficits, and worsening balance-of-payments problems make it very difficult to sustain growth while implementing stabilization programs designed to rein-in inflation and growing hard currency debt. Economic performance and living standards--particularly in Poland, Romania, and Bulgaria--are likely to decline in the near term, testing the resolve of long-suffering populations.

The Region's Fragile Financial Position: Heavy debt burdens and poor prospects for increasing export revenues will make it very difficult for most East European countries to service their debts and modernize their economies. Debt reschedulings by Western governments will help, but Hungary,

Poland, and Bulgaria are particularly dependent on international commercial loan markets for the cash needed to service existing foreign debts. Some Western banks, according to press reports, are already uneasy over their high level of exposure to a region characterized by political and economic uncertainty. They are worried that new governments, under pressure to maintain popular support, may use new credits to finance consumption, and be less willing or able to implement the tough adjustment measures needed to assure debt repayment. A collapse of lender confidence could lead to a severe liquidity crisis; Bulgaria has already announced a two year debt moratorium. The burden of financing Eastern Europe's essential imports and modernization efforts is likely to increasingly fall on governments and multilateral financial institutions.

Inexperienced Governments: After the elections this spring the new East European democracies are likely to be governed by heterogenous coalitions, increasingly subject to public pressures. Strong and respected leaders such as Czechoslovakia's Vaclav Havel and Poland's Tadeusz Mazowiecki are causes for optimism, but their skills and those of counterparts elsewhere will be tested by extraordinary challenges. The new democratic freedoms could facilitate public willingness to sacrifice but they could also produce governments hesitant to translate economic priorities into tough reform initiatives.

The Struggle over Privatization: The issue of how to distribute the wealth accumulated by the State--industries, real estate, and farms--over the past forty years is likely to be explosive. The state typically owns more than 85 percent of total assets in Eastern Europe and the question of who will inherit them is a key one. There are public perceptions that privatization is moving too fast, that state assets are being sold too cheaply, and that the corrupt and the old nomenklatura will benefit unduly. Some unions and worker councils have demanded that properties be turned over to them, that shares be reserved for workers at preferential rates, or that limits be placed on foreign ownership. Disputes over the institutions--state agencies or parliament--which will carry out privatization and the procedures they will use are likely to be divisive, and could slow the process of privatization and restructuring.

Popular Support Will Be Key

The public's tolerance for prolonged austerity will be key to the success of the reforms, and it remains largely untested, even in Poland. Not surprisingly, many workers probably identify economic reform with more material goods and a higher standard of living with little thought to attendant hardships--unemployment, relocation, and higher prices--likely to accompany the process of shifting

resources from unproductive to productive purposes. Much of the legislation enacted thus far--broadening foreign and private investment rights, liberalizing trade and foreign exchange activity, and creating stock and bond markets--does not directly affect consumers and workers. Even in Poland, where the government has pushed the hardest, implementation of reforms dealing with the more politically sensitive issues of bankruptcy, privatization, and unemployment has not kept pace with legislation.

Unemployment Is the Critical Concern. Price rises and falling real wages are troublesome issues, but the loss of jobs is likely to be traumatic for workers with few options for alternative employment. There is little doubt that the vigorous pursuit of industrial restructuring will precipitate unemployment. It will mean breaking up state monopolies, eliminating state production subsidies, and enforcing greater financial discipline; in short, bankruptcies and unemployment. A few examples demonstrate the dimensions of the problem.

- Single-enterprise state monopolies dominate these economies. Two-thirds of Polish output is accounted for by the 100 largest firms; and 1 or 2 major firms dominate individual industrial branches of most of the East European economies.
- The economies are heavily weighted towards uncompetitive heavy industries (steel and chemical production, shipbuilding) and mining. At present such industries absorb 65 and 59 percent, respectively, of the Polish and Hungarian work forces.
- Many firms are chronic money losers and will be closed if subsidies are pared back and tougher bankruptcy laws are implemented. An estimated 40 percent of Polish and Yugoslav firms would fail if direct state assistance--subsidies, preferential supply and sales contracts--and politically determined bank credits dry up.

Populations accustomed to lifetime jobs will experience new uncertainties. Unemployment in Poland may easily top 1.5 million, almost nine percent of the work force, and could go much higher if new measures are implemented fully. Estimates put potential unemployment at about 5 percent or more in Hungary and Bulgaria, and at 15-20 percent in the GDR and Yugoslavia. These predictions are highly uncertain, and may be on the conservative side. Making matters worse is the fact that unemployment is likely to be heavily concentrated, both by industry and region.

Housing shortages will exacerbate the effects of unemployment by lessening the mobility of displaced workers.

- In Hungary, over 170,000 people were on waiting lists for housing in 1988, mostly in Budapest. At current construction rates this translates to a 30 year wait.
- In Poland, there are 3 million people on waiting lists for "cooperative housing". This means a waiting period of up to 50 years in major urban areas.

Governments have drawn up measures--making housing self-financing and stimulating the private construction industry--to address the housing shortage, but they are untested and not likely to be sufficient in the short term. One likely result is that younger workers, impatient and frustrated, will continue to solve their problems through emigration, taking badly needed skills with them.

Seeking Western Support

Eastern European leaders confront imposing problems with inadequate resources, and are already turning to the West for support. Most governments have declared Western aid--direct financial assistance, access to modern technologies, and closer integration into Western markets--as critical to the success of political and economic reforms. Western nations, in turn, have expressed a readiness to assist the region in its transition to market economies provided the necessary political and economic reforms are put into place.

Western Financial Assistance. The Group of 24 countries--the EC states, the United States and Japan and other smaller countries--has pledged about \$11.0 billion in new credits, loan and investment guarantees, food aid, or grants to Eastern Europe since September 1989. G-24 programs are currently limited to Poland and Hungary, but consideration is being given to expanding them to include Bulgaria, Czechoslovakia, East Germany, Romania, and Yugoslavia. West European countries and the United States have already provided emergency assistance to Romania and environmental assistance to Eastern Europe outside the formal G-24 framework.

- Poland and Hungary have received pledges of nearly \$11.0 billion, of which about \$5.0 billion is earmarked for Poland and about \$2.0 billion for Hungary. The remaining \$3.5 billion will be divided according to the

development of trade and investment deals with the private sectors in Poland and Hungary.

- G-24 countries have released just over \$1.0 billion--\$940 million from G-7 countries--to a fund to stabilize the convertible Polish currency.
- The EC Commission is expected to release by mid-April the first \$420 million installment of a \$1 billion balance-of-payments loan to Hungary--the largest component of its assistance.
- Romania has received about \$200 million in food, medical, and energy aid since its December revolution.
- West Germany has offered the largest assistance pledge--\$2.5 billion--followed by Japan--\$2.0 billion--and France--\$1.2 billion.

Forty-five percent of the pledges--\$4.7 billion--probably will entail direct budget outlays. Most of the remainder consists of credit guarantees, which require outlays only in the event of default, or off-budget European Investment Bank lending. Paris Club members have also agreed to reschedule \$9 billion in official Polish debt which falls due before March 1991.

The G-24 countries have also reached agreement on establishing a European Bank for Reconstruction and Development which will be capitalized at about \$12 billion. At least 60 percent of the bank's lending is to be to the private sector or to state enterprises being privatized. Loans will also be made for some public infrastructure projects. When the bank begins operations in 1991 it will provide funding to all reforming East European countries as well as the Soviet Union, but the level of the Soviet Union's borrowing will be limited to its paid-in capital for three years.

Multilateral institutions are also providing support to Eastern Europe. The World Bank intends to lend \$5 billion to the region over the next three years, with half going to aid Warsaw's reform program; the Bank has already signed an agreement for investment loans to Poland of \$360 million. In February, the IMF approved a \$723 million loan to Poland that will be disbursed throughout the year. Hungary is expected shortly to receive the first installment of a \$206 million standby loan from the IMF and the Fund has announced a \$600 million standby loan agreement for Yugoslavia.

It is too early to determine how effectively Western aid is being utilized or what impact it may eventually have because only a small share of the pledged assistance has been disbursed. Both Poland and Hungary are attempting to catalog and coordinate assistance flowing in through various channels, with Budapest probably having gone the furthest in carrying out a comprehensive assessment of its aid and investment needs.

The bulk of assistance to Poland thus far has been in the form of the stabilization fund and emergency food assistance. The stabilization fund appears to have been an important factor contributing to the stability of the zloty. The exchange rate of the zloty, which was devalued to market levels in January, has remained fairly constant and Warsaw has reportedly not had to draw on the fund. Polish food aid seems to have been fairly well distributed, but because of the steep declines in demand following recent price hikes, some products, such as butter, have been in oversupply. In addition, some farmers have opposed assistance in the form of wheat deliveries, arguing that it has helped to hold down procurement prices.

East European Technological Needs: The Eastern Europeans see the acquisition of Western technologies as indispensable to the success of economic reform. Their needs fall broadly into two categories, with some overlap:

- Consumer technologies needed to satisfy domestic needs such as foodstuffs, clothing, heat, electricity, medicine, clean air and water, transportation, and communications.
- Industrial technologies needed to increase output and productivity, boost the competitiveness of exports which generate foreign exchange earnings, and facilitate the distribution of goods and management of transactions.

New Interest in Consumer Technologies. In order to ward off political instability and to satisfy the demands of a populace increasingly hungry for Western-style commodities, East European governments are paying far greater attention to consumer technologies than did their predecessors.

- They all want technology to process, package, store, and distribute food.
- Virtually all want help in modernizing communications and in transportation industries. Technologies in high demand are telephone switching exchanges and related

computer systems, automotive manufacture, mass transportation, and cargo and passenger aircraft maintenance and manufacture. Hungary, for example, reportedly intends to quadruple the number of its telephones.

- Most East European countries have done little in the last past 40 years to address pollution, and governments now are seeking foreign technical expertise to clean up their air and water. Similarly, chronic health care problems--swept under the rug by previous regimes--are generating demand for Western medical and pharmaceutical technology.

Continuing High Interest in Industrial Technology. The trend in Eastern Europe is away from the mining and smokestack industries toward engineered products, light industry--with emphasis on higher valued-added goods--and the service sector. The remaining heavy industries will need to become more specialized and more efficient in their use of energy and raw materials. Specific needs will vary from country to country.

- Bulgaria probably will concentrate on light industry and services, specifically agriculture, food processing, handicrafts, and tourism. Bulgaria also probably will maintain its interest in the electronic, biotechnological, and chemical industries.
- Czechoslovakia wants to reorient trade with the West toward engineered products and other higher valued-added goods. It probably believes it can be competitive in such mass-production industries as consumer electronics; some specialized equipment (for example, robots, cargo handling equipment, and flexible manufacturing systems), and machinery for food processing and other light industry. To achieve this, Czechoslovak industry needs Western technology to improve product quality and cut excessive energy and raw material consumption.
- Hungary probably will concentrate on upgrading technology in the vehicle and transport equipment subsectors. Budapest is currently seeking foreign partners to provide a domestic automobile assembly capability and to further develop its automobile components industry, suggesting a need for CNC machine tools and robotics. Hungary probably also plans to diversify its chemical industry toward higher

value-added chemicals and pharmaceuticals and to restructure its plastics processing industry.

- Poland wants technology to upgrade its machine tool and factory automation capabilities. Like Hungary, Poland is interested in acquiring Western technology to improve its food processing industry, which accounts for about 20 percent of sales. Other sectors where modern technology is needed are iron and steel, textiles, and pharmaceuticals.
- Romania's industrial base was starved by Ceausescu in his drive to pay off foreign debt, and Bucharest will need considerable foreign capital and technical expertise to restore it to health. Its immediate needs will be mostly for low-to-medium technology.
- Yugoslavia's northern republics of Slovenia and Croatia possess relatively advanced electronics and machine tool industries, and the country as a whole is well ahead of the rest of Eastern Europe in telecommunications technology. Yugoslavia probably will continue to seek advanced technology in such areas as microelectronics, machine tools, robotics, flexible manufacturing systems, and advanced weapons systems.
- Massive recapitalization will be necessary to make East German industry profitable and non-polluting, although it is uncertain which of East Germany's industries will survive the process of unification with the much more advanced West German economy. Engineering and vehicle production, chemicals, and food processing together comprise over 50 percent of its current industrial production. Light industry, metallurgy, and electrical and electronic manufacturing dominate the remaining portion.

Most East European countries are likely to accept Western guidelines on protecting sensitive technology to increase their access to sophisticated Western expertise and equipment. In recent months three East European governments--Budapest, Prague, and Warsaw--have expressed a willingness to protect Western high-technology items from diversion to military use or to unauthorized destinations by establishing COCOM-type export control regimes.

Integration Into World Markets. Eastern Europe's interest in closer economic ties with Western Europe and the EC is reciprocated--the European Community is on record that trade links with Eastern Europe must be strengthened to ensure political stability and economic reform. As a first step, the EC is signing trade and cooperation agreements with individual East European governments. Agreements that pare back quotas on exports to EC markets are now in place for Hungary, Poland, Czechoslovakia, Bulgaria, and East Germany. The Commission has stated that it may take longer to reach an accord with Romania because of doubts about Bucharest's commitment to reform. Although the EC signed an agreement with East Germany, the pact will be moot once the GDR is absorbed into the Community through unification with West Germany.

The EC is looking beyond the trade and cooperation agreements to "second generation" association agreements. These accords probably will cover technical and developmental cooperation, further ease trade restrictions, provide financial assistance--and possibly lead to a customs union, although not in the near term. Association status would provide an interim institutional framework for discussion of bilateral and international issues between the EC and Eastern Europe but would not guarantee membership.

West European governments support East European membership in GATT, the World Bank, and the IMF. Hungary, Poland, Yugoslavia, and Romania are already members of all three organizations, although Hungary and Poland are attempting to change the terms of their membership to reflect their movement toward a market economy. Czechoslovakia and Bulgaria expect to become IMF and World Bank members by this autumn. Czechoslovakia is currently a GATT member and Bulgaria has applied for membership.

Private Investment. The key to Eastern Europe's long term economic recovery will be attracting greater private investment. Western government and multinational lending is likely to increase, but will eventually face tighter budget constraints. Bank lending to the region already shows signs of drying up.

Most East European governments see joint ventures as a means to acquire Western goods and technology essential to modernization without adding to their already large hard currency debts. They believe joint ventures can accomplish these goals by expanding hard currency exports through the Western partner's sales network; by acquiring Western inputs as part of the foreign partner's contribution; and by providing access to Western production, management, and marketing techniques and scientific research. Most of the region has moved to ease or remove restrictions--limits on foreign ownership, management control, and profit

repatriation--on joint ventures and direct investment by foreign firms. Western investors, in turn, have shown new interest in the region, with several new and large joint ventures announced. (See Box 2)

***BOX 2 ***

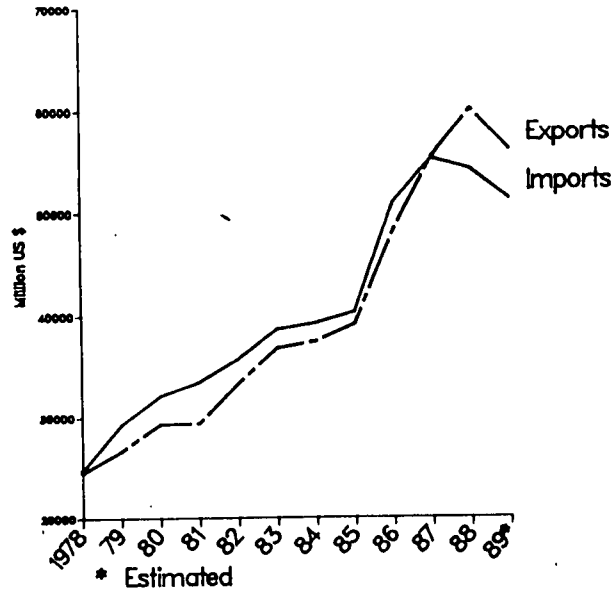
East-West Joint Ventures

With most East European privatization programs only now entering the design stage, joint ventures have emerged as the leading institutional form of Western business investment in the region.

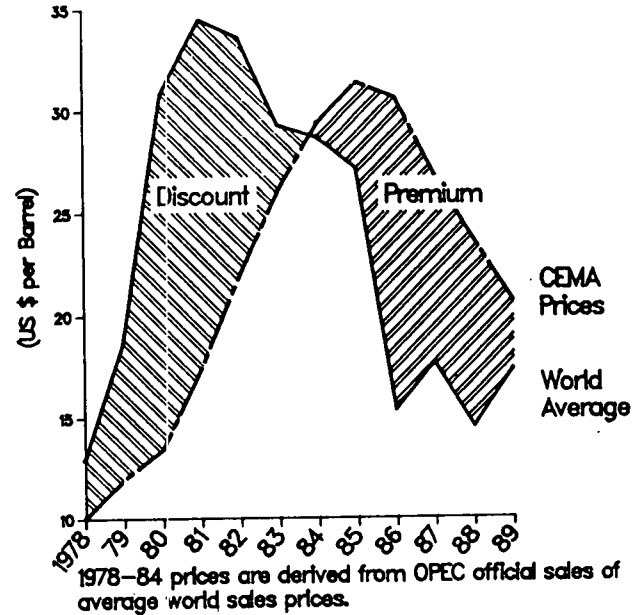
- Interest in East-West joint ventures exploded last year, and although comprehensive data are not available, we believe about 2,500 had been registered by January 1990.
- Only a fraction of registered ventures-- perhaps as low as a third--are operating, most of these are in Poland, Hungary, and Yugoslavia, which has allowed joint ventures since 1967.
- The vast majority of East European-Western joint ventures are small in scale, involving an average of \$1 million or less of startup capital.
- West Germany and Austria are by far the most active partners in those joint ventures which began operating after 1988. Twenty-six percent are West German, twenty-five percent Austrian, eleven percent American, nine percent British, and three percent French.
- About sixty percent of these newly operating joint ventures are with Hungarian partners, twenty percent Polish, nine percent Bulgarian, seven percent Czechoslovak, and four percent Yugoslav.
- Roughly half of the registered joint ventures are in the manufacturing sector, a quarter in services, ten percent in agriculture or food processing, ten percent in construction.
- Interest in joint ventures is likely to continue to rise substantially this year if political stability appears likely, but may take a back seat to direct acquisitions by Western firms once East European privatization programs are up and running.

Figure 3
 Eastern Europe: Diminishing Economic Benefits
 From Trade With the USSR

Eastern Europe's Trade with the USSR



Eastern Europe: Crude Oil Prices



Changing Economic Ties To the USSR

While Eastern Europe is turning to the West and want to eventually cast off its ties to the Soviet Union, significant trade and economic dependencies linger. At present, the region conducts about 40 percent of its total trade with the USSR; with Bulgaria most dependent and Romania the least. Eastern Europe's dependence on imports of Soviet energy gives Moscow its greatest leverage. Soviet imports account for around 25 percent of the region's total energy consumption--and much of the raw materials that keep factories running. On the other hand, the Soviet Union has depended on the East Europeans for 60-65 percent of its imports of machinery, equipment, consumer goods, and food. Nevertheless, the trend is down. (See Figure 3)

Economic conditions and the evolution of new foreign and domestic policies in both Eastern Europe and the USSR are contributing to change in these traditional trade patterns. Trade has actually declined about 6 percent overall in the past three years, largely because falling world oil prices have made it harder for Moscow to balance imports from Eastern Europe. The East Europeans, in turn, have been scaling back deliveries to the Soviets to curb the growth of nonconvertible ruble surpluses which fuel domestic inflation. Another factor which makes for divergent trade interests is the faster pace of economic reform in Eastern Europe and its headstart over Moscow in establishing relations with the EC and other international institutions.

Declining Soviet-East European trade also reflects economic stagnation throughout the region and the drawbacks of CEMA's simple division of labor: barter swaps of high value-added East European manufactured goods for low value added Soviet raw materials priced in artificial "transferable rubles." Both sides are now trying to reduce excessive mutual trade dependence and reliance on bureaucratic CEMA trade mechanisms in order to stimulate internal economic reform and end isolation from the world economy. Eastern Europe also wants to be less vulnerable to disruptions in the Soviet economy and to the threat of a politically motivated energy shutoff.

For its part, Moscow wants to receive hard currency for its oil and gas and--as payment--less of the substandard heavy machinery and equipment Eastern Europe has specialized in making for the last four decades. Increasingly, the Soviets are willing to deliver oil or even pay hard currency for only Eastern Europe's best products--food and consumer goods that are scarce at home or needed for export to the West to earn hard currency. To address these problems, the Soviets and East Europeans are now talking in CEMA councils and bilaterally about converting trade to a hard currency and current world price basis after 1991.

Eastern Europe, however, is not able to completely retreat from the Soviet export market. All countries need time to finish domestic reforms, modernize industries, and develop more competitive goods before they are ready for greater participation in world markets. A sudden drop in trade with "socialist countries" would cost thousands of jobs by shutting down plants that have been producing almost exclusively for that market. For this reason, countries will probably be responsive to the changing Soviet demands during the next few years in order to buy time for a gradual phasing out of CEMA.

Over the next five-to-ten years, however, most East European countries will move toward selling fewer but better goods to the Soviets in return for either hard currency or smaller amounts of raw materials and energy. During this transition, existing CEMA mechanisms of pricing and payments--and possibly the CEMA organization itself--will likely fade. East European governments will want the new bilateral trade pacts that take the place of CEMA structures to contain provisions that ensure Soviet markets for their "sunset industries" while assuring Moscow of a better return on its exports to the region. For the moment, they may seek to keep most trade with Moscow on a quota basis guaranteed in state-to-state channels in order to continue to exchange low quality exports for cash or Soviet energy. In the long term, as conditions improve and market forces take root, the Soviets and East Europeans may open up their economies to freer commercial interaction.

Prospects For An East European Peace Dividend

The East European countries already are moving to reduce their armed forces and defense production. Even the former Communist regimes eagerly followed Moscow's lead on unilateral arms control initiatives with their own defense cuts coordinated in the Warsaw Pact. Most countries also have adopted new military doctrines stressing "reasonably sufficient defense" to justify this retrenchment.

The region's newly elected governments are under great financial and electoral pressure to reduce military spending and convert defense industries to civilian production, and are forging ahead with bolder unilateral actions in this area. Some want a role in a new European-wide collective security structure free of superpower domination that would replace military commitments to the Warsaw Pact. In the meantime, they will try to diminish the Pact's role as a military alliance and foster Soviet interest in transforming it into a regional caucus for policy information sharing with little or no executive authority.

In their domestic policies, the East Europeans are pursuing peace dividends on three fronts: defense spending cuts, reductions in military manpower and equipment, and conversion of defense industries. Last year, most countries pared defense budgets on the order of 7 to 9 percent and foresee additional cuts this year. Defense ministries are mulling shifts to all-volunteer armies as they downsize units and scrap some hardware in line with new military doctrines. Reduced procurement and economic reform strategies are pushing defense industries to switch to civilian production in order to relieve consumer shortages and aid industrial modernization.

The expected dividends will not be large enough to solve Eastern Europe's economic problems, but they will help. We believe most East European defense spending in the 1980s seldom exceeded 2-4 percent of GNP, although East European governments are themselves uncertain how to measure defense spending. Nevertheless, reduced military spending would aid efforts to bring national budgets back into the black and demonstrate commitment to economic reform that may be translated into increased support from international economic organizations. Redirection of military manpower and production technologies to civilian industries may also stimulate economic modernization. (See Appendix A for additional discussion)

Impact of German Economic and Monetary Union

On East Germany:

The impending German economic and monetary union (GEMU) will help jump start Eastern Germany's economic recovery, magnify the benefits of economic reform to Eastern German citizens, and spur greater efforts to reknit intra-German commercial and transportation links that were severed after World War II. After the foundations are set, real incomes and production in the East could rise as much as an estimated five percent or more annually for several years as a result of the integration of eastern Germany into a market economy.

Despite squabbles over the details of the currency union, the Kohl government appears ready to fund a large increase in East German incomes to stem East German emigration. Even a two-for-one transfer of low-value East German marks for West German marks would provide a significant boost to East German household wealth and purchasing power. The use of the Deutschmark also will provide confidence to prospective foreign investors that their profits can be repatriated. It will reassure the population that--given the Bundesbank's reputation for fighting inflation--price hikes will be temporary and manageable.

West German businessmen are ready to take the lead in providing venture capital, technology, and expertise to forge new transportation, communication, and trade links between eastern and western Germany. These projects will provide an infusion of at least several hundred billion dollars to the East over the next several years. When completed, these links will enable eastern Germany to participate fully in the international division of labor, exploit its comparative trade advantage in medium technology goods, increase specialized production, and reduce unit production costs. Special projects being discussed already include commercial vehicles, automobiles, telecommunications, and high-speed rail links. The potential for cooperation in pollution control, energy, and transportation is also enormous. East Germany is one of the most polluted regions in Europe and wants to build new low-polluting power plants.

GEMU undoubtedly will cause considerable dislocation as it introduces competitive market forces to an economy that is still structured around the inefficient neo-Stalinist command model. Transitional unemployment in the East could reach as high as 2 million--nearly 25 percent of the work force. Prices also are likely to jump after the currency union. We believe, however, that this dislocation will be manageable and temporary because of West German economic support.

For Eastern Europe:

East Germany has been second only to the USSR as a trading partner for the other East European countries, accounting for about 12 percent of total CEMA trade. In addition, it has supplied much of the region's best machinery and technology, and it has done so under long-term contracts that have not required hard currency expenditures. Progress on GEMU will reorient eastern Germany to the West and inevitably add to strains in East European commercial relations. To the extent trade shifts from barter or ruble payments to hard currency, it will aggravate East European trade imbalances and add to their hard currency indebtedness. East European sales to East Germany also will be more difficult as stricter EC trade practices and product standards are applied in a unified Germany. Finally, East German reconstruction probably will divert some German business and investment that otherwise would have gone to Eastern Europe.

Despite the potential problems, East European governments are not trying to block the process. They are hoping that West German promises to honor East Germany's "CEMA commitments" include them and not just the USSR, and appear to accept GEMU as beneficial in the longrun to their.

own region's move to more efficient market economies. Some East Europeans will probably seek to convert their bilateral trade with the GDR to a hard currency basis. In the longrun, East European officials probably expect that trade will rebound and that a united Germany will replace the USSR as the area's dominant economic partner.

Outlook: Progress On Reform, But Long Road Ahead

There are reasons to be optimistic about the ultimate outcome of reforms in Eastern Europe. Probably irreversible progress has been made in reducing administrative controls over the economies, opening them up to competition and the workings of market forces, and encouraging individual initiative. Many important ideological barriers--to private ownership of the means of production, earnings to capital and land, income differentials, and unemployment--have been at least partially overcome. Most importantly, events in Poland in recent months have demonstrated at least one country's willingness to endure hardships imposed by a popularly elected government in exchange for the opportunity for a better future. Popular response to Warsaw's reform efforts has also have shown that an entrepreneurial spirit survives; there are indeed risk takers and people with vision.

Some sectors of the economy, moreover, should respond relatively quickly to liberalizing reforms, offering some tangible measures of progress and tempering the effects of harsh adjustments. The most immediate should be gains in the output and assortment of consumer goods and services contributed by the small business sector. Agriculture, long neglected and starved for inputs, should also improve, but at a slower rate. This is a sector in which much of the region has a comparative advantage and where decentralization and autonomous decisionmaking can bring quick returns.

Nonetheless, the realities of the economic situation facing the region are daunting. Even if governments do persevere with reforms and workers respond favorably, overall economic growth in the region is likely to deteriorate further in the short term as the new democracies struggle with the legacy of their Communist predecessors--heavy foreign debt, declining productivity, and uncompetitive exports. Near term performance may be poorest in those countries pushing reform the hardest--Poland, Hungary, and Yugoslavia--with output slowing and even declining as efforts to stabilize their economies and implement structural reforms prove disruptive. These countries' long term growth prospects are likely to improve relative to those of the slower reformers if they stick to their reform programs. But even then, economic recovery, at best, will probably take years.

With expectations high, the risk of failure, perceived or real, is great. The benefits of reform are often not readily visible: they require considerable time and are generally preceded by much pain. Measuring the success of reforms will be difficult because of the poor quality of the data and because--in this unprecedented experiment in transforming Communist economies into free ones--the indicators of progress in the near term are often the same as those for failure--recession, inflation, and stagnating living standards. As long as aggressive implementation of austerity measures coincides with consumer shortages and a prolonged decline in living standards, there will be a risk of public protest that could set back reforms and economic recovery.

APPENDIX A:**EASTERN EUROPE: DEFENSE INDUSTRIES AND CHANGING DEFENSE POLICIES****Cutting Military Budgets**

In 1989, nearly all East European countries responded to Gorbachev's December 1988 initiative on the reduction of Soviet forces and defense spending with cuts of their own. All countries except Romania offered nominal spending reductions averaging 7 to 9 percent. The cuts, however, have been difficult to measure in real terms because of widely varying inflation rates and imprecise accounting rules. For example, Hungary's inflation-adjusted cutbacks were more significant than announced, amounting to a reduction of 25-30 percent compared to 1988 spending. Several countries have announced further reductions for 1990 and beyond. This year, Hungary and Poland project additional cuts of 30 percent and 5 percent respectively, while Czechoslovakia plans to scale back its military budget 10 percent over the next five years.

Trimming Troops and Equipment

Military manpower is shrinking in most East European countries. Newly elected or emancipated legislatures are reducing conscription and mulling shifts to much smaller, all-professional armies. Meanwhile, enlisted and officer-corps personnel will continue to decline through attrition, changes to reserve status, and retirement. Units are being downsized in line with reorganization along more "defensive" lines. Armies released 81,300 personnel overall in 1989--approximately 12 percent of all East European forces.

All countries are decommissioning weapons and materiel. Tanks (2,750), armored personnel carriers (975), artillery (1,530), and aircraft (130) have been taken out of service in the past two years. Some of this equipment is being mothballed--an expensive process--but governments are selling as much as possible as scrap to foreign buyers willing to pay hard currency. Conversion of equipment to civilian use has been limited because few economical uses can be found for it.

Economic Recovery and Defense

Retrenchment on defense spending will pay some dividends that will support economic reforms. The combined pressures of large hard-currency debts, budget deficits, obsolete capital stock, and growing nonconvertible trade surpluses with the USSR burden the region's small economies and drive efforts to look for resource relief wherever possible. Expected savings will provide no panacea since

total defense spending in Eastern Europe has seldom exceeded an estimated 2-4 percent of GNP, compared to 17 percent in the USSR. Nevertheless, democratically elected governments want to redirect capital toward investments in nondefense sectors and improvements in living standards for their populations. Military manpower cuts and phasing out of the draft will also ease labor shortages in some countries.

Defense Industry Conversion

Most East European countries have begun to convert defense to civilian production in the hope that the military sector's traditionally superior endowments of capital, technology, and skilled manpower can help faltering economies. The resources saved will be used to advance industrial modernization and produce more consumer goods to end chronic shortages. Many defense plant managers are actively seeking new civilian product lines because domestic and Warsaw Pact defense orders are drying up. Poland and Czechoslovakia have made the most progress in converting plants making conventional heavy military equipment to production of tractors, cranes, excavators, and household electrical appliances. Some firms have branched into services such as electroplating and engine overhauls. The gains have not come quickly, however, because many firms making more advanced types of military hardware are equipped with technology that is not well suited to production of many personal and household consumer goods in greatest demand.

Some important groups, however, may not view conversion enthusiastically for pocketbook reasons. Senior military officials, defense plant managers, and defense workers with special skills and pay differentials may try to slow redirection of military to civilian production. For example, factory managers in Poland and Hungary complain that conversion spells higher costs and lower profits. As decentralizing economic reforms take hold and plants have to operate on a budget without subsidies, managers face having to pay retooling costs out of pocket. Some countries, however, have talked about new subsidies--tax rebates and special funds--to ease the transition. Despite such assistance, defense plants could lose priority access to supplies and labor. Jobs are at stake too: several Hungarian defense plants reportedly will lay off workers in the next few years because of the loss of military contracts.

The Future of East European Defense Industries

The prospect of a diminished role for the Warsaw Pact as a military alliance and the adoption of defensive national military doctrines featuring smaller, possibly all-volunteer armies, will alter the composition of production

in the region's defense sector. Domestic and Pact procurement of standard weapons has already decreased, forcing manufacturers of tanks, artillery, helicopters, naval craft, and components for these items to shut down production lines, find new foreign markets outside the Pact, or develop new products. Faced with reduced demand, Polish and Czechoslovak plants making T-72 tanks have reportedly cut capacity usage by 30 percent and 50 percent respectively. A "leaner" force structure would require more versatile, high-technology arms, leading to increased orders for plants capable of producing advanced materials, computer-numerically controlled (CNC) machine tools, electronics, optics, and computers.

Changing economic and political relations between the USSR and Eastern Europe are also having an impact. Members of the former CEMA are switching from planned quota trade based on political commitments to commercial transactions settled in hard currency at world prices. Moreover, Moscow trade negotiators have made it clear that on these terms they are more interested in the quality and not the quantity of what they buy from Eastern Europe. Soviet military procurement agencies are likely to be just as discriminating, and Soviet orders for finished military goods embodying low and medium technology will probably continue to fall as a result. On the other hand, the two regions may find more mutual profit in exchanging high-quality, high-technology dual use components and subassemblies that can be incorporated into military hardware assembled under national control. This assumes that the two sides can reverse a pattern of declining mutual trust between the USSR and Eastern Europe regarding their willingness to protect each other's secrets. If unchecked, this is likely to further depress trade in hardware and technology with strictly military applications.

While Soviet demand for Eastern Europe's traditional defense production is declining, the region will continue to look to the Third World as a potential market for conventional items such as personal weapons, ammunition, artillery, and armored vehicles. Demand has been fairly strong in the Persian Gulf, for example, as Iran and Iraq replenish war-depleted arsenals. The East Europeans are especially eager to barter arms for oil to conserve hard currency and offset shrinking oil deliveries from the USSR.

Some countries may even try to develop new military products to stay competitive in the Third World and sustain defense industries. For example, the Polish aircraft industry developed the I-22 jet trainer-fighter, a copy of the Franco-German Alpha jet, with capabilities--short takeoffs and landings and light ground attack roles--and low price designed to attract hard-currency sales in the developing world.

APPENDIX B:

The Reliability of East European Statistics

Any study of these economies must ultimately rely on official statistics of uncertain reliability. It may take years before some of the new governments--particularly in Romania where officials now concede that the Ceausescu regime published wildly distorted numbers--develop reliable data and a clear picture of their economic condition. Even with the will--which now appears to exist--they lack resources and expertise. We have attempted to minimize these problems by constructing our own GNP estimates and methodologies, but we must still begin with official statistics.

Even if falsification could be eliminated from official East European statistics, they would still not be directly comparable to Western economic concepts. This is primarily due to differences in the way production, services, prices, and depreciation are handled in the two accounting systems. In comparison with Western GNP measures, the East European category of national income produced (NIP):

- Includes intermediate production in final output figures, essentially double counting portions of production.
- Excludes as nonproductive most services, including housing, education, and consumer services.
- Does not fully take into account official price increases attributed to changes in product quality and the introduction of new products.
- Deducts depreciation from gross fixed capital formation.

