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ALLOCATION OF RESOURCES IN THE SOVIET UNION AND CHINA—1984

HEARINGS

BEFORE THE

SUBCOMMITTEE ON INTERNATIONAL TRADE, FINANCE, AND SECURITY ECONOMICS

OF THE

JOINT ECONOMIC COMMITTEE
CONGRESS OF THE UNITED STATES

NINETY-EIGHTH CONGRESS

SECOND SESSION

AND

NINETY-NINTH CONGRESS

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NOVEMBER 21, 1984, AND JANUARY 15, 1985

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ALLOCATION OF RESOURCES IN THE SOVIET UNION AND CHINA—1984

WEDNESDAY, NOVEMBER 21, 1984

CONGRESS OF THE UNITED STATES,
SUBCOMMITTEE ON INTERNATIONAL TRADE,
FINANCE, AND SECURITY ECONOMICS
OF THE JOINT ECONOMIC COMMITTEE,
Washington, DC.

The subcommittee met, pursuant to notice, at 10:05 a.m., in room SD-562, Dirksen Senate Office Building, Hon. William Proxmire (vice chairman of the subcommittee) presiding.

Present: Senator Proxmire.

Also present: Richard F. Kaufman, general counsel.

OPENING STATEMENT OF SENATOR PROXMIRE, VICE CHAIRMAN

Senator PROXMIRE. This is a classified hearing.

The subcommittee will come to order. In my letter to Director Casey inviting testimony in this year's hearing on the allocation of resources in the Soviet Union, I asked that there be some discussions of the apparent economic recoveries taking place in those two countries and the recent defense spending trends. In fact, it has been barely noted in the press that economic performance in the Soviet Union has improved since the beginning of 1983, despite frequent references in the West to the stagnation and nearly insurmountable domestic problems facing the Soviet leadership.

Considerable attention has been paid to the resurgence in China and the apparent links between economic reforms and improved performance in the country.

There are important and welcome developments and interest in them is well placed.

On the other hand, it would be foolish to ignore what is happening in the Soviet Union. If there is a recovery, we need to know that, and we need to understand as best we can, the reasons for it.

Too often, Americans seem to be interested only in the bad news about the Soviet economy. Economic setbacks often make the news, while economic successes seem to be ignored. The problem with this attitude is that it distorts our comprehension of what is going on in the Soviet Union and may also affect our policies.

The last thing we want to do is to underestimate the economic strength of the Soviet Union, our potential adversary.

A part of the bad news phenomenon seems to be that a lot of attention is paid to reports of the Soviet military buildup, especially when it can be shown that defense spending is increasing. Evidence

that portions of the Soviet defense budget may be declining, that there has been little, if any, growth in military procurement since 1977, and that the overall rate of growth of Soviet defense has slowed appreciably has not generally been noted in Washington.

I want to welcome Robert Gates, Chairman of the National Intelligence Counsel and Deputy Director for Intelligence of the Central Intelligence Agency.

Mr. Gates, if you will introduce your associates, you may proceed to your presentation, and then I'll have some questions.

STATEMENT OF ROBERT GATES, DEPUTY DIRECTOR FOR INTELLIGENCE, CENTRAL INTELLIGENCE AGENCY, ACCOMPANIED BY JAMES NOREN, CHIEF, SOVIET ECONOMY DIVISION; JOSEPH LICARI, CHIEF, ECONOMETRIC ANALYSIS DIVISION; AND DEAN CARVER, ANALYST, CHINA DIVISION

Mr. GATES. Thank you, Senator Proxmire.

Let me begin by expressing my pleasure at being invited again to testify before this committee.

I am accompanied today by Joe Licari, Chief of the Econometric Analysis Division of our Office of Soviet Analysis, James Noren, Chief of our Soviet Economy Division in that office, and Dean Carver from our China Division of the East Asia Office.

I'd just like to say at the outset that I appreciate the Senator's generosity and willingness to reschedule this hearing until today because of a conflict, and also apologize for the lateness with which we got the prepared statement to the committee. We were attempting to take into account, up to the last minute, remarks made by General Secretary Chernenko at last Thursday's Politburo meeting.

This marks our 11th year that we have reported on military and economic developments in the U.S.S.R. and China. In our testimony over the past few years, we have indicated that the Soviets have been passing through a period of especially low growth, as a result of disruptions in industry, transportation, and a series of poor harvests. We reported economic growth had fallen below 2 percent for 3 consecutive years, 1979, 1980, and 1981, in part, because of these disruptions, but also because of longer run trends involving slow growth in the labor force, rising raw material costs and sluggish productivity trends. This growth rate compared to 5 percent in the late 1960's and early 1970's.

ASSESSMENT OF SOVIET ECONOMY

We have submitted to your subcommittee a prepared statement for the record detailing the economy's performance in 1983–84 and reviewing Soviet spending on defense, investment, and consumption during this period.

In brief, the Soviet economy in 1983, and so far in 1984, has been performing somewhat better than it did in the late 1970's and early 1980's. GNP growth in 1983 was about 3 percent, reflecting gains both in agriculture and industry. Industrial output will register another good gain this year, although there are some signs that the pace has weakened. Because of problems in agriculture, however, particularly a disappointing harvest, overall growth of GNP in 1984 will drop back closer to 2 percent.

The better performance on average over the last 2 years leaves us with a mixed outlook for the rest of the decade. On balance, we continue to believe that overall GNP growth for the rest of the decade will remain substantially below the relatively high rates of the late 1960's and early 1970's. This will provide tthe leadership with little relief, as it searches for ways to devote more resources for both defense and consumption without sacrificing industrial modernization.

I would like first to summarize performance in the major sectors, then examine the factors which contributed to the mild recovery, and last, discuss the reasons that we believe that the rest of the decade will still be characterized by slow growth.

PERFORMANCE IN MAJOR SECTORS

Turning specifically to agriculture, farm output rose by about 6½ percent in 1983, largely as a result of the rebound from 1982's poor showing. Nevertheless, the value of agricultural output in 1983 was only 5 percent greater than the previous record achieved in 1978, and we expect no growth in agricultural output in 1984. The USDA estimates that grain production in 1984 will only be about 170 million tons, 25 million tons below its estimate for 1983. As a result, the U.S.S.R. will probably import at least 45 to 50 million tons of grain during the 1984–85 marketing year, of which as much as 20 million tons will come from the United States.

Industrial performance was mixed. The increase of 3.4 percent in industrial production in 1983 was the highest since 1977, but still far below the 6-percent growth registered in the early 1970's. Growth at about the same pace seems likely this year.

The most significant improvement has been in sectors producing industrial materials. These industries faltered in the last half of the 1970's and early 1980's, but recovered partly in 1983 and 1984, for reasons that I will detail in a moment.

Unlike industrial materials, growth in the fuel industry as a whole continued to fall. The combined output of fuels in terms of value added to GNP grew by only about 1 percent in 1983–84, compared with 2 percent during 1979–82. Oil production may decline for the first time since World War II. Through October of this year, oil output was running about 100,000 barrels per day below last year's pace. Coal production also continues to fall slowly. A partial offset to the coal and oil pictures, as it has been in recent years, is the robust growth in gas output, which should grow about 10 percent this year. The electric power sector also has enjoyed a resurgence.

Meanwhile, planners must be distressed by the failure of the civilian machinery sector, the key element supporting investment, to rebound along with the rest of the economy.

In contrast to the mixed showing in industry, the one area of major improvement has been the foreign trade sector. The Soviet hard currency position has improved steadily since 1981–82 and by mid-1984 was quite solid.

REASONS FOR IMPROVED PERFORMANCE

Why has measured economic growth outside of agriculture apparently turned up in the 1983–84 period after several years of poor performance? The answer is crucial for our future assessments of the Soviet economy. If the better performance resulted from temporary influences, we don't have to alter our basic judgment that economic growth of around 1½ to 2½ percent a year is likely throughout the remainder of the decade. If the improvement resulted on the other hand from fundamental changes, then our estimate of future growth needs upward revision.

In our view, the modest improvements we have seen over the last 2 years do not reflect success in dealing with fundamental problems such as slow labor growth, rising resource costs, and basic shortcomings in the system of organization and management. First and most obvious, improved weather in 1983 and 1984 aided the economy. A series of bad winters in the late 1970's and early 1980's led to excessive demands for electric power and disrupted transportation. Plants were idle waiting for raw materials to be produced and transported to them, and this, in turn, adversely affected other sectors.

In contrast, the better weather in 1983–84 eased the strains on the economy. Agricultural production surged in 1983. Transportation benefited from fewer weather-related interruptions, the demand for fuel eased and allowed electric power generation to expand and support the recovery. Just as the negative effects and bottlenecks had spread throughout the economy during the poor years, so breaking them produced the opposite effect, allowing production to run more smoothly and downtime to be reduced. The discipline and anticorruption campaign initiated under Andropov, which was most recently reaffirmed by Chernenko last Thursday, has compelled greater efforts from both labor and management. Spot checks of enterprises for unauthorized leave and other disciplinary methods have paid off in an increase in the average number of hours actually worked per person.

Management changes have also been a significant factor in the turnaround. In rail transportation, a sector which seems to have suffered from especially lax leadership during the Brezhnev era, the new minister of railroads not only tightened discipline, but also instituted several new programs such as requiring enterprises to repair damaged freight cars. Finally, a tougher line with those involved in bringing new plant capacity on line seems to have yielded dividends. Commissionings of new plant capacity in 1982 and 1983 increased by a hefty 5 percent each year, up sharply from the late 1970's. Industries producing industrial materials received some of the new capacity, helping to ease bottlenecks in the industries relying on them.

The faster growth in new plant capacity was, in turn, helped greatly by a leadership decision to push investment markedly above plan levels. We estimate that new fixed investment in the first half of the 1980's will rise by roughly 20 percent compared with 1976–80, almost double the planned growth of 10.4 percent.

The savings from the slowdown in military procurement growth *that I discussed* last year probably were crucial to this decision, be-

cause machinery production and weapons production compete for many of the same raw materials and industrial capacity. I should note, however, that increased investment, especially in machinery production, will pay dividends in terms of long-range military programs and procurements.

One way to look at the recovery is that it has not been primarily the result of faster growth in the labor supply or industrial plant and equipment, but rather a reflection of improvements in the apparent productivity with which available labor and other resources were used. Overall productivity in industry, for example, increased in 1983–84 after several years of steady decline. Much of this stabilization is an echo of the factors I've already cited. The breaking of bottlenecks and improved supply of raw materials helped productivity by permitting greater utilization of available capital stock and labor force in industry. Similarly, the regime's crackdown on poor worker discipline seems to have generated higher labor productivity by reducing the time spent off the job.

ECONOMIC OUTLOOK

Turning to the future, can the Soviet economy's better showing be sustained in the years ahead? On balance, we think the GNP growth in the next year or two probably will remain the 2- to 3-percent range. This estimate reflects primarily a judgment that industry and other key sectors outside of agriculture will continue their improved growth performance of the last 2 years, and an assumption that agriculture will recover modestly. Because year-to-year movements in GNP depend heavily on agricultural output, growth could be outside this range on either the higher or the lower end if the weather is unusually good or bad next year or in 1986.