Comparing East European and Western economic data is further complicated by the arbitrary way central planners set prices--reflecting neither market conditions nor production costs. These artificial prices have kept goods and services relatively cheap compared with the West. For political reasons, most of these governments also subsidize the production of necessities--certain food items, housing, health care, some energy, public transportation, and even arts and sports--to keep the prices paid by consumers well below the real costs of production. Moreover, the official exchange rates used to convert output figures do not reflect the true value of the national currency of most of these countries.

The quality of East European data has also suffered in some instances from outright distortion. Plant managers have had many incentives to overstate performance results. By doing so, they were able to gain bonuses for meeting plan goals, justify wage increases for workers that outstripped productivity gains, or simply conceal shortfalls in production. Sometimes customers of the enterprise, figuring some deliveries were better than none, verified claims made by producers with respect to the quality and quantity of goods delivered to maintain harmonious relations with their sole-source supplier.

For their part, East European governments--like many in the Third World--have had strong incentives to understate their levels of development in order to qualify for special aid programs available to less- or under-developed countries. Their statistical authorities, however, are not only the perpetrators of misleading statistics but are also the victims of the figures provided them. They cite disorderly enterprise records and carelessness in filling out statistical forms as the most significant sources of error.

Intra-Regional Quality Variation

We believe Hungary, Poland, and Yugoslavia have had the best statistical reporting in the region in terms of scope and consistency. They have been more likely to publish detailed foreign trade or social statistics than neighboring countries. In part, pressure by Western creditors to reveal data to qualify for loans and reschedulings accounted for this relative frankness, but the Communist leaderships in these countries were also consistently more candid in admitting their economic problems.

With the exception of Albanian data, Romanian data are the region's worst. In a Stalinist-style economy with harsh penalties for shortfalls, data suffered from outright distortions at both the enterprise and statistical bureau levels. Moreover, Romanian statisticians used methodologies that biased official reports of key economic variables upward, presumably for propaganda reasons. The quality of Romanian data also appears to have been inconsistent across sectors. For example, we believe that annual grain production in the 1981-88 period was overstated by at least 40 percent on average and by more than 200 percent last year. However, foreign trade data--verifiable through partner country statistics--has been fairly reliable.

The scope of Ceausescu's mismanagement of the Romanian economy is only just beginning to come to light and it may take several years before an accurate picture develops because of political instability and a lack of funds and expertise.

East Germany had one of the poorest records for disclosing data. Its communist policymakers undoubtedly had access to highly detailed data, but the statistics released to the general public were relatively scant. East Berlin's statistical bureau, for example, treated information about the country's balance of payments as secret and often delayed publication of unfavorable data until the situation improved or buried the information in other statistics. The new East Berlin leadership has abandoned the former secrecy surrounding economic and social statistics but considerable lags in publication--especially of historical series--can be expected for some time.

Official Czechoslovak and Bulgarian data were, by East European standards, of average quality--detailed, but not particularly revealing about sensitive issues. Bulgarian economic data were notorious for inconsistencies in presentation from year to year, complicating analysis, and Sofia's social data concealed the role of ethnic Turks in the country. For both countries, frequent changes in underlying indices were often used to show economic performance in a more favorable light. As with most other countries in the region, statistical methodologies were often not publicly documented nor were they necessarily consistent from year to year.

The quality of 1989 statistics in the region are probably not much better than in previous years since the new governments have not yet had adequate time to develop and implement new methodologies. In Bulgaria, for example, most economic statistics are still officially "secret" and it appears Sofia is still misrepresenting some data, including hard currency debt. The new regimes in Bulgaria and Czechoslovakia seem committed to improving economic reporting, particularly since this will be required by IMF and World Bank membership.* However, Western oversight can not guarantee accurate reporting. For example, even in Hungary debt and balance of payments data were misrepresented in the past to protect the country's credit worthiness.

Long-standing problems with the coverage of economic statistics are likely to persist for some time. The dearth of information on private enterprises in all these countries distorts a wide range of economic data including inflation, employment, and production statistics. Manipulation of statistical methodologies by central government authorities--perhaps to put economic data in the best light--also cannot be ruled out, even today. In January, for example, Yugoslavia changed the way inflation data is gathered and reported, complicating independent efforts to track progress of the anti-inflation program.

East European GNP Per Capita Measures

To compare the economic development of East European countries, estimates of the value of their output of goods and services are converted from indigenous currencies into dollars. Converting local-currency figures into a common currency, however, is intractably complicated, and a wide range of estimates and methodologies exist.

World Bank estimates, which are widely used by Western governments in determining country eligibility for concessionary economic assistance, start with output statistics provided by the government in each country. The Bank then converts these figures into US dollars using official exchange rates. The chief advantage of the approach is simplicity of calculation because the Bank can directly use the data provided by its members. Its obvious drawback is its reliance on flawed official output data and exchange rates.

The pitfalls of East European statistics have prompted government analysts and academics to develop alternative measures based on statistical samples of official data adjusted to Western concepts. Past tests of methodology, when applied to countries for which data are relatively abundant and of good quality, confirm that this approach provides reasonable approximations.

The CIA methodology uses so-called purchasing power parity ratios (PPPRs) developed by the United Nations in its International Comparison Project (ICP). In a general sense, this methodology gauges the standard of living, level of investment, and level of government expenditure in each country and estimates what they would cost in the West.* PPPRs reflect the actual buying power of a currency, relative to a broadly-defined market basket of goods and services. Since PPPRs vary from one category of goods and services to another, they "correct" for the distortions in a given country's price structure resulting from price subsidies and highly differentiated excise taxes.

* Using this methodology, the ICP staff divides the gross domestic product (GNP adjusted for international payments for labor and capital services) of each country--valued in its own-currency--into 151 expenditure categories, such as restaurants and cafes. Within each category, ICP product specialists compare prices for carefully specified goods and services, for example, the price of bread in each country. A PPPR expresses these prices as a ratio. Once economists compute the ratios for the entire spectrum of economic activity, they estimate the GNP in dollars.

A difficult but crucial step in the calculation of these ratios is to adjust for the relatively low quality of East European output. Overstating East European quality would cause an overstatement of GNP. Some examples of quality adjustments the ICP made to the "official price" of East European products in its latest study include:

- An adjustment based on the fact that fruits, vegetables, milk, and butter sold in Eastern Europe are frequently less fresh than in the West;
- An adjustment taking into account that East European meat often includes undesirable fat, gristle, and other by-products;
- A 20-percent reduction in the value of a local telephone call made in Hungary because one-fifth of the calls resulted in wrong connections;
- equating first-class railway travel in Eastern Europe to Austrian second-class travel.

The United Nations has not yet published its final report of the latest--"Phase V"--ICP study. However, we expect the new methodologies developed by the UN to have a significant downward impact on our estimates of East European GNP. It appears--after linking results published in two sub-studies* of the ICP--that quality adjustments will be substantial. Preliminary adjustments to our GNP per capita estimates--after incorporating the expected results of the most recent ICP study--range from a decline of 19 percent for Yugoslavia to 40 percent for Poland.

* Refer to the OECD report **Purchasing Power Parities and Real Expenditures-1985** published in Paris in 1987 and the results of the European Comparison Programme International **Comparison of Gross Domestic Product in Europe-1985** published in New York in 1988.

Table C-1
 Eastern Europe: Hard Currency Debt
 (Billion US \$)

	1980	1981	1982	1983	1984	1985	1986	1987	1988 ^a	1989
Debt Service Ratio	--	--	34%	35%	44%	58%	73%	55%	43%	34%
Poland:										
Gross Debt	25	25.5	24.7	26.4	26.8	29.3	33.5	39.2	38.5	39.8
of which Government	10.1	11.3	11.1	15.5	17.4	18.7	21.4	26.4	26.6	26.3
Commercial	14.9	14.2	13.6	10.9	9.4	10.9	12.1	12.8	11.9	13.4
Other	--	--	--	--	--	--	--	--	--	--
Reserves	--	--	0.8	0.8	1.1	0.9	0.7	1.5	2.1	2.3
Net Debt	--	--	24.1	25.6	25.7	28.4	32.8	37.7	36.4	37.5
Debt Service Ratio	--	--	200%	140%	90%	65%	81%	69%	70%	74%
Romania:										
Gross Debt	9.4	10.1	9.7	9.7	7.1	6.6	6.4	5.1	2.2	0.4
of which Government	1.7	1.8	1.4	0.9	1.1	1.1	1.1	0.8	0.6	0.2
Commercial	6.5	6.2	5.4	4.7	3.4	3.0	2.7	1.7	0.4	0.2
Other	1.2	2.1	2.9	3.1	2.6	2.5	2.6	2.6	1.2	0.0
Reserves	--	--	0.4	0.5	0.7	0.2	0.6	1.4	0.6	1.2
Net Debt	--	--	7.3	6.2	4.4	4.4	3.3	1.2	-1.1	-3.3
Debt Service Ratio	--	--	45%	31%	26%	32%	35%	30%	37%	23%
Yugoslavia:										
Gross Debt	17.5	18.3	18.5	19.0	19.9	19.8	19.3	18.7	18.2	16.2
of which Government	2.6	3.2	3.1	4.6	5.8	7.1	7.7	6.6	5.4	5.5
Commercial	12.8	12.2	11.9	10.3	9.0	7.5	7.4	7.6	7.8	6.9
Other	2.1	2.9	3.5	4.1	4.1	4.2	4.2	4.5	5.0	3.8
Reserves	--	--	0.8	0.9	1.2	1.1	1.5	1.5	2.3	7.5
Net Debt	--	--	17.7	18.1	17.7	17.7	17.8	17.2	15.9	14.9
Debt Service Ratio	--	--	36%	40%	42%	44%	45%	39%	31%	28%

^a Estimated

^b Debt service ratio is calculated as the share of principal and interest payments to total hard currency earnings

Table C-1
 Eastern Europe: Hard Currency Debt
 (Billion US \$)

	1980	1981	1982	1983 ^a	1984	1985	1986	1987	1988 ^a	1989
Bulgaria:										
Gross Debt	3.5	3.1	2.8	2.4	2.3	3.7	4.9	6.2	7.8	10.0
of which Government	0.3	0.4	0.5	0.5	0.5	0.6	0.7	0.9	1.0	1.2
Commercial	3.2	2.7	2.3	1.9	1.8	3.1	4.2	5.3	6.8	8.8
Other	---	---	---	---	---	---	---	---	---	---
Reserves	---	---	1.0	1.2	1.4	2.1	1.4	1.1	1.8	1.4
Net Debt	---	---	1.8	1.2	0.9	1.6	3.5	5.1	6.7	8.6
Debt Service Ratio ^b	---	---	28%	21%	20%	15%	23%	28%	38%	45%
Czechoslovakia:										
Gross Debt	5.0	4.6	3.9	4.0	3.6	3.8	4.5	5.8	6.1	7.9
of which Government	0.9	0.9	0.9	1.1	1.0	1.0	1.1	1.3	1.3	1.9
Commercial	4.1	3.7	3.1	2.9	2.6	2.8	3.4	4.5	4.8	5.9
Other	---	---	---	---	---	---	---	---	---	---
Reserves	---	---	0.7	0.9	1.0	1.0	1.2	1.6	1.7	1.6
Net Debt	---	---	3.2	3.1	2.6	2.8	3.3	4.2	4.4	6.2
Debt Service Ratio	---	---	17%	16%	16%	17%	16%	17%	15%	25%
East Germany:										
Gross Debt	14.1	14.9	15.0	13.0	12.4	14.0	17.0	20.4	19.5	21.2
of which Government	2.8	3.3	3.5	3.9	4.2	3.9	3.9	3.9	3.3	3.0
Commercial	11.3	11.6	9.5	9.1	8.2	10.1	13.1	16.5	16.2	18.2
Other	---	---	---	---	---	---	---	---	---	---
Reserves	---	---	2.4	3.7	4.9	6.6	7.9	9.6	10.0	9.6
Net Debt	---	---	10.6	9.3	7.5	7.2	9.1	10.8	9.5	11.6
Debt Service Ratio	---	---	48%	39%	33%	33%	36%	36%	38%	46%
Hungary:										
Gross Debt	9.1	8.7	7.6	8.2	8.9	11.8	15.1	17.9	18	20.7
of which Government	0.3	0.4	0.5	0.7	0.8	0.8	0.9	1.0	1.0	3.2
Commercial	8.8	8.3	6.9	6.9	7.0	9.8	12.7	16.2	15.6	15.7
Other	0.0	0.0	0.2	0.6	1.1	1.2	1.5	1.6	1.4	1.8
Reserves	---	---	1.2	1.8	2.1	3.1	3.1	2.0	1.4	1.0
Net Debt	---	---	6.4	6.7	6.6	8.7	12.0	15.8	16.6	18.7

^a Estimated

^b Debt service ratio is calculated as the share of principal and interest payments to total hard currency earnings

Table C-2
Bulgaria: Quality of Life Indicators

	1980	1981	1982	1983	1984	1985	1986	1987	1988 ^a	1989 ^b
GNP Per Capita (constant 1989 dollars)	5310	5345	5597	5481	5650.0	5470.0	5729.0	5669.0	5715.0	5710.0
GNP Per Capita (Index 1980=100)	100	101	105	103	106.0	103.0	108.0	107.0	108.0	108.0
Life Expectancy (Years) ^c -- Men	68.4 ^d	N/A	N/A	N/A	68.5	67.7	68.6	68.1	68.2	68.7
Women	73.6 ^d	N/A	N/A	N/A	74.7	74.0	75.0	74.7	74.9	75.3
Consumer Price Index (1980=100)										
Official	100	100	101	102	103.0	105.0	109.0	109.0	111.0	113.0
Implicit	100	104	104	109	111.0	114.0	117.0	120.0	123.0	126.0
Current Per Capita Personal Disposable Income (Index 1980=100)	100	106	109	112	118.0	121.0	129.0	135.0	141.0	146.0
Real Per Capita Personal Disposable Income (Index 1980=100)	100	105	109	109	112.0	115.0	118.0	123.0	127.0	130.0
Personal Consumption (kilograms per capita) ^e										
Meat	61	67	68	69	71.0	73.0	74.0	74.0	77.0	79.0
Grains (Grain equivalent)	216	215	210	202	197.0	194.0	194.0	196.0	187.0	184.0
Milk (liters)	169	172	179	185	190.0	193.0	194.0	195.0	203.0	207.0
Fat	21	22	22	22	22.0	23.0	24.0	24.0	24.0	25.0
Vegetables	200	218	224	213	225.0	208.0	213.0	232.0	225.0	227.0
Stock of Consumer Durables (per 1000 persons)										
Refrigerators	76	80	84	88	90.0	94.0	94.0	94.0	95.0	95.0
TVs	75	78	83	87	89.0	93.0	94.0	97.0	97.0	97.0
Automobiles	29	30	32	34	35.0	37.0	38.0	39.0	41.0	43.0
Housing (million sq. meters useful floor space ^f)	127	135	142	146	178.0	182.0	188.0	167.0	174.0	182.0

^a Preliminary

^b Estimated

^c Based on country yearbooks and US Census projections.

^d 1978-1980 average

^e Unless otherwise noted

^f Square meters useful floor space multiplied by the stock of dwellings at end of year.

Table C-3
 Bulgaria: Growth of GNP by:
 (Percent Average Annual Rate of Growth)

PRODUCING SECTOR	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989
GNP	-2.9	2.7	3.2	-1.9	3.3	-3.0	4.8	-1.0	0.9	-0.1
Industry	3.0	2.3	3.0	1.7	2.0	0.2	1.7	1.4	1.7	0.3
of which Machinery	4.5	3.0	2.6	1.0	3.9	3.9	-0.2	N/A	N/A	N/A
Agriculture and Forestry	-16.7	4.5	5.6	-12.3	9.5	-15.4	17.6	-10.3	0.2	-1.4
Construction	-3.0	-0.7	3.9	-0.7	0.4	-2.3	3.6	1.5	-4.6	-3.2
Transportation and Communications	1.7	4.8	-0.6	1.5	1.7	-0.7	0.3	0.7	2.5	0.9
Trade	-0.5	1.6	5.4	-0.3	1.4	2.5	4.5	1.5	-1.7	0.3
Services	2.0	0.9	1.8	1.4	2.6	2.6	3.0	2.4	4.1	-4.2
Other	3.9	2.3	1.2	1.4	0.4	1.5	-0.9	1.6	1.5	-0.8
CONSUMING SECTOR										
Personal Consumption	0.7	2.1	4.3	0.1	2.3	1.3	3.7	1.5	2.6	N/A
Government	3.7	1.9	1.0	0.4	1.1	1.1	1.2	1.2	0.4	N/A
Gross Investment	-17.0	15.1	-8.0	-14.3	12.2	-9.7	23.4	-36.6	-11.2	N/A

Table C-4
 Bulgaria: Growth of GNP Inputs and Productivity
 (Percent Average Annual Rate of Growth)

	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989
GNP	-2.9	2.7	3.2	-1.9	3.3	-3.0	4.8	-1.0	0.9	-0.1
Combined Inputs	2.0	1.3	1.4	1.4	1.2	1.1	1.1	1.3	1.9	1.9
Capital Stock	7.0	7.0	7.5	7.5	6.1	5.8	5.9	6.4	8.0	8.0
Labor	0.7	-0.3	-0.3	-0.5	-0.1	-0.2	-0.1	-0.1	0.2	0.2
Combined Productivity	-4.8	1.3	1.9	-3.2	2.1	-4.0	3.7	-2.2	-1.0	-1.9
Capital Productivity	-9.2	-4.1	-4.0	-8.8	-2.6	-8.3	-1.0	-6.9	-6.6	-7.5
Labor Productivity	-3.5	2.9	3.6	-1.6	3.4	-2.8	5.0	-0.8	0.7	-0.3

Table C-5
Czechoslovakia: Quality of Life Indicators

	1980	1981	1982	1983	1984	1985	1986	1987	1988 ^a	1989 ^b
GNP Per Capita (constant 1989 dollars)	7186.0	7103.0	7215.0	7302.0	7459.0	7489.0	7627.0	7689.0	7808.0	7878.0
GNP Per Capita (Index 1980=100)	100.0	99.0	101.0	102.0	104.0	105.0	106.0	107.0	109.0	110.0
Life Expectancy (Years) ^c -- Men	66.8	67.0	67.1	66.9	67.1	67.3	67.3	67.6	68.0	68.3
Women	74.0	74.3	74.4	74.3	74.3	74.7	74.7	75.1	75.9	76.2
Consumer Price Index (1980=100)										
Official	100.0	102.0	107.0	108.0	109.0	111.0	111.0	111.0	114.0	115.6
Implicit	100.0	102.0	104.0	105.0	107.0	108.0	109.0	110.0	113.0	114.8
Current Per Capita Personal Disposable Income (Index 1980=100)	100.0	102.0	106.0	109.0	111.0	114.0	118.0	121.0	124.0	128.0
Real Per Capita Personal Disposable Income (Index 1980=100)	100.0	101.0	100.0	102.0	103.0	104.0	107.0	109.0	110.0	112.0
Personal Consumption (kilograms per capita) ^d										
Meat	86.0	87.0	80.0	84.0	85.0	86.0	87.0	89.0	90.0	90.0
Grains (Grain equivalent)	154.0	156.0	157.0	153.0	156.0	156.0	153.0	156.0	156.0	157.0
Milk (liters)	228.0	233.0	240.0	242.0	245.0	248.0	250.0	251.0	254.0	258.0
Fat	21.0	22.0	23.0	22.0	23.0	23.0	24.0	24.0	24.0	25.0
Vegetables	121.0	111.0	139.0	134.0	136.0	131.0	135.0	132.0	134.0	136.0
Stock of Consumer Durables (per 1000 persons)										
Refrigerators	92.0	97.0	101.0	106.0	112.0	114.0	117.0	118.0	122.0	127.0
TVs	112.0	113.0	114.0	116.0	121.0	122.0	122.0	125.0	127.0	129.0
Automobiles	42.0	44.0	46.0	47.0	48.0	49.0	50.0	51.0	52.0	54.0
Housing (million sq. meters useful floor space ^e)	280.0	281.0	276.0	287.0	288.0	293.0	303.0	308.0	315.0	323.0

^a Preliminary

^b Estimated

^c Based on country yearbooks and US Census projections.

^d Unless otherwise noted

^e Square meters useful floor space multiplied by the stock of dwellings at end of year.

Table C-6
Czechoslovakia: Growth of GNP by:
(Percent Average Annual Rate of Growth)

PRODUCING SECTOR	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989
GNP	2.4	-0.4	1.9	1.5	2.4	0.7	2.1	1.1	1.8	1.0
Industry	2.5	2.0	1.2	1.9	1.4	1.9	2.2	1.5	1.8	0.7
of which Machinery	6.7	3.8	1.6	4.3	2.9	5.2	3.8	N/A	N/A	N/A
Agriculture and Forestry	0.9	0.0	-2.9	-0.4	-0.4	-0.4	1.1	1.5	2.0	1.4
Construction	5.7	-9.7	9.7	1.8	8.4	-3.8	3.3	-0.7	0.9	2.1
Transportation and Communications	1.4	1.1	0.8	1.2	2.0	2.2	2.4	0.9	3.0	-0.3
Trade	-0.5	0.1	-0.1	2.0	2.0	1.7	1.7	1.6	2.6	1.7
Services	1.6	0.8	0.8	1.2	1.1	1.4	1.6	3.1	3.9	3.3
Other	2.5	2.2	1.2	1.2	1.5	1.4	1.4	0.9	1.2	1.0
CONSUMING SECTOR										
Personal Consumption	0.2	0.4	1.2	1.6	1.2	1.9	1.7	2.6	1.9	N/A
Government	2.2	3.6	1.1	1.1	1.6	1.6	1.8	1.1	1.1	N/A
Gross Investment	-0.6	0.8	-1.5	-3.7	0.9	-3.1	18.3	4.1	0.8	N/A

Table C-7

Czechoslovakia: Growth of GNP Inputs and Productivity
(Percent Average Annual Rate of Growth)

	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989
GNP	2.4	-0.4	1.9	1.5	2.4	0.7	2.1	1.1	1.8	1.0
Combined Inputs	2.1	1.8	1.6	1.4	1.6	1.8	2.0	1.8	2.0	2.0
Capital Stock	5.4	5.5	5.1	4.6	4.6	4.7	4.5	4.5	5.2	5.2
Labor	0.7	0.3	0.1	0.2	0.4	0.6	0.9	0.7	0.7	0.7
Combined Productivity	0.3	-2.2	0.3	0.1	0.8	-1.1	0.1	-0.7	-0.2	-0.9
Capital Productivity	-2.8	-5.6	-3.1	-2.9	-2.1	-3.9	-2.3	-3.3	-3.2	-3.9
Labor Productivity	1.7	-0.8	1.8	1.4	2.0	0.1	1.2	0.3	1.1	0.3

Table C-8
East Germany: Quality of Life Indicators

	1980	1981	1982	1983	1984	1985	1986	1987	1988 ^a	1989 ^b
GNP Per Capita (constant 1989 dollars)	8221	8390.0	8380	8540.0	8797.0	9084.0	9226.0	9391.0	9502.0	9679.0
GNP Per Capita (Index 1980=100)	100	102.0	102	104.0	107.0	110.0	112.0	114.0	116.0	118.0
Life Expectancy (Years) ^c -- Men	68.7	69.0	69.1	69.5	69.6	69.5	69.5	69.8	70.1	70.5
Women	74.6	74.8	75.1	75.4	75.4	75.4	75.5	75.9	76.2	76.6
Consumer Price Index (1980=100)										
Official	100	100.0	100	100.0	100.0	100.0	100.0	100.0	100.0	110.0
Implicit	100	102.0	104	103.0	106.0	108.0	111.0	111.0	113.0	114.0
Current Per Capita Personal Disposable Income (Index 1980=100)	100	103.0	106	109.0	113.0	117.0	124.0	129.0	135.0	140.0
Real Per Capita Personal Disposable Income (Index 1980=100)	100	103.0	106	108.0	113.0	117.0	124.0	129.0	134.0	135.0
Personal Consumption (kilograms per capita) ^d										
Meat	90	91.0	91	92.0	94.0	96.0	97.0	99.0	101.0	102.0
Grains (Grain equivalent)	95	95.0	97	97.0	100.0	99.0	98.0	99.0	100.0	100.0
Milk (liters)	99	99.0	101	104.0	105.0	106.0	108.0	108.0	110.0	111.0
Fat	27	26.0	26	25.0	25.0	25.0	25.0	25.0	24.0	24.0
Vegetables	165	154.0	166	167.0	159.0	184.0	172.0	161.0	161.0	161.0
Stock of Consumer Durables (per 1000 persons)										
Refrigerators	109	114.0	119	125.0	131.0	138.0	145.0	152.0	160.0	163.0
TVs	105	109.0	111	114.0	116.0	118.0	119.0	122.0	124.0	125.0
Automobiles	38	40.0	42	44.0	46.0	48.0	51.0	53.0	55.0	56.0
Housing (million sq. meters useful floor space ^e)	N/A	414.0	N/A	420.0	413.0	419.0	423.0	430.0	432.0	435.0

^a Preliminary

^b Estimated

^c Based on country yearbooks and US Census projections.

^d Unless otherwise noted

^e Square meters useful floor space multiplied by the stock of dwellings at end of year.

Table C-9
 East Germany: Growth of GNP by:
 (Percent Average Annual Rate of Growth)

PRODUCING SECTOR	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989
GNP	2.1	2.0	-0.3	1.9	2.8	3.1	1.5	1.7	1.1	1.2
Industry	2.7	3.0	0.4	1.6	2.9	3.8	2.3	2.1	2.5	1.6
of which Machinery	3.2	4.1	-2.4	1.6	2.7	3.1	3.8	N/A	N/A	N/A
Agriculture and Forestry	0.7	2.7	-1.0	4.5	8.2	4.3	-1.2	-0.3	-6.4	0.8
Construction	0.7	-2.2	-1.0	0.3	2.3	1.2	0.5	1.5	1.0	0.0
Transportation and Communications	1.7	-0.9	-7.0	0.7	1.1	2.8	2.7	3.3	2.6	-0.8
Trade	2.0	1.4	-1.4	1.0	1.3	3.5	1.5	2.3	2.9	1.5
Services	3.1	2.4	1.4	1.0	0.6	1.8	1.8	4.4	4.4	3.4
Other	1.2	1.6	1.9	2.1	0.3	0.3	0.6	0.9	0.9	0.8
CONSUMING SECTOR										
Personal Consumption	1.5	1.0	-0.6	2.2	1.1	2.2	1.8	2.2	2.4	N/A
Government	1.3	1.9	2.4	2.1	1.4	1.2	0.6	1.1	1.1	N/A
Gross Investment	5.1	-6.6	-20.4	-15.2	-2.7	1.9	5.2	1.5	2.5	N/A

Table C-10
 East Germany: Growth of GNP Inputs and Productivity
 (Percent Average Annual Rate of Growth)

	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989
GNP	2.1	2.0	-0.3	1.9	2.8	3.1	1.5	1.7	1.1	1.2
Combined Inputs	2.3	2.2	2.3	2.3	2.0	1.9	1.7	1.7	2.3	2.0
Capital Stock	5.0	4.5	4.8	4.6	4.1	4.3	4.0	4.2	4.8	4.8
Labor	0.4	0.5	0.6	0.7	0.5	0.2	0.0	0.0	0.5	-0.3
Combined Productivity	-0.2	-0.1	-2.6	-0.3	0.8	1.2	-0.2	-0.1	-1.2	-0.8
Capital Productivity	-2.8	-2.4	-4.9	-2.5	-1.2	-1.1	-2.4	-2.4	-3.6	-3.5
Labor Productivity	1.7	1.5	-0.9	1.3	2.3	2.9	1.4	1.7	0.6	1.5

Table C-12
Hungary: Growth of GNP by:
(Percent Average Annual Rate of Growth)

PRODUCING SECTOR	1980	1981	1982	1983	1984	1987	1988	1989
GNP	1.0	0.7	3.6	-1.0	2.6	0.7	2.0	-1.3
Industry	-1.3	1.5	1.2	1.0	2.8	3.2	-1.0	-3.4
Agriculture and Forestry	6.1	-0.7	12.6	-5.7	6.3	-6.0	10.0	-2.0
Construction	-4.7	-3.0	-2.7	-0.1	-3.4	3.9	-6.2	3.1
Transportation and Communications	0.5	2.3	-0.5	-0.3	0.9	2.4	2.7	-1.4
Trade	-0.7	2.5	1.1	-1.0	-0.1	5.7	-3.6	-1.3
Services	2.1	0.1	0.0	4.2	1.4	3.3	9.4	9.4
Other	0.4	1.4	0.9	2.0	1.5	1.5	1.1	1.2
CONSUMING SECTOR								
Personal Consumption	1.3	2.0	0.5	-0.7	0.3	3.0	-4.3	N/A
Government	2.0	1.3	0.8	2.3	1.7	2.3	0.9	N/A
Gross Investment	-3.4	-11.7	-0.7	-4.3	-2.9	-3.8	7.7	N/A
Residual	-6.6	-6.1	0.9	-12.2	0.9	-7.4	0.3	N/A

Table C-13

Hungary: Growth of GNP Inputs and Productivity (Percent Average Annual Rate of Growth)

	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989
GNP	1.0	0.7	3.6	-1.0	2.6	-2.5	2.2	0.8	1.2	-1.0
Combined Inputs	1.5	1.2	1.3	1.2	1.0	0.9	1.1	1.2	1.8	1.8
Capital Stock	5.8	5.0	4.7	4.7	4.1	3.8	3.9	3.8	5.6	5.6
Labor	-0.6	-0.7	-0.4	-0.6	-0.6	-0.5	-0.3	-0.1	-0.1	-0.1
Combined Productivity	-0.5	-0.5	2.3	-2.2	1.6	-3.3	1.1	-0.4	-0.6	-2.7
Capital Productivity	-4.5	-4.0	-1.0	-5.4	-1.4	-5.9	-1.6	-2.9	-4.1	-6.2
Labor Productivity	1.7	1.4	4.1	-0.4	3.2	-2.0	2.5	0.9	1.3	-0.9

Table C-15
 Poland: Growth of GNP by:
 (Percent Average Annual Rate of Growth)

PRODUCING SECTOR	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989
GNP	-2.5	-5.3	-0.9	4.9	3.7	1.0	2.8	-2.0	1.6	-1.6
Industry	-1.4	-12.9	-2.6	6.3	3.4	1.6	0.6	-1.0	1.4	-3.5
of Which Machinery	-0.3	-17.8	-0.2	1.4	7.6	4.3	-11.3	N/A	N/A	N/A
Agriculture and Forestry	-8.6	4.1	4.7	4.8	4.8	0.3	5.8	-7.3	1.1	0.2
Construction	-4.9	-15.8	-10.7	6.2	1.5	-2.4	2.5	1.2	0.6	-2.0
Transportation and Communications	2.1	-13.1	-6.3	5.2	5.8	-0.2	2.8	1.1	5.0	-2.5
Trade	-0.4	-5.5	-9.0	7.1	3.3	2.9	3.8	0.3	1.8	-6.7
Services	1.8	1.8	1.4	2.8	4.7	-2.3	2.0	6.5	9.7	5.8
Other	2.1	2.7	1.0	2.6	2.9	2.6	1.5	1.0	1.0	0.3
CONSUMING SECTOR										
Personal Consumption	1.3	2.0	0.5	-0.7	0.3	0.5	1.6	3.0	-4.3	N/A
Government	2.0	1.3	0.1	2.3	1.7	2.1	5.3	2.3	0.9	N/A
Gross Investment	-3.4	-11.7	-0.7	-4.3	-2.9	-7.2	6.6	-3.8	7.7	N/A
Residual	-6.6	-6.1	0.9	-12.2	0.9	-8.2	12.3	-7.4	0.3	N/A

Table 16

Poland: Growth of GNP Inputs and Productivity
(Percent Average Annual Rate of Growth)

	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989
GNP	-2.4	-5.4	-0.9	4.9	3.7	1.0	2.8	-2.0	0.8	-1.5
Combined Inputs	2.0	1.7	0.6	0.8	1.1	1.3	1.1	1.1	1.8	1.8
Capital Stock	5.4	3.9	2.6	2.4	2.8	2.9	2.5	3.3	5.0	5.0
Labor	0.8	0.8	-0.1	0.2	0.4	0.7	0.6	0.3	-0.6	0.6
Combined Productivity	-4.4	-6.9	-1.5	4.1	2.6	-0.2	1.6	-3.1	-0.9	-3.2
Capital Productivity	-7.4	-9.0	-3.5	2.5	0.9	-1.8	0.3	-5.2	-4.0	-6.2
Labor Productivity	-3.2	-6.2	-0.8	4.8	3.3	0.4	2.2	-2.3	0.3	-2.1

Table C-18
Romania: Growth of GNP
(Percent Average Annual Rate of Growth)

1980	1981	1982	1983	1984	1985	1986	1987	1988	1989
-1.1	-0.1	3.0	0.2	2.7	-0.9	3.5	-0.8	1.7	-1.5

Romanian growth is based on: CSSR/Bulgarian productivity and Romanian labor force growth

Table C-20
 Yugoslavia: Growth of GNP by:
 (Percent Average Annual Rate of Growth)

PRODUCING SECTOR	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989
GNP	4.8	1.6	0.9	0.9	2.3	0.9	3.5	-0.6	0.1	-1.0
Industry	6.0	1.7	-1.5	2.3	2.5	2.3	2.7	0.5	0.8	-0.9
of which Machinery	0.0	8.4	4.8	-6.8	-10.4	9.5	29.8	N/A	N/A	N/A
Agriculture and Forestry	14.2	-4.3	-4.6	-7.5	0.0	1.0	0.1	-5.2	8.7	0.6
Construction	0.1	2.8	7.3	-0.8	2.3	-6.9	10.6	-4.3	-3.5	2.0
Transportation and Communications	4.0	1.5	0.7	3.9	7.1	4.5	3.6	4.2	-0.1	-4.8
Trade	4.9	1.8	0.0	1.0	-0.9	0.7	1.4	-7.4	-5.2	-10.6
Services	4.5	3.0	2.4	2.6	2.4	2.7	2.4	3.7	1.0	1.6
Other	2.8	2.7	2.2	1.5	2.2	3.0	1.9	2.3	1.1	0.7
CONSUMING SECTOR										
Personal Consumption	3.1	0.4	0.2	0.0	-0.7	-0.4	7.1	0.6	-3.6	N/A
Government	2.4	2.9	2.3	1.8	2.2	2.5	2.5	2.7	1.4	N/A
Gross Investment	-9.9	-9.0	-3.5	-14.9	-15.5	4.3	2.8	-17.0	2.0	N/A

Table C-21
 Yugoslavia: Growth of GNP Inputs and Productivity
 (Percent Average Annual Rate of Growth)

	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989
GNP	4.8	1.6	0.9	0.9	2.3	0.9	3.5	-0.6	0.1	-1.0
Combined Inputs	3.4	3.3	2.7	2.5	1.3	1.6	1.5	1.8	3.4	3.4
Capital Stock	4.8	4.8	3.6	3.3	1.7	1.7	2.0	2.3	4.9	4.9
Labor	1.4	1.1	1.3	1.4	0.7	1.3	0.9	0.9	1.1	1.1
Combined Productivity	1.3	-1.6	-1.7	-1.6	1.0	-0.7	2.0	-2.3	-3.2	-4.3
Capital Productivity	0.0	-3.0	-2.6	-2.3	0.6	-0.8	1.5	-2.9	-4.6	-5.6
Labor Productivity	3.4	0.5	-0.3	-0.5	1.6	-0.5	2.6	-1.5	-1.0	-2.1

FOREIGN DEBT

Senator BINGAMAN. Let me just ask a couple of questions based on the testimony that we heard earlier by Mr. Sachs. He said that the ability to get capital into Eastern Europe was going to be severely interfered with as long as we had this large foreign debt, and the business of putting it off, and rolling it over year, after year, after year, does not solve the basic problem.