Even when looking out only a year or two, a number of uncertainties cloud the picture. Whether the labor discipline campaign has run its course is a major question mark, although Chernenko apparently so far has been able to sustain momentum created by Andropov. Continued progress in eliminating bottlenecks and raising utilization rates will also be necessary but won't be easy. The railroads, for instance, continue to operate at near capacity, and serious transport snarls could resurface at any time.

The stronger showing of much of the economy in 1983 and 1984, even if it continues another year or two, would not, in our view, foreshadow a significantly higher rate of growth over the longer term than we have indicated in our past testimony.

All things considered, we believe Soviet economic growth will average only about 1½ to 2½ percent per year in the second half of the 1980's. We believe that the special factors that helped in 1983 and 1984, like improved weather and the discipline campaign, will be difficult to depend upon or sustain in the future. Moreover, the gains from partial relief of some bottlenecks in areas like transportation and industrial materials will have to be expanded.

Meanwhile, the more fundamental factors that have constrained growth since the late 1970's continue to intensify. Additions to the working age population will be lower in the next several years than at any time since the early 1960's. Growth of the Soviet stock

of plant and equipment is expected, at best, to hold steady at recent levels, despite some improvement in investment growth.

Meanwhile, the costs of industrial and agricultural materials are likely to continue to rise. Even though the Soviet Union is endowed with enormous raw material reserves, the cost of exploiting them has risen sharply as the more readily available sources are depleted. According to Soviet officials, for example, the investment for drilling needed just to maintain oil production at its current rate during the next 5-year plan will be at least double the investment expected under the current plan.

Economic growth will at the same time be held back by the U.S.S.R.'s highly centralized system of planning and management. Indeed, the greatest potential for economic gain over the longer term continues to lie in economic reform. Nothing in Chernenko's background or past pronouncements, however, indicates an inclination toward bold systemic change. After almost a year in office, the General Secretary has largely carried over the very limited programs of the previous administration.

The inflexible Soviet system continues to contribute to the U.S.S.R.'s technological backwardness. The gap between the U.S.S.R. and Western countries continues to grow in technologies not directly confined to weapon systems. The Soviets have been particularly unsuccessful in stimulating advance in the technologies that underlie the resurgence of western productivity growth—microelectronics, computers, robotics, and advanced materials. They concentrate on copying Western developments, and only a massive program for acquiring Western technology has prevented them from falling even further behind. I would note that just recently in a Soviet physics journal several leading Soviet scientists advised the Academy of Sciences that the U.S.S.R. is lagging "well behind the West" in this area.

The most important of the reform programs carried over from the Andropov regime is the so-called "economic experiment" introduced in January 1984 on a limited basis. The experiment gives enterprise managers more latitude to spur productivity by using investment and wage funds. Soviet planning officials have characterized the experiment as a proving ground for measures to be introduced later throughout the economy as a whole. They already have expressed satisfaction with its preliminary results. Our assessment is that the experiment is too limited to have much potential for improving industrial performance. The limited success cited so far is probably more the result of the priority given to the needs of the participating enterprises than to the new operating procedures themselves.

RESOURCE ALLOCATION

Despite some gains over the last 2 years, the competition for resources remains tight. The last two leadership changes created some opportunities to adjust policies, but trends in investment, consumption and defense can change only slowly.

New fixed capital investment is taking a slowly rising share of the national product. This suggests it has received a somewhat *higher priority recently*. Investment increased at an average

annual rate of more than 4 percent during 1981–83, and the 1984 economic plan calls for a similar increase. The decision to undertake more investment in plant suggested that Soviet leaders decided they could not wait for the productivity gains on which the 1981 to 1985 plant relied. With respect to consumption, General Secretary Chernenko, like Andropov before him, has shown concern for the welfare of the Soviet consumer through the investment and foreign trade policies he has supported. To shore up the availability of quality foods, Moscow has continued to import large quantities of agricultural products. About one-third of Moscow's total hard currency outlays were spent in 1983 on agricultural imports.

The Soviets also have stepped up construction of new housing, with the increase in 1983 representing the largest in more than 20 years. Still, consumption levels in the U.S.S.R. have risen only slowly in the 1980's. Per capita consumption, for instance, dropped in 1982, and increased by only 1.5 percent in 1983. Our preliminary estimate is that consumption gains in 1984 will be greater than in 1983, in part because of a substantial rise in meat production.

Turning to defense, as I discussed last year, the U.S.S.R. has experienced slower growth in defense spending. From 1976 to 1982, outlays on military programs increased on the average by about 2 percent a year. This rate was about half that of the previous decade. Growth slowed in most categories of defense spending, but the main source of the reduction in growth was a leveling off of military procurement.

It is important to note, however, that the level of Soviet procurement spending remained throughout well above present U.S. spending levels. Soviet expenditures remain high enough to permit the defense establishment to continue to modernize its forces and enhance substantially its military capabilities. For example, even though procurement expenditures were roughly flat for several years after the mid-1970's, Soviet military units received more than 1,100 ICBM's; 700 SLBM's; 300 bombers; 5,000 combat and interceptor aircraft, including MIG 23's and 27's; 15,500 new tanks, including the T-72 and T-64 tanks; substantial numbers of major surface combatants, nuclear-powered ballistic missile submarines, and attack submarines.

When speaking last year about the slowdown in Soviet procurement growth after 1976, I offered several explanations, including policy decisions, technical difficulties, manufacturing constraints, and industrial bottlenecks. Despite much effort since then, we are still not able to establish a clear picture of events during this period.

We do know, however, the procurement slowdown lasted at least 7 years—from 1976 through 1982. This plateau has arguably lasted too long to be the result, exclusively, of bottlenecks and technological problems. We believe that had this been the case, we would have seen signs that the leadership was committing the additional resources needed to resolve the economic difficulties constraining military procurement. The absence of such signs points to a leadership decision either to hold procurement growth down or not to commit the additional resources needed to resolve economic difficulties constraining them. Certainly, judgments about both the state of the Soviet economy and the military balance with the

United States during that period would have been factored into these decisions.