And he was advising that our country take the lead either on our own, or urging West Germans to take the lead, or essentially leading—to try and get forgiveness of certain debt—and do you have any answer for that?

Mr. McLAUGHLIN. Well, certainly so long as that foreign debt exists, and as you know it is mammoth in the case of Poland, roughly \$39 billion, and so long as that persists, and so long as these countries have to service it, and repay it, it will cut into their ability to use whatever they earn to modernize their countries, and the dilemma that they face, of course, is that if they don't repay it and service it, it will cut into their ability to gain credit.

[Security deletion.]

Senator BINGAMAN. Thank you. I think he was mainly talking about the government-to-government debt indicated, and I think the figure was three-fourths of Poland's debt is government to government.

Mr. McLAUGHLIN. [Security deletion.]

TECHNICAL ASSISTANCE

Senator BINGAMAN. I took his comments to mean that our level of technical assistance is negligible today on the President's proposal and is sort of a joke, in terms of \$300,000 that was referred to and a voluntary program by U.S. industry to get in there and try to help.

What is—is there any kind of meaningful technical assistance being provided to Eastern Europe by Western European countries—Japan, or anybody else, on a significant scale at this time?

CIA RESPONSE. Well, that is an effort that everyone does talk about, and a number of countries have pledged assistance, but it is just now really getting off the ground. To give one example, the British have pledged to give—I think it is about \$50 million in management training assistance. It is a figure in that range.

And that is a very important kind of assistance for these countries, because most of them don't know how to manage business—

Senator BINGAMAN. They would hire British management consultants to go to Poland and conduct courses; is that what we are talking about here?

CIA RESPONSE. Yes, management specialists from Britain would go and would assist people in organizing enterprises. Now, my understanding of that is that at this point that is just at the organizational stage. That is, that specialists from Britain have visited the area and started to establish a baseline for what is needed.

But, most sources for that kind of technical assistance are hanging back until they see what kind of governments come to the fore, and what kind of programs they put in effect, and another impedi-

ment to giving that kind of assistance is that the East Europeans themselves so far have not been very articulate in requesting it, and asking for specific kinds of assistance.

So, that in and of itself, has also impeded the unfolding of that program. So, the bottom line answer is that not much has gone to the region yet, though a lot of potential is on the table. In terms of looking at Poland, the G-24, various governments have promised on the order of \$1.2 billion for private sector environment and technical assistance grants, although very little has actually flowed, other than some very preliminary studies, and in the case of Hungary, it is a smaller amount.

U.S. ROLE

Senator BINGAMAN. What have we done?

CIA RESPONSE. We have—this does not include the proposal made by the President, but at this point it is at \$325 million, which means—

Senator BINGAMAN. In technical assistance?

CIA RESPONSE. Yes, various sorts of private sector environmental and technical assistance, and roughly a quarter of the total for each one.

Senator BINGAMAN. So, that is 325 million Federal Government dollars going to hire private sector consultants from the United States to become engaged in Poland; is that what you are saying?

CIA RESPONSE. I have it in terms of the amount of money, but for the specifics of the programs I am less—

Senator SARBANES. How much of that money has been received there? Hardly any of it?

CIA RESPONSE. I would say a very small amount up to this point, but I think it is a question of establishing priorities and getting governments and experts in place in Eastern Europe that know how and what they want to do, and going through a time of establishing new governments, and the uncertainty of that, and I don't think they are in a position to set up certain priorities yet, and so everything is in a very limited stage.

UNEMPLOYMENT

Senator SARBANES. I think your report is incredibly sanguine and I must say that to you on Eastern Europe. If the unemployment rate went up 10 percent in the United States, from 5.4 percent to 15.5 percent, what do you think would be going on? I know that you don't handle that abroad, but—

Mr. McLAUGHLIN. Do you want that to be on the record?

Senator SARBANES. Just on the basis of history and so forth. What do you think would be going on if we had 15 percent unemployment?

Mr. McLAUGHLIN. I suspect what you are driving at, Senator Sarbanes, is that there would be a fair amount of political turmoil and discussion, and protest, and efforts underway to deal with it, and that it would be a very disruptive kind of development.

RISK OF TURMOIL

Senator **SARBANES**. As long as aggressive implementation of austerity measures coincide with consumer shortages and a prolonged decline in living standards, there will be a risk of public protest that could set back reforms and economic recovery.

Why isn't there a risk or aren't we running the risk of losing the whole breakout in Eastern Europe if we don't get these economies working in fairly quick order, and the possibility of—I mean, who knows then what it might revert to. I mean, there are all kinds of possibilities.

I guess we brought our Ambassador from Romania home because we saw one scenario there that was extremely uncomfortable, and I see where Walesa now has—he is going to go to war with the Government, and I think that—

Mr. **MCLAUGHLIN**. As we have analyzed Eastern Europe, we have frequently put stress on the likelihood of negative developments. As we look at the area now, there is a serious potential problem and the potential to produce great disruption to these societies, and that is the possibility of increased unemployment and that is probably the single greatest shock that these societies will experience as they reform, because they are not used to unemployment.

And it will probably be a very bumpy road on the way to reform, but I think what we are saying though is that if they wish to reform, unemployment, in some degree, is inevitable, because large state firms will have to be privatized, and that will lead to layoffs, and subsidies for inefficient firms will have to be withdrawn.

And in some countries this will be absorbed, the disruptions from this will be absorbed more readily than in others. For example, Czechoslovakia has a long history—and they have given a high priority to establishing a pretty solid social safety network to deal with the disruptions flowing from unemployment.

Other countries have a very uneven record so far in the degree to which they have moved to establish such a social pattern.

In the GDR, where we estimate that unemployment will rise to perhaps 20 to 25 percent, the West German Government, I believe, is committed to absorbing that through the extensive social welfare system—and it will be very costly.

So, to respond to your question, we would really not be sanguine about the prospects. We would point to unemployment as the key problem, and as with everything else about the region, suggest that the ability of these countries to absorb dislocations will vary. If I may, I would have some of my colleagues add to that point.

CIA RESPONSE. You drew an analogy to the situation in the United States, Senator, and I just wanted to add the point that governments in this country or in these countries have one significant advantage, in that a lot of the problems these governments are coping with are attributed to their Communist predecessors, and so forth.

For a period of time, at least, they have a honeymoon, and they can draw upon a degree of tolerance that, let's say, the American electorate, would not have for comparable measures. At some point, of course, the willingness of people to accept the government's position that all blame falls on the Communists will run

dry, and something resembling normal politics as we know it in the West is going to certainly take shape. [Security deletion.] One other advantage these societies have, and that was stated before, is the fact that freedom of travel also exists, and one of the first groups of economic consequences or economic problems in Eastern Europe may be the Western Europeans, as you see a flow of economic migration begin.

This is something that the Germans, in particular, are already very concerned about.

Senator SARBANES. If you were asked to sort of rank these countries from our point in view, in terms of our interest in accomplishing the transition, and where we should place our attention first and foremost, where would that place be? I have my list, and I would like you to give me your list, and maybe I should give you my list first.

Mr. McLAUGHLIN. [Security deletion.]

Senator SARBANES. I would have had Yugoslavia higher. I take it—how concerned are you that this is going to fly apart? I mean, these other countries may go in the wrong direction, but I don't know—well, I guess there is some danger in some instances, and the Czechs and the Slovaks seem to be working it out, but how dangerous—

Mr. McLAUGHLIN. [Security deletion.]

Senator SARBANES. World War I over all again.

CIA RESPONSE. [Security deletion.]

EAST GERMANY

Senator SARBANES. Is it your view that East Germany is pretty much a done deal and that the West Germans will do it, and what needs to be done will be done by the West Germans, both economically and politically?

Mr. McLAUGHLIN. Yes.

Senator SARBANES. And that is essentially their worry. I mean, we have a bigger worry, and as they do it, then how do we handle the united Germany, but in terms of East Germany, the West Germans in effect are now going to do the job, and the East Germans are kind of unprepared to have them do the job to some extent?

Mr. McLAUGHLIN. Yes. The short answer to your question would be yes. There are a few things that have to be sorted out, in terms of the absorption of East Germany into the European Community, but for the most part, West Germany's European Community partners have accepted that it is inevitable, and are willing to not pose any obstacles in the absorption of East Germany by West Germany.

NEGATIVE FORCES

Senator SARBANES. And I take it that the only—well, let me ask. My perception is that the only country in which the politics are developing in a way that we really don't see significant negative forces also working in the country would be Poland and Czechoslovakia.

Mr. McLAUGHLIN. [Security deletion.]

Senator SARBANES. Yes.

Mr. McLAUGHLIN. [Security deletion.]

Senator SARBANES. Well, I mean, you have anti-Semitism rearing its head again in Hungary, and also some pretty nationalistic elements, I guess, at work. We have big problems in Romania, obviously, and big problems in Yugoslavia, and I don't know the Bulgarian situation, but they are handing it from one group of Communists to another group of Communists essentially.

Mr. McLAUGHLIN. [Security deletion.]

EAST GERMAN GDP

Senator SARBANES. Let me ask just one other question. Mr. Wolf, in his prepared statement—and were any of you out there this morning?

Mr. McLAUGHLIN. No.

Senator SARBANES. He says—he is talking about statistics pertaining to nonmarket economies—that the CIA Handbook of Economic Statistics shows per capita gross domestic product figures for East Germany that are 89 percent of those of West Germany in 1987, and then he has a big exclamation point, which, of course, is my reaction to that, too.

Does in fact your handbook show East Germany per capita gross domestic product at 89 percent of West Germany in 1987? If so, how did that happen?

Mr. McLAUGHLIN. I would have to check the book to make sure. Do any of you know the answer to that question?

CIA RESPONSE. I am afraid that is what the figure indicates.

Mr. McLAUGHLIN. But that is before we revised the GNP downward. We have this year revised our GNP figures downward on an average of 25 percent.

Senator SARBANES. Well, I understand, but how can we—I mean, just on the face of it, how can we publish statistics that have East Germany gross domestic product 90 percent of West Germany's?

Mr. McLAUGHLIN. Our methodology for arriving at those figures was based on a U.N. study that has since been revised. It is a study that attaches a value to the goods produced in these countries. The U.N. did the latest study in 1985 and the figures became available to us last year. The revision takes into account the quality of goods produced in these societies, as distinct from just their absolute value on a one-to-one scale; a car in West Germany versus a car in East Germany, for example.

The new study takes into effect through an elaborate methodology the quality of these goods, and as a result, we dropped our estimates by about 25 percent, so that today we would say the GNP in East Germany is about—on a per capita basis—47 or 48 percent of what it is in the United States.

Senator SARBANES. And what percent of West Germany?

Mr. McLAUGHLIN. I don't have that figure. What would it be?

CIA RESPONSE. About 55, 50 to 55 percent.

Senator SARBANES. So, you are going from 89 percent to 50 percent now?

CIA RESPONSE. [Nodding head.]

Mr. McLAUGHLIN. Yes.

Senator **SARBANES**. Well, suppose as a policymaker I had to rely on the 90 percent figure and make a decision based on that. That is really an enormous—

Mr. **McLAUGHLIN**. Well, we have always tried in our previous estimates and still today to emphasize to policymakers, that in looking at this data one has to keep in mind all the time that it is inevitably soft, because it is based on societies where the value of goods is not determined by market forces.

There is no adequate basis of comparison, and for comparing these societies to Western societies, and so there is always a highly—a high degree of subjective analysis in what we do on the economic side, and—

Senator **SARBANES**. Well, I don't for a minute assert that you can be precise, but to have that kind of—well, I am going to have to adjourn, and I regret that the buzzers have cut us off. Thank you.

Mr. **McLAUGHLIN**. Thank you.

[Whereupon, at 12:27 p.m., the subcommittee adjourned, subject to the call of the Chair.]

ALLOCATION OF RESOURCES IN THE SOVIET UNION AND CHINA

THURSDAY, JUNE 28, 1990

CONGRESS OF THE UNITED STATES,
SUBCOMMITTEE ON TECHNOLOGY AND NATIONAL SECURITY
OF THE JOINT ECONOMIC COMMITTEE,
Washington, DC.

The subcommittee met, pursuant to notice, at 9:30 a.m., in room SR-385, Russell Senate Office Building, Hon. Jeff Bingaman (chairman of the subcommittee) presiding.

Present: Senators Bingaman and Bryan; and Representative Scheuer.

Also present: Richard F Kaufman, general counsel.

OPENING STATEMENT OF SENATOR BINGAMAN, CHAIRMAN

Senator BINGAMAN. The subcommittee will come to order. Today's hearing on China is part of the Joint Economic Committee's continuing annual reviews of the economies of the major socialist nations and regions of the world, some of which are in the process of becoming former socialist nations such as some of those in Central Europe.

The examination of China is of particular interest because it forms a part of the Pacific Rim of nations whose strategic and economic importance is growing.

For example, the United States became China's largest market in 1989 as United States imports from China surged to \$11.9 billion. United States exports to China grew modestly to \$5.8 billion, leaving us with a bilateral trade deficit of about \$6 billion. China also has significant military capabilities and a number of impressive technological accomplishments.

The direction that China's economy or economic system is taking is unclear. If the CIA is correct in its new assessment, China can be viewed as an economy in cold storage. The reform movement has been frozen part way between central planning and a free market.

To hold down increasingly dangerous rates of inflation, the leadership imposed an austerity policy in late 1988. The policy succeeded in driving inflation down during 1989, but a heavy price was paid in lost production, in reduced income, and in increased unemployment. Overall, economic growth slowed dramatically. In addition, progress toward reforming the economic system has been halted and some reforms have been reversed.

According to the CIA report, by the end of 1989 nearly two-thirds of urban factories were closed or operating below capacity and

more than a million locally run enterprises were shut down. As a result, urban unemployment is at the highest level in a decade and many will join the floating population of itinerant workers of between 60 and 80 million persons. The CIA concludes that economic problems threaten social stability, and it points out that in the second half of 1989 there were more than 600 instances of worker unrest, including slowdowns, demonstrations, and strikes.

The Government has begun taking steps to alleviate some of these hardships on workers and consumers, but the CIA sees continued weaknesses in the economy in a growing gulf between China and her market-oriented East Asian neighbors.

Not all Western experts would agree with all of the details of the CIA's rather pessimistic analysis. We've asked three experts, two from the academic centers, and one from a business association, to provide us with their own views. On the assumption that diversity is healthy and that constructive criticism is useful, we welcome our panel of experts and look forward to what they say about China and their critique of the CIA's evaluation.

David L. Denny has been with the U.S.-China Business Council since 1982 and is presently the director of research. Prior to joining the council, Mr. Denny was an international economist for the U.S. Department of Commerce. From 1978 through 1980, he served in the U.S. Embassy in Beijing as commercial attaché.

Nicholas R. Lardy is a professor of international studies at the University of Washington. He served as chairman of the China program at the Jackson School of International Studies at the University of Washington from 1984 through 1989. He is a member of the editorial board of the China Quarterly, and has published extensively in academic journals and elsewhere on the Chinese economy.

And Dwight H. Perkins has been on the Harvard University faculty since 1963. He is the director of the Harvard Institute for International Development. He previously served as director of the East Asian Research Center and chairman of the Department of Economics. He is the author of numerous books and articles on the economies of China and other Asian countries.

Gentlemen, the procedure that will follow will be for each of you to give us an oral presentation of 10 or 15 minutes, summarizing your views. After that, we will have questions for you at the conclusion of your oral testimony. The subcommittee will then have a closed session with the representatives from the CIA to discuss their report.

Before I defer to the witnesses to testify, let me call on Senator Bryan to make any opening statement that he would have.

Senator BRYAN. Mr. Chairman, I don't have an opening statement. I look forward to hearing from our witnesses.

Senator BINGAMAN. All right. I note for the record that Congressman Scheuer from New York is also here with us today and will be participating in the questioning once we get into that. So, why don't we start with Mr. Denny's oral testimony and then go right across the panel. And we will withhold all questions until we've heard from all three of you.

Go right ahead and tell us what we need to know about China.

Mr. DENNY. I'll try sir, but I don't think it will be nearly enough.

STATEMENT OF DAVID L. DENNY, DIRECTOR OF RESEARCH,
U.S.-CHINA BUSINESS COUNCIL

Mr. DENNY. Thank you for the opportunity to participate in this morning's discussion, Senator. My name is David Denny and I am director of research for the U.S.-China Business Council. The council is a private not-for-profit organization formed in 1973 for the purpose of promoting United States-China commercial relations.

China has never been an easy place to study. The place is tremendously large, complex as you know. Even in the most conservative repressive periods, there are always trends that gives one hope that one can point to for good market-oriented activities. And, in the most liberal market-oriented periods, it's also easy to find examples of strong centralization and authoritarian control.

LEADERSHIP LACKS VISION

I believe, however, that the current situation is particularly difficult. And the primary reason is that China, in my view, has lost its compass or rudder or whatever other sailing term you might want to use. In the previous decade, I was very impressed, I think most of us were, with Deng Xiao Ping's visionary leadership. I would say that up until a couple of years ago, even though he didn't have a clear view of exactly what China should look like in the future, nevertheless, he did see that China's problems could generally be solved by generally opening up the society to competition of one form or another.

But now this vision has been undermined by political unrest and especially the bloody incident on Tiananmen Square, and a new one has not replaced it. Now, I am not saying, our organization does not say, that the old vision has been replaced by any certain commitment to strongly recentralize the economy on the order of the Soviet-type economy of the earlier decades. Rather the current problem is that the leadership has no real coherent vision at all and seems to be stumbling around 6 months at a time with a band-aid type solution.

WORLD BANK-IMF RECOMMENDATIONS

Last fall, the World Bank and the IMF made important visits to China at a particularly important time. I, of course, am not privy to the details of their advice, but I think it's fair to say that they generally advised the Chinese that they were in a particularly good time to reflate their economy, which as the CIA report says this morning, was already showing very severe signs of a recession. And that recession has become much worse in the last 6 months I believe. And, the World Bank and the IMF also advised the Chinese that it was precisely the right time to begin to introduce reforms. That good advice, I think it is also fair to say, was not taken. The meetings last November led to Chinese statements that indicated, if anything, a desire to move in the other direction. And we had at the National People's Congress this spring very depressing statements which, in my view, put meat on the Chinese statements in the fall that they were about to recentralize important economic activities.

NEW INITIATIVES

One must say, however, that in the recent months there are signs, at least, of some more moderate and interesting policies. The most obvious, of course, is the release of Fang Li Zhih a couple of days ago, but there are others in the economy. There has been the permission of a market—the Chinese say a stock market—it's not really a stock market, but a market for the bonds of Chinese enterprises. Land-lease-type markets have been relaxed. Grain prices have been allowed to fluctuate somewhat more according to agricultural specialists that I've talked to. And in the foreign sector the Chinese have focused on at least two areas. One very controversial is in Hainan and another extremely important new special economic zone is in Shanghai, the Pudong area.

Finally, the upcoming visit which is probably the most important visit by the most senior Chinese leader to visit this country prior to the last events of the last year, the mayor of Shanghai will be here and I am sure that he will be able to say some reassuring things.

UNCERTAINTIES

So, what I want to start with is to underline what I think is the most important theme of my own prepared statement and that is that recent events in China have created new and profound uncertainties about the future direction of the Chinese economy, which as I've just said even in the last 6 to 9 months seemed to go in different directions at the same time and in short periods of time lead us in very different directions.

I will argue that business people quite rightly perceive that the uncertainties of doing business in China have increased. These risks have been factored into business decisions and as a result China's foreign commercial relationships have suffered significant damage over the last year and will continue to do so for the foreseeable future. What is the nature of the doubts? They start, of course, with a much higher degree of political uncertainty and an unfortunate antiforeign tone to much of China's political rhetoric.

In a few minutes I will describe what appear to be small steps away from a market orientation. These small steps backward would not matter so much if China already had the kind of economy that foreign business considers desirable. However, this is not so. And now China's political commitment to maintain forward momentum must be questioned.

RECENTRALIZATION

Business people are also concerned about recent trends to recentralize important economic activities. Some recent economic policies do not give one much hope that those recentralized resources will be well utilized. And as a result, one has to be, I think, less sanguine about the performance of the Chinese economy than in the past for the foreseeable future. But it is important to note that while the negative economic consequences of recent political unrest are substantial in my view, China was not transformed overnight from one of the most successful economies in the world to one of the world's economic basket cases. In fact, in some respects China's economy has shown great strength. It would be a mistake to con-

clude that any economy capable of reinvesting a quarter or more of its national product is doomed to economic stagnation.

FOREIGN TRADE

Let me turn now to a discussion of China's foreign economic relations in the last year. Even before June 4, 1989, China had been running a substantial merchandise trade and current account deficit. The Tiananmen Square incident immediately raised fears that China's international finances might be headed for a collapse. But by early fall, only 2 or 3 months after the Tiananmen Square crisis, it was already clear that China's international finances were not headed for an imminent crisis. In fact, Chinese exports began to grow again almost immediately after the Tiananmen Square incident. More importantly, restraints were placed on imports almost of a draconian nature, with the result that imports over the first 5 months of 1990 have declined 17 percent in comparison to the same period of 1989. This is an impressive indication that the Chinese system continues to have a remarkable degree of strength despite the political problems of 1989.

China's merchandise trade account has consistently run large trade surpluses from August 1989 through May 1990. As a result, China's foreign exchange reserves, far from being in crisis, set a new record of \$21.3 billion at the end of the first quarter of 1990. As a result, China currently has enough foreign exchange reserves to pay for more than 5 months of imports, well above the usual recommended levels.

The program to reduce imports and build foreign exchange reserves has been extremely harsh and has gone on longer than necessary. As long as imports are cut to the bone in a period when foreign exchange reserves are already very high and rising, there will be doubts about China's commitment to maintain its aggressive foreign economic policies.

In fact, in May and June there are small signs that Chinese officials may have already begun to moderate their tight grip on foreign exchange. They have recently publicized purchases of U.S. grain, Boeing aircraft, IBM computers, and AT&T communication systems. And these deals may be the first signals that the extremely tight rein on imports is softening somewhat.

The purchases mentioned above, however, will do little to offset China's large and growing merchandise trade surplus with the United States. You've already mentioned, sir, that the United States imported 12 billion dollars' worth of goods from China in 1989 and shipped only \$5.8 billion, leaving a trade deficit of over \$6.2 billion, making China the sixth largest U.S. trade deficit worldwide.

U.S. imports from China in the first quarter grew by 36 percent and U.S. exports declined by 16 percent. As a result, the bilateral trade deficit has widened even further in the first 4 months of 1990 to \$2.5 billion. At the present time, the U.S. trade deficit with China is our fourth largest.

FOREIGN INVESTMENT

The year since the Tiananmen Square incident has witnessed a dramatic reduction in the willingness of private investors to make new commitments to China. China's own official estimates indicate that in the three quarters since June 1989, China signed 3,921 new contracts between July 1989 and March 1990 committing an additional \$3.5 billion to investments in China. But both of these numbers were down dramatically. They are about, if I remember, 65 to 70 percent of the same period, the same three quarters of the preceding year.

Moreover, there are reasons to believe that the decline in investment contracts given in the previous paragraph do not fully reflect the reduced interest among foreign investors. First, the numbers for the last half of 1989 and particularly for the third quarter of the year, reflect contracts that were largely agreed to well before the unrest of the spring.

Second, the 1990 figures probably exaggerate the real investor interest because Chinese authorities are under great pressure to prove that conditions in China are normal.

Finally, in 1989, Taiwan and Korean investors began to move into China at a much more substantial fashion. This is not to suggest that the investment isn't real or sustainable. It probably is, not the phenomena of large investments from new sources is hiding part of the disenchantment of investors from China's previous sources of funds.

Despite dramatic declines it remains true that thousands of investment contracts and some very important ones continue to be negotiated. And in addition to new investments there are a few cases such as Heinz making baby products in Fujian and Volkswagen in Shanghai where foreign investors have gone ahead with major expansions of existing joint ventures even after June 4. And colleagues in my organization in touch with U.S. business tell me that there are quite a number of U.S. companies that are actively considering expanding their joint ventures at the present time.

The view of my own organization is that this is a time to be much more cautious and skeptical about investing in China. But this does not mean that all investment activity should stop. In some situations, recentralization of control and restoration of conservative economic policies may even help a joint venture.

The other point that should be made about investors is that while nearly everybody is more concerned about the immediate future, few if any of the nearly 1,000 U.S. investors in China have pulled out. A few have begun to analyze the legal implications of terminating their relationships, but to date the general attitude is that the elevated risks of the present situation have not yet risen to unacceptable levels. Indeed, a number are actively pursuing plans to expand.

RECENTRALIZATION AND FOREIGN BUSINESS

I'll now turn to the question of recentralization and its impact on foreign businesses. In my prepared statement, I do have a number of comments on how recentralization in the domestic economy is a

concern to foreign business people. I'll skip over that to save time here. I'll just talk about the foreign trade system.

During the year after Tiananmen Square, there have been no major changes in the foreign trade system. However, additional products have been added to the import and export licensing systems and the authority of local governments to approve foreign joint ventures has been reduced. There has been an attempt to weed out duplicative and incompetent foreign trade companies, but several thousand remain in business. But there is no sign that China is retreating to the previous system of anything like a monopolistic foreign trade system.

Rather the key question is the possibility, and I'm only saying possibility of creeping encroachment. That is the fear that in the current environment many bureaucrats will implement existing vague laws. I want to emphasize that. The real difficulty of doing business in China, especially for investors, is often that the laws themselves are written in an extremely vague way leaving critically important undefined things up to responsible officials and not giving one much of a clue as to who those responsible officials are.

PROTECTIONISM

For example, there is reason to worry about increased protectionism. The foreign exchange problems of 1989 were a good excuse for some Chinese organizations to obtain a higher degree of protection against foreign competition. And my prepared statement has a reference to a March statement by the China State Planning Commission Chairman that to me is quite disquieting, heralding additional protectionist influences.

Second, investment access to the domestic market has been curtailed. A substantial portion of the great boom in foreign investment since 1985 stemmed from Chinese leaders' willingness to let some foreign investors compete with Chinese entities for the domestic market. However, Chinese leaders are now taking a hard line against investment aimed at the domestic market. Our organization knows of several deals that were fully negotiated and almost certainly would have been approved a year ago. Now, the central government as opposed to the local counterparts, insist on very high and inflexible export commitments and right from the beginning before the joint venture has even had a chance to prove itself.

Also, there are new restrictions on foreign bank representative offices. In the past, Chinese banking authorities have allowed Chinese foreign trade companies to utilize the banking facilities of foreign bank representative offices. But now the Chinese have announced a reinterpretation of their regulations to stop this practice.

Finally, there is potential for interference in labor-management relations. In a survey of U.S. investors in the spring of 1990, the U.S.-China Business Council found a significant number of investors who expressed concern that local labor bureaus were applying increased pressure to get joint ventures, foreign joint ventures, to reduce worker wage rates. They are concerned that the wage differentials within joint ventures and between foreign investment enterprises and state-owned enterprises were becoming too excessive.

A secret Chinese internal distribution only document instructed local officials to pay closer attention to the wages paid to workers in joint ventures.

My final point is that the worst thing about restricting both foreign and domestic economic reforms is the effect that they have on competition. There is a strong and mutually reinforcing relationship between China's open door foreign economic policies and the domestic economic reforms. The World Bank has consistently argued that the Chinese economy, despite significant foreign trade reforms in the 1980's has remained airlocked in the World Bank's term—air locked by administrative intermediation and separate price systems which insulates the domestic economy from the world outside.

Current Chinese policies raise fears that backsliding in both domestic economic reforms and in some aspects of the open door will further insulate China's domestic enterprises from competition and the good, more efficient implications that that leads to. Thank you.

Senator BINGAMAN. Thank you very much.

[The prepared statement of Mr. Denny follows:]

PREPARED STATEMENT OF DAVID L. DENNY

CHINA'S FOREIGN ECONOMIC RELATIONS AFTER TIANANMEN

The political unrest of 1989 which culminated in the Tiananmen Square crackdown on the fledgling democratic movement was a *political tragedy* with serious *but far from devastating economic consequences*.

Tiananmen was tragic not just for those who participated in the movement and who gave their lives to the cause, but for everyone who had become enamored by China's attempt to become one of the first countries in the modern world to transform peacefully from an authoritarian, communist state to a society based on more open, democratic principles.

In economic terms, China has already suffered substantially from the political instability and lack of clear direction about the economic strategy it will pursue in the future. Well founded concerns and doubts are now plaguing both Chinese and foreign business people and will continue to hamper economic decisionmaking for the foreseeable future.

It is interesting that such doubts about China's economic policies are not restricted to foreigners. In a recent explanation of China's poor economic performance, the State Statistical Bureau noted that enterprise managers were confused; they did not know if their actions would be condemned on grounds of graft and corruption or praised for making their enterprises more efficient and profitable. Faced with this choice, they often chose to do nothing.

If China's own enterprise managers are confused and reacting with caution, it should not be surprising that foreign business confidence in China has been shaken. The crisis of the last year has introduced a number of profound uncertainties into China's future. As a result, many business decisions to go ahead with China projects have been delayed or canceled.

What are the doubts?

The *first concern* is with the government's political stability. There is widespread agreement that the current government is extremely unpopular and that there is smoldering anger about the way the Tiananmen crisis was resolved. The most knowledgeable political scientists emphasize that the next succession crisis could produce a number of different leadership coalitions with very different agendas. But the primary impact that the political uncertainty will have on the economy is that an elderly, conservative and largely discredited government will not be able to develop a coherent economic program capable of moving China forward.

The *second concern* is the anti-foreign tone of much of China's official rhetoric. The Party Secretary blamed "hostile forces abroad" for wanting to turn China into an "appendage of big Western powers". It should be emphasized that there is a great gap between the harsh rhetoric and the actual treatment that foreigners receive in China. Last Fall, I spent a total of nearly two months in China working on a research project in close collaboration with Chinese interviewers. I never sensed any anti-foreign feeling myself. But I worry that such a large gap between the official policy and the sentiment of the people is, at the very least, not a healthy situation.

The *third concern* involves the trend towards recentralizing important economic activities. Foreign businesses prefer the risks and uncertainties inherent in market oriented environments to the uncertainty and unpredictability of a bureaucratically administered system.

But recentralization would not be so bad, if the central officials could be counted on to make wise decisions. The *fourth concern* is that recent decisions made by those in charge of the economy does not inspire confidence that once recentralized, resources will be efficiently utilized. As a result, there are legitimate concerns that the future will see a significant change in the very impressive performance that the Chinese economy has experienced over the past decade.

Finally, the *fifth, and most important, concern* for foreign businesses with a long term stake in the Chinese economy is that the forward momentum of the last decade to continuously liberalize the regime for foreign investors and other types of foreign business may, to some degree, have been lost. There are preliminary indications that Chinese officials may already be encroaching on prerogatives granted to foreign businesses in the last few years. But the more critical point is that the regime for foreign businesses has never been satisfactory. However, in the past decade, the key to China's success has been its ability to learn from mistakes and move pragmatically and consistently towards greater openness of both the domestic and foreign economies. There is good reason to be concerned that the present government may lack the will and ability to duplicate the success of the past decade.

But it is important to note that while the negative economic consequences of Tiananmen are substantial, China was not transformed overnight from one of the world's most successful economies into an economic basket case. In fact, in some respects, China's economy has shown great strength and resilience. As long as China continues to have the domestic discipline to reinvest more than a quarter of its national product, it is difficult to make an argument that we will be dealing with a country doomed to economic stagnation.

The World Bank is probably correct in its estimate that the prospects for the Chinese economy even after Tiananmen may be brighter than those of most developing economies. Nevertheless, China's economic prospects are also far less bright and certain today than they were before the tragic events of the Spring of 1989.

I. CHINA'S FOREIGN COMMERCIAL RELATIONS SINCE TIANANMEN

A. Foreign Trade, Foreign Debt and Foreign Exchange Reserves

Even before June 4, 1989, China had been running a substantial merchandise trade and current account deficit. The political unrest that culminated in the bloody crackdown

immediately raised fears that China's international finances might be headed for a collapse.

But by early Fall, it became clear that China's international finances were not headed for an imminent crisis.¹ In fact, the great success the Chinese have had at restarting the growth of exports (exports had grown very slowly in the three quarters prior to mid-1989) and restraining imports is one impressive indication that the Chinese system continues to have a remarkable degree of strength and discipline despite the political problems of 1989. Put in less complimentary terms it is clear that China's central planners still have the power to do what central planners are good at -- take draconian measures to reduce imports. For the first five months of 1990, imports declined 21% over the same period of the previous year.

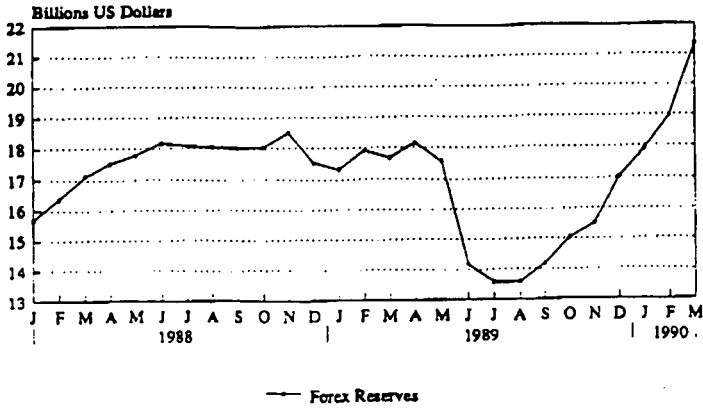
China's merchandise trade account turned positive in August 1989 and ran consistently large trade surpluses through May of 1990 (see Figure 1). As a result, China's foreign exchange reserves (not counting gold or IMF funds) -- far from being in crisis -- set a new record of \$21.3 billion at the end of the first quarter of 1990. As a result, China currently has enough foreign exchange reserves to pay for more than five months of imports at current levels -- well above the usual recommended levels.

The reduction of imports was not entirely due to the effects of Tiananmen itself. A quarter by quarter assessment of key Chinese imports since 1987 reveals that in several sectors the decline preceded June 1989 and should be attributed to the recession in the economy caused by the Fall 1988 decisions to "readjust" the economy to remove inflationary pressures. In other industries, however, (e.g., manufactured fertilizers, TVs, and refrigerators) imports continued to grow for a full year after the readjustment had started in earnest. In these cases, the decline in imports began only after June 4.