Even if the leadership put a temporary, though high cap on military procurement, unanticipated factors clearly complicated the picture. For example, modern Soviet weapons embody ever higher levels of technology. The Soviets could be experiencing some difficulty in developing and manufacturing new weapons. We also know that the shortages of key materials and transportation problems that affected much of Soviet industry, especially since the mid-1970's, also spilled over into the defense sector. Despite the traditional priority accorded to defense, it become more difficult to isolate defense totally from these economic disruptions.

What about defense spending in 1983? [Security deletion.] While we have at best only very preliminary estimates for 1983, they do suggest some growth in procurement last year. [Security deletion.] This upturn in procurement could be a harbinger of the return to faster procurement growth. I want to say, however, that our estimates for 1983 are tentative for two reasons. First, for some very expensive systems [security deletion] we must allocate the final production costs over several years, based on estimated completion dates. If our estimate of total costs or the completion date is inaccurate, we will have to revise the estimated costs for such systems that have been allocated to 1983.

Second, for some other new systems, we have to estimate production rates based on our projections of Soviet deployment objectives. If the system is deployed in smaller numbers than anticipated, our current estimates of procurement costs for such systems in 1983 would have to be revised downward. We have repeatedly had to make such revisions in recent years. These revisions have reduced or eliminated apparent spending upturns.

As always, statements by Soviet leaders leave much room for diverse interpretation on the spending issue. In a speech to the Politburo last week, Chernenko indicated that the 1985 annual plan would allow for a strengthening of the country's defense capability. We don't know whether this indicates an intention to resume or sustain procurement growth. Such rhetoric is not unusual for a Soviet leader. Moreover, as I've already mentioned, the Soviet Union has been able to strengthen its defense capability by a significant amount, even with the slower spending trends of recent years, and they certainly could continue on that same course.

With the economy and defense spending both growing more slowly since the mid-1970's, the share of GNP allocated to defense has remained at 13 to 14 percent, in our view, or considerably higher than the comparable 7-percent figure for the United States. This measure of burden, however, does not capture the full impact of defense on the Soviet economy. Some key industries must devote especially large shares of their output merely to support defense programs. For example, more than 25 percent of all machinery production is allocated to military procurement, even though procurement is no more than 7 percent of GNP.

In the process, resources are denied to the civilian sector that otherwise could be used to promote economic growth through investment or to bolster consumer morale by improving the standard of living. The military has priority access to the highest quality

raw materials, to transportation and the distribution of raw materials, to the best industrial workers, to the national pool of research and development talent, and to the best and most advanced machinery.

Additionally, there are other areas of Soviet expenditure—subsidized weapons sales, support for surrogates such as Vietnam and Cuba, dual-use production facilities, and others—that constitute part of the national security burden not accounted for in our statistical calculations.

Obviously, however, the improvements in industry that I discussed earlier provide the regime with somewhat more leeway to commit more resources to defense without reducing allocations to consumption and investment. Nonetheless, we continue to believe that Moscow's room for maneuvering in choosing among military and civilian claims on resources will be severely limited, given the prospects for slow economic growth.

OUTLOOK

The Soviets have released little information about their plans and policies after 1985, but we do know that the Soviet leaders have already adopted two very expensive programs for the 1986-90 5-year plan—the food program and a long-term energy program. The investment cost of the food program could run as high as 265 billion rubles, suggesting that agriculture's priority will not be downgraded. Indeed, at a recent special Party Plenum devoted to agriculture, Chernenko announced ambitious output and investment goals for land reclamation, calling success of the food program critical to the leadership's effort to raise consumer welfare and productivity.

Investment in energy is also likely to be an enormous drain. At a minimum, we expect the investment in the energy complex to total 170 billion rubles, an increase of 28 percent over the planned investment in 1981-85.

Although the Soviets have announced no official target for total investment during the 12th 5-year plan, there are indications that investment may continue to increase at the current rate of growth—about 4 percent a year. Anything less, assuming they go ahead with the food and energy programs, would put a severe crimp in the amount of investment resources available for other essential areas, such as machine building.

Overall, in our judgment, the leadership will probably attempt a precariously balanced policy of at least some growth in living standards, slowly increasing allocations to new plant and equipment, and some growth in resources committed to defense. This is, in fact, our judgment of the content of Chernenko's speech last week.

Certainly, the pressure to step up defense procurement must be strong, but a decision to increase the rate of growth of defense spending has to be a tough one. Our analysis indicates, for instance, that even at current rates of growth of investment and defense spending, per capita consumption would only grow by 1 to 1½ percent a year through 1990. Obviously, any shift toward de-

fense would endanger even these modest improvements in the consumer's situation.

THE ECONOMY AND FOREIGN POLICY

Continued economic growth in the 1½ to 2 percent range is unlikely, on its own, to force major changes in Soviet foreign policy. We do not see economic problems at home, for example, motivating the leadership to undertake high risk adventures abroad that are designed to distract an unhappy public or produce economically beneficial geostrategic breakthroughs. The slowdown in economic growth will have its most serious external impact in Eastern Europe, which currently receives most Soviet economic and military aid. Further reductions in the deliveries of some fuels and raw materials from the U.S.S.R. are likely and could cause new political and economic strains to develop in Eastern Europe.

The economic slowdown will also affect Soviet policy toward the Third World. In general, Moscow is likely to become more parsimonious, except where political and military strategic factors outweigh economic considerations, as in Cuba and Vietnam.