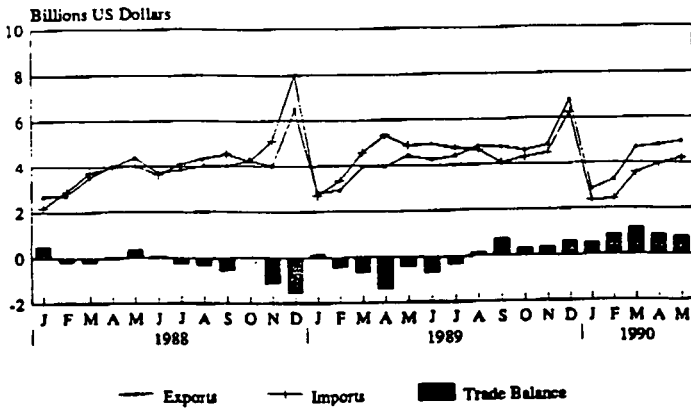
The appropriate conclusion is that part of the fall in imports was a natural result of

¹ For details see David L. Denny, "China's International Balance of Payments After Tiananmen," *The China Business Review*, November-December, 1989.

Figure 1
China's Foreign Exchange Reserves



China's Exports and Imports & Merchandise Trade Balance



the softening economy implicit in the readjustment program. However, the events of June 4 introduced wholly new pressures that forced Chinese planners to conserve hard currency and build a foreign exchange war chest in the event that foreign markets and sources of capital would be closed off.

Like other aspects² of China's domestic readjustment program, the program to reduce imports and build foreign exchange reserves has been extremely harsh and has gone on longer than would seem necessary on the grounds of macro-economic policy or any reasonable need for a foreign exchange "war chest". Despite China's having comfortable foreign exchange reserves and a total foreign debt that is considerably smaller than annual foreign exchange earnings (an enviable position by international standards), China's Ministry of Foreign Economic Relations and Trade (MOFERT) has just published an article by one analyst saying that: "in less than a decade our foreign debt situation has grown extraordinarily grim and urgent and looks set to repeat the path taken by Latin American countries."

Unless China's official reports of foreign debt and foreign exchange reserves are extraordinarily misleading (an unlikely conclusion), this statement reflects a patently hysterical view of China's real international financial situation. This article, however, is not unique. The barrage of claims that China has to be ultra conservative in its international finances is a cause for concern that excessive conservatism is less a short-term macro-economic "readjustment" than a cover to introduce a much more conservative system that will recentralize control over foreign exchange. Suggesting that China's foreign exchange problems are being used as a "cover" for changes in the foreign trade system admittedly may overstate the matter because Chinese officials are notoriously conservative on financial

² China's official price indices tend to indicate that the economy is still afflicted with minor inflationary pressures. However, this is because they compare the current month with the same month of the preceding year. In fact, prices actually fell in the last quarter of 1989 and again during the first quarter of 1990. See David L. Denny, "On Problems of Measuring China's Inflation," in draft.

matters and may feel the need for massive foreign exchange reserves in the present uncertain circumstances. Nevertheless, keeping imports cut to the bone in a period when foreign exchange reserves are very high and rising will inevitably cause doubts about China's policies.

However, in May and June there were small signs that Chinese officials may have already begun to moderate their tight grip over foreign exchange. Recent purchases of US grain, Boeing aircraft, IBM computers and AT&T communications systems may turn out to be the first signals that the extremely tight reign on imports is softening somewhat.

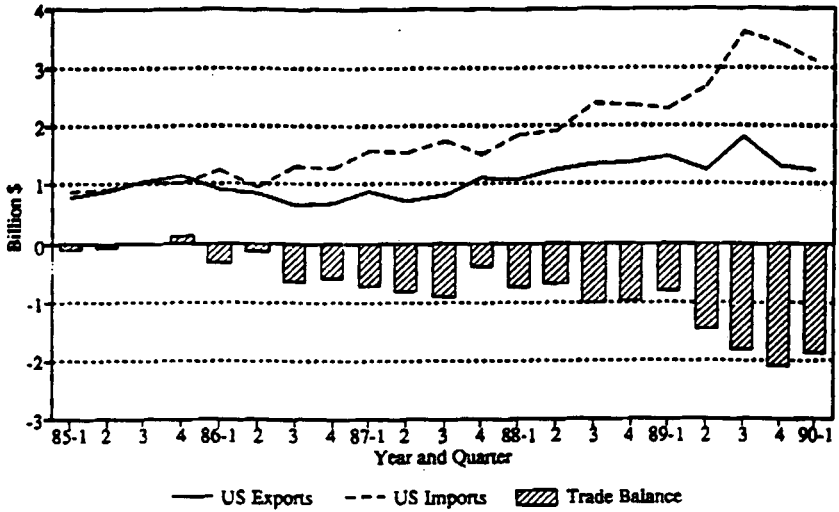
The purchases mentioned above, however, will do little to offset China's large and growing merchandise trade surplus with the United States. In 1989, the US imported \$12 billion worth of goods from China and shipped only \$5.8 billion, leaving a trade deficit of over \$6.2 billion -- the sixth largest US trade deficit worldwide (see Figure 2).

US imports from China in the first quarter of 1990 grew by 36% and US exports declined by 16%. As a result, the bilateral trade deficit has widened even further in the first four months of 1990 to \$2.5 billion. At the present time, the US trade deficit with China is our fourth largest.

Some estimates even suggest that the 1990 bilateral trade deficit could become the second highest U.S. trade deficit worldwide -- a fact that could further complicate our economic and political relationship with China. But while the upward trend in the deficit will undoubtedly be sustained for the immediate future, its rate of growth will probably decelerate both because of the increased purchases noted above and the fact that uncertainty over the resolution of the MFN issue will begin to affect US imports from China in the second half of this year. Even if China retains MFN status for another year, the fact that the MFN renewal issue may recur annually will be enough to introduce sufficient uncertainty to moderate China's past success at exporting to the US market.

Assuming that MFN is continued, US importers tend to indicate that they will only

Figure 2
US-China Quarterly Trade



Yr/Qt	US Exports	US Imports	Balance	Year End Totals			
				Exports	Imports	Balance	Total Trade
1985-1	0.781	0.867	-0.086				
2	0.876	0.927	-0.051				
3	1.043	1.048	-0.005				
4	1.155	1.019	0.136	3.855	3.861	-0.006	7.716
1986-1	0.920	1.238	-0.318				
2	0.851	0.960	-0.109				
3	0.651	1.298	-0.647				
4	0.685	1.275	-0.590	3.107	4.771	-1.664	7.878
1987-1	0.866	1.568	-0.702				
2	0.698	1.519	-0.821				
3	0.805	1.708	-0.903				
4	1.120	1.498	-0.378	3.489	6.293	-2.804	9.782
1988-1	1.064	1.822	-0.758				
2	1.229	1.892	-0.663				
3	1.355	2.369	-1.014				
4	1.386	2.353	-0.967	5.034	8.436	-3.402	13.47
1989-1	1.467	2.280	-0.813				
2	1.231	2.677	-1.446				
3	1.805	3.621	-1.816				
4	1.304	3.410	-2.106	5.807	11.988	-6.181	17.795
1990-1	1.233	3.114	-1.881				

Notes: Exports-FAS, Imports-Customs Value, Billions \$US
April 1990 exports were \$374 million, imports were \$989 million

marginally cut back China operations. In many cases, such as toys, shoes and textiles it is simply impossible to quickly replace the thousands of enterprises in South China that are now providing inexpensive products for the low end of the US market. Moreover, despite heightened concerns, few importers experienced significant problems with their orders even during the turmoil of 1989.

B. Foreign Investment

The year since the Tiananmen Square incident has also seen a dramatic reduction in the willingness of private investors to make new commitments to China. China's own official estimates indicate that in the three quarters since June 1989 (July 1989 through March 1990), China signed 3,921 new contracts with foreign investors that committed \$3.5 billion to investment in China. Both of these numbers were down dramatically from the 5,321 contracts and \$4.8 billion signed in the same period of the preceding year.

There are a number of reasons to conclude that this rate of decline in investment contracts given in the previous paragraph do not fully reflect the reduced interest among foreign investors. First, the numbers for the last half of 1989 and particularly for the third quarter of the year reflect contracts that were agreed to well before the unrest of the Spring. In some cases, companies felt that they had all but made a definitive commitment and chose to go ahead with deals that had been all but signed prior to Tiananmen.

In addition, Chinese estimates since last June probably are exaggerated because Chinese authorities have been under great pressure to prove that conditions in China are "normal" and business can be operated "as usual". A systematic examination of Chinese claims will not be possible until much more information has been made available. Preliminary analysis indicates, however, that a number of the claimed investments have been prematurely announced. Several highly publicized very expensive joint ventures have apparently been added to Chinese claims but checks with the US companies indicate that the

deals are far from finalized.

Finally, recent figures are being inflated by new investments from Taiwan and Korea, which are taking advantage of more relaxed attitudes towards such investments by their own governments. The government of China, on the other hand, has been much more aggressive in soliciting such investment than in the past. This is not to suggest that the investment from Taiwan and Korea isn't real or sustainable -- it may well be. Geographic proximity and economic complementarity suggests that a close relationship between China and its Asian neighbors is justified on economic grounds. But the phenomenon of large investments from these new sources is hiding part of the disenchantment of investors from established sources.

Despite the dramatic decline in investment, however, it remains true that thousands of investment contracts -- some very important ones -- continued to be negotiated and signed after Tiananmen. Many of these are from the US, Japan and Europe. In addition to new investments, there are a few cases, such as Heinz in Fujian and Volkswagen in Shanghai, where foreign investors have gone ahead with significant expansions of existing joint ventures. These expansions generally had been planned and largely negotiated before June 1989 but the fact remains that they have been carried out despite the current uncertain conditions. Moreover, a substantial number of existing joint ventures, most notably the Hoechst Celanese Corporation, are presently considering expansion plans.

The view of my own organization is that this is a time to be much more cautious and skeptical about investing in China. But, this does not mean that all investment activity should stop. In some situations, recentralization of controls and the restoration of conservative economic policies may even help a joint venture. This is particularly true if the product line is in favor with the central authorities and the foreign investor's counterpart organization is one that will benefit from recentralization. For example, it is no accident that much of current investor interest focuses on the petrochemical sector. This sector will

benefit if crude oil prices -- a key input-- continue to be held well below international levels. Nevertheless, investors contemplating new investments must accept the increased risks and uncertainties inherent in the current situation.

The other point that should be made about investors is that while nearly everyone is more concerned about the immediate future, few if any of the nearly 1,000 US companies that have already invested in China have pulled out. Most companies have taken the opportunity to try to scale down their operations down to make them more efficient. A few have begun to analyze the legal implications of terminating the relationship. But to date the general attitude among established investors is that the elevated risks of the present situation have not yet risen to levels that would force companies to give up on a joint venture that they have already committed substantial resources of capital, energy and the corporate reputation.

II. RECENTRALIZATION AND INCREASED CONTROLS

A. Recentralization in the Domestic Economy

Although recentralization of domestic economic activities is less of a concern to the foreign businessperson than the same trends in the foreign sector of the economy, they are not welcomed as a matter of principle because they represent a step backward from a more open economy.

Increased control over the domestic economy has practical implications as well. Central control means that fewer resources are available outside of bureaucratic channels and thus not available to those operations such as Sino-foreign joint ventures that for the most part operate outside the plan. Finally, businesspeople, like economists, see increased market orientation as producing higher efficiency -- and thus a more buoyant economy for everyone.

Critical inputs into agriculture such as fertilizers and insecticides have been

recentralized by national organizations under the thumb of central planners. This recentralization provides extra bite to the Chairman of the State Planning Commission's remark in March 1990 that acreage planning for grain will be reintroduced: "the state this year has issued guidance for the areas of grain and cotton in various regions."

China's overheated economy has been driven by a "hunger" for domestic investment funds. But now banks will no longer be allowed to have the same kind of decentralized control over who is to obtain funds. Detailed investment priorities are now worked out in Beijing and credit is allotted bureaucratically. As a result, one of the key economic reforms of recent years -- allowing banks to act like bankers and distribute credit according to market driven priorities -- has been abandoned. As the State Planning Commission Chairman put it in March 1990 "all specialized banks must strictly carry out the state's production policy and plans and should not unilaterally emphasize that they themselves should operate as enterprises."

And, in the potentially most far reaching move of all, state planners have anointed 234 state-owned enterprises as key targets for beneficial supplies of finances, energy and vital raw materials. The quid pro quo is that the 234 enterprises in turn will directly turn over a large part of their output to the state planners. This "double guarantee" system effectively reinstates direct control (or mandatory planning) over a much wider array of industrial products than has been common in recent years. The 234 enterprises collectively produce a quarter of China's industrial output and the bulk of China's coal, oil, electricity, steel and chemical fertilizer; so direct control over the inputs and outputs of the products of the 234 enterprises will give the planners powerful resources to expand their influence into other enterprises.

Recentralization of economic decisionmaking would not be quite so bad if the central planners could be counted on to make the right decisions most of the time. Unfortunately, the evidence from recent experience is that the decisions may not be best for

the long term growth of the economy.

The present focus on ensuring satisfactory grain output by allocating more resources to grain is one example where bureaucratic interference will probably waste resources. For years the World Bank and other economists have tried to get the Chinese to think more broadly about their agricultural comparative advantage and to begin producing more high value added crops and livestock -- even at the expense of increasing grain imports. The current pre-occupation with grain may only be transitional and may not lead to serious problems for other crops. However, there is already concern about falling cotton output and how this might impact on China's leading foreign exchange earner -- the textile industry.

One result of the recentralization of control over bank loans, investment approvals and allocation of raw materials is that more resources are being allocated to energy and transportation projects. Current policy has a certain appealing logic -- more emphasis is going to be given to the bottleneck energy and transport sectors in order to alleviate the problems of the priority state-owned enterprises in heavy industry. The problem with the strategy, however, is that China's increased efficiency over the past decade has come from shifting resources away from the state-owned enterprises in heavy industry in favor of the rapidly growing town and village enterprises, Sino-foreign joint ventures, urban collective industry and enterprises in the service sector. By and large these sectors are more efficient in terms of their use of energy. Allocation of resources away from energy efficient industries back towards the energy sector and the inefficient state-owned enterprises is more likely to perpetuate energy shortages than to alleviate them.

The aluminum industry is a case in point. Despite the recession that has affected most of China's industry in the last eighteen months, aluminum output has increased significantly. The industry has benefited from increased allocations of funds and electricity (both at heavily subsidized prices). At the same time, however, aluminum makers have been faced with a soft market and the state has been forced to step in and add to stockpiles.

Unfortunately, China's aluminum is intrinsically expensive to produce and it uses electricity which, while priced low nominally, is very expensive in real terms. Moreover, the shift in resources towards producing aluminum comes at a time when the world wide aluminum industry appears to be on the verge of entering a buyers market and declining prices.

A small but telling example of these themes was played out in Beijing last Winter. After the Summer's political unrest, the Mayor of Beijing decided that it was necessary to assure the people of Beijing of sufficient cabbage (the traditional staple in North China) for the Winter. Therefore, he promised farmers much higher prices and exhorted them to produce "patriotic cabbages". His strategy worked so well that enormous amounts of cabbage were produced. The only way they could be sold was to reduce selling prices well below the promised procurement prices. As a result, the Mayor of Beijing had to urge residents to pay high prices and eat more "patriotic cabbage" than they cared to. Since the Mayor was a key architect of the Tiananmen crackdown, his appeals to peoples' "patriotism" did little good and he became, in fact, the butt of open jokes and derision among his own people.

B. Concerns About The Possibility of Increased Bureaucratic Activity in The Foreign Trade System

During the year after Tiananmen, there have been no major changes in the foreign trade system. There has been an attempt to weed out duplicative and incompetent foreign trade companies, but several thousand remain in business and there is no sign that China is retreating to the previous system under which a handful of companies monopolized foreign trade.

Additional products have been added to the import and export licensing systems, and, in the case of a few relatively trivial products the central government has insisted on reinstalling direct control over trade. The authority of local governments to approve foreign joint ventures has been reduced, and the central government has made it clear that certain

types of joint ventures will no longer be approved.

But in general, the foreign trade and investment systems operate at least on paper pretty much as they did before Tiananmen. The key question then is not whether the government has formally recentralized controls over the foreign trade and investment sector. Rather, the problem on everyone's mind is the possibility of "creeping encroachment", or the fear that in the current environment many bureaucrats will implement China's vague laws in a less flexible manner and in a manner less favorable to foreign interests.

It is too early to say that there is a strong and definitive trend in the direction of "creeping encroachment" but there are good reasons to be worried about the possibility. Cited below are some examples of concerns justified not by theoretical possibilities but by actual signs of an initial "creep".

1. **Protectionism**--The foreign exchange problems of 1989 were a good excuse for some Chinese organizations to effectively obtain a higher degree of protection against foreign competition. In some instances, representatives of China's own industries sit in judgment as to whether a domestic product is capable of replacing the foreign import that the end user has petitioned for. Such interests must have been cheered to hear the Chairman of the State Planning Commission say recently that, "we must reduce or obviate the import of raw and semifinished materials and of machinery and electronics products which we can already produce or supply in China."
2. **Investor Access to the Domestic Market**--A substantial portion of the great boom in foreign investment since 1985 stemmed from Chinese leaders' willingness to let some foreign investors compete with Chinese entities for the domestic market. In some cases, flexible arrangements were worked out to ensure foreign investors access to hard currency for sales on the domestic market. However, Chinese leaders have clearly indicated that Chinese planners are taking a hard line against investment aimed at the domestic market. We know of several deals that were fully negotiated (i.e., with the Chinese counterparts) and almost certainly would have been approved a year ago. Now the central government insists on very high and inflexible export commitments -- in some cases, in excess of the amount required to balance the foreign exchange needs of the joint venture.
3. **Restrictions on Foreign Bank Representative Offices**--In the past, Chinese banking authorities have allowed Chinese foreign trade companies to utilize the banking facilities of foreign bank representative

offices in China. It has proven a good source of income to offset high costs of doing business in China for many banks. But now the Chinese have announced a re-interpretation of their regulations to stop this practice. US Bankers say that despite the new attitude Chinese entities still are trying to use these services because of their greater reliability and professionalism. Bankers believe that the Bank of China's desire to recoup the loss of \$75 per transaction was the reason for the reversion to the more centralized policies.

4. **Potential for Interference in Labor Management Relations**--In the Spring of 1990, the US-China Business Council conducted a survey of US investors. One result of the study was that a significant number of investors (30% of our sample) expressed concern that local labor bureau officials were applying increased pressure (generally informal and subtle) to get foreign joint ventures to control their wage rates. These pressures derive from the perception that the wage differentials within joint ventures and between foreign investment enterprises and state-owned enterprises were becoming too excessive. A secret "internal distribution only" document instructed local officials to pay closer attention to the wages paid to workers in joint ventures.

It should be emphasized that the phenomenon of increased supervision is not in itself contrary to China's laws and regulations (joint ventures are required to report wages "for the record"). And the phenomenon has not yet become widespread or heavy handed. Nevertheless, such pressures inevitably raise fears that China's bureaucrats will reverse the pattern of the last ten years which have gradually witnessed increased freedom (both in law and practice) for managers and workers to negotiate wages and factory work standards.

III. THE RELATIONSHIP BETWEEN FOREIGN ECONOMIC RELATIONS AND THE DOMESTIC ECONOMY

There is a strong and mutually reinforcing relationship between China's "open door" foreign economic policies and the domestic economic reforms designed to rationalize economic performance. But the direct impact of foreign trade, loans and investment on the Chinese economy is considerably less important than the indirect positive impact that competition with foreign companies has on domestic economic efficiency. But as the World Bank has consistently argued, the Chinese economy, despite significant foreign trade reforms in the 1980's has remained "airlocked" by "administrative intermediation and separate price systems, which insulates the domestic economy from the world outside".

Unfortunately, current Chinese policies raise fears that backsliding both in domestic

economic reforms and in some aspects of the open door will further insulate China's domestic enterprises from competition.

Over the past decade of reforms, the Chinese should be given credit for gradually allowing cracks to appear in the "airlock" and subjecting domestic firms to increased amounts of competition from imported products, from the products of Sino-foreign joint ventures and from the output of Chinese enterprises that have vigorously competed for access to foreign technologies. Admittedly a score or more of imported lines to produce television sets is a waste of money if the only motive is to acquire a basic technology. But if the motive is to increase the competitiveness of China's own enterprises, allowing a multiplicity of domestic enterprises access to the same technology makes a good deal of sense. Now the cracks in the "airlock" are in danger of being resealed -- at least partly. The greatest danger is not the loss of foreign capital, managerial expertise or technology. The greatest danger is that domestic enterprises will lapse into lethargy because they will be granted effective monopolies over their domestic markets.

Senator BINGAMAN. Mr. Lardy, why don't you go right ahead.

STATEMENT OF NICHOLAS R. LARDY, PROFESSOR, HENRY M. JACKSON SCHOOL OF INTERNATIONAL STUDIES, UNIVERSITY OF WASHINGTON

Mr. LARDY. Thank you, Senator Bingaman for inviting me to testify at this hearing on the Chinese economy. I have a prepared statement that I have submitted for the record. I will use my opening remarks to draw from and amplify several themes of the prepared statement, focusing in particular on some of the issues that you raised in your letter of invitation.

RECENTRALIZATION

One key issue that Congress must examine as it makes a determination on either imposing new economic sanctions or eventually easing existing sanctions, is the degree to which the Chinese leadership has sought to or been successful in reimposing central control over the economy over the past year or so. Has there been a wholesale retreat from the economic reform measures introduced over the decade beginning in 1978?

The answer to this is complex and in several parts. I would say to begin with that there clearly has been recentralization in some areas. And I would say furthermore that some of this was appropriate and actually supported by reformers in China. For example, it was necessary to recentralize control of bank lending authority to head off the very rapidly rising inflation that was evident in China by 1988. These measures have imposed more discipline on the growth of the money supply, particularly on currency in circulation and have contributed to a reduction in inflation.

There are other areas where the central government has been unsuccessful in its efforts to reexert control. They sought, for example, to pressure Provincial governments—in some of the more rapidly growing parts of China—into handing over more tax revenues so that the central government could shore up its own weakening fiscal position. But Provincial economic power is now so substantial that this central initiative by and large was rebuffed.

REFORM

In other areas economic reform has gone forward over the past year. For example, the foreign exchange swap centers where buyers and sellers of foreign exchange trade in a relatively unfettered market, grew by more than a third in 1989. That continued the trend of the past several years and in my view reflects a further relaxation of exchange control. It is a very promising step toward making the Chinese currency convertible.

Similarly, I would say that pricing reform has continued in selected but important areas. This has been the Achilles' heel of reformers for more than a decade and I don't want to leave the impression that there has been a real breakthrough in this area, but significant reforms of prices of energy, transport, and foreign exchange have been enacted in recent months and additional steps in these and other areas are currently being actively debated in China.

A third example of continuing reform is the growth of the entrepreneurial sector of Chinese manufacturing. Despite a great deal of press commentary to the contrary, I believe that all kinds of non-state enterprises, that is private firms, township and village enterprises, collective enterprises, and joint venture enterprises are doing relatively well in the current economic environment.

NONSTATE SECTOR

For example, although share of output is still relatively small, private firms grew by more than a third in 1989. And the share of manufactured goods produced in state-owned firms has fallen every year for more than a decade, and 1989 was no exception. And this trend is continuing in the first several months of 1990 with the nonstate sector, that is the entrepreneurial sector, growing much more rapidly than the state sector. State firms now account for just a little bit more than half of industrial output.

Now, because many nonstate firms have virtually escaped taxation, the state would like to raise taxes on the sector at the margin. But the goal in my judgment is mostly fiscal and does not reflect a decision to squeeze out this entrepreneurial sector of the Chinese economy.

EXTERNAL SECTOR

Finally, another area where reform has continued is in the external sector. Foreign trade has continued to expand and there is substantial evidence that the regime wishes to continue to attract foreign investment as a means of improving productivity, particularly in manufacturing. Total trade last year rose by almost 10 percent, confounding predictions of a trade collapse. Direct foreign investment in China also rose last year, the 10th consecutive year in which that occurred. This was due largely, as Mr. Denny has already indicated, to sharply higher investment from Taiwan that offset declines in investment originating from North America and Europe.

It's also worth noting that despite the moratorium on new lending imposed by the World Bank and the Asian Development Bank last summer, Chinese borrowing from these and other international financial institutions grew by more than 50 percent in 1989. Their commercial borrowing and official bilateral borrowing did fall. The decline in commercial borrowing is related to the austerity program. It stems from the very first part of 1989, long before the events of Tiananmen Square. Only the decline in the bilateral official borrowing reflects the sanctions imposed by most Western governments in the summer of 1989.

In summary, I think there is very little evidence of a wholesale retreat from the reform measures adopted over the past decade or so. There has been selected recentralization in some areas that I think has been quite appropriate. There have been other areas where attempted recentralization has by and large failed because of the powers that have been decentralized over the previous decade. And there are a number of other areas that I have already mentioned where reforms, I think, have actually continued. The

pace of reform is not as rapid as it was in some earlier years of the 1980's, but has, nonetheless, continued.

ECONOMIC SITUATION

Although the leadership has not turned back the clock on economic reform, I would argue that they now face a very difficult period. Although inflation is down quite dramatically compared to the second half of 1988 and the early months of 1989, the economy is currently in a major slump. Manufacturing, in particular, is substantially weaker than the official figures for 1989 and 1990 indicate.

The problem is that consumption and investment demand have remained soft and inventories have grown in an alarming rate. As I point out in my prepared statement, the regime has chosen to increase inventory accumulations over the alternative of forcing more factory shutdowns. But this liability of inventory buildup is something that the state will sooner or later have to address. Delay only compounds the inefficiencies that these inventories reflect.

A deeper problem is that there is not much evidence that the current growth slowdown will lead to any improvements in underlying productivity. In a downturn in a market economy credit tightening eliminates either by bankruptcy or merger some of the least efficient firms. That paves the way for increased productivity as the labor and capital resources that are freed up in this process are redeployed in the remaining more efficient firms which expand in the next upswing.

There is little basis, however, for expecting any similar effect to occur in China. I think the state-owned manufacturing sector continues to be plagued by many of the same rigidities which have characterized it for many decades; that is, the reallocation of labor and capital which is so central to improving productivity appears to be very small. In other words, the enterprises are not really adjusting in any real economic sense but are simply absorbing more and more state subsidies in order to remain afloat.

Thus, I think the current prospect is for a renewal of significant inflationary pressure when more rapid economic growth resumes. It is this prospect and other factors spelled out in my prepared statement, that will likely lead to a resumption of more sustained and vigorous reform efforts. The regime has clearly demonstrated that significant tightening of monetary policy can reduce inflation. But they underestimated by a very significant margin the ensuing drop in real economic growth.

There is now an emerging consensus in China that the envisioned 3 years of austerity and readjustment is not viable, either politically or economically. Thus, we have already seen small steps to stimulate consumption and investment demand. And I believe there is growing pressure to undertake additional fundamental economic reforms in order to raise underlying productivity of the economy in an attempt to alleviate the inflationary pressures that are almost certain to reemerge in the months ahead. Thank you very much.

Senator BINGAMAN. Thank you very much.

[The prepared statement of Mr. Lardy follows:]

PREPARED STATEMENT OF NICHOLAS R. LARDY

The Current State of and Outlook for the Chinese Economy

In the first decade of economic reform the Chinese economy leapt from one success to another. The Chinese Communist Party largely abandoned the collective farming system and gradually enhanced the property rights of the peasantry over the individual plots of land they were assigned. The party also endorsed a decisive opening of the economy to the outside world by creating special economic zones on China's southeast coast and by promulgating a joint venture law to welcome foreign direct investment. These measures were followed up with additional steps expanding the areas of openness of the economy and improving the conditions under which foreign firms could operate in China. Substantial efforts were also made to improve the operation of the dominant state-owned sector of industry and to reform many other aspects of the domestic economy.

The results of these initiatives were remarkable. The growth of the economy accelerated to an average of about 10 percent per annum in real terms--roughly half again as fast as the decades leading up to the reform. According to the World Bank, China's economy grew at an annual rate five to six times the average of all other low income countries. As a result real living standards and consumption of the billion plus Chinese population more than doubled. And China became significant actor in the international economic system. It became a member of many of the most important international economic and financial institutions, such as the World Bank and the International Monetary Fund. It began, for the first time in decades, to sell its bonds on international financial markets. By the end of 1989 it had succeeded in attracting

more than \$15 billion in foreign direct investment.¹ And its trade increased at an average annual rate approaching 20 percent, moving it from an insignificant actor in the late 1970s to one of the top dozen or so trading countries of the world by 1988.²

Since last June the picture that has been portrayed of the Chinese economy in the west has changed dramatically. One reads of an economy with rapidly deteriorating economic performance, experiencing a crash rather than a hoped for soft landing; a leadership that, through a series of centralizing measures, is reversing a decade of economic reform; an economy in which Mr. Deng's open door is now firmly shut; an economy in which foreign traders are braced for the worst slump in a decade; and an economy facing an international payments crisis.

The purpose of my statement, as I see it, is to provide a balanced assessment of China's recent economic performance and to offer some judgments on its likely future course.

Recent Economic Performance

The major analytical difficulty in assessing the recent performance of the Chinese economy is separating the influence of two factors. The first is the policy of austerity endorsed by the Third Plenum of the 13th Central Committee of the Chinese Communist Party in September 1988.

¹Investment actually in place. The figure for contracted investment is substantially higher. All references to dollars in this paper are to U.S.\$.

²Trade data cited in this paper are those released by the Chinese Customs Administration.

The second is the economic consequences of the tragic events of May and June of 1989. To anticipate my more detailed arguments below, I would say that major trends over the past year or so have been determined in large measure by the austerity program initiated in the fall of 1988, although the consequences of the events of May-June 1989 are also significant.

The main objective of the austerity program was to reduce excess demand and inflationary pressure. It is important to recognize that credit offered to state enterprises, which had grown only moderately more rapidly than the economy in the early 1980s, grew excessively in the mid-1980s. These expanded credits were used to add to industrial capacity and to raise the wage bill. Money supply growth was soon virtually out of control with currency in circulation expanding by almost 50 percent in 1988 alone. A major reason for this sharp increase is that local branches of the state bank were beholden almost entirely to local government authority. These governments urged banks to extend more credit to stimulate local economic growth, in the process usurping the authority of the newly established central bank.

In the second half of 1988 China was heading for a major economic crisis. Excess demand from an inappropriately high rate of investment and huge increases in money in circulation quickly became apparent. Panic buying in the summer and fall of 1988 stripped many commodities from store inventories and prices began to rise rapidly. The officially compiled cost of living index, for example, in December of 1988 was 28 percent higher than December 1987. Without the austerity program initiated in the fourth quarter of 1988, China would soon have been consumed by hyperinflation.

The effectiveness of the austerity program can be judged in part on the basis of the performance of the economy in 1989, the first full year of the new program. Most significantly the rate of expansion of national income was brought down from its unsustainably high 11.4 percent in 1988 to 3.7 percent in 1989. This figure of 3.7 percent obscures important differences across sectors and almost certainly overstates the overall performance of the economy. In general, the goods producing sectors performed better than the sharp drop in the overall growth rate indicates. For example, although industrial growth in real terms fell sharply from its 20.7 percent rate of 1988, the 8.3 percent expansion of 1989 was only a couple of percentage points below the average rate of expansion of 1979-86. Moreover, agricultural growth in 1989 actually rose one-tenth of a percentage point to a rate of 3.3 percent. Within the agricultural sector, the decline in cereal and fiber crop output of 1988 was reversed by a 2.1 percent increase. Transportation and commerce, two other sectors of the economy measured in national income and essential to the distribution of output produced by manufacturing and agriculture, also posted significant gains. The only sector to fall in absolute terms was construction. The 20 percent decline in real construction activity was a direct result of the government's curtailment of a variety of building projects.

However, the overall economy was weaker than the overall growth rate indicates. During 1989 consumption and investment demand softened considerably. Although the pace of industrial production dropped sharply, incomplete data indicates that inventories of finished goods and goods in process rose sharply as the year proceeded. Based on very crude calculations, industrial growth net of inventory accumulation was

no more than 5-6 percent. Thus the growth of national income was probably no more than 3 percent, at least a fifth lower than the official data indicate.

There were also significant achievements on the monetary and inflation front in 1989. Currency in circulation rose only 9.8 percent, compared to 46.8 percent in 1988. Although the year-over-year price increase was still high, just under 20 percent, the monthly trend, which is more revealing of the direction of change, was far better. From the peak monthly increase (measured over the same month a year ago) of 27.9 percent in February, the rate fell to only 6.4 percent by December 1989.

Even more surprising, given the predicted effects of the Tiananmen debacle of June 1989, China's external sector came through the year with reasonably good results. Exports grew by more than 10 percent while the growth of imports was held to 7 percent. Again, contrary to predictions of collapse, foreign direct investment rose for the tenth consecutive year to reach \$3.3 billion.³ Two-thirds of the investment came in the second half of the year. While earnings from tourism and overseas labor services fell, the declines were less than predicted. Despite the moratorium on new lending to China imposed by the World Bank and the Asian Development Bank, credits dispersed by international organizations from previously approved loans ran in excess of \$1.2 billion, up almost 50 percent over 1988. Official bilateral credits to China, however, fell sharply. Moreover, foreign commercial borrowing also declined dramatically in 1989, but the drop dates from the beginning of the year,

³Actual investment. The annual volume of contracted investment also rose, to \$6.3 billion.

prior to the imposition of foreign economic sanctions in June. In short it reflects mostly reduced Chinese demand for commercial loans rather than the reduced supply of loans by foreign banks. In part because net commercial borrowing was a negative \$2 billion (i.e., repayments were 3.2 billion while new borrowing was only \$1.1 billion), China's foreign exchange reserves dipped by about \$500 million in 1989. However, at just over \$17 billion reserves at year-end still provided a relatively comfortable coverage of three months' imports.

These basically positive developments continued in the first few months of 1990. The easing of credit restrictions, begun in the fourth quarter of 1989, continued. But as measured by new credit extended, monetary policy in the first quarter of 1990 was still tighter than the first quarter of 1989 and far more restrictive than in the comparable period of 1988. As a result the rate of inflation now has been brought down well below 5 percent (at an annual rate) for several consecutive months. Industrial output, which flagged in the final months of 1989 and the first month or two of 1990, has begun to revive. Cumulative output in the first five months was up 1.4 percent over the same period of 1989. And China's trade account has improved. Export growth in the first five months of 1990 was 14 percent and imports were down by 17 percent--leading to several record monthly balance of trade surpluses. Thus China is generating the foreign exchange earnings necessary to repay its rising schedule of interest and amortization of its external debt without any current need to seek rescheduling. Foreign exchange reserves rose slightly, about \$100 million, in the first quarter of the year.

The Domestic Economic Outlook

In short, China's record for reducing inflation rapidly while maintaining a respectable rate of economic growth and a strong external sector appears to be quite favorable when judged against the experience of developing countries in recent years.

However, looking ahead there are several reasons to be cautious. First, China has accumulated very little experience in the use of monetary policy as an instrument of macroeconomic policy. Some observers have already judged that monetary restriction in 1989 was excessive and led to a deep recession. That argument is difficult to judge. Industrial growth certainly faltered in the latter months of 1989 and the early months of 1990. However, industry comprises less than half of the Chinese economy. There is little evidence of declining real activity in agriculture, transportation, or commerce. Moreover, we do not have quarterly data on the value of output in sectors other than manufacturing so it is difficult to show that real economic activity declined in two successive quarters, the conventional standard for measuring a recession. Nonetheless, this should not obscure the important point that monetary restriction may have been pursued too vigorously in most of 1989.