With respect to U.S.-U.S.S.R. relations, though we don't believe that Moscow can rely on increased imports as a general solution to the resource pressures in the economy, the Soviets will have a continuing incentive to obtain U.S. grain and state-of-the-art technology in such key areas as energy and agricultural technology. Moscow will find the United States attractive as a source of grain because of its unique year-round capacity to deliver large volumes of grain quickly. Large-scale U.S. assistance also would be helpful to Moscow in maintaining oil output and developing arctic offshore resources. Meanwhile, Soviet decisions on arms control are likely to continue to be driven primarily by calculations of political-strategic advantage and the dynamism of weapons technology.

In sum, the picture of the Soviet economy that I have described today is clearly a mixed one. We have seen modest improvements in industrial performance since 1982, but the last few months may signal the end of this recovery. GNP growth is down somewhat in 1984, after a significant improvement last year, but much of this decline can be attributed to problems with agriculture.

The defense procurement plateau I identified last year continued through 1982, but preliminary figures suggest an upturn last year. This could be a reflection of a Soviet decision to commit some of the recent growth dividend to defense. However, we clearly need a year or so of additional data to firmly establish the existence of a new trend.

Turning now to China.

Senator PROXMIRE. Before you turn to China, I'd like to ask you some questions on the Soviet Union. Then we'll go on to China.

DEFENSE BURDEN AND PROCUREMENT

Before I get into the questions I've prepared, I notice in your presentation this morning you have the statement:

> Important to note, however, that the level of Soviet procurement spending remained throughout well above present U.S. spending levels.

Then you say:

With the economy and defense spending both growing more slowly since the mid-1970's, the share of GNP allocated to defense has remained at 13 to 14 percent or considerably higher than the comparable 7 percent figure for the United State.

Now I notice in the CIA's comparison of Soviet-United States gross national products, you have the gross national product in 1983 at 55 percent of the U.S. GNP. That would suggest that the defense spending is about almost exactly the same in the United States and the Soviet Union. In other words, say, take 13½ percent as their growth, as their burden, and 7 percent for us. It's just about equivalent as far as defense spending is concerned. Now procurement is just one part of defense spending, but it seems to me, in view of our substantial increase in procurement in the last 3 or 4 years, that it would be unlikely that they would be spending a great deal more, that Soviet procurement would remain throughout well above present U.S. spending levels.

Mr. GATES. Let me make one general comment and then ask Mr. Licari to pursue this.

The statement refers to a several-year period. The level of Soviet procurement spending remained throughout well above present U.S. spending levels. We are talking here, essentially, of a cumulative figure for 1976 to the present rather than just single year figures. We're talking about the cumulative advantage that the Soviets have had in spending during that period.

Let me ask Mr. Licari to pursue that.

Mr. LICARI. I think the best way, Senator, to answer the question is to go directly to the issue of comparing defense spending. I think, in a sense, trying to reach it from relative burden and relative GNP levels rounds out the differences. We do have, obviously, direct estimates of defense spending.

Senator PROXMIRE. They're a little fogged up by the fact that you no longer have dollars to rubles; right?

Mr. LICARI. We still do the calculations.

Senator PROXMIRE. But you don't make them available.

Mr. LICARI. They have not been published in a research paper since about a year ago, but certainly, the calculations are done. The analysis is done, and continues to show spending gaps, whether it is in dollars or in rubles. Those yearly differences, as you're implying, tended to come down over time, because of the faster rise in U.S. defense spending than Soviet, but over a 10-year period, which is a better measure, I think, of a commitment to defense activities, there is a substantial difference between the Soviets and the United States in the commitment of resources to defense activities. That long-term difference remains through 1982.

Senator PROXMIRE. It would be most helpful to me, if you could give me some notion, other than a generalized statement, that the level of Soviet procurement spending remains above U.S. spending levels.

Roughly, how much higher is the Soviet Union defense procurement spending today than the United States spending, in your calculations?

Mr. GATES. We are least comfortable and least confident using single-year comparisons.

[Security deletion.]

MILITARY TECHNOLOGY

Senator PROXMIRE. Now you warned us, there's a great difference in the technological capability of the United States and the Soviet Union. In other words, our weapons may be more accurate, they may be less vulnerable, they may have other qualities that provide some advantage. So that the fact that they are spending [security deletion] more for procurement and [security deletion] more overall, including personnel, would not necessarily tell us that they have a stronger military force.

I'm not asking you whether anybody can tell us that, of course. That's a matter of all kinds of value judgments, but I take it that in view of our technological advantage, I would assume that that might diminish whatever advantage they have, or maybe even completely eradicate any advantage the Soviet Union has.

Mr. GATES. That would not be our view, Senator. My statement was that the gap between the U.S.S.R. and developed Western countries continues to grow in technologies not directly confined to weapons systems. I think our view would be that in a variety of weapons systems, Soviet technology is equal to or even surpasses that of the United States. The accuracy of their best missiles, the quality of their best tanks, the quality of some of their air defense equipment and a variety of other equipment that the Soviets have is at least as good as our equipment.

MISSIONS

Senator PROXMIRE. In view of that statement, let me ask you if, for the first time, I can find a witness from any administration, and it's been a long time, as you point out, 11 years—I have yet to find anyone who would say that they would trade our position for the Soviet position, in the sense that we would gain an advantage in doing so. In other words, when I ask overall, whether it's a defense secretary, or whether it's the head of the Joint Chiefs of Staff, whether they would trade our position for theirs, they'd say no.

Mr. GATES. I certainly would not want to put myself in the position of commenting on U.S. forces, but I would just point out that one factor involved in that may be the very different missions of the two forces, in that our forces are designed to meet our needs and the Soviet forces are designed to meet their mission needs. We certainly don't have a Chinese border on which we have to keep 45 to 50 divisions.

DEFENSE SPENDING TRENDS

Senator PROXMIRE. Let me ask you some other questions.