More significant is the possibility that as credit restriction is eased that the brakes will be taken off too rapidly, contributing to a rapid reemergence of inflationary pressures. That could occur for psychological reasons alone. If inflationary expectations emerge, they could become self-fulfilling since an attempt by consumers to spend a significant portion of their liquid savings deposits would lead to substantial shortages and an accelerating rate of inflation.

Inflationary pressures could be reinforced by the failure of the austerity policy to deal with a deeper economic problem--inefficient or bankrupt state enterprises. In a downturn in a market economy, credit tightening eliminates, by bankruptcy and merger, some of the least efficient firms. That paves the way for increased productivity as the labor and other real resources freed up are redeployed in the remaining, more efficient firms, which expand in the next upswing. There is little basis, however, for expecting any similar effect to occur in China. Many of the least efficient state industrial enterprises have been insulated from the effects of austerity. They have either been allocated increased budgetary subsidies to keep them afloat or they have temporarily been absolved of the responsibility of paying supplier firms. In either case the costs of their inefficiency have simply been shifted elsewhere in the system and have not been eliminated. Subsidies to money losing state enterprises had already reached the level of 45 billion yuan in 1988 and soared further to 60 billion yuan in 1989.

Third, soft consumer demand has persisted in the first half of 1990, casting doubt over the probability of achieving the 6 percent rate of growth of industrial output projected by the State Planning Commission for the full year. The continued softness of retail sales has led to record levels of inventories of consumer goods, particularly durables. In short, the state's figures on industrial production in 1989 and in 1990 partially obscure the softness of the economy. The state has chosen increased inventory accumulation over the alternative of forcing more factory shutdowns.

Fourth, despite this effort to prop up production, unemployment in the modern sector has risen sharply in the past 18 months. Initially

this was due largely to the deliberate decision to reduce sharply the level of construction activity. These reductions were relatively easy to manage since the families of a significant share of the workforce in construction continued to live in rural areas. Laid off construction workers can return to their villages and engage in farming activities to support their families. But more recently layoffs have been concentrated in the state-owned manufacturing sector where most workers are permanent urban residents. In the absence of a system of unemployment benefits these layoffs impose real economic hardship.

In summary, 1990 is likely to be a year of continued slow economic growth at best. Indeed, despite the present prospect of a reasonably good agricultural performance this year, it is likely that the growth of national income in 1990 as calculated by China's Statistical Bureau will be in the range of from 2.5 to 3.5 percent in real terms. Not a recession, but substantially off the average growth of the 1980s and lower even than the 3.7 percent pace of 1989. Moreover, if consumption demand continues to sag and this were allowed to feed through to reduced industrial output (as would be expected in a market economy), economic growth could be substantially lower. Continued slow domestic growth will help hold down the demand for imports. Combined with various ongoing export promotion measures, China is likely to be able to generate the growing trade surplus needed to meet forecast increases in the level of external debt repayments.

Prospects for a Resumption of Reform

In my judgment much commentary over the past year or so has both overstated the degree of retreat from economic reform and underestimated

the probability that economic reform might resume its former pace. As I have already argued, there were some areas, such as monetary policy, where a recentralization of control was imperative. And there were others, such as a supposed centrally directed squeeze on private and collective activity in manufacturing and services, that were resisted locally and in any case were motivated largely by fiscal rather than ideological concerns. The nonstate sector flourished in 1989, growing more rapidly than state-owned industry. The share of output in manufacturing produced in state-owned plants fell to 56 percent. The decline in the share of output produced in state firms continued in the first five months of 1990. In short, private firms, township and village enterprises, and collective firms are doing quite well in China's current economic climate.

Moreover, in many spheres of the economy reforms have continued to move forward over the past year or so. For example, the State Administration of Exchange Control allowed a significant further expansion of the swap markets for foreign exchange, the so-called foreign exchange adjustment centers. These markets have grown markedly in size in recent years and represent a significant reduction in the degree of exchange control compared to the first half of the 1980s. The volume of transactions in these markets, which now exist in over 100 cities, grew by more than 35 percent last year, to reach more than \$8 billion. This is important because it means that a small but significant share of Chinese importers now have to pay something approaching a market price for foreign exchange rather than relying on an allocation of foreign exchange by the planning authorities. In short

the expanding role of the swap market could serve an important transitional step toward the convertibility of the renminbi.

Another example of continuing reform on the external side is the increasing influence of foreign market prices on domestic prices. At the outset of the reform process the government sought to expand foreign trade while continuing to insulate domestic prices from both the level of and fluctuations in foreign prices. By the end of the 1980s this insulation was significantly eroded. Imports, in particular, were priced almost exclusively on the basis of world market prices and the exchange rate. Very few products were still eligible for subsidies from the central government--subsidies that once allowed the sale of imports on the domestic market with little or no regard for the world price of the commodity. Much of this progress occurred in 1988 and 1989. Similarly, producers of export goods in China increasingly receive prices tied to the international price rather than the domestic price of their goods. Again, this trend continued in 1989.

The increased influence of foreign prices in the domestic market is a significant development because it makes it possible for Chinese traders to make economically more rational choices. It also substantially increases the utility of the exchange rate as an instrument of government policy. Only a few years ago exchange rate changes had little or no effect either on the domestic prices of a broad range of imported goods or on the profitability of exporting a broad range of manufactured goods. That has now begun to change, paving the way for more active exchange rate policy.

Reform and innovation also have continued in domestic financial markets. A few examples suffice. The state has made active use of

interest rate policy to influence private consumption and savings behavior. To dampen excess demand they introduced savings deposits in which the interest rate was linked to the consumer price index. This gave consumers an incentive to increase their savings. Paring the incentive to shift from monetary into real assets as rapidly as possible in order to avoid the erosion of the purchasing power of money reduced inflationary pressure. More recently, in the early months of 1990, the state lowered the interest rate on some types of savings deposits in order to stimulate sluggish consumer demand.

It would be premature to evaluate the success of these policies. But it is worth noting that the active use of interest rate policy to influence consumption and savings is unheard of in centrally planned economies.

Although continuing to be limited in scope, the state also has continued price reform. China has instituted significant price reform for transportation over the past year and is discussing similarly far reaching price adjustments for energy as well. Huge price increases for passenger transport and increases for freight transport are particularly significant because basic transport prices were last changed in the mid-1950s. As the prices of energy, labor, and other materials increased significantly over the ensuing decades, the transport sector was pushed into the red. Unable to reinvest to expand capacity, the sector became bottleneck, dragging down the overall performance of the economy. Increases in passenger fares alone, which on average more than doubled, are expected to add almost 6 billion yuan annually to revenues of the railroads, civil aviation, and water transport systems. Combined with the additional revenues generated by higher freight rates, the sector

will be able to finance its own expansion and upgrading, thus over time alleviating the bottleneck this sector has posed in recent years.

Crude oil and coal in recent years also have been significantly underpriced, leading to wasteful use of these scarce resources. A modest increase in the price of crude oil was instituted recently and there is the prospect for as much as a doubling of the price of coal. However, as has been true for at least a decade, adjustments in the price of coal are fiercely contended. It is possible that competing bureaucratic interests will fight each other to something of a standoff with no more than a token price rise finally approved. But the debate on this topic appears as vigorous as ever.

Some economists, including some in China, argue that these examples of bureaucratically engineered price changes demonstrate how little reform has occurred. In principle, of course, freeing up all prices to let them be determined by supply and demand, would be desirable. In practice, many Chinese prices are so far from market clearing levels that preliminary bureaucratic price resetting is necessary. There are many examples over the past decade where this has ultimately led to a complete freeing up of prices.

In short, although the pace of reform has lagged compared to earlier years in the 1980s, selective but important reform measures have gone forward in 1989 and 1990. Moreover, I believe that the prospect is for a resumption of more rapid reform. That judgment is based on several factors.

First, in marked contrast with the Soviet Union there is a substantial constituency in China for further reform. And it is not limited to a small urban intellectual class that supports economic

reform because of the expectation it will lead to political reform. The vast majority of China's population has benefitted from the first decade of reform and their appetite for further reform appears to be substantial. This constituency includes hundreds of millions of rural farm households; tens of millions of households that have benefitted from the rapid growth of village and township industry; and several tens of millions of urban Chinese who live in the various special economic zones, open cities, and technical and economic development zones that have benefitted from China's opening to the world economy. These groups, by and large, have resisted the efforts toward recentralization that have occurred over the past year or so and are likely strong supporters of further reform.

Second, changing leadership at the top could again bring forth a strong individual leader like Zhao Ziyang who had a substantial taste for reform. Moreover, the conservative leadership currently at the apex of China's political system, while not predisposed to support further reform, has not repudiated the instrumentalist approach the party has embraced over the past decade or more. That is, they see the legitimacy of the party as deriving from its ability to ensure rising living standards as reflected in increased consumption of food, clothing, housing, and so forth. But the policies that have been successful in this regard are those of the reformers. Thus even in the absence of a change in the leadership, individuals such as Li Peng, who is widely perceived to be less than enthusiastic about reform, are likely to be willing to support further reform measures as a means of increasing the underlying productivity of the economic system and thus improving its capacity for raising living standards. Indeed there is evidence that

the continuing softness of the economy in 1990 has weakened Mr. Li's position and that he is increasingly receptive to reform proposals designed to raise the underlying productivity of the economic system.

Finally, the various institutes and informal advisory groups that were the fount of ideas for reform over the past decade by and large are in place and still functioning. Indeed, I have been particularly struck by the continuing vigor of the debate on economic reform that is ongoing in these organizations in recent months. This debate is reflected in a broad range of publications as well as in informal discussions, meetings, and so forth. Of course, these reformers do not necessarily enjoy the access and the influence they once had with the highest levels of China's political leadership. But the debates continue and for reasons described above I think that it is highly likely that the influence of the proponents of reform will rise once again.

In closing, let me quickly add that I am not predicting that China is likely to be successful in reforming its economic system any time soon. They are embarked on largely uncharted waters and I would expect many setbacks as they attempt to further economic reforms. What I am somewhat confident in predicting is that a more vigorous search for an alternative economic system will resume.

Senator BINGAMAN. Mr. Perkins, why don't you go right ahead and we'll hear from you before we ask any questions.

STATEMENT OF DWIGHT H. PERKINS, DIRECTOR, HARVARD INSTITUTE FOR INTERNATIONAL DEVELOPMENT

Mr. PERKINS. I also have submitted a prepared statement which I will not read, I will just speak from notes and try to comment on three issues. The first having to do with the long-term prospects for the Chinese economy; second, what has happened over the past year and what its implications are for those long-term prospects; and third, how do issues like MFN and other kinds of sanctions fit within that context.

ECONOMIC ASSESSMENT

The first point or issue that I'd like to discuss is the question of whether the Chinese economy is one that is still fundamentally healthy or whether it's in deep trouble. I'd like to simply point out in that context that even during the two decades from 1957 to 1977 or 1978, when the Chinese economic policy was to put it mildly often disastrous, when mistake after mistake was made, when it was a highly centralized command system, the economy still averaged a growth rate of 4½ percent a year. This rate was nothing spectacular, but, nevertheless, not a bad rate by some standards. What changed in 1977, 1978, and 1979 were the reforms that led to an extraordinary roughly 9 percent rate of real growth, a doubling of GNP in less than 10 years, and a doubling of per capita GNP in about 10 years. The reason for this accelerated growth is something that we don't fully understand, but there are clearly some critical elements to it. The opening of the economy to foreign trade and to a lesser degree to foreign investment led to a fivefold increase in exports, which in turn removed the foreign exchange bottleneck. The decollectivization of agriculture led to a tremendous spurt in agriculture output through 1984. The freeing up of market forces, at least in some areas of the country, with respect, particularly, to the smaller enterprises, led to a boom in the smaller enterprises. All of these reforms, therefore, were by any reasonable measure quite successful in achieving accelerated real growth in GNP.

What happened in 1989 that changed all of this was not a result of Tiananmen, and it was not a result of the sanctions that were being applied by the West and others. What happened, as others have pointed out, was quite simply a deliberately engineered recession in order to stop inflation. It was primarily a sharp cutback in credit to the enterprises that forced them to cut back their demand for inputs which reduced the inflationary pressure.

This anti-inflationary policy was clearly successful in its own terms and has clearly brought the prices down, but it has also brought out the reason why this kind of policy is simply not viable in the longer term. My reading of the CIA report has been superficial given that we got it this morning. But their emphasis on the problem of unemployment is exactly right. By bringing growth rate down as low as 3 or 4 percent a year, what you are basically doing is making it impossible to absorb the very large increase in employment that China is going to have to achieve if it's going to have

any kind of social or political stability over the next decade. Over the next decade, China is going to have an increase in its labor force of about 150 million people. On top of that, it has another 100 million people in the countryside who are surplus, who really don't have anything useful to do. I mean, they share work with others, but they could be removed without any effect on agricultural output to speak of.

If you're going to take those 150 million additional people and put them back in the countryside in dead-end occupations with low productivity, you're going to have a very explosive situation. So, they have to find a way to employ them. One of the extraordinary achievements of this past decade of growth, was precisely the fact that out of the 140 million people increase in the work force in that period, 100 million of them found work outside of the agricultural sector. They have to do something similar over the next decade if they want to have any kind of political and social stability. And the question is, Can they do it?

I've suggested that the underlying forces in the Chinese economy are basically strong and if they can go back to sensible economic policies, there's a reasonable prospect of achieving a substantially higher rate of growth than anything they're achieving right now.

In the past I've suggested that growth can increase to about 6 to 8 percent a year and that's probably still the figure that I would stick with. There are lots of problems. There are energy problems, there are transport problems, there is a decline in foreign investment as others have pointed out, and so on. These, however, particularly the energy and transport problems, are chronic problems. They've been there all along. The biggest problem in my view is not so much these particular sector issues that the Chinese State Planning Commission and others stress, the biggest problem is that right now there is no real economic leadership in China. That is, there is no coherent plan as to what to do next. In this way I agree to a large degree with what Nick Lardy has just said, it is not that China is marching steadily back toward central planning, it is that they aren't marching in any particular direction.

POLITICAL UNCERTAINTY

Because of the political uncertainty at the top, everyone is afraid to take any really strong initiatives. Partly it is also because the economic policy is now largely in the hands of engineers and bureaucrats who basically have no overall conception of where to go and don't really have any very clear conception of how markets work if they wanted to move to a market system. And yet they know that they can't go back to central planning and a command system. There was some movement in that direction last year, but as soon as you move in that direction and you start closing down small-scale enterprises, this tremendous employment problem raises its ugly head again and they get into deep trouble. As soon as unemployment began to rise they backed off.

So, what you have therefore is a series of ad hoc measures that simply don't have any overall plan to them. And under those circumstances what I think you can anticipate over the next few years until the political situation is settled, is that you will prob-

ably have a relaxation in controls over the economy for a time. That will lead to an accelerating growth in the economy because of the underlying strengths of the economy. If the growth picks up too much that will lead to inflation again and that will lead to another credit crunch to stop inflation and you have a stop-and-go situation. Or possibly you will have a situation where they will just keep the credit lid on enough to hold the growth rate down to a level that will prevent inflation. Either way, that is not a very satisfactory long-term solution. Over the long term they have to come back to having some kind of scheme of how they're going to reform the economy. And I think over time they will themselves come to that realization.

MFN

Where do economic sanctions and MFN and such things fit into all of this? MFN will, to a limited degree, really hurt the Chinese economy. Its main impact, of course, will be to cut Chinese exports, not by a large amount, but by several billion dollars conceivably. That's on total exports of over \$50 billion, so one should keep it in perspective. But it will hurt. Is it in anybody's interest to have that happen? I clearly feel that that is not the case.

I testified before this committee in 1967 and at that time the issue that one was dealing with was the U.S. embargo against trade with China that was still fully in force. And I argued at that time that the U.S. embargo was, one, largely ineffective by 1967, and two, to the extent that it was effective, it worked against the interests of the United States.

The reason I argued that, and I would argue that again today, is that it is in the interest of the United States to have the Chinese economy become more prosperous. And even more to the point, it is particularly in the interest of the United States to have the economy become more prosperous through a policy of opening up to the outside world.

The changes in Chinese society that have occurred over the last 10 or 15 years, did not come about largely because of a change in heart on the part of this Chinese political leadership, recognition on their part that social liberalization, political liberalization was an inherently good thing. The changes come about largely because of the economic growth and the opening up to the outside world which inevitably brought with it a lot besides technology. It brought with it all kinds of information and ideas that fundamentally changed Chinese society over this past decade. For the United States to basically conspire in a policy to in effect try to close that process down or to slow that process and to slow that change, in my view makes no sense. MFN, I would therefore argue, to the extent that we did take it away from China, and to the extent that it was effective, that act would probably simply reinforce the conservatives who would want to turn inward anyway for their own reasons, partly for the social reasons that I just suggested. And in that sense it would clearly not be in the best interests of the United States. Thank you.

Senator BINGAMAN. Thank you very much.

[The prepared statement of Mr. Perkins follows:]

PREPARED STATEMENT OF DWIGHT H. PERKINS

In mid-1990 China's economy and the decade-long effort to reform the country's economic system are more in limbo than they are in retreat. There are few major efforts to push for significant new reforms, but there are also few initiatives designed to fundamentally change the reforms already in place. The temptation of most economic policy makers today is to wait out the transition to a new political leadership before taking a stand, but events may force them to act before a transition takes place. If the transition to new leaders takes several years, the economic pressures will be acute. These pressures will largely come from domestic sources. Foreign sanctions may increase these pressures on the margin, but are unlikely to have much impact on how they are or are not resolved.

China in 1989 experienced an East Asian style recession and that recession continued into the first half of 1990. It was a recession because GNP growth dropped sharply from an average rate of 10 percent per year in the three preceding years (1986-1988) to 3.9 percent in 1989. The growth rate in 1990, barring a boom in the latter half of the year, is likely to be similar to that in 1989. It was an East Asian style recession because, like China's East Asian neighbors, growth remained positive. Even per capita GNP grew by over 2 percent in 1989, a figure that many other countries would consider quite satisfactory. Japan, South Korea, and Taiwan all experienced similar kinds of recessions during their economic boom decades, and most of their recessions,

like that in China, were deliberately induced by policy-makers to deal with a particular economic problem — foreign exchange shortages in Japan in the 1950s and 1960s, inflation in China in 1989.

The underlying conditions of the Chinese economy, with exceptions to be noted below, remain strong. In 1981, in the middle of another Chinese "recession," I suggested that the Chinese economy was likely to grow at an average rate of between 6 and 8 percent a year. At the time, those figures were greeted with almost universal skepticism by China specialists, but the reality over the entire reform decade (1979-1988) was that China's GNP grew at over 9 percent. Even allowing for some upward bias in the Chinese statistics due to errors in the way small-scale industry is estimated, GNP growth during the decade was over 8 percent. Per capita GNP roughly doubled, an increase nearly as large as that achieved during the entire first three decades of the People's Republic.

We do not have a universally accepted way of explaining how China achieved such a high growth rate in the 1980s. A literate and readily trainable labor force is part of the story, as is China's high rate of investment and capital formation. In the first half of the 1980s, the decollectivization of agriculture and the opening up of rural markets were of central importance, triggering an agricultural boom that lasted through 1984. In the latter half of the 1980s China's decision to open up its economy to foreign trade and investment paid big dividends. Foreign

exchange earnings from exports rose nearly five-fold over the reform period and foreign borrowing and foreign direct investment rose from negligible levels to \$10 billion a year in both 1988 and 1989.

These underlying favorable conditions have not really changed much as of June, 1990. In particular, China's rate of investment remains high and its foreign exchange position strong. Exports did grow more slowly in 1989, but the recession slowed imports even more. New commitments of foreign credits and foreign direct investment dropped, particularly in the latter half of 1989, but the amount of foreign exchange China actually realized from these sources was roughly the same in 1989 as in 1988. At the end of 1989 China's total foreign exchange holdings were roughly the same as the record high level at the end of 1988..

The economic slowdown in 1989 and early 1990, therefore, was not due to underlying long-term economic problems, nor was it due to the disruptive affects of the Tiananmen demonstrations and their tragic aftermath. The slowdown came about because the government cut back sharply on bank credit to enterprises and others in a successful effort to curb inflation. By the end of 1989, the credit crunch had brought growth to a halt. It had also brought inflation down into the single digit range and it has continued to fall in 1990. Given the sensitivity of the Chinese population to moderately high rates of inflation because of the experience with hyperinflation in the 1940s, and with the

virtual absence of price changes in the 1960s and 1970s, almost any Chinese government would have tried to bring the inflation rate down in 1989; a tight control of credit was the only practical lever available for that purpose.

Given the underlying strength of the Chinese economy and the fact that the recession was induced by tight credit, it would seem to follow that as soon as credit was made more available, the economy would accelerate once again. In fact, the government has loosened credit during the second quarter of 1990 and the growth rate of industry is beginning to pick up. But will China return to sustained high rates of growth in the 1990s?

Certainly there are powerful reasons why it would be desirable for the economic growth rate to accelerate. Between 1978 and 1988 the Chinese labor force grew by 142 million people. Over 100 million of those people found employment outside of agriculture, thanks largely to the high growth rate. In 1989, in contrast, the labor force grew by 10 million people and virtually all of them had to find employment in agriculture, a sector that is not only seen as a dead end for young Chinese, but one that already has a labor surplus of perhaps 100 million people. Over the decade of the 1990s, China's labor force is likely to increase by another 150 million and the political consequences of trying to keep most of these people down on the farm are likely to be profound.

But if growth accelerates to deal with employment under current conditions in China, it is also likely to retrigger

inflation. The key words are "under current conditions." As long as China's economic system remains much as it is today, the government can either have price stability or it can have rapid output and employment growth, but it isn't likely to be able to achieve both.

The essential problem creating this dilemma is the half reformed nature of the Chinese economy, particularly the urban industrial economy. Among the industrial enterprises, particularly the larger state owned ones, the shortages characteristic of a command economy are still common. Profits do matter to these enterprises, but higher profits are often obtained by negotiating lower taxes or by getting more subsidized credit and other inputs from the central or local government authorities, rather than by increasing sales or cutting enterprise costs. In this kind of system, enterprises don't totally ignore costs, but they don't worry a great deal about them either. Price increases, therefore, have to be much larger than in a true market economy if they are to be effective in choking off demand. These large increases up the cost to other enterprises leading them to raise their prices with the monetary authorities usually accommodating these rises by allowing credit to expand. If the government attempts to stop inflation by freezing prices, this reinforces the shortages in the economy and the shortage oriented behavior of a semi-command system.

There are two ways out of this dilemma. One would be to go all the way to some kind of true market system where macro-

economic controls would work much like they do in other market oriented economies. The other route would be to return to central planning and administrative allocation of inputs where prices no longer matter. But, as of June 1990, China's economic policy makers are not really going in either direction. They have a slogan to describe the current system, a "planned commodity economy," but the slogan is at best a very vague guideline for action.

In late 1989 there were those who argued that China's leaders were heading back toward a more planned economy and perhaps some of them wanted to do so. But some of the initiatives designed to move the economic system in that direction, have been significantly modified in 1990. For example, for a time it appeared that collective and particularly private small and medium enterprises would be severely curtailed and, in some cases, abolished. There was an effort to cut them back for a time, but then that effort was itself curtailed, probably because the government began to see the employment implications of a drop in this sector. In some cases it is not so much that the government has reversed itself as that the center in Beijing doesn't have the power to do what it would like. A large share of government revenue, for example, is controlled by the provinces and localities and they have actively resisted giving that revenue back to the center.

A strong central government capable of exacting economic sacrifices with at least some degree of popular acceptance no

doubt could change the economic system in the direction it desired, but the Chinese central government today is not strong in that sense. Those making economic policy are waiting for the fundamental questions of who will rule to be resolved. And those currently ruling are reluctant to move for fear of a popular reaction that would undermine their ability to rule.

In this context, what is the likely impact of economic sanctions against China? Removing MFN from China would mainly have the effect of reducing Chinese exports to the United States. In 1989 China exported \$4.4 billion to the United States (out of total exports of \$52.5 billion) and it is likely that removal of MFN would cut this total sharply. The slowdown in World Bank loans will also soon begin to affect the actual flow of credit from that source to China. But is a drop of several billion dollars in foreign exchange earnings going to topple the Chinese government? Given the stakes for those in power, it doesn't seem likely. Those who will be hurt are the people who have staked their futures on building economic relations with the United States. The outward oriented policy of China could itself come under attack from those within China, who will argue that it is another attempt by foreigners to control China and that perhaps Mao, with his desire to minimize dependence on foreign trade, was right all along. These latter day Maoists aren't likely to carry the day either, but the effort to achieve rapid growth through closer ties with the outside world would be hurt by these attacks. And it is precisely these outward oriented policies

that, more than any other measures, have contributed to what political liberalization there has been in China over the past decade.

In 1967 I testified before this same committee that the American embargo then in force toward China was ineffective, and, to the extent it did have some effect, it worked against the long term interests of the United States. In 1990 my views on this issue have not changed.

1. "The International Consequences of China's Economic Development." in Richard Solomon, editor, *The China Factor* (Prentice Hall, 1981) pp.114-136.

U.S. POLICY

Senator BINGAMAN. I'll start out and ask a few questions.

Let me ask about the policy that the U.S. Government and I guess U.S. business seem to be taking of backing off somewhat from investment in China.

Now, Mr. Denny, you testified to that as I understood your testimony, and to how that compares with the position that other countries—the business communities in other countries, Taiwan, Korea, and Japan are taking. Could you tell me whether there is a disadvantage, that is, a long-term disadvantage, that we are imposing upon ourselves in developing access into the China market?

Mr. DENNY. I don't believe so, Senator. And I don't think many business people worry about it or think about it in those terms.

First of all, systematic annual figures that are comparative with the past are not available on a country-by-country basis.

But to the degree that we can follow it by looking at particular deals and our Beijing office does report regularly on what countries seem to be well represented in Beijing, whose offices are—

Senator BINGAMAN. This is the Beijing office of your association?

Mr. DENNY. Yes, sir; the Beijing office of my organization. The Japanese are not following any substantially different policy than our own, either at the government or business levels. This summer at the G-7 meeting, the Japanese may want to move ahead with OECF and signal to their business people that perhaps a more aggressive policy is in order. But to date the Japanese, if anything, have been as equally conservative and concerned about the risks, some people argue even more so than the United States.

Our sense is that the Germans are so preoccupied with the European situation that they may even be coming less of a factor in China and they're the other primary investor in China.

There is the great explosive growth of Korean and Taiwan investment. I look at that as an entirely new phenomenon that should have taken place on economic grounds, many years ago. It is really catchup. There are very substantial economic reasons why the Koreans and the Taiwanese should be having a close relationship with China. These tendencies have been held back by formal and informal pressures from two governments. Now, in the situation in the last year, those have been relaxed and those investors are rushing in. So, they're both from aggregate numbers and from just looking at the bits and pieces I would say that the drastic reduction in total investment in China since Tiananmen on the order of now running about 65 percent of the previous three quarters and the previous, here, that if you had European, United States, and Japanese investment, obviously it's going to be way down much lower, probably much lower than 50 percent.

Senator BINGAMAN. Do either of the other witnesses have a comment on this?

Mr. LARDY. A couple of brief comments. From point of view of judging the competitive position—say, of U.S. firms versus Japanese firms or any other country's firms, the major disadvantages that accrue to U.S. firms are not on the investment side but on the trade side.

That is, I don't see Japanese Government policy or government policies in Western Europe as substantially enhancing the investment position of their firms in the China market or elsewhere. So that decisions on investment are by and large the decentralized decisions Mr. Denny has alluded to. But on the trade side I think there is a difference and that is that the Europeans and the Japanese have very substantial programs of mixed credits and concessionary loans which are designed to facilitate the trade of their country's firms with China. And I don't think we should lose sight of the fact that the Europeans, at least, have resumed this kind of lending. They announced their willingness to do so in December 1989 and, in fact, have now begun in a modest way to resume a number of soft credit, concessionary credit, mixed-credit-type-lending programs in support of their trade activities.

So, in a sense during the period in which all of the Western countries held to the position of no new bilateral credits in a moratorium on concessional lending and so forth, the disadvantage that the U.S. firms have been under for years were reduced. Now that the Europeans are beginning to lend again on these programs, I think the disadvantage to U.S. firms will expand. So, I think the disadvantage to U.S. firms will expand. So, I think the position in which there are these billions and billions of dollars in concessionary lending available to support this kind of trade from European countries and Japan will work to our long-term disadvantage. So, I think the disadvantage of unfair competitive positions emerges on the trade side much more than the investment side.

As to investment, at least on the official Chinese figures which have recently been released only for 1988, as Mr. Denny said we don't have the 1989 figures by country, but as of 1988 Japan had already substantially surpassed the United States in terms of the annual flow of foreign direct investment into China. It is true that the stock of U.S. investment in China is still greater than Japan's, but beginning in 1988 Japanese investment in China was substantially larger, about 2½ times the United States.

Senator BINGAMAN. Mr. Perkins.

Mr. PERKINS. I largely agree with Nick Lardy's point on trade. Just a couple of additional comments about foreign direct investment.

The Japanese, by the way on the trade issue, are also clearly beginning their lending again and that will give them some advantages in trade. The Japanese, while they may be up ahead of the United States in terms of starting new foreign direct investment, the Japanese have always been rather slow to go in on foreign direct investment. They have basically seen the risk. Often they've seen the risk higher than we've seen it. Much of their investment these days is going into Hong Kong as a base for working in China more than it is into the mainland directly. It's not so much Tiananmen, it's more a longer term assessment of the situation.

The only people with a real advantage in investment in China are the Hong Kong Chinese and the Taiwan Chinese. They have an advantage for social reasons, for language reasons, for all kinds of reasons, plus the fact that they're dealing primarily in Guangdong and Fujian Provinces, the most open Provinces. They're able to work around the structures of a centrally planned and controlled

system much more readily than can foreign investors who are not really plugged into the society at that level.

So, if you look at most of the foreign direct investment, by far the greatest bulk of it is coming from Hong Kong anyway, if you want to call that foreign. And my guess is that you'll see a very large amount, as Dave Denny says, coming from Taiwan. And that will account for a very large share of the total.

U.S. TRADE DEFICIT WITH CHINA

Senator BINGAMAN. Let me ask about this point that Mr. Denny was making, the point that the Chinese Government policy seems to be very strongly against foreign investment aimed at the domestic market. It seems as though that over a period of time that is a major problem, should be a major problem for us with us running a significant trade deficit with China. Is this an issue we have made a major point of in our relations with China? Is it an issue we need to, or is it something that we just have to expect considering the stage of growth, the stage of development that China is in? Do any of you have a thought on that? Mr. Perkins.

Mr. PERKINS. Well, I would say that the difference here has been there from the beginning that American investors, a large number of them, have always gone to China with the hope of a billion customers. There is nothing new about it. It goes back to Marco Polo. The Chinese never wanted to have to spend foreign exchange paying for profits made by selling to the Chinese domestic market. And that fundamental difference has been there all along and has led to lots of misunderstandings on the part of U.S. direct investors and the direct investment of others as well.

That said, the situation has not been quite as bleak as that conflict would lead one to believe. The Chinese, for example, as Nick Lardy pointed out, have set up swap markets for foreign exchange. They have, in fact, allowed a fair number of firms to sell in the domestic market. There was a subgroup of people within the reform-minded institutes who actually saw production for the domestic market as providing some competition for the Chinese domestic firms, that they felt those firms badly needed. Right now I think you can find very few, if any people, who have any power that actually hold that point of view. It was probably a minority point of view even during the height of the reform era. But it was there. And some of the institutions that were created to support foreign investment directed in part toward the domestic market, such as the swap market, are still very much there. So, it is possible, in fact, still to sell in the domestic market and occasionally to get profits out. But the underlying situation is one where the Chinese want technology, they want better management techniques, they want access to export markets and therefore more foreign exchange. And the Westerners want access to a billion customers. That is a fundamental difference in goals.

Senator BINGAMAN. It seems as though the Chinese are winning that argument. At least if you look at the trade imbalance that exists. I just wonder long term, looking ahead into the 1990's, do we need to anticipate a large and growing trade deficit with China for the indefinite future? Is that basically what I am hearing?

Mr. PERKINS. I can't comment as easily about the direct United States-China balance. What I think you will not see, and I think with confidence you will not see for the next decade, is an overall world trade surplus on the part of China. Chinese demand for imports is enormous, far greater than their capacity to pay. Whenever they relax controls, imports jump up enormously. And that situation is likely to persist for some time to come. So that China is not going to be running an overall surplus and having huge accumulations of foreign exchange reserves on the Japanese and Taiwan model for a long time to come. They need large imports for their own development program.

Now, whether the United States will be able to take full advantage of that will depend on the U.S. competitive position with regard to specific products.

Senator BINGAMAN. Anyone else have a comment on that?

Mr. LARDY. Well, a comment on several points. First of all, with regard to this question of whether or not we should anticipate that China will run large surpluses with other countries, I think that will be entirely a function of the credit that's made available to China. They have run significant current account deficits over the past 7 to 8 years because foreign credit, commercial, official bilateral and from international organizations has been available. Their current outstanding debt is something on the order of 40 to 45 billion U.S. dollars. If that flow of credit were to continue, I would agree with Dwight Perkins' comment that it's likely that China would continue to have current account deficits because of this large demand for imports.

However, if the credit is not available or its available on a much smaller scale than it has been in the past, there's no question that they will have to run large surpluses in order to repay their existing debts. Now, just repaying the existing debts is going to take several billion dollars a year over the next few years. So, if the resumption of credit is not there from international organizations, official bilateral aid and from commercial sources, there will have to be a large Chinese surplus. In fact, that seems to be the direction they're heading in now in the last quarter or two of 1989 and the first quarter or two of 1990, building up a very large current account surplus to be able to repay these external debts. So, my first comment is whether or not they have a surplus or a deficit will depend on the availability and the terms under which they can get credits, at least to a significant degree.

As to the question that we were just talking about a minute ago, the relationship between access to the Chinese market by United States invested firms in China, the bilateral trade imbalance and so forth. Well, of course at one level, access to the domestic market by foreign invested firms in China doesn't affect our trade balance directly anyway since the goods that are being sold in the Chinese market are being produced there, so that those sales wouldn't figure into the trade account.

As to the question of whether or not foreign invested firms, including U.S. firms, are getting more access to the Chinese market, I think it probably is true. In the current period as David Denny has pointed out, they have been reluctant to approve new joint ventures that have had as a goal a substantial sale in the Chinese do-

mestic market. But if you look at the aggregate figures over the past 6 to 7 years, there's absolutely no question that sales into the Chinese market by foreign invested firms have grown by leaps and bounds. In other words, we know how much those firms are producing, we know how much they're exporting, and the great bulk of their sales in fact are in the internal market. And the amount being sold in the internal market has risen very substantially in recent years. In part, that's made possible by these swap markets that we've talked about that allows firms to get access to foreign exchange, selling their domestic currency profits. And, of course, large numbers of firms have also reinvested a substantial portion of their profits. So I think there is a problem of repatriation of profits, but I think it's smaller than it once seemed to be. And if the swap markets continue to grow at the very rapid rate they have over the past 2 or 3 years, I think it will offer an increasing opportunity for foreign firms to sell in the domestic market and still be able to repatriate hard currency profits.

Mr. DENNY. I would agree with what Nick Lardy and Dwight Perkins said on the macroeconomic general Chinese trade surplus, exports and imports. I also do not expect them to continue running large worldwide surpluses. As Dwight Perkins said, it doesn't make any sense economically. The real question is whether they're going to keep that balance at a high level of their economy and still have foreign trade play the important role it has in the past, or a more minimal role. But in any case, I don't think the balance is going to change much.

I would, however, be dishonest if I didn't say that I think that we have to expect, on the basis of what we know now about both China and United States policy, that we will have a continuing deficit with China. However, I see it as China taking over some of the deficit that we've been running with Hong Kong, Taiwan, and Japan for these many years anyway. What is really happening is that China, and China has been extremely effective, is continuing to supply the very low-end consumer-oriented textiles, toys, dolls, and electronics that we're all buying, I am buying for Christmas for my children.

But our trade deficit with China really has more to do with the U.S. trade deficit with Asia in general in my view, which China now is taking over the low end of those consumer products that have been up until recent years been supplied by Korea, Taiwan, et cetera.

PER CAPITA GNP

Senator BINGAMAN. Let me ask any of you to comment, if you would, on the estimates and information that we are receiving on China. The CIA estimate, I gather, is in line with the World Bank and other authorities in that they estimate the size of the economy at \$425 billion, per capita income of \$360 per person annually. Are these accurate figures? This strikes me as an amazingly low figure. And I don't know how the figures are calculated, but it just strikes me that perhaps we are seeing this in a very different way than we ought to be insofar as the robustness and size of this economy. Do any of you have thoughts on that?

Mr. PERKINS. Let me start. There isn't very much controversy over the issue of what is the size of Chinese GNP in Chinese currency, as measured in Chinese prices. I have the statistical handbook here. The official figures have some errors in them and there are certainly some errors in them and there are certainly some errors in the growth rates because of the way they measure growth rates, but for the kind of discussion that we're having here those errors are not important.

The problem is when you try to convert that figure into a U.S. dollar figure in order to make it comparable with the rest of the world. Now, here's an economy that is producing 60-plus million tons of steel, airplanes, and all kinds of other things and has a very large share of its GNP in industry, and yet it seems to have a per capita income if you look at these dollar figures that's higher than Chad and Bangladesh, but it's still very low. I am quite confident in my own view that the reason for that is largely because of the way Chinese GNP is converted into dollars using the official exchange rate.

The World Bank by the nature of the way it operates, has to use the official exchange rate in making that kind of conversion. The people of the World Bank, as elsewhere, understand that that official rate of exchange gives a completely or very substantially distorted view of the size of the economy. The size of the economy is, in some sense, clearly bigger than what that official exchange rate conversion would lead you to believe. How much bigger would require calculations that really never have been properly made for China. But it is 20 or 30 or 40 percent bigger at least—I think it's at least that much bigger. So, you are talking more about \$500 per capita than you are \$360. You're not talking about \$1,000 per capita, however. So, it is a bigger economy, but not 2 or 3 times what it is in these official figures if one is comparing Chinese GNP with say the GNP of India converted into U.S. dollars using the official exchange rate.

CIA REPORTS

Senator BINGAMAN. I gather you did not have a chance to review the CIA report that has been released today in any detail at all, but I think undoubtedly all of you have seen previous reports that they've done on the China economy. Are these recent reports accurate, have they been historically a useful accurate document, or are we woefully deficient in the information we have or we are generating within the Federal Government on this issue?

Mr. LARDY. Well, I, too, have not had a chance to look at the report in detail. Let me just begin with a general comment and then a couple of more specific comments.

I think in general the reports have been extremely valuable over the years and I think quite highly regarded among all people who try to understand what is going on in China. In other words, I think they are very thoroughly done and very well balanced, carefully compiled, and so forth. I do have some specific comments on this report that get to some of the points that we have been talking about earlier this morning about the reliability of the Chinese data.

I think there has been a tendency in the past 2 or 3 years and particularly in this year's report, to rely too much on the official data in an interpretation of what actually has gone on in the economy. I will give two examples that I've had a chance to look at in this report.

I think, for example, in the industrial sector in 1989 and 1990, that the official rate of growth in some real sense overstates substantially what the economy was actually doing because China in 1989 and continuing in the first months of 1990, has had a huge buildup of inventories that is not sustainable. So, the output is being produced. So at some level the figures that are being reported by the official Chinese statistical agency and being reflected in this report are accurate. The goods are being produced.

But the increase in industrial inventories last year was equal to about a fourth of what they produced. In other words, about a fourth of what they produced went straight into inventories and was never sold. And I believe, although I don't have very good data, that the share is likely to be substantially higher in the first few months of 1990.

Now, sooner or later they're going to have to curtail production if the rate of final demand doesn't pick up to take care of that inventory problem; they're going to have to scale back output. So, on my rough calculation I think the rate of growth of industrial output last year in a more meaningful sense couldn't have been more than 6 percent and it probably knocks the rate of growth of GNP, since it really is a very large share of GNP as Dwight Perkins has just mentioned, below the official 3.7 percent. I think on a more meaningful basis GNP growth was something under 3 percent, maybe something closer to 2½ percent depending on exactly how large the excess buildup of inventories was. So, I think in some areas such as manufacturing, which is 40 percent or so of national income, there's a need to examine some of the underlying official data more carefully. I'm not saying the official data are wrong, but that they ought to just be used as a starting point.

Similarly, I think the figures that are in this report on the budget deficit substantially understate the problem the Chinese have had in recent years. These figures rely too heavily on the official data and do not take into account the peculiarities of Chinese accounting for their fiscal deficit. Particularly they do not take into account the fact that it is now extremely difficult to know exactly how large the deficit is because you have a situation in which subsidies to state enterprises are running at something on the order I believe in 1989 of 60 billion domestic currency units because many state enterprises are losing money. But many of these state enterprises are still paying taxes. So, part of the revenue that is being officially reported in the Government budget is in fact pass-through money. It's as if the Ministry of Finance is borrowing from the Treasury, except it's not being reported directly because it's going through the enterprises. So, there's a huge increase, I believe, in the actual size of the budget deficit in recent years that is not reflected in the data here which I think tend to rely a little bit too heavily on the official data. So, there are some areas where I have these disagreements, but on balance I think the reports are quite good.

Let me go back to this question of what the size of the economy is and what is this \$300 we keep getting from the World Bank. I think it's very instructive if one goes back and looks at what the World Bank published about China in the very early 1980's. They said the per capita GNP was \$290. Last year they said per capita GNP was \$300 or \$310. But yet if you turn to another page in their report they say the economy has been growing at about 9½ or 10 percent per year in real terms over this period. So, what's going on?

As Professor Perkins has already indicated, it's the use of the official exchange rate. The exchange rate was 1.5 domestic currency units to the dollar when reform began in the late 1970's, but by the end of 1989 it was 4.7 domestic currency units to the dollar. So, they're taking the Chinese reported national income or GNP figure in domestic currency, and they're dividing it. In the beginning of the period they were dividing by 1.5 and now they're dividing by 4.7. So, if nothing had happened over that ensuing decade, there would have been a reported collapse in per capita GNP. What has actually happened is per capita GNP has more than doubled but the exchange rate has depreciated very substantially and it is sort of a wash. Year after year the World Bank has reported the number of Chinese per capita GNP as \$290, \$300, or \$310 per capita. It has never changed. It's been in that range every year, whether it is up or down \$10 depends whether the currency depreciated by more than the growth of the economy.

The question is, How bad is the distortion? Dwight Perkins just mentioned that the real GNP might be 20, 30, 40 percent more in some meaningful sense and he tossed out the figure of \$500. Well, I would agree with the first thing that he said and that is there has really never been a thorough study of this issue. But there have been several studies of this issue and the range of estimates that you come up with is very broad. Some people have suggested that per capita GNP is at least 2½ times what the official figures indicate and there was even a more recent estimate that was highly published in a respected but obscure academic journal that said that the official per capita income in China is 7½ times what the official figures say it was. That would put China's per capita GNP at around \$2,500 or \$2,800.

Now, I don't believe that's correct, but I don't believe \$300 is correct either. Maybe \$500 is closer to some meaningful measure of the Chinese economy. I am agnostic on that. I don't know. I'm very confident that \$300 is a very dramatic understatement of per capita GNP in China today.

Senator BINGAMAN. Mr. Denny, do you have a comment?

Mr. DENNY. Yes, just on the CIA report. I agree with everything said about the size of the economy, et cetera.

I have not had a chance to look at this year's report. I have just looked at it briefly and I don't really want to comment on that basis. I did go back and look at last year's and basically found it, given the tremendous uncertainty in China, quite an impressive document. They forecast the decline in the economy I thought rather well. I thought they also dealt rather well, in well-balanced terms, with economic reforms. They said they were going to be cut back. They named specific ones. But, yet, they stopped short of

saying that they were going to go all the way back and indeed said that they didn't think that they could, all of which are pretty good judgments.

There is one theme that went through though that I think led them to some misjudgments. It would have been my misjudgment as well, so I am not saying it to criticize them. But I think it might be something that would be useful to talk to them and get their current views. That's on the question of the strength of the central government to do that which is necessary and undertake the economic programs that are necessary.

The one significant misjudgment, it seems to me, that went through the earlier report is that the central government was so weak politically and economically, that it would have to mollify urban workers. This led to conclusions that imports were going to be unrestrained, and it would be difficult to keep up exports, and inflation would continue to grow. Of course all of that turned out to be wrong. But it was wrong because of a judgment that I think most of us or many of us, myself included, probably would have made as well.

The general question it seems to me that should be raised of them and everybody is, how do we understand how strong the central government has continued to be in carrying out some of these policies? Because in some other areas it obviously has not had the power that it would like even to enforce its policies on the localities. So, I see it as a very mixed picture, but it's a very, very basic question in analyzing the Chinese economy.

Senator BINGAMAN. Mr. Perkins, do you have another comment on this?

Mr. PERKINS. Well, in a general way I agree with the previous remarks. I think the first document of the last year and what little I have read of this document this year, reads very well. Certainly the emphasis on the unemployment problem, as is done in the document this year that I just saw, is very similar to the kind of view I was trying to argue in my opening remarks.

I think there are two levels at which you can appraise analysis of this kind. One is the technical level that Nick Lardy was talking about. And economists who work on these subjects can go on for days and weeks arguing about various of these kinds of issues. I will spare you that this morning.

The other has more to do with what kind of judgments do you draw about the future of China, the kind of thing that Dave Denny was just commenting about. On the whole these documents do quite well in reaching judgments of this sort.

UNDERLYING STRENGTHS

There is a tendency sometimes in analysis of China, and it's certainly a tendency within large parts of the academic world, but I've also seen it in government work as well, not in these particular documents, to list all of the problems the economy has and then to draw the conclusion that the economy is in terrible shape. My own sense is that while I often agree with all the problems that people list, they miss the basic point of the underlying strengths of the economy that are still there. These documents before us do not, I

think, make that mistake. But it is frequently done and so one is regularly predicting disasters for the Chinese economy. Most academic analysts, I think, missed the boom in the Chinese economy in this previous decade until it was about 5 years old and they really couldn't ignore it any longer.

One last comment on Dave Denny's comment about the weakness of the central government. Nick Lardy and I were just at a meeting with the China State Planning Commission in Beijing a few weeks ago, and I must say that I came away from that meeting feeling that the central government was pretty weak. Yes, it clearly still has a lot of levers of power. It can still restrict imports, but its command over resources is far less than it was a few years ago. Its fear of the political consequences of doing anything that could really cause trouble is very apparent. That fact combined with the political uncertainty at the top, leads me to the view that the Government is really quite weak.

Senator BINGAMAN. Gentlemen, this has been useful. I appreciate your testimony. I think it has been a great help to us in trying to understand the situation there. And we will call on you in the future for additional views. Thank you all very much. We will adjourn the open session at this time and go ahead in closed session with the Government witnesses.

[Whereupon, at 10:59 a.m., the open session was concluded, thereafter, the subcommittee entered into a closed session.]

EXECUTIVE SESSION (CLOSED SESSION)

Senator BINGAMAN. Why don't we go ahead and start the closed portion of the hearing. Let me first thank the witnesses for the preparation of the report on the Chinese economy. I think it is a very useful report. We just completed an open session where we asked some questions of some of the public witnesses about it, and I wanted to just touch on a few of those same issues here.

GNP PER CAPITA

One was the general question about the estimates and the size of the Chinese economy. The consensus, if I understood it, from the witnesses that we just had, particularly Mr. Lardy and Mr. Perkins, was that the size of the economy that is reflected in this report, in the World Bank report, is that it is really misleading, in that it takes official government exchanges, and just takes those as face value, and essentially transfers those figures into dollar figures.

And in order to get a reasonably accurate assessment, we would have to take those as a starting point, and then do a totally different set of calculations, and as I said, nobody to their knowledge has done that, but there seems to be a consensus that the figures that they were mentioning wasn't—for example, the per capita income, or GNP, is—rather than 300 and some odd dollars, it should be at least \$500, and maybe it should be substantially more. They don't know.

And one has to wonder if maybe it isn't \$2,500, and I just would be anxious to get your reaction as to whether you agree with their view that the figures that we would continue to use to estimate the

size of the economy are inaccurate, and whether we should try to do something to correct that and so forth.

Mr. PETERSEN. Thank you very much, Mr. Chairman, and good morning. I have a brief opening statement that I would like to make.

Senator BINGAMAN. Why don't you go ahead. I apologize for not giving you the opportunity to do that. Why don't you go ahead, and then we will get on to my questions.

Mr. PETERSEN. I will be happy to answer this question, and any others that you may have.

Senator BINGAMAN. Yes. If you could introduce all the folks that you have with you there.

STATEMENT OF MARTIN C. PETERSEN, DEPUTY DIRECTOR OF THE OFFICE OF EAST ASIAN ANALYSIS, CENTRAL INTELLIGENCE AGENCY

Mr. PETERSEN. Certainly. Let me start with myself. I am Martin C. Petersen, and I am the Deputy Director of the Office of East Asian Analysis; and with me today are Mr. Hal Wilcox, who is the Chief of our Political Assessments Branch, and Mr. Lee Zinser, Chief of our Economic Assessments Branch, and both of them have testified here before.

Also accompanying me are [security deletion], our Senior Economic Analyst, and Ms. Lucy Tse, who is a summer intern from the University of Arizona, and assisted in putting together the report.

Mr. Chairman, my very brief opening remarks attempt to place this year's statement in the context of China's decade long experiment with economic reform. Since China accelerated implementation of its broad industrial reforms in the mid-1980's, our statements to this subcommittee have warned that the Chinese faced many difficulties during the process in transforming the planned economy into a system that has more market-oriented elements.

Particularly we indicated in our testimony 3 years ago that China could experience sharp fluctuations in inflation and unemployment if it mishandled its economic policies.

We also pointed out in our testimony 4 years ago that China's economic policymaking process was going to remain highly susceptible to political interference, and we have testified that leaders differ on whether to attack the consequences of reform with more economic reform, or to backtrack and place greater reliance on central planning, and administrative measures.

ECONOMIC PERFORMANCE IN 1990

We believe that China's economic performance during this past year illustrates the difficulties that Beijing continues to have in managing a part planned, part market economy.

Efforts to slow inflation, which grew at almost a 27-percent annual rate in early 1989, were successful, but overly restrictive austerity policies caused China's worst economic slump in a decade. Industrial output slowed to a crawl by the end of 1989, and urban unemployment reached a 10-year high.

Labor productivity also slumped badly, because austerity measures and efforts to recentralize the economy eroded incentives for improved economic efficiency. China's leaders began to ease the austerity measures modestly late last year, probably out of concern that the growing unemployment and falling living standards were adding to urban unrest, which they hope to dampen by slowing inflation.

New infusions of bank credit, however, have been slow to revive economic production, which is growing at less than a 2-percent annual rate through May. Moreover, fundamental indicators point to continued weaknesses in the economy.

For example, inventories continue to accumulate and the production of large state-run firms remains sluggish. If Beijing cannot turn the economy around soon, it will have to expand credit even more, which could spark a new round of inflation.

The prospects for a return this year to a comprehensive market oriented reform are not promising in our judgment. Key reforms, such as price decontrol, and enterprise bankruptcy, have been on hold for almost 2 years, and economic policy will probably remain dominated by stopgap measures aimed at ensuring social stability.

Failure to proceed with reforms, however, will make it difficult for Beijing to maintain rapid stable growth. Thus, the economic gulf between China and its market-oriented East Asian neighbors will widen. That concludes my statement, Mr. Chairman.

[A report by the Central Intelligence Agency presented to the subcommittee follows:]

***THE CHINESE ECONOMY IN 1989 AND 1990:
TRYING TO REVIVE GROWTH WHILE
MAINTAINING SOCIAL STABILITY***

**A REPORT BY THE
CENTRAL INTELLIGENCE AGENCY**

**Presented to the
Subcommittee on Technology and National Security
of the
The Joint Economic Committee**

**To Be Released
9:30 a.m., June 28, 1990**



**Directorate of
Intelligence**

**The Chinese Economy in 1989 and 1990: Trying To
Revive Growth While Maintaining Social Stability**

June 1990

**The Chinese Economy in 1989 and 1990: Trying To
Revive Growth While Maintaining Social Stability**

Intelligence Assessment

This paper was prepared by the Central Intelligence Agency for submission to the Subcommittee on Technology and National Security of the Joint Economic Committee, Congress of the United States.

This report will be released to the public following the appearance of the Deputy Director of the Office of East Asian Analysis, Directorate of Intelligence, CIA. Draft not to be released without permission of the Chairman.

**The Chinese Economy in 1989 and 1990: Trying To
Revive Growth While Maintaining Social Stability**

Summary

Information available
as of 25 June 1990 was
used in this report.

Beijing is grappling with the fallout from overly restrictive austerity policies implemented in late 1988, which dampened inflation in urban areas from 30-percent annual rates to single digits, but which also caused China's worst economic slump in a decade. In 1989, real GNP grew less than 4 percent, about one-third the rate posted a year earlier, according to Chinese statistics. Weak industrial growth hurt enterprise profitability and increased price and enterprise subsidies, which expanded the government's budget deficit by about 40 percent to a record \$8 billion.

Growing unemployment—which has reached its highest level in a decade—and falling urban living standards are undermining Beijing's efforts to reestablish the country's social stability, which remains tenuous a year following the government's suppression of the prodemocracy demonstrations. Consequently, Beijing has begun to ease austerity modestly—increasing credit to large state firms, loosening restrictions on capital construction, and lowering interest rates on banks loans—to head off labor discontent. The recent infusions of credit, however, have been slow to stimulate demand or revive industrial production. During the first five months of this year, industrial production remained sluggish, increasing at less than a 2-percent annual rate. Moreover, fundamental indicators point to continued weaknesses in the economy—inventories continue to accumulate, the growth rate of the once vibrant rural industrial sector has dropped sharply, and the production of large state-run enterprises remains sluggish.

To keep inflation from reemerging as it increases credit, Beijing is turning to administrative measures. Broader central controls, however, will reduce incentives for increased efficiency by curtailing managerial autonomy and increasing the share of goods sold at low, state-set prices. Increased government allocations of raw material and energy inputs to large state enterprises will drain resources from China's dynamic nonstate sector and lower its integral contribution to economic growth. Moreover, if Beijing's intensified support to large state enterprises fails to revive the economy, political pressures may force Beijing to open the credit spigot wider, renewing the inflationary pressures the government was originally so determined to squelch.

Beijing's renewed preference for administrative controls is also visible in China's foreign economic relations, as the central government has reclaimed much of the foreign trade authority it devolved to the lower levels under reforms in the late 1980s. Tightened central controls over the trade sector have helped Beijing prevent a rapid drawdown of foreign exchange reserves. As a result, China narrowed its trade deficit last year by \$1.1 billion to \$6.6 billion, according to Chinese customs statistics. In the first four months of this year, China posted a trade surplus of \$1.3 billion.

The leadership's focus on maintaining party control by using administrative measures to treat the symptoms of China's economic ills makes prospects for return in the near term to comprehensive, market-oriented reform dim. Economic policy will probably remain dominated by stopgap measures aimed at ensuring social stability, precluding riskier, longer-term strategies for growth and development. While it is unlikely that many senior officials want to return to the command economy and isolationist policies that dominated China before 1979, some in the

leadership want to place strict limits on the development of the nonstate sector and to increase the party's role in enterprise management.

Failure to proceed with comprehensive market-oriented reforms will eventually dampen the performance of the economy by curbing productivity gains. The hold on market reform could slow lending by international financial institutions, even if Western economic sanctions are lifted. This could delay progress on China's long-term modernization goals as decreased access to low-cost financing impairs its ability to gain technological know-how through high-tech joint ventures or to import advanced technology. A continued decline in capital goods and raw material imports will also stifle the pace of China's economic development. Beijing's inability to proceed with reforms will also widen the economic gulf between China and its market-oriented East Asian neighbors.

**The Chinese Economy in 1989 and 1990: Trying To
Revive Growth While Maintaining Social Stability**

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**The Chinese Economy in 1989 and 1990: Trying To
Revive Growth While Maintaining Social Stability**

Curbing Runaway Growth

The economic austerity program the Chinese leadership began implementing in late 1988 has sharply applied the brakes to the country's overheated economy. According to Chinese statistics, real GNP grew less than 4 percent last year, about one-third the rate in 1988, while the industrial growth rate fell from 17 to 8 percent.¹ Last October, industrial output actually contracted—for the first time in a decade; it grew at less than a 1-percent annual rate in the fourth quarter of 1989 and the first quarter of this year. Beijing's austerity policies accordingly brought inflation down from a 27-percent annual rate in January 1989 to a 7-percent annual rate at yearend.

Beijing turned to administrative measures to cool inflation when it began implementing its austerity program in September 1988. These included sharp cutbacks in investment projects, tight quotas on bank credit, reimposition of price controls on many industrial goods, and a cessation of further experiments with market measures. Beijing has used this approach because reforms begun a decade earlier have not progressed far enough to enable it to employ indirect economic levers, such as monetary and fiscal policies, to control the overall demand for goods. Indeed, because early reforms succeeded primarily in delegating economic authority to local governments rather than creating markets and financial accountability,

¹ Most figures cited in this paper are official Chinese statistics. We report them because they provide useful indications of the direction and magnitude of economic growth even though collection techniques are inexact and local officials sometimes deliberately distort data. For a detailed discussion of the problems involved in using Chinese data and ways to circumvent them, see "The Chinese Economy in 1988 and 1989: Reforms on Hold, Economic Problems Mount," report to the Joint Economic Committee of Congress, July 1989.

Beijing's Austerity Program

Beijing began implementing an austerity program in September 1988 to slow urban inflation, which had reached a 40-year high of about 30 percent. Key market reforms, such as price decontrol, were put on hold and measures designed to slow capital construction, restrict spending, and control prices were instituted. These included:

Reduced state investment. Beijing cut state investment spending by 9 percent in 1989.

Restricted credit. Beijing tightened credit ceilings for domestic banks and raised interest rates on bank loans to discourage bank-financed investment outside the state plan. The government raised interest rates on household deposits and imposed limits on the amounts individuals could withdraw from savings accounts. Officials also called for a halt in loans to private and rural enterprises.

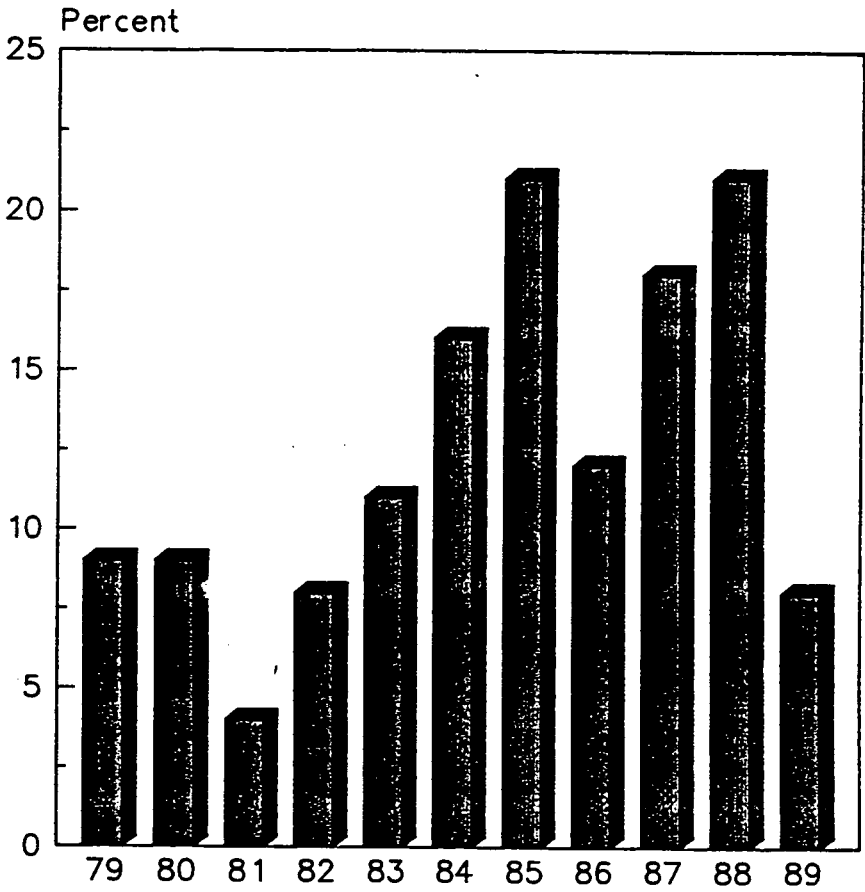
Reduced foreign borrowing. Beijing reduced from 100 to only 10 the number of government entities authorized to borrow funds abroad to slow the flow of credit acquired through foreign channels.

Tightened price controls. Beijing reimposed price controls for steel, copper, aluminum, and other production materials.

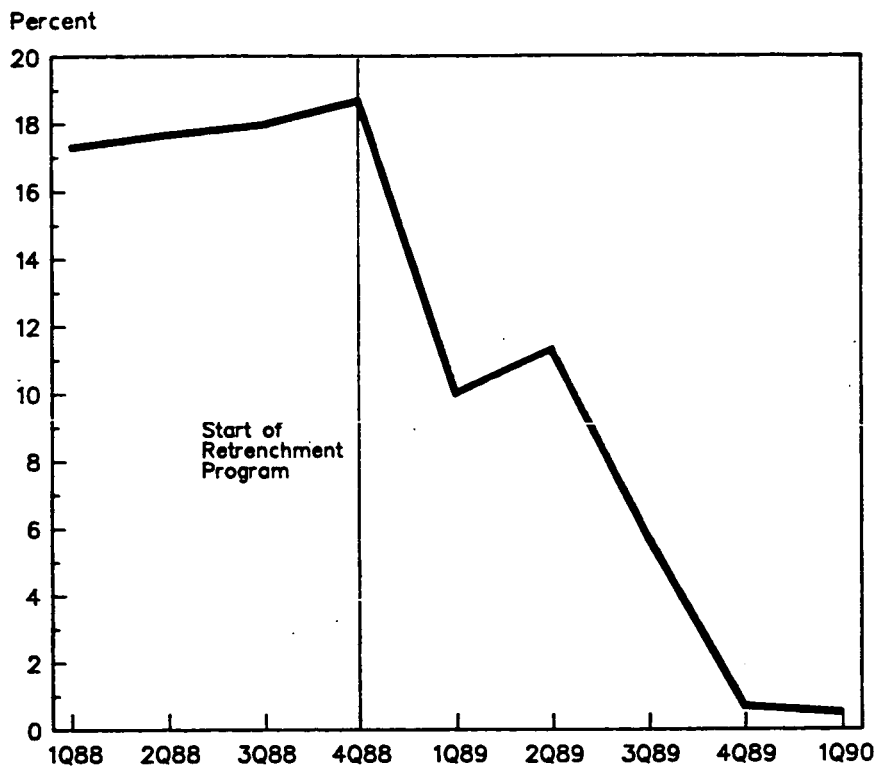
Expanded raw-material controls. The central government reestablished its monopoly over the distribution of fertilizer, pesticides, and plastic sheeting to control speculation on farm inputs.

Tightened foreign trade controls. The number of corporations authorized to import certain products was reduced, imports of selected consumer goods and industrial inputs were banned, and control over the use of foreign exchange was tightened. On the export side, the number of products subject to licenses, quotas, or outright bans was expanded.

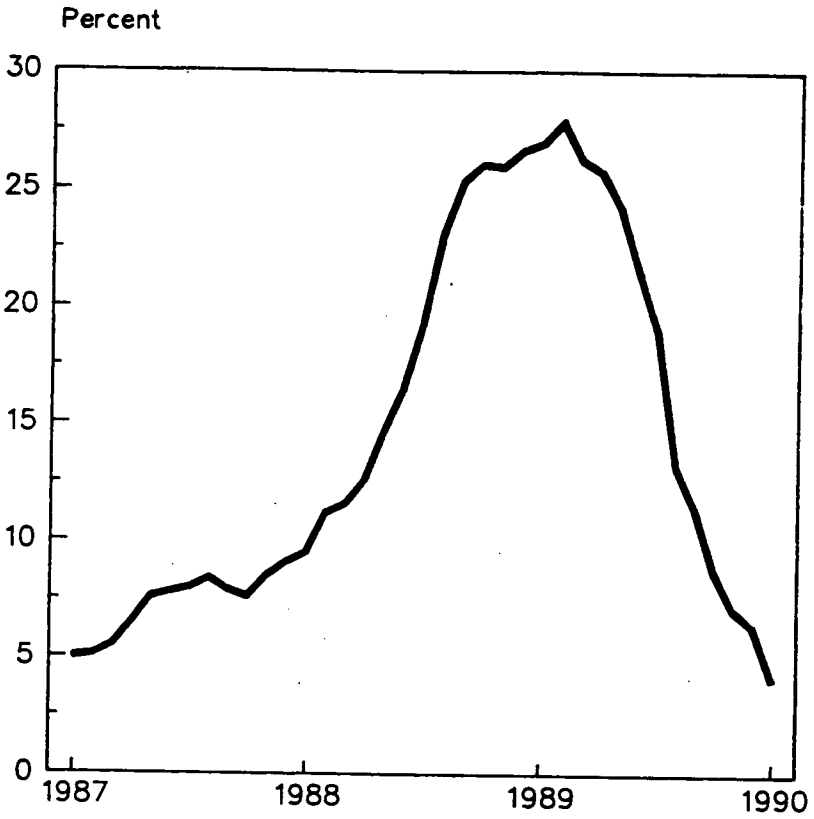
China: Growth of Industrial Output



China: Industrial Growth, Quarterly



China: Inflation



Beijing can apply what monetary and fiscal levers it has only with the help of local officials, who are concerned with speeding development of their own economies and boosting local standards of living.

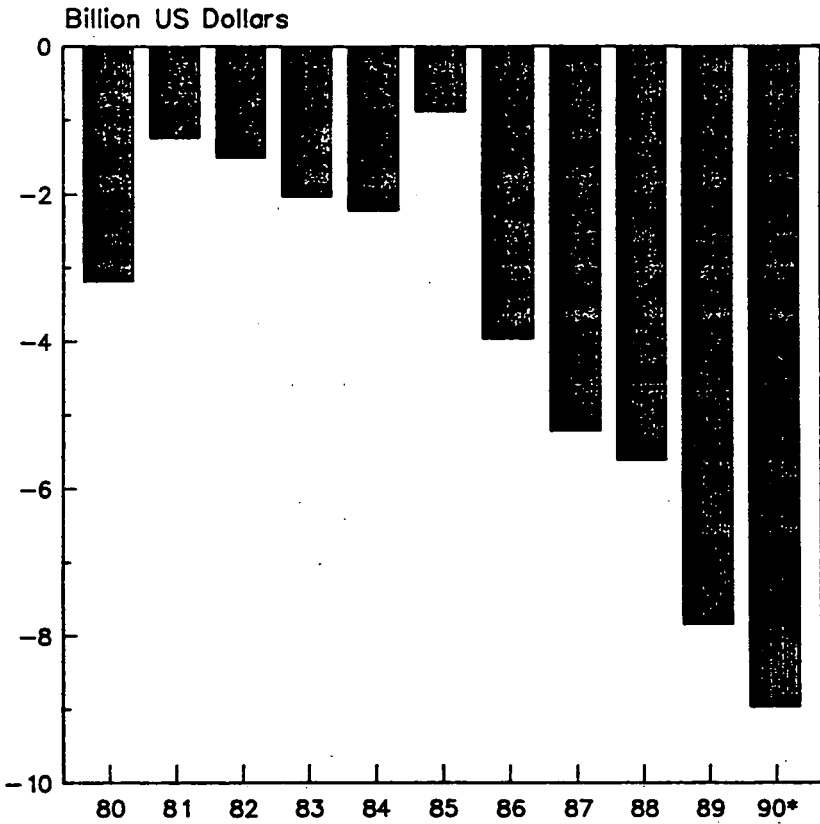
Although successful in slowing inflation, austerity-mandated cutbacks in bank credit have created massive debt defaults among enterprises, depressing demand and causing inventories to soar; stockpiles of finished goods were two-thirds above normal in April. Government incentives to increase personal savings, such as inflation-indexed bank rates, added to the inventory problem by pushing savings deposits up 35 percent to a record \$109 billion at yearend 1989, which contributed to an almost 8-percent real decrease in retail sales.

Weak industrial growth prevented government revenues from keeping pace with increased subsidies to financially ailing state enterprises and workers. Thus Beijing's budget deficit increased about 40 percent to a record \$8 billion in 1989. Growing inventories and lagging labor productivity—per capita productivity increased only 16 percent last year—contributed to rising production costs. According to Chinese statistics, more than 6,200 enterprises recorded losses—more than double the level in 1988—and profits of state-owned enterprises dropped nearly one-fifth.

Economic Problems Threaten Social Stability

Austerity measures are also responsible for rising unemployment and falling urban living standards; these have undermined Beijing's efforts to restore China's social stability, which remains tenuous a year after the government's suppression of the prodemocracy demonstrations. In the last six months of 1989, according to a Hong Kong press report, more than 600 instances of worker unrest occurred, including slowdowns, demonstrations, rallies, and strikes. According to many

China: Budget Deficit



1 US dollar = 4.72 yuan

*Projected

accounts, layoffs have created an embittered and volatile class of unemployed. Workers are disgruntled because they believe they are bearing the brunt of Beijing's austerity measures; many are receiving only about 70 percent of their expected wages and no bonuses, which have traditionally accounted for about one-third of workers' incomes. Some factories, facing severe cash shortages and overstocked inventories, are struggling to find ways to pay workers; in one extreme case, a consumer durables factory in Guangzhou was forced to put workers on half-time late last year and pay them in kind—with refrigerators. In other parts of China, factories have supplemented workers' reduced wages with products bartered with other cash-strapped factories. Some workers have complained that the current belt-tightening is the worst they have experienced since the early 1960s, when China was recovering from the disastrous Great Leap Forward.