As I understand your statement, there is evidence of some acceleration in the rate of increase in defense spending for 1983. The trend toward slower growth of about 2 percent yearly has now extended from the beginning of 1977 through 1983 and throughout this period, with the possible exception of 1983, there has been approximately zero growth in procurement; is that correct?

Mr. GATES. Yes, sir.
Mr. LICARI. Yes, sir.

UNCERTAINTIES IN ESTIMATES

Senator PROXMIRE. Is it true that the most recent year in your annual estimate of Soviet defense spending is the most tentative, because of uncertainties about the lack of uncompleted production? I should say the level of uncompleted production, or are there other reasons for the lack of confidence in the current estimate of last year's spending?

Mr. GATES. One of the problems with these estimates of Soviet defense expenditures, historically, has been that the data are least satisfactory for the most current year. It is the analytical and methdological problems that grow out of the fragmentary nature, the less than complete nature of the information for the most recent year, that makes us most tentative about this. We have always believed, and frankly, one of the caveats we have always attached to these estimates is that they are much better indicators of broad trends over time than precise measures of year-to-year movements. The best use is in terms of trends and overall spending comparisons among different elements of the Soviet military.

What we are trying to flag with our 1983 estimate is a possible reflection of a combination of industrial recovery, new systems that we think they are preparing to move into the field and continuing expansion of production facilities. We think we may see the first signs of a change in the trend that we were talking about for the late 1970's and early 1980's.

What we are trying to do for the Government at this point is register these early indications of a change in that trend. Beyond that, I wouldn't frankly want to get very specific.

Mr. LICARI. Excuse me, Senator. I might add one point on the problems with the methodology, since you did mention that. You were asking if the issue of uncompleted construction was a primary reason behind the uncertainty in estimates for the most recent year, 1983. That certainly is a big factor in the area of ships and boats, of course, where construction costs have to be phased over a number of years.

There is another element which is also a factor, and that is that production rates for some new systems for the first year or two are inferred from judgments about the ultimate deployment objectives—this holds for missile systems, aircraft systems, and so forth. Those ultimate deployment objectives have to be worked back into estimated production for the first year or so.

There are these two factors, I would say that are problems with the methodology.

RECENT REVISIONS

Senator PROXMIRE. You mentioned that the current estimate for spending in the past year has been revised downward recently. Does that mean that in each of the past 5 years or so, you overestimated growth in procurement spending and later determined that there was no growth, and can you provide us with the correspond-

ing figures, and can you also explain why the initial estimates tended to be on the high side?

Mr. LICARI. I'd say, in general, the initial estimates were higher than the final. In several years, final growth may have been at 1 percent or so, but in general, for the last 2 or 3 years, we have seen the initial estimates for a year come down a bit with additional information. Primarily, this reflects the cost phasing issue and the projected deployment aspect of the methodology.

Senator PROXMIRE. Mr. Kaufman will follow up on that.

Mr. KAUFMAN. Earlier, Mr. Licari, the statement was made by Mr. Gates that the apparent increase in spending for 1983 suggests that for the first time, there may be evidence of a change in the trend of spending. But you just said that in the past several years, you initially identified increases, apparent increases in defense spending, which later had to be revised downward.

Isn't it possible that this same phenomenon will occur again, and that what is being identified now, as far as 1983 spending is concerned, will next year be viewed as not a change in the trend?

Mr. LICARI. There are two things I'd mention on that. One thing, certainly, is the economic recovery that we seem to be talking about lasting the last couple of years. It provides the industrial basis for improved growth in procurement, if that was, indeed, a decision. So there is a new factor underway here, that wasn't, I'd say, part of the story a year or 1½ year ago. So it may be that we now see the industrial component of an upturn in procurement growth that wasn't there a couple years ago.

I think there's also an element of our estimation process that we've been working on the last couple of years that tends to reduce some of this uncertainty in talking about a recent year like 1983. One of the problems in talking about the most recent year is that, in a sense, it's affected greatly by projections. As I mentioned, this is especially true for projections of large naval systems, and also projections of deployment rates for new missile and aircraft programs. We've tried to improve that projection process by bringing together analysts who are not only experts on the military issues regarding future deployments, but also analysts who are tracking the Soviet economy and industrial capacities.

Senator PROXMIRE. Isn't there another element that I think is perhaps the most dynamic of all, as far as we're concerned? In the last few years, we've built up our military forces, and as a member of the Appropriations Committee, as well as the Joint Economic Committee and the Defense Appropriations Subcommittee, I find that whenever the argument is being made by any administration for buildup, they say, "Look at what the Soviet Union is doing? They're building up. We have to match them. We have to surpass them. We can't fall behind."

Isn't it very likely that they'll be saying exactly the same thing?

Here we have a situation, whereas we point out our procurement has increased over the last 3 or 4 years, it would be unusual if they were indifferent to that, and didn't react to it at all? It would seem to me that the natural reaction on their part would be to resume that buildup?

Mr. GATES. That certainly would be one of the factors behind *what we describe,* the strong pressures for an increase in procure-

ment, but I would point out that during the period when the United States was not growing, particularly in the 1970's, that that did not at all affect the Soviet rate of growth. In fact, the Soviet rate of growth in defense spending remained quite high, so that at a time when the U.S. rate of growth was declining or very small——

Senator PROXMIRE. I'm not saying it's the dominant force. I'm just saying that there are a whole series of forces here that could do it. One of them could be their reaction to what we're doing.

Mr. GATES. That certainly, I would think, would be one factor, but I would just like to add to what Mr. Licari has said in terms of these uncertainties and emphasize a couple of his points.