Accordingly, for the second consecutive year, real wages for workers fell in 1989 as inflation outpaced wage increases. The cut in real wages was exacerbated by Beijing's requirement that factory workers spend a portion of their income to purchase treasury bonds to help cover the country's bulging budget deficit. This two-year decline in living standards contrasts sharply with the remarkable improvements achieved between 1978 and 1987, when real income grew more than 7 percent yearly.

Nearly two-thirds of urban factories were closed or operating below capacity at yearend 1989, according to the Hong Kong press, idling millions of workers and pushing urban unemployment to its highest level in a decade. In addition, the austerity program hit China's rural enterprises hard. Beijing blamed these firms for diverting scarce raw materials from state enterprises, contributing to inflation, breeding corruption, and wasting resources. Beijing cited the need for austerity to sharply reduce supplies of credit and raw materials to locally run factories. As a

result, more than a million locally run enterprises, primarily in the countryside, shut down last year, and 3.5 million workers were laid off.

Burdened by one-third more workers than required to work the land, the agricultural sector has had to absorb millions of laid-off rural enterprise workers and thousands of migrants who have been sent home from the cities in the last six months. Millions of construction workers are also returning to the countryside now that restricted credit has brought an abrupt end to the country's decade-long construction boom, which had doubled the size of China's construction work force. Many of these newly unemployed workers probably will join the "floating population" of itinerant workers, which averages between 60 and 80 million, according to official statistics.

To keep unemployed rural workers from returning to urban areas in search of jobs, Beijing is reinforcing the labor permit system and making factories that employ nonregistered workers pay stiff fines. Several coastal cities have also tightened residency requirements that qualify citizens for food ration coupons. Moreover, during the Lunar New Year holiday in January—a period of traditionally high rural-urban migration—municipal police patrolled urban train stations to turn back rural workers.

The growing number of unemployed and underemployed poses a social problem whether they return to the countryside or stay in the cities. In addition to disturbances in the workplace, the growing pool of idle workers has produced a rise in the level of crime nationwide. Municipal and provincial measures to deal with rising crime have increased pressure on local budgets, already strained by the burden of providing health care, housing, and essential commodities for those without jobs.

The leadership is clearly concerned with widespread alienation; the party plenum which concluded in March emphasized strengthening party ties to the public to enhance social control and reduce discontent. The plenum communique urged the party to "make every effort to restore and develop the party's fine tradition and workstyle of maintaining close ties with the masses."

Recent Policy Initiatives

Backing Away From Austerity...

Beijing has begun to ease austerity modestly to head off further labor discontent. Late last year Beijing injected the equivalent of \$25 billion of new credit into the economy, approximately \$5 billion above the annual credit ceiling set for 1989. In addition, the central bank earmarked nearly \$12 billion in loans to industrial and commercial enterprises for the first half of this year, nearly twice the original target. Moreover, in mid-March, Beijing lowered interest rates on bank loans.

This infusion of credit has been slow to stimulate demand or revive industrial production.² One reason may be that a large share of the credit infusion has been absorbed in making overdue payments on the huge factory inventories rather than contributing to new production. State enterprises that have benefited from this increase in credit may also be hoarding the new funds. Some Chinese press accounts have indicated that the new credit represents only an acceleration of planned annual credit disbursements rather than an increase in the annual target; enterprises may be reserving funds in anticipation of a return to more restrictive credit policies later this year, when liquidity needs are traditionally the highest.

² The marked absence of stimulative demand stemming from this injection of credit is suggested by the less than 3-percent increase in money in circulation in the first quarter of this year compared with the same period a year earlier. This is drastically lower than the yearend 1989 currency growth rate of 10 percent and the first quarter 1989 growth rate of 45 percent.

To spur consumer demand—retail sales continued their slump during the first four months of this year—Beijing reduced interest rates on savings deposits in mid-April. Beijing has also recently reduced the prices of some consumer durables—including color televisions, refrigerators, washing machines, and electrical appliances—and authorized accelerated purchases by state units of selected products, for example, the replacement of official automobiles a year ahead of schedule.

To mollify urban workers, Beijing has increased price subsidies and food supplies. Pay raises were also recently ordered for all state employees. But wage increases are being constrained by the same factors that currently prevent many enterprises from paying full wages and bonuses—insufficient liquidity, growing debt, inadequate access to credit, poor production prospects, and expanding budget deficits.

Beijing's concern about the potential for unrest in the countryside was reflected in a \$5 billion increase in credit by the central bank last fall, which enabled local officials to pay peasants for grain in cash rather than with IOUs—as they did in 1988. In the past, issuance of IOUs for grain has resulted in peasants' refusal to fulfill their state grain contracts; some local officials have retaliated by refusing to register workers' children for school or by confiscating personal possessions.

Fine-tuning Central Planning

To keep inflation from reemerging as it eases credit, Beijing is continuing measures begun last year to recentralize management of state enterprises, prices, and investment. Moreover, to bolster the state sector, Beijing is directing increases in bank credit to selected large state enterprises operating under central plans and is continuing to restrict access to credit for private and locally run firms.

To strengthen the central government's control over the economy, late last year Beijing announced the formation of the Production Commission under the State Planning Commission to coordinate industrial output. Serving many of the functions of the State Economic Commission disbanded in late 1987 by then-General Secretary Zhao Ziyang, the Production Commission is responsible for allocating capital, raw materials, transportation, and energy to China's industrial sector. As part of this effort, the Production Commission earlier this year designated more than 200 key industrial enterprises part of a new "double guarantee" program, under which the state guarantees all the necessary inputs in return for a contracted level of taxes, profits, and output. Beijing is thus trying to increase the share of resources and finished goods under its administrative control.

Beijing strengthened its economic grip in April over the coal industry, tightening control over coal prices to dampen profiteering based on the gap between in-plan and out-of-plan prices. For the same reason, Beijing increased centralized allocation of caustic soda and rare metals. Beijing has also significantly recentralized the investment approval process, substantially reducing provincial authority to approve large investment projects.

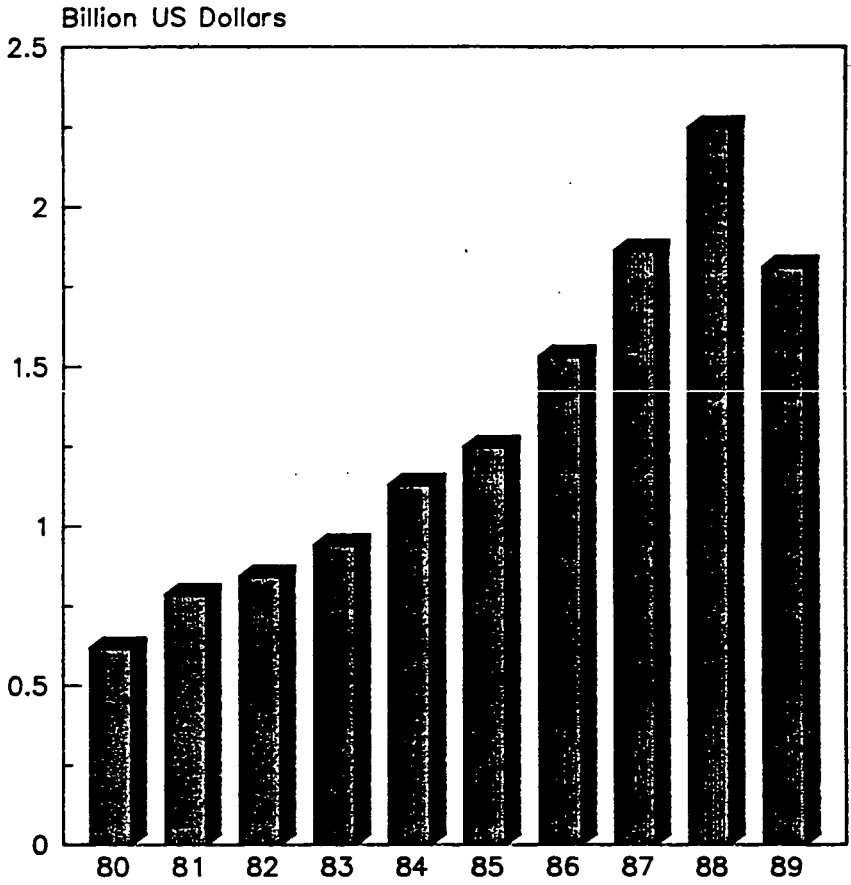
—And Extending Controls on External Transactions

Beijing is also turning to central controls to offset the strong international repercussions of suppressing of the prodemocracy demonstrations. Since last June, foreign exchange earnings from tourism have plummeted, foreign investment commitments have slackened, and access to concessionary financing has been sharply reduced. The damage inflicted by China's image problem has been magnified by austerity measures and the slowing economy, which have reduced China's appeal to many Western investors at a time when dramatic changes in

The Costly Loss of Tourism Earnings

Tourist arrivals and foreign exchange earnings from tourism plummeted sharply following last June's turmoil; losses over the last twelve months probably exceed \$1 billion. In 1989, annual tourist arrivals fell 23 percent to 24.5 million while annual tourism earnings declined 20 percent to \$1.8 billion. The first quarter of 1990 showed some improvement, in part because of increased visits by Taiwan tourists. The level of permits issued to Taiwan visitors in April, for example, was up 40 percent compared to the same month in 1989. Moreover, overall tourist levels will probably get a boost from the Asian Games, which Beijing is hosting this fall.

China: Foreign Exchange Earnings From Tourism



Eastern Europe have made those countries more desirable sites for investment and soft loans.

Foreign Investment. After posting an average growth rate of 30 percent a year since 1980, new foreign investment contracts increased a mere 8 percent last year, according to Chinese statistics. Foreign investment commitments reached \$56 billion, slightly exceeding the \$52 billion level reached in 1988, but primarily because commitments grew at a record pace before the demonstrations. If the rate of growth in pledged investment commitments set during the first half of the year had continued, China might have realized as much as \$8 billion in foreign investment in 1989, \$2.4 billion more than the actual amount committed. Booming investment from Taiwan—commitments in the past few years have exceeded \$1 billion—has helped keep the foreign investment totals from falling too far.

Beijing has undertaken several measures to shore up investor confidence. Late last year, for example, Chinese officials announced that they would make the equivalent of about \$100 million in domestic credit available to foreign-invested firms experiencing financial strains and promised "emergency" supplies of raw materials to joint ventures hit hard by austerity measures. Beijing also purchased stockpiled cars from several automotive joint ventures that had seen their domestic sales deteriorate sharply after Beijing put the brakes on the availability of credit to Chinese consumers. Moreover, an amendment to China's existing joint-venture regulations adopted in early April permits foreigners for the first time to function as chairmen of joint-venture firms in China and allows the firms to operate in perpetuity. The authorities have also sanctioned 50-year land leases for development purposes and pledged not to nationalize or expropriate Sino-foreign enterprises.

International Lending. At the request of many of the countries that donate funds to international financial institutions like the World Bank and the Asian Development Bank, billions of dollars worth of concessional financing remains on hold. Consideration of seven World Bank loans totalling \$780 million—more than one-third of planned lending for 1989—was postponed following the Tiananmen incident last year. Since early this year, the World Bank has approved loans to China only if the project involved meets "basic human needs" criteria. For its part, the Asian Development Bank has not resumed lending to China. Although disbursements from loans signed prior to June 1989 continue, the lack of new financing—of which only about 3 percent is usually disbursed in the first year after signing—will be felt most strongly when the pipeline of previously approved funds shrinks.

Bilateral economic assistance has also slowed, delaying promised low-interest development loans that are targeted primarily for energy, transportation, and telecommunications. Japan's third yen loan package of more than \$5 billion—which was due to go into effect in April—has been delayed and West European countries have also curtailed new concessionary loans.

The suspension of official lending to China has predictably made commercial bankers more cautious. The rates on post-Tiananmen commercial loans have increased up to one percent above the London Interbank Offered Rate (LIBOR)—a marked increase from the below-LIBOR rates available to China before the unrest—and some banks have drawn down short-term revolving trade credit lines in reaction to the increased risks. The international bond market has also downgraded China's credit rating.

International Trade. To prevent a rapid drawdown of foreign exchange reserves and to protect its ability to meet its international debt servicing obligations, Beijing has tightened import controls. In the past year, the central government has reclaimed much of the foreign trade authority devolved to the provincial and local levels under reforms in the late 1980s. For example, Beijing has increased the number of goods subject to import licenses, banned imports of some products, curtailed the activities of local foreign trade companies, and reemphasized import-substitution. In cases where import licenses are available, Beijing has raised tariffs, by as much as 100 percent in some cases, to prohibitive levels. Beijing has also tightened restrictions on foreign exchange use, making it more difficult to obtain required import license approvals from the banking authorities.

Beijing has also used increased control over the trade sector to promote exports, directing increased allocations of credit and raw materials to export-oriented enterprises. The austerity program has also helped to boost exports indirectly because the slump in domestic demand has freed up goods for export. Moreover, the increased use of export licenses has curbed the price competition among local trade companies that had caused prices of some exports to fall.

As a result of Beijing's trade controls, imports fell 7 percent during the last six months of 1989, following a 27-percent increase during the first half of the year. Paired with 11-percent growth in exports, China narrowed its trade deficit in 1989 by \$1 billion to \$6.6 billion, according to Chinese customs statistics. This trend has continued in 1990; Chinese data indicate exports increased 14.6 percent through April while imports declined 17.8 percent, causing a trade surplus of \$1.3 billion.

The slowdown in imports has improved China's current account balance and boosted first quarter 1990 foreign exchange reserves to more than \$21 billion. This

augurs well for Beijing's ability to meet its foreign debt servicing obligations—which are expected to reach approximately \$4 billion annually in 1990-91 and peak at \$5.4 billion in 1992. Growth in China's foreign debt slowed dramatically last year, partly due to international reaction to the events of June 4 and partly due to China's reduced need for foreign borrowing during this period because of weak economic growth and an improved current account balance. Beijing borrowed \$1.3 billion last year, substantially less than the approximately \$9 billion borrowed annually in 1987 and 1988. At yearend 1989, China's foreign debt reached more than \$40 billion.

Economic Outlook

As China's leaders enter the 1990s, they face a dilemma: their top priorities are to keep a lid on social unrest—thus maintaining party control—and to convince foreign bankers, investors, and China's trading partners that life has returned to normal. But they probably cannot meet these objectives over the long run without returning to the reforms abandoned in the past several years, which relied on decentralizing decisionmaking authority. Their short-term solution evidently is to ease credit gradually while extending central controls to keep inflation in check.

Such a policy, however, contains no lasting solutions to China's problems of economic instability. Industrial efficiency almost certainly will remain depressed because the expanded scope of central planning is likely to erode incentives by reducing managerial autonomy and forcing factories to sell goods at low, state-set prices. Equally important, the increased allocation of raw materials and energy inputs to large state enterprises will further squeeze the dynamic nonstate sector, hampering its integral contribution to economic growth—providing inputs for state enterprises, producing goods for export, and absorbing labor from the oversaturated agricultural sector. Beijing's strategy of merging essentially bankrupt companies—

with their bloated work forces—with healthy enterprises is likely to introduce an additional drag on efficient production. Thus large state enterprises will not become engines of growth for the economy. Moreover, increased price and enterprise subsidies, combined with slower growth in state revenues, probably will increase the budget deficit.

If intensified government support to large state enterprises does not produce quick results, political pressures may force Beijing to open the credit spigot wider. Because China is resource-rich, such a move would spur growth, but without market-oriented reforms, easier credit alone will not improve the efficiency of investment, and increased aggregate demand will worsen China's energy and transportation bottlenecks. Indeed, policies of the past 20 months have treated the symptoms rather than the causes of China's overheating-prone economy, raising the specter of renewed inflation and a return to the boom-bust cycles that have plagued China's economy for the past decade. Moreover, because China's macroeconomic management techniques are inexact and the economy responds with a lag to credit changes, Beijing might not know the economy is overheating until it is too late to take corrective action. The large overhang of personal savings contributes to the likelihood of a renewed surge in inflation; once prices start to rise, people will quickly withdraw savings and purchase consumer goods.

As for the prospects for a return to reform policies, Beijing recently has been taking a softer line, probably in part to ease Western economic sanctions. For example, Beijing has reiterated its support for the Special Economic Zones (SEZ) in southern China and recently approved Shanghai's Pudong district for preferential treatment to encourage foreign advanced technology investments and spur economic growth. The official Chinese press has also announced approval for opening China's first futures market—for wheat—with eventual expansion for others

The Status of China's Reforms

Beijing's recent softening of its economic policies must be viewed in the context of a significant regression of economic reform since 1988.

Prices. Reform remains on hold and controls on prices of consumer necessities and industrial goods have been tightened.

Banking. Reform has been reversed as decisions based on political objectives are carried out by administrative fiat rather than by using economic efficiency criteria. Tight credit policies have damaged other reforms, including efforts to develop interbank loan markets.

Enterprises. The contract responsibility system—which gives managers greater autonomy in return for their promises to deliver specified amounts of output and taxes—remains in place, but Beijing is attempting to exert greater control over the industrial sector through increased mandatory planning and control over inputs and output.

Bankruptcy. Beijing's unwillingness to allow enterprise bankruptcies continues to inflict a drag on the economy and is ratcheting up subsidies.

Rural Enterprises. Beijing is beginning to ease its hard line against this sector, recognizing its role as a significant absorber of surplus rural labor, but has reiterated its determination to limit growth rates to half the levels realized in the late 1980s.

Agriculture. The household-based responsibility system—which gives peasants control over cropping choices and earnings in return for deliveries of contracted amounts of grain to the state—remains in place due to strong grassroots support for this early and successful reform. Beijing, however, is attempting to use increased planning and stricter contract enforcement to boost output.

Foreign Trade. Beijing is continuing to recentralize control over trading authority and foreign exchange use to ensure it can meet payments due on its foreign debt.

for rice, corn, and pork. Press accounts also have discussed opening a stock market in the Shenzhen SEZ and development of experimental securities exchanges in Shanghai and Shenzhen. In addition, Beijing has announced increases in state-controlled prices of some raw materials and agricultural products.

The prospects for return in the near term to comprehensive, market-oriented reform nevertheless appear dim. Political support for reform has been weakened by leadership squabbling and the removal of two reform-minded party general secretaries in the past three years. While it is unlikely that many senior officials want to return to the command economy and isolationist policies that dominated China before 1979, there are those in the leadership who want to place strict limits on the development of the nonstate sector and to increase the party's role in enterprise management. Economic policy will probably be dominated by stopgap measures aimed at ensuring stability rather than by longer term strategies for growth and development.

The inability to proceed with comprehensive, market-oriented reforms could slow Beijing's efforts to rebuild economic ties to the West, dimming China's long-term development prospects and widening the economic gulf between China and its market-oriented East Asian neighbors. The continued slower pace of foreign investment will impede Beijing's ability to acquire needed foreign exchange as well as foreign marketing and management skills. Moreover, although Beijing has been able to adjust during the past year to the downturn in economic relations with the West, failure to proceed with reform could slow lending by international financial institutions, even if formal economic sanctions are lifted. This could delay progress on China's long-term modernization goals as decreased access to low-cost financing impairs its ability to gain technological know-how through high-tech joint ventures

or to import advanced technology. A continued decline in capital goods and raw material imports will also stifle the pace of China's economic development.

Appendix A**Economic Performance in 1989 and 1990 by Sector****Industrial Performance**

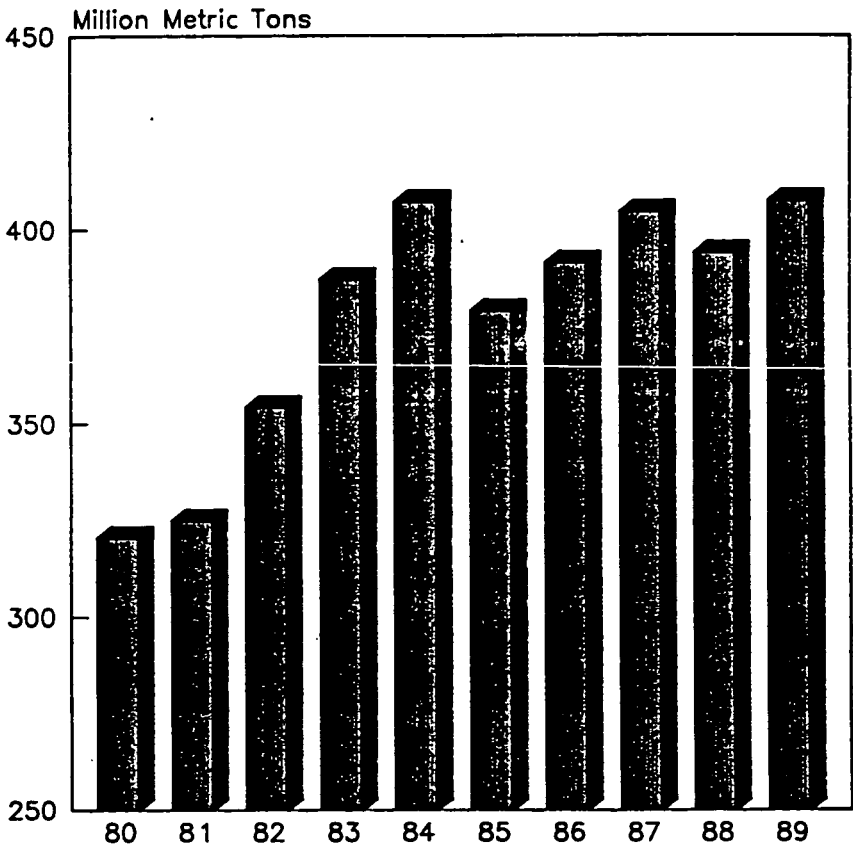
After expanding at a breakneck pace of nearly 21 percent in 1988, China's industrial growth slowed to 8 percent last year. The output of state-owned industries slowed to less than 4-percent growth in 1989, while the collective sector—including township and village-run industries—grew almost 11 percent and the private sector increased 24 percent. Foreign-funded enterprises posted a 45-percent gain in output value in 1989.

Industrial production increased 15 percent during the first five months of this year, compared with the same period a year ago. The credit infusion begun late last year has started to stimulate production modestly—output grew at a 4-percent annual rate in May—but consumption remains sluggish, the growth rate of the once vibrant rural industrial sector has dropped sharply, and production of large state-run enterprises remains sluggish.

Agriculture and the Rural Economy

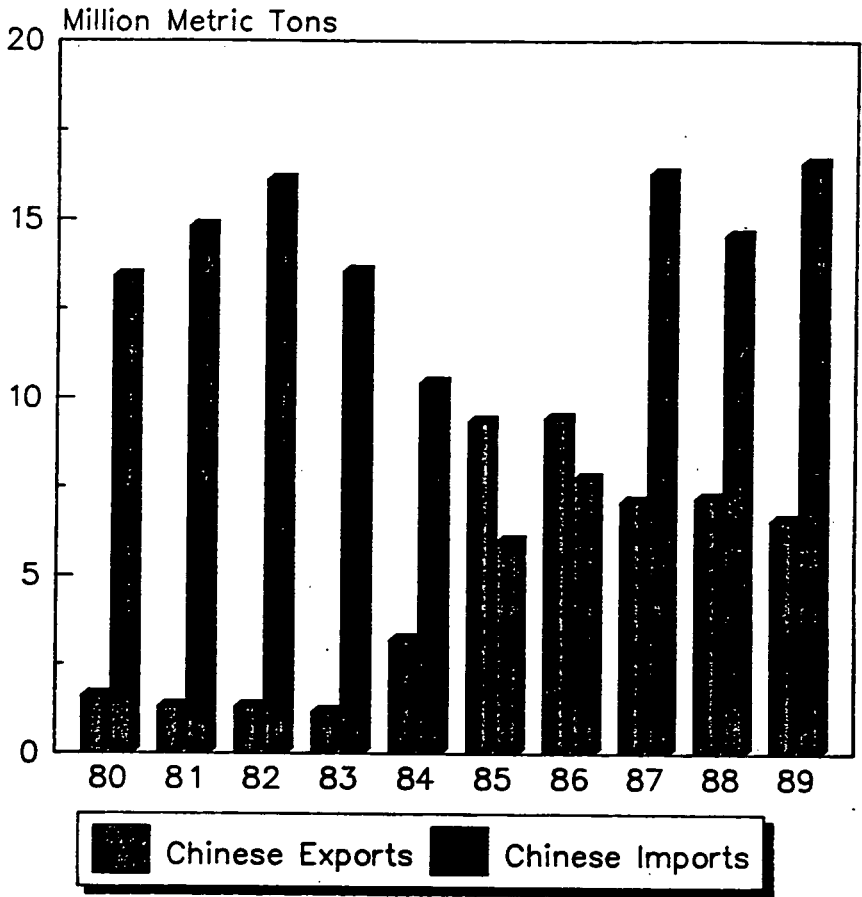
China's agricultural output increased about 3 percent in real terms in 1989. Grain production grew 3 percent to reach 407 million metric tons, matching 1984's record performance, as a result of an 18-percent increase in procurement prices and favorable weather. The total, however, was still 5 million metric tons short of target. As a result, China imported more than 16 million metric tons of grain—primarily from the United States, Australia, the European Community, and Canada. Meanwhile, the output of other agricultural staples, such as cotton and oil- and sugar-bearing crops, declined because low producer prices prompted peasants to reduce acreage for these crops.

Grain Production

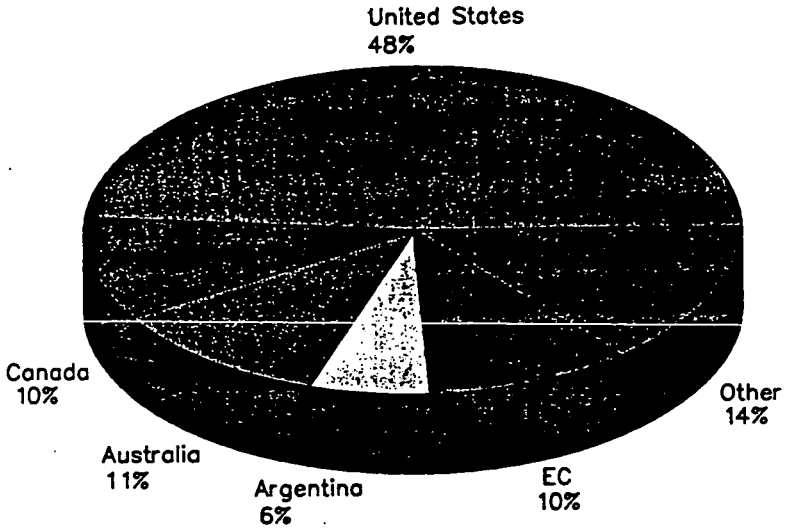


Source: Official Chinese statistics.

Chinese Grain Trade, 1980-89



Major Grain Suppliers, 1989



*Calculated by value of exports.

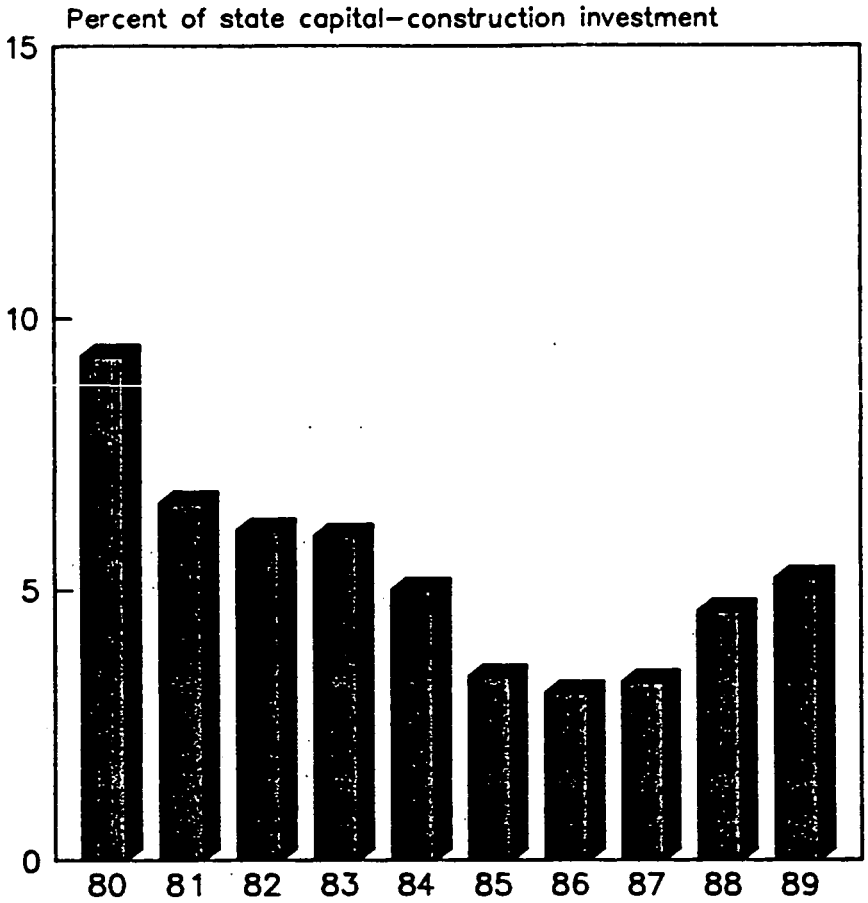
Source: Chinese Customs statistics.

China's rural industrial sector was hit hard last year by centrally mandated cutbacks in credit, energy, and raw materials. In addition, some local authorities reacted to Beijing's edicts to slow rural industrial growth by increasing taxes on rural factories, imposing strict capital requirements for an operating license, and tightening restrictions on employment by prohibiting factories from hiring workers who do not meet local residency requirements. One of the fastest growing sectors in China's economy, these firms have accounted for more than half the value of rural output since 1987 and employ 85 million workers, about 15 percent of China's labor force. Some municipal leaders have tried to soften the impact of austerity measures by defying orders from higher authorities to cut energy and raw material supplies to local factories, and workers and managers in some rural enterprises have pooled their personal savings to keep their factories going. These efforts have had only a limited impact, however; the output from rural enterprises slowed to only 8 percent last year, about one-fourth the rate in 1988.

Agricultural policies for 1990 are focusing on correcting last year's trouble spots. To motivate peasants to increase production of nongrain agricultural staples, Beijing announced it would raise the purchase prices of government-contracted cotton, oilseeds, and sugar crops. Beijing opted not to increase the purchase prices of grain this year, however, because of the good 1989 harvest and because of its strained budget. Beijing is continuing to recentralize distribution of fertilizer, pesticides, and the plastic sheeting that peasants use as mulch, and plans to increase state investment in agriculture by about 30 percent.

Beijing will continue to tinker with reform experiments in a few areas. For example, Beijing reportedly gave the go-ahead in early June to open the country's first futures market—for wheat—and announced plans to establish others for rice, corn, and pork. In general, however, China's planning-oriented leadership will try

Agricultural Investment



Source: Official Chinese statistics

this year to boost output by administrative methods, rather than by strengthening the role of markets.

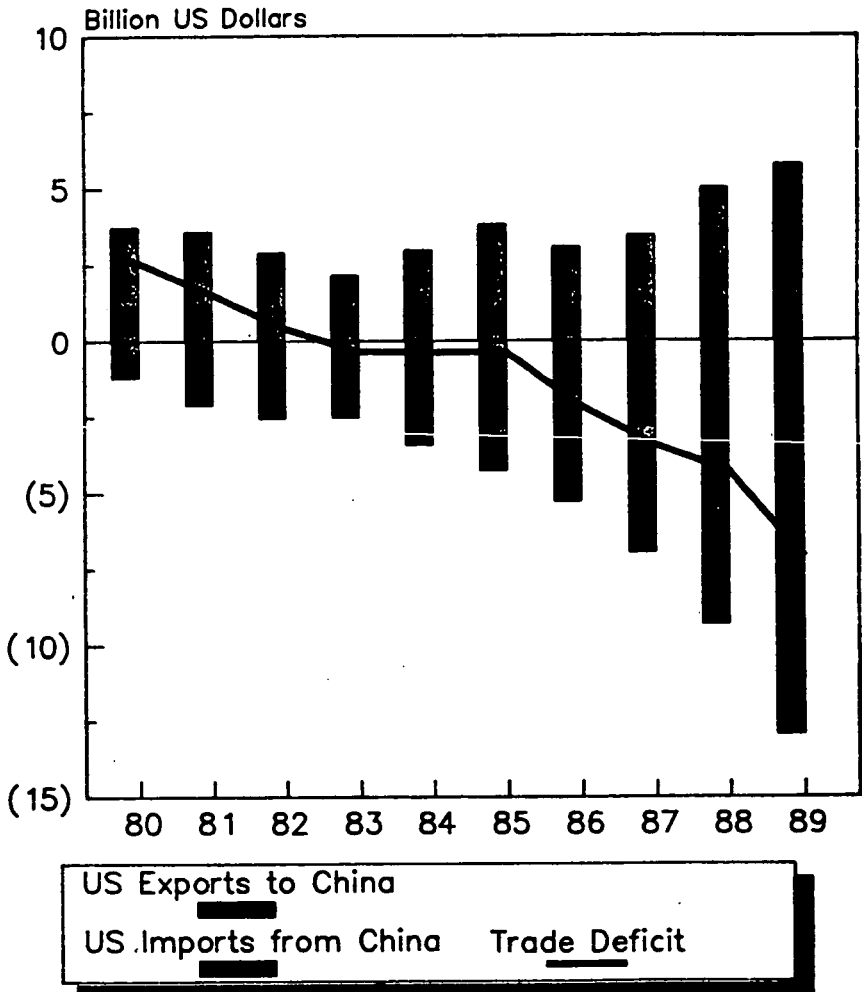
The leadership has toned down its rhetoric on rural enterprises since March. The Chinese press reported in February, however, that Beijing will incorporate rural enterprises in its state plan this year to ensure that energy, capital, and raw materials are more fairly allocated to state-run firms. Moreover, Chinese officials have announced that no new rural enterprises will be allowed to open over the next two or three years except those producing goods for agriculture or export or those supplying energy or necessary consumer goods.

US-China Trade

The United States became China's primary export market last year following a 39-percent surge in sales to the US market. Beijing's austerity program and tighter import controls, however, slowed growth in US sales to China by almost two-thirds from the robust pace achieved in 1988. Consequently, the US trade deficit with China almost doubled to over \$7 billion in 1989, according to US Commerce Department statistics.³ The US deficit with China could exceed \$10 billion this year; US statistics indicate China's exports to the United States increased at a 36-percent annual rate during the first three months of 1990.

³ China's Customs statistics differ considerably from those recorded by the US Commerce Department. Chinese statistics indicate that exports to the United States last year totaled \$4.4 billion while its imports equaled almost \$7.9 billion, giving China a bilateral deficit of about \$3.5 billion, rather than a surplus of \$7 billion. A major reason for the discrepancy is that the United States tallies all goods shipped to and from China, regardless of whether they are shipped directly or through third parties such as Hong Kong; China only includes direct shipments. For a more detailed discussion of the discrepancy, see "China: Economic Performance in 1987 and Outlook for 1988," report to the Joint Economic Committee of Congress, April 1988.