What we have behind our assessment of 1983, and which represents a potential change in the pattern we have been observing, is not only new rigor in our estimates that we think reduces the uncertainty somewhat, but also the industrial recovery that he talked about that is likely to yield a dividend, if you will, for military spending. But finally, unlike the last couple of years, we now have some very major systems, for example, in the strategic arena that are now ready for deployment and that almost certainly will drive the strategic forces spending up; by how much, it's hard to say. So there are a number of new systems moving into the field now and vigorous growth in some other systems that are likely to be driving some of these costs up.

PROCUREMENT PROJECTIONS

Senator PROXMIRE. Is it also true that you expected procurement spending to increase in the late 1970's and that you were wrong? Procurement for strategic systems?

Mr. LICARI. I'm not sure that it was for strategic systems. I did a retrospective myself yesterday looking at the development of this procurement analysis over the last couple years, and our paper published in 1980 did look for an upturn in procurement in the late 1970's and early 1980's, and the paper published a year later made a similar judgment.

So you're accurate, Senator, is saying that at one time, the analysis did look for an upturn in procurement in the late 1970's or early 1980's. In fact, that was why it was not until last year that we discussed a procurement plateau. It was not until last year that we had enough data to define a plateau, as opposed to a procurement cycle of a year or two or three.

AFGHANISTAN

Senator PROXMIRE. Of course, that plateau could have been affected, maybe not, but could have been affected by the drain of the Afghanistan invasion. That undoubtedly accounted for much of their activity, since they were so involved in that. Perhaps they had to slow down the procurement with that in mind.

That started, what, in 1978?

Mr. GATES. 1979. At the very end of 1979. My own view is that it probably would not have exercised much of an influence. We calculate that Afghanistan—correct me if I'm wrong—is costing them on the order of a little over $1 billion a year.

Mr. LICARI. That's for additional costs.

Mr. GATES. Beyond ordinary military expenses.

REASONS FOR SLOWDOWN

Senator PROXMIRE. I notice that you concluded that the procurement slowdown was in part due to a policy decision, at least to the extent that older generation weapons were not kept in production of new systems not produced at catchup rates. You go on to say that Soviet leaders in the mid-1970's may have viewed the external threat as manageable and a high level of procurement as enough.

Is it possible that with regard to strategic forces, they determined that they had obtained or would soon obtain parity with the United States, and that parity could be maintained without increasing the level of effort within this area?

Mr. GATES. My view is that by the end of the 1970's, the Soviets calculated particularly in the strategic arena that not only had they achieved parity, but in some respects had surpassed it and had, through a decade and a half of strategic developments, put themselves in what they regarded as a satisfactory position vis-a-vis the United States. It was a position that included advantages for them, in numbers of submarines, numbers of ICBM's, and in some other areas, as well.

I do not believe that the Soviets in the late 1970's looked around them and said, enough is enough. The large R&D programs and the expansion of their production capabilities which we've seen over the last several years that began well before an increase in U.S. defense spending, cannot support any conclusion, in my view, other than that the Soviets have very ambitious plans for continuing to modernize, improve, and expand their forces.

STRATEGIC MISSILES

Senator PROXMIRE. But they slowed down, in fact. Your figures show that while all military services share in the reduced spending growth, the strategic rocket forces took a disproportionate share of the slowdown with an absolute decline after 1977.

Does that lend support to the view that there was a decision to stretch out strategic missile production or to produce missiles at a somewhat slower rate?

Mr. GATES. My own view is, not necessarily, because the Soviets, by the mid to late 1970's, were completing the deployment of the gereration of ICBM's that we see in the field now, the SS-18's, SS-19's and the SS-17's.

Senator PROXMIRE. We're talking about the level of effort. They completed what they wanted, and they didn't push on.

Mr. GATES. That's exactly right. They deployed the most modern generation of weapons that they had, and at the same time had other ICBM's in development to replace those. I believe that would have happened, irrespective of what the United States did.

CONVENTIONAL FORCES

Senator PROXMIRE. In the period 1977 to 1983, did procurement spending for conventional forces grow? If so, at what rate?

Mr. GATES. We do not have that, Senator. We could provide it.

Senator PROXMIRE. You'll provide it for the record?

[The following information was subsequently supplied for the record:]

During the period 1977-83, Soviet spending on conventional forces—measured in 1970 rubles—grew an average at about one-and-a-half percent a year. This was less than half the rate of spending growth estimated for these forces during the previous 10 years. Despite the relatively slower growth rates in spending on conventional forces since 1976, the Soviets still procured sizable numbers of new, more capable conventional weapons. These include:

New models of self-propelled atillery, some nuclear capable, and about 15,500 new tanks, including the costly T-72 and improved T-64 models.

More than 30 major surface combatants and some 70 attack submarines.

About 5,000 fighter aircraft including the Mig-23/27 Flogger fighter.

DIA ESTIMATE FOR 1983

Senator PROXMIRE. In June of this year, the Defense Department announced a preliminary estimate of Soviet spending shows an increase of 5 to 10 percent in procurement for 1983 over 1982.

Have you discussed your findings with those announced by the Pentagon, which I assume were produced by the Defense Intelligence Agency, that is, they're now in agreement with your estimate?

Mr. LICARI. Senator, as you know, we certainly discuss regularly the work that we do on defense spending with the Defense Intelligence Agency. We have discussed in detail with them their estimate that was published in May or June of last year. We reviewed it carefully.

Senator PROXMIRE. May and June of this year, you mean?

Mr. LICARI. Yes, May and June of this year. Our own estimate for 1983 which we discussed today is so new that, while they're aware of it, we haven't discussed it in great detail with them.

One of the problems, of course, is making comparisons of DIA's work with our own. There are certain areas we can compare and certain areas we can't compare. We can compare order of battle and physical production data. It's often difficult to compare costing. The comparison exercises that we've gone through in the past suggest that our historical data bases give very similar cost trends.

Senator PROXMIRE. Well, both DIA and CIA make their estimates in dollar terms; right?

Mr. LICARI. No, that's not true.

Senator PROXMIRE. How about the June estimates?

Mr. LICARI. This is part of the comparison problem. DIA's estimate in June was in terms of dollars. We've been discussing ruble estimates most of this morning, because that's the basic way of looking at it from the Soviet perspective. We know historically, based on the work that we have done in both rubles and dollars, that a ruble estimate will grow somewhat faster than a dollar estimate, for a number of theoretical reasons.

We looked closely and compared our estimate with DIA's, in terms of physical production data. There are certain elements of their production data for 1983 that we would take issue with. Therefore, I'd say, on a production basis, we have some disagreements with DIA in terms of what they see for production in 1983.

Senator PROXMIRE. May I ask Mr. Kaufman to follow up on this?

CIA AND DIA ESTIMATES COMPARED

Mr. KAUFMAN. Mr. Licari, as I understand the estimates you're presenting today, although they are given in ruble terms, they're based on the same methodology that produced the dollar estimates in the past; isn't that correct?

Mr. LICARI. It's the same methodology that produced our dollar estimates, but it is not exactly the same methodology that DIA used in June. The DIA estimate in June of this year was based on costing approximately 150 Soviet systems, which account for approximately 50 percent of procurement in costing and dollar terms. The estimates we're discussing this morning reflect a complete fiscal estimate for procurement and other elements of defense activities for 1983 in ruble terms.

So the DIA estimate works off of partial production data in dollar terms, and they did not make the translation from dollars to rubles.

Mr. KAUFMAN. If you presented your estimates of the rate of growth for 1983 in dollar terms, would they be any different than what you gave us in ruble terms? In other words, in dollars, was there a 2 to 3 percent increase in procurement last year?

Mr. LICARI. Based on our historical experience in comparing dollar and ruble estimates, I would say a comparable dollar estimate would be no higher than 2 or 3 percent.

Mr. KAUFMAN. The point that Senator Proxmire was making is that the DIA, in June, was saying that their dollar estimates showed at least on a preliminary basis a 5 to 10 percent increase in procurement for 1983.

Your estimate shows, either in rubles or dollars, according to your statement, a 2 to 3 percent increase, and there is that disparity in the two assessments.

Mr. LICARI. That's correct.

Mr. GATES. If I may add, though, one of the things again that seems to me important in this is to go back to the statement that I made about identifying trends and the dangers of using these specific figures in any kind of absolute sense. Just as we and DIA identified what appeared to be a flattening of procurement, although we differed in some degree on that, we are both also calling attention to what we both see as indications of a departure from that pattern from 1977 to 1982, some upturn again in the level of procurement in Soviet military spending. And so it seems to me that it's that essential signal that the analysis that both agencies have undertaken and come up with, that is more important than what we and DIA, I think, would regard as our highly tentative specific figures for 1983.

DOLLAR COST ESTIMATES

Senator PROXMIRE. Why is there no presentation of the dollar cost estimates of Soviet defense? Is it correct that the ruble estimates you have given us are based on the dollar estimates?

Mr. GATES. Senator, when I took this position 3 years ago, I brought to it, based on a career of working on Soviet problems, some fundamental misgivings about some of the CIA's work on costing of the Soviet defense effort.

My misgivings concerned not the quality of the people involved, or the methodology, but more fundamentally, two things: First of all, the very different natures of the Soviet and American economies, and the way that we go about our business on military spending; second, what I regard as probably a lack of sufficient data to be able to make accurate comparisons. Because I am not an economist, I convened a panel of outside experts including some of the leading experts on Soviet economics in the United States.

I asked them to take a look at CIA's work, across the board, on this issue. I asked them to talk to all of the critics that they could reach, both those who think we estimate too high and those who think we estimate too low, and to give me their recommendations in terms of what ought to be done about our defense estimates, our estimates of Soviet defense spending.

They came back with a number of recommendations for improving the effort.

They fundamentally endorsed the effort. They thought a great deal more attention should be paid to the ruble estimate, and they also, I might add, recommended a significant addition in resources to work on this problem.

But perhaps their strongest recommendation concerned their view, after talking to a number of people in the Department of Defense and here in the Congress, about the misuse of CIA's estimates on Soviet defense spending, by the Department of Defense, by Members of the Congress, and so on.

They were concerned, and their strongest recommendation was, that CIA take a much more aggressive role in trying to prevent misinterpretation and misuse of those estimates.

Last year, we tried to do this with the dollar cost paper, by beginning it with something like six or seven pages of caveats warning people about the limitations on the value of those calculations, and about the dangers of reading too much into any specific figure, whether it's a single-year defense cost or a percentage figure or whatever, that the value of these estimates rests in their estimation of trends, signaling changes in trends, and levels of effort among different forces.

Those caveats did very little good. We still have the same problems that we have had in the past.

As a result, and given my substantive misgivings about the comparison of these two defense efforts—because it is so much a matter of mixing apples and oranges—I went to the Director, and it was at my initiative, and proposed to him that we not do the dollar costing paper, that we would continue to do the dollar costing work because it supported much of our work on ruble costing, but that the main effort that we should undertake should be to try and get a better picture of the burden on the Soviet Union, because our comparisons have become political figures.

When we began getting involved in comparing United States and Soviet defense spending, the figures themselves became political, and diverted attention from the longer range trends and problems that we were trying to point out in the Soviet system.

When I inquired of our people——

IMPORTANCE OF ESTIMATES

Senator PROXMIRE. Let me just interrupt to say, you know, I know you deplore that, and I appreciate your great concern for precision and exactitude, but that's what we have to do. That's why we want the figures. That's what we want to know about them.

We want to compare