US-China Trade, 1980-90



Source: US Commerce Department

The surge in Chinese exports to the United States reflected China's overall export push in the second half of 1989—including increased state allocations of credit and raw materials to the export sector—as well as China's targeting of the US market. Chinese exports of labor-intensive manufactured goods such as televisions, stereo equipment, footwear, toys, and household appliances continue to post substantial gains in the US market. China's low wages have made it extremely competitive in these product lines, which have been the focal points for domestic and international investment. Clothing exports, which accounted for almost one-quarter of US purchases from China, expanded as Chinese apparel producers continued their move into higher quality and higher priced articles. Moreover, tighter controls over the trade sector prevented Chinese trading companies from exporting unprocessed silk, cotton, and wool, which had hampered growth in textile production in 1988.

Some US exporters, on the other hand, were hurt by import licensing restrictions Beijing imposed to control foreign exchange outflows. US sales of wood products, for example, fell 60 percent last year after Beijing decided in March to adopt an import quota system for timber purchases. Even in instances where import licenses have been granted, however, cutbacks in credit from state banks have forced Chinese trading companies to curtail purchases of foreign goods. Exports of some US products, including textile fibers and iron and steel, grew substantially because of domestic Chinese shortages of these goods. Grain and agricultural-related exports also increased, reflecting Beijing's concerns about that crucial sector. Because of Beijing's increased emphasis on energy and infrastructure development, US sales of transportation equipment and power generators also increased.

Selected US Imports From China, 1989

	Value Million US\$	Share of Total (percent)	Growth over 1988 (percent)
Clothing	3,115.9	24	41
Toys, sporting goods	1,510.8	12	47
Telecommunications equipment	1,087.9	8	106
Footwear	770.0	6	106
Textile yarns, fabric	653.4	5	8
Travel goods, handbags	591.6	5	28
Petroleum	558.7	4	12
Household electrical appliances	411.8	3	49
Metal manufactures	347.0	3	40
Shellfish, seafood	316.9	2	(4)
Total US Imports	12,901.0	100	39

Source: US Commerce Department.
Imports calculated cost, insurance and freight (c.i.f.).

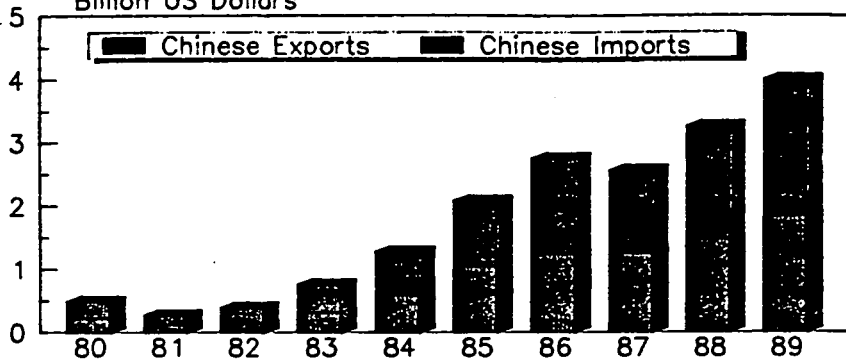
Selected US Exports to China, 1989

	Value Million US\$	Share of Total (percent)	Growth over 1988 (percent)
Grain	1,126.6	19	61
Aircraft	536.2	9	60
Fertilizers	487.4	8	168
Specialized machinery	361.3	6	10
Textile fibers	355.1	6	253
Organic chemicals	286.6	5	2
Iron and steel	244.4	4	299
Power generating equipment	201.7	3	42
Plastics, resins	197.5	3	(66)
Wood products	179.1	3	(60)
Total US Exports	5,807.4	100	15

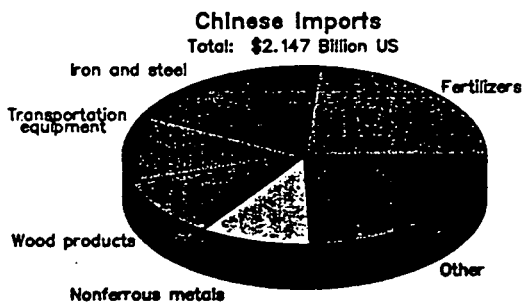
Source: US Commerce Department.
Exports calculated free alongside ship (f.a.s.).

Sino-Soviet Trade

Billion US Dollars



Commodity Composition in 1989



Source: Chinese Customs statistics

Sino-Soviet Economic Relations

Sino-Soviet trade grew about 20 percent in 1989 to reach \$3.9 billion, with Beijing posting a nearly \$300 million deficit. Modest growth in centrally planned trade was overshadowed by expansive growth in outside-of-plan trade along the Sino-Soviet border, which now accounts for 19 percent of overall trade, nearly doubling the share in 1988. More than 70 percent of China's imports from the Soviet Union last year were raw materials—including fertilizer, timber, iron, and steel—and transportation equipment. Chinese exports of textiles and foodstuffs continue to dominate sales to the Soviet Union, but exports of automatic data processing and office equipment posted nearly a ninefold increase over 1988 levels.

Beijing's attempts to expand Sino-Soviet economic relations following the Tiananmen incident and the dramatic changes in the Soviet Union last year were highlighted during the visit of Chinese Premier Li Peng to Moscow in April 1990. Premier Li signed several protocols including:

- A 10-year framework agreement governing the development of economic, scientific, and technological cooperation.
- An agreement to provide the Soviet Union with trade credits valued at nearly \$336 million to purchase Chinese textiles and light industrial products; Beijing had refused to consider such an arrangement in earlier protocols.
- An intergovernmental memorandum on plans to cooperate in building two nuclear power stations in China using Soviet technology and equipment, repayable over the course of several years with Chinese consumer goods.

The growth in Sino-Soviet trade nevertheless is likely to slow in 1990, and serious challenges to the economic relationship lie ahead. Border trade began to

encounter problems in the second half of 1989 after Moscow began restricting exports of many of the raw materials that have been the foundation of that trade, such as timber and steel, for use in its own economic development drive. As a result, although Soviet interest in Chinese consumer goods remains high, Chinese traders find little to their liking among the remaining available Soviet goods. Trade could decline, moreover, if Moscow and Beijing proceed with a plan currently under discussion to move away from barter exchanges to hard currency trade beginning next year.

The Taiwan Connection

Despite Taipei's official policy banning direct trade with, and investment in, China, economic ties between Taiwan and China are increasing at a remarkable rate. Cross-straits trade increased by two-thirds during the first six months of last year, followed by a sharp slowdown during the second half of the year as Beijing tightened austerity measures. Overall, bilateral trade posted a 29-percent increase in 1989 to \$3.5 billion. Taiwan registered a \$2.3 billion surplus for the year, primarily exporting machinery, electronics, and plastics in exchange for agricultural raw materials and herbal medicines. Moreover, Taiwan firms signed investment commitments worth between \$500-600 million last year—topping their 1988 total of \$400 million—primarily for labor-intensive, export-oriented ventures producing clothing, shoes, umbrellas, and toys. Preliminary statistics also indicate that during the first four months of this year, Taiwan investment commitments in China increased between \$400-500 million.

The economic value of commercial ties is likely to grow over time despite political tensions across the strait, since neither Taiwan nor China wants to sacrifice the benefits of trade and investment. Taiwan receives favorable tariff treatment,

giving its exports a competitive edge. More important, the growing number of Taiwan-invested enterprises in China will purchase an increasing volume of Taiwan-made components, which will also boost Taipei's exports. Investments in China will probably continue to attract a growing number of Taiwan businessmen looking to avoid the labor shortages, high wages, and environmental restrictions at home.

The State Budget and Spending Priorities

China's government budget deficit grew about 40 percent in 1989 to reach almost \$8 billion. Although revenues exceeded original targets as Beijing intensified tax collection efforts, expenditures soared. Subsidies for enterprise losses, for example, increased to \$12.7 billion, a 35-percent jump over 1988 and 15 percent above the budgeted increase. Beijing financed the deficit by issuing domestic bonds and borrowing from abroad.

Although China's deficit is low by international standards—about 2.4 percent of GNP in 1989—Beijing is concerned about its rapid rise. Moreover, many in the orthodox leadership view any government deficit as an indication of economic mismanagement and could use it as an additional argument for holding off on market-oriented reforms. Indeed, Beijing began pushing last year to reclaim some of the financial autonomy given to provincial and local governments in the 1980s.

China's 1990 budget calls for a 14-percent increase in the deficit as slower economic growth prevents revenues from increasing significantly and as expenditures for key capital construction projects, defense, and subsidies grow. The 1990 budget projects that one-third of this year's expenditures will go to subsidies, but that share could grow if China's industrial sector does not rebound soon.

Defense Spending

Beijing has announced that it will increase state funding for the military this year by more than 15 percent, to 29 billion yuan (slightly over \$6 billion). This will be the first real increase in the announced defense budget in six years. Actual Chinese defense spending, however, will probably be twice the announced figure. Although state-allocated funds are the single largest source of revenue for the military, other sources of funding—including profits from arms sales and the earnings of several thousand military-run commercial enterprises—total several billion dollars annually. Moreover, a large portion of the military's research and development costs are subsidized by state-run research institutes or paid out of funds earmarked for civilian organizations. The military also supplements its living expenses through sideline production of agricultural commodities such as grain, vegetables, and meat.

The Chinese military will probably allocate some of this year's increase in defense spending to military pay and allowances to bolster troops' morale and improve living standards, which have been hurt following several years of double-digit inflation. A significant portion of the increase in defense spending this year probably will also go to purchasing new equipment, such as riot control gear for military rapid-reaction units, and repaying the operational costs incurred by the military in enforcing martial law in Beijing and Lhasa during 1989.

Appendix B**Chronology: Beijing Recentralizes Control Over Trade Sector**

- 15 Sept 88 Customs duties doubled on imports of consumer appliances—such as washing machines, radios, and cassette players—to 100 percent.
- 22 Sept 88 Control over silk imports and exports recentralized.
- 1 Jan 89 Exports of copper, nickel, aluminum, platinum, yellow phosphorus, and their alloys banned. Sixteen items added to the list of commodities that require export licenses: newsprint paper, bone dust, polystyrene, polypropylene, ABS resin, chromium ore, molybdenum ore, ferrochrome, ferromanganese, magnesium metal, manganese metal, methylbenzene, dimethylbenzene, rubber, salted pine mushrooms, and Chinese medicinal herbs.
- 14 Jan 89 Trade and distribution of cellulose acetate filter tips used in manufacturing cigarettes recentralized under state trading corporation; import licenses now required for these items.
- 25 Jan 89 Import and Export Permit Administration established to tighten control over the granting of import and export licenses.
- 1 Feb 89 Control over pesticides production and sales recentralized.
- 20 Feb 89 Imports of foreign cigarettes and liquor banned.
- 19 March 89 Imports of timber cut 40 percent and managed under a new quota system; quotas allocated to local governments, which then determine what kind of timber they wish to buy.
- 6 April 89 Imports of all luxury cars banned.
- 6 April 89 Moratorium imposed on import licenses for canned beverages; additional joint ventures producing canned beverages not authorized.
- 1 May 1989 Quality licenses required for imported products that involve safety, public health, and environmental protection, including: automobiles, motorcycles, motorcycle engines, refrigerators, refrigerator compressors, air conditioners, air conditioner compressors, color television sets, and kinescopes.
- 15 May 89 Guangdong Province banned imports of: cigarettes, alcohol, cosmetics, canned foods, frozen fish, meat, fruit, candies, biscuits, vegetables, clothing, shoes, scented soap, shampoo, beverages, household electrical appliances, and plastic daily essentials.

- 1 June 89 Plywood import coordination group composed of nine corporations with the exclusive right to import plywood created. Only three of the nine allowed to participate in price negotiations.
- 10 June 89 Export licenses—with approval granted by one of two central bodies—required for six metal ores: copper, zinc, lead, manganese, iron, and nickel.
- 13 July 89 Central management extended to 13 kinds of imports, including: grains, sugar, steel, fertilizers, crude and refined oil, rubber, timber, polyester fibers, tobacco, cotton, pesticides, and farm use film. Controls tightened over imports of wool, wood pulp, plywood, craft paper, corrugated paper, chemical materials, scrap ships, and television tubes.
- 27 July 89 Wool import coordination group created to further recentralize wool imports and unify decisionmaking.
- 27 July 89 Forty percent tariff on imports of materials used in the production of pop top cans imposed to further recentralize imports of canned drinks. Government institutions, mass organizations, and enterprises prohibited from using public funds to purchase canned drinks.
- 1 August 89 Import of 20 electronic and machinery products and some associated assembly lines banned, including: hi-fi components, video-cassette recorders, televisions, computer hardware, and radio cassette tape recorders.
- 4 August 89 One hundred and six goods in 44 different categories added to the list of items subject to inspection.
- 11 August 89 Import duties on six items increased: coffee, syrup, vacuum cleaners, electronic games, cosmetics, and soap. Export duty rates raised 50 percent on lead and zinc exports.
- 28 August 89 Inspection guidelines imposed for television imports, based on new standards.
- 1 Sept 89 Tariff levels for various imports increased: imports of medical instruments, scientific research apparatus, medicines, drugs, and perfumes subject to 20 percent tariffs; household appliances, cameras, watches, bicycles, textile products, and cosmetics assessed 100 percent duties; imports of video-cassette recorders and motorcycles given 150 percent duties; cigarettes, liquor, and limousines assessed at 200 percent.
- 26 Oct 89 Guangdong Province established "coordinated prices"—minimum export prices—for 29 goods, including: lithopone, yuanning powder, potassium permanganate, cassia, cassia oil, paper products, cattle hides, feather and down, rattan products, black wood furniture, red bricks, sea sand, fresh-water sand, canned fish, soy sauce, lychee, mandarin oranges, shelled peanuts,

sesame, dried rice vermicelli, blanched peanuts, electric fans, florescent lamp stands, glazed wall tiles, pocket knives, padlocks, plastic products, mosaic, and precious ink stone.

28 Nov 89

Exports of tungsten centralized, giving sole trading rights to three corporations.

13 Feb 90

New import restrictions approved on building materials such as marble, granite plates, certain types of glass, plastic carpeting, plastics, glass fiber, flax or cotton wallpaper, wall or floor bricks, plaster stone plates, and aluminum alloy doors and windows.

13 Apr 90

Exports of paraffin wax recentralized.

15 May 90

Review of electric power generating equipment imports tightened.

Appendix C

Interpreting China's Economic Instability

The Dilemma of Stopping Halfway

Much of China's economic instability is due to the incomplete nature of industrial reforms. During the past decade, for example, Beijing steadily increased the share of revenues that state enterprises and local governments could retain and gave them greater latitude over how funds were spent. Indeed, retained earnings of state enterprises were eight times larger in 1988 than when reforms began, according to the Chinese press. But Beijing did not implement meaningful bankruptcy measures, and without any such market-oriented control mechanism, many factory managers took advantage of increased decisionmaking autonomy to expand investment spending and worker remuneration without regard to efficiency. Consequently, during the 1980s, investment spending soared more than 20 percent a year, and real wages of state industrial workers outpaced labor productivity.

Beijing's failure to complete price reforms is also central to China's economic difficulties. Although the authorities have taken tentative steps to ease irrationalities in China's pricing structure—including raising state procurement prices for grain, decontrolling prices of nonstaples and many consumer durables, and allowing sales of overquota industrial products at market prices—prices of energy and key raw materials are still held artificially low. Because raw materials are cheap, manufacturing industries can generally make profits even if factories use inefficient, outmoded equipment. This has encouraged local officials to use their increased revenues to invest in manufacturing industries, which has increased the demand on chronically short supplies of energy and raw materials.

The inflationary consequences of these moves were temporarily offset in the early 1980s by reform-driven efficiency gains in key sectors. For example, between 1981 and 1984 production of grain and cotton increased about 8 percent and 28 percent, respectively, because Beijing hiked procurement prices and allowed peasants to retain profits from overquota production. This helped Beijing meet rising consumer demands for food and clothing caused by urban wage increases. Hikes in coal prices and policies allowing individuals and local governments to open their own mines caused coal output to grow 8 percent a year during the same period, allowing power plants to generate increased amounts of electricity, which contributed to rapid industrial growth, particularly by locally run firms manufacturing consumer items. The production gains from breaking up the communes were exhausted by 1985, however, and the gains from opening individual mines also began to taper off during the latter half of the 1980s. Inflation, accordingly, picked up later in the decade. The inflation rate tripled in 1985 to almost 9 percent, pushed along by decontrol of nonstaples prices and by a rapid increase in the money supply which was caused by moves the previous year to decentralize the banking system. After remaining at the new plateau for two years, inflation more than doubled in 1988 and reached a record 27 percent in early 1989.

China's reformers had expected a rocky transition from a planned economy to a more market-oriented system, but inflation of that magnitude was probably unanticipated, and it undermined their ability to pursue market-oriented solutions. Articles in Chinese journals indicate that since at least the mid-1980s some Chinese economists correctly understood why partial market reforms caused inflation and other economic dislocations. But rising prices and declining efficiency sharply split reformers over the appropriate pace and sequence of additional market measures.

The Role of Regional-Center Tensions

Another key element in China's economic instability is the inability of Beijing and the provinces to concur on a division of responsibility for economic management. Since orthodox leaders took control of China's policy agenda in late 1988, they have tried to reclaim financial and planning authority from local levels and to increase government support to key state enterprises that produce energy and raw materials. Although austerity policies have dampened growth, efforts to recentralize the economy have been resisted by municipal and provincial officials, who have strong cards to play when they bargain with central authorities for control of finances:

- Local governments control a significant share of industrial production. In 1988 locally run enterprises produced more than one-third of China's industrial output, up from one-fifth a decade ago, according to official statistics. Moreover, they control important sources of raw materials; more than 50 percent of coal was produced by locally run mines in 1988, and about half of China's steel and more than four-fifths of its cement were produced outside Beijing's central plan.
- Provincial and municipal governments are important sources of foreign exchange. The freer economic rein that Beijing has given provinces, particularly along China's southern coast, is a key reason that these local governments have rapidly built up export industries and attracted foreign investment. Indeed, over the past 10 years Guangdong Province has been the recipient of about half of the total foreign investment in China, and in 1989 it accounted for 15 percent of the country's exports. In addition, locally run firms throughout China have become important sources of foreign

exchange. For example, rural enterprises in 1989 exported more than \$10 billion of goods, about 19 percent of China's total, according to the Chinese press.

- Beijing depends on local governments to implement its policies. Almost all tax collectors, for example, are appointed and controlled by local officials. The Chinese press has cited numerous examples of local governments arbitrarily exempting enterprises from taxes or simply refusing to collect particular types of taxes. Municipal officials also set prices of locally produced goods and appoint most of China's price inspectors. Chinese media have reported that local officials often authorize price hikes—despite central government edicts to freeze prices—because they increase enterprise profitability and tax receipts.

The Resulting Policy Paradox

Beijing's meat-ax approach to austerity is causing economic dislocations that will raise the political cost of sustaining austerity and undermine the credibility of current policies. Indeed, as inflation falls, it will undercut the arguments of planners that the costs of keeping the clamps on the economy are justified. If inflation stays in single digits in 1990, reformers—including many local officials—may successfully argue that the greatest danger of renewed social unrest is from slow growth, rising unemployment, and falling standards of living. On the other hand, China's current mix of planning and decentralized decisionmaking makes it likely that inflation will reemerge when Beijing eases austerity measures. That will make it difficult for any reform leaders to decontrol prices and press ahead with market measures such as bankruptcy that are necessary to alleviate China's economic imbalances. At best, these measures would require years to implement, and the

leadership would have to be willing to accept the decrease in party control that they would entail. Thus policy may vacillate between austerity and expansion, and economic problems will widen differences in the leadership, as they have since the mid-1980s.

Municipal and provincial governments will probably be able to sustain their economic power over time. In the next expansion phase, locally run industries will probably outpace state enterprises as they have for the last decade, which will increase the share of the economy outside central control and increase the clout of localities. Moreover, the pressure to protect local industries during retrenchment periods will cause China's economy to become increasingly fragmented into protected local markets. Corruption will continue to grow, particularly during expansion phases as officials try to make as much money as they can before Beijing starts backpedaling again.

Signposts for Improved Macroeconomic Control

The transition to stable growth will require policies that produce a stream of efficiency gains and give Beijing indirect means to control the pace of renewed economic activity. One way to do this would be to reduce the share of the economy subject to central planning and make the state-controlled sector face increased market pressures. Beijing could take important strides toward eliminating price distortions in the economy by continuing to reduce the quotas of goods, particularly raw materials and industrial inputs, that state factories must supply within the central plan. Because overquota production can be sold on the market, this would gradually increase the share of key goods sold at market prices and provide incentives for increased efficiency in state factories that buy and sell these goods. Enforcement of bankruptcy regulations, even if applied cautiously, would also spur

more efficient use of raw materials and finances by state factories. The development of a comprehensive unemployment-compensation system would make enterprise bankruptcy politically easier to carry out because state factory workers currently stand to lose housing, health care, education, and pensions if factories are shut down. Enterprise accountability could also be increased in the state sector by allowing workers to purchase shares in their factories, which would reduce dependence on government funding while tying worker remuneration more closely to factory performance.

Another way Beijing could increase market accountability would be by encouraging the expansion of the private sector. An important step would be allowing peasants to own and sell farmland. That would spur greater agricultural output by providing incentives for increased investment by peasants. It also would allow productive peasants to increase their landholdings and their use of mechanized farming methods, and would free up additional workers for rural industries, which are more responsive to market forces than state factories. In addition, Beijing could continue to sell small state enterprises to private bidders.

Beijing could also improve efficiency by increasing competition between state and locally run factories. Necessary ingredients would include development and enforcement of commercial codes that prohibit trade barriers set up by municipal officials to protect local industries. In the near term, Beijing could circumvent trade barriers somewhat by allowing factories to play a direct role in international commerce. Former party chief Zhao Ziyang's coastal development strategy apparently was designed to do this. It allowed industries in coastal provinces greater autonomy to import raw materials for processing into export goods, forcing these factories to buy and sell products at world prices and to compete with international firms.

To improve Beijing's ability to carry out monetary and fiscal policies, authorities must implement widespread financial reforms. In particular, Beijing must create an independent central bank manned by professional managers appointed by central authorities. Beijing also must create financial markets that tie local bank branches into a nationwide network. Such a nationwide financial market would allow greater competition between local bank branches and force them to be accountable for their lending decisions. In addition, Beijing will not be able to use fiscal policies effectively until it eliminates the enterprise contract system which allows tax rates to be set through negotiation between enterprises and their supervisory bureaus, rather than by central authorities.

GNP PER CAPITA

Mr. PETERSEN. I am going to ask Mr. Zinser now to address the question that you put before us on Mr. Lardy's comments about exchange rates and their impact on judging the size of the economy.

Mr. ZINSER. It is an important issue, and we are doing something about it, but I would like to put it in a broader context if I might. First, it is important to emphasize that the issue of converting Chinese GNP into dollar figures in no way affects our overall assessment of China's economy.

When we look at China's economic growth rates, we are comparing Chinese values of industrial output with Chinese values of industrial output. There is just one instance when this becomes an issue, and that is when you try to compare GNP across a number of countries and have to convert to some common currency, such as dollars.

We agree that using the official exchange rate to convert Chinese current values into U.S. dollars is controversial. There are academics who prefer other ways. But what it does do is give a consistent set of indicators, a consistent dollar series over time.

Academics who question the use of exchange rates to convert GNP estimates point to a more appropriate use of purchasing power parity coefficients. This requires that a researcher estimate a purchasing power parity exchange rate that would convert a similar market basket of goods from one currency into another currency.

For instance, if we developed a market basket of goods, and we looked at the Chinese value of that, and we saw that it was a hundred yuan, and the same market basket of goods cost \$50 in the United States, then the purchasing power parity would be 0.5 percent, and that purchasing power parity would be used over time to convert the Chinese GNP into dollars.

It is not that simple, however. The purchasing power parity estimates that have been done have come up with widely differing estimates. For instance, a number of studies have been done trying to put Chinese GNP into 1981 dollars.

The purchasing power parity estimates that various researchers have come up with, and these are researchers outside the U.S. Government, vary by a factor of 7. Now, in 1981, China's official exchange rate was 1.7. Some researchers estimated that the purchasing power parity should be 0.4, and other researchers have estimated that it should be 3.

That is an enormous variability in the estimates that they have come up with. Why is there such a variability? Because in a practical sense, it is extremely difficult to come up with comparable products.

For instance, it is not a simple matter just to look at Chinese steel production and give it a dollar value, because Chinese steel production varies in quality tremendously from U.S. steel production. So, a researcher has to make some implicit estimates in doing his basic level adjustments from Chinese values to United States values.

And there is a wide range of products where the quality differs substantially. For instance, medical services differ substantially

from one country to another. Not only that, but an additional problem is that the purchasing power parity estimates change over time, and that can affect estimates, too.

What the exchange rate conversion does is give a consistent series of estimates for any particular official exchange rate even though it is not the theoretically correct way of converting yuan to dollars. Now, having said all that, in the last 2 years we have been trying to come up with a purchasing power parity estimate of our own, and we mentioned that in appendix B last year in our statement.

It is an extremely complex effort, and we don't have anything to report at this point, but we are concerned about the issue of trying to come up with a reliable purchasing power parity estimate. We are working on it, and as soon as we have some results, we will be happy to report them to this subcommittee.

But we would still have to qualify that estimate simply because there is such a wide range of techniques that could be used to produce those. Excuse me for taking so much time.

SENATOR BINGAMAN. No, that's fine. Do you agree with the basic point which Mr. Lardy and Mr. Perkins were making, that the figures we are now using do misrepresent the size of the Chinese economy?

MR. ZINSER. Well, it is difficult to know, and I think you can talk to any number of academics and they will come up with a kind of gut reaction that Chinese per capita GNP should be \$400 to \$500. Our estimate for per capita GNP is \$385 for 1989.

My sense is that if a theoretically perfect purchasing power parity is constructed, the estimate would be higher than the one we are using, but there is no way of knowing that without completing the research that we are doing.

There are a couple of other issues, too, that even purchasing power parity approaches don't take into account. For example, the massive environmental damage that has been done in the process of producing output in China. That probably in an ideal sense, if you are comparing outputs between countries, should be factored in, but even the best purchasing power parity estimates would not do that.

The other thing that weighs heavily in making any judgment about China's overall GNP, or per capita GNP, is the fact that there are 700 to 800 million peasants living in the countryside, some of those near the large cities, who have become, in Chinese terms, prosperous, in the last 10 years, but there is still a massive number that are living in quite low living standards. That's why, as some of the academics were saying, China's GNP could be only 20 to 40 percent higher than the exchange rate estimates, but there is no way of knowing that.

But it is not—I don't think, 3 or 4 times higher, like some of the other studies have stated.

TECHNOLOGY

SENATOR BINGAMAN. Let me ask about the issue of our transfer of technology to China. The report that was done by DOD just last year, and not this year's, but 1989's report on critical technologies,

listed 10 of the 22 critical technologies that they identified, they said that China had a significant effort going in that, and they had a chart in there, and this was in an earlier draft, and I don't know if it stayed in the final version or not.

But at any rate, they indicated—DOD did—that they thought that China was making a serious effort to research in a lot of these areas, and this was table 3 in the March draft, on page 11. They listed China as being involved in gallium arsenide, a compound in semiconductors, and fiberoptics, and signature control, and air breathing propulsion, pulse power, and hypervelocity projectiles, and super conductivity, high temperature, high strength light weapon composite materials.

If they are doing all that—well, first of all, is it your view that they are doing that? It seems amazing to me that China is mentioned more than any other country, other than the Soviets and our European allies, and the Japanese, as having a major research enterprise in these areas. Is that credible? Can they be doing that much?

Mr. ZINSER. Yes, it is credible. We know that the Chinese since 1986 have launched a very intensive effort to develop certain high technology areas, including manned space capability [security deletion], information processing and automation, and new energy sources, and advanced composite materials, and biotechnology.

Many of these are related to defense efforts [security deletion]. Of course, the Chinese are also very interested in developing and applying commercial applications of these technologies.

The thing that is a paradox is that a country with a low per capita level of GNP can conduct such intensive, large-scale research, and I think the answer to that is several fold. One, it is a very resource rich country, and unlike some other countries at the same level of per capita income, it does have enormous material resources.

Also, with the exception of a few years during the Cultural Revolution and on either side of it, the Chinese sent their best technicians overseas, their best scientists and engineers, to study in the Soviet Union in the 1950's, and more recently in the United States.

And they have also since 1978, or 1979, have been very aggressive in trying to expand technical cooperation agreements and exchanges with Western scientists. So, we think that it is credible that they are trying to develop these technologies, because they seem—

Senator BINGAMAN. Where are they doing this work? I mean, are these government laboratories, or—

Mr. ZINSER. Yes.

Senator BINGAMAN. University laboratories?

Mr. ZINSER. Yes. Both. Both government—government think tanks, and government defense related think tanks and laboratories, and—

DOMESTIC APPLICATIONS AND EXPORTS

Senator BINGAMAN. And is much of that work in the defense sector for purposes of selling arms, and armaments to the Third

World countries, or others around the world; is that what that is being done for?

Or, is this an initiative which is purely for national security reasons?

Mr. ZINSER. Well, I think it is both. [Security deletion.] They are also very interested in the commercial applications and getting some return on their investment, and that's where the technology sales—

Senator BINGAMAN. To what extent have we facilitated this research, particularly in the strategic defense capabilities and missile capabilities?

Mr. PETERSEN. I am not sure I understand your question.

Senator BINGAMAN. Well, how much of the technology that they are using in this have they obtained from us?

Mr. ZINSER. Well, it is hard to quantify it in any sense. Certainly they have had extensive exchanges with Western European scientists, as well as U.S. scientists; an exchange of delegations, and studies in those countries.

I don't think that we have a very specific answer, in terms of how particular technologies may be facilitated.

RESTRICTIONS ON TECHNOLOGY TRANSFER

Senator BINGAMAN. Do we have an aggressive program to—have we had in place, and do we continue to have an aggressive program to keep technology from going to them which is useful in developing some of the missiles that they are using or will be selling?

Mr. PETERSEN. There are still restrictions on technology transfers to China, and the DOD and the State Department are better able to answer exactly what those are than we are here today. A lot of the technologies that the Chinese are interested in, they can acquire from open sources—U.S. scientific journals, exchanges and conferences, and that sort of thing, and they are very active in those forums.

SALES OF MISSILES

Senator BINGAMAN. Are they still involved in the sale of missiles to the Middle Eastern countries, and is that a significant activity that they are engaged in at this time?

Mr. PETERSEN. [Security deletion.]

As a matter of fact—well, do you have some figures on that, Mr. Zinser?

Mr. ZINSER. [Security deletion.]

U.S. ACCESS TO CHINESE MARKETS

Senator BINGAMAN. One of the questions that I asked the other witnesses in the hearing was this question of whether the United States is falling significantly behind some of our trade competitors in developing access or obtaining access into the Chinese market.

And I sort of got two signals, I guess, on that. Mr. Denny seemed to say no, we are not, and Mr. Perkins seemed to say, yes, we are; and I think that Mr. Lardy was on the side of Mr. Perkins on that exchange. What do you folks see happening there? Are we in a

period where the United States is paying more attention, or for other reasons, is not aggressively pursuing access to that market?

SENIOR ECONOMIC ANALYST. I think it would be incorrect to say that U.S. companies are not aggressively pursuing access to the China market. They have been successful. I think—

Senator BINGAMAN. Now, Mr. Denny was saying that he—that his advice to his organization, and his organization's position, was that this was not a good time to try and invest in it.

SENIOR ECONOMIC ANALYST. You are talking about the current period?

Senator BINGAMAN. Yes. Right now.

SENIOR ECONOMIC ANALYST. Yes. Right now Beijing has a definite policy of lowering its imports; that was evident in the last 6 months of 1989, and it is still evident in the first quarter of this year.

There are obviously imports that China cannot restrict, and—

Senator BINGAMAN. But not imports, but investment, foreign investors.

SENIOR ECONOMIC ANALYST. Well, foreign investment in China, from the Chinese perspective, was never so that the enterprises could sell on Chinese markets. They wanted export-oriented ventures, but I think that if you look at foreign investment operations in China, they are selling on the domestic market. The foreign exchange swap vendors have facilitated that.

In the past, if you sold on the Chinese market, you were given local currency, and there was nothing that you could really do with it. That is changing, to the benefit of foreign investors in China.

At the moment, as we pointed out in our report, in the Chinese economy demand is down and retail sales continue to slide. Foreign investors are going to do no better than domestic enterprises at this point.

U.S. TRADE DEFICIT WITH CHINA

Senator BINGAMAN. Well, I guess my question—and maybe it is too vague a question to get much of an answer to, but my concern is that as we go through 1990, our country will continue to have a significant trade deficit with China, and at the same time, the demand for foreign goods with China will continue to grow dramatically, and that demand will be met by Taiwan, Korea, and Japan, and to an extent, the Europeans, and to a much lesser extent, by the United States.

And I was just wondering if that is—maybe I should break that down, and say, first of all, do you agree with Mr. Denny's statement, which I understood him to make in the previous panel, that he anticipated that we would have a significant trade deficit with China for the balance of 1990, or at least for a substantial period.

Mr. ZINSER. Yes, I think that is a fair statement. There is a good indication that the Chinese look at the U.S. market as their best export market in the 1990's. We are more open than most countries.

And I think that the Chinese are probably concerned with the EC integration coming in 1992, that they may have a tougher time selling there, and that they may have a tough time selling in

Japan. So they are looking at the United States as their export growth market.

Now, if you look at the other side of the equation as our Senior Economic Analyst says, they do seem intent on keeping import controls very tight. There will be some limited product lines where we can be very competitive, and show some export growth; energy related projects, and transportation related equipment.

They still will probably have a high demand for U.S. grain and agricultural related products.

Senator BINGAMAN. I guess here is the concern. If in fact we are going to continue to run a deficit for the foreseeable future, and a significant deficit, and it is 2 to 1 basically with China, Mr. Perkins also said that he thought during this same period that they would not run a surplus overall, and so someone is going to be selling an awful lot, and it is not going to be us.

Are there things that we should do in our policies to try and correct that circumstance? I mean—

Mr. ZINSER. Well, I think that is a good question, and from our vantage point, I don't think we are the appropriate people to recommend policies, but I can certainly say that as far as the competitiveness of firms trying to sell exports to China goes, they will be affected by the willingness to offer concessionary financing, and some West European governments have been aggressive in that, and that will give them in some product lines an edge.

Now, the quality of U.S. equipment, and the ability to service the equipment, and the ability to aggressively sell there—the ability to be price competitive, will all be important factors.

Senator BINGAMAN. Well, all right. I think that this is very useful, and we appreciate it. We may have some additional questions if we get a chance and spend a little more time with your report.

Mr. PETERSEN. We welcome the opportunity, Mr. Chairman, to respond to any questions that you might have.

Senator BINGAMAN. We appreciate it, and we also, I gather, we have some meetings set up in the next month or two, to discuss what other information you folks can put together on any of the rest of the Pacific Rim countries, and that is an issue of particular interest to me, and something that we wanted to try and get better information on if we could, and the economic situation both in Japan, and in some of those other newly industrialized countries.

Mr. PETERSEN. OK.

Senator BINGAMAN. We will continue to talk to you about that.

Mr. PETERSEN. We would welcome the opportunity. Thank you very much.

Senator BINGAMAN. Thank you all very much. We appreciate you testifying, and doing the report. We will conclude the hearing.

[Whereupon, at 12:13 p.m., the subcommittee adjourned, subject to the call of the Chair.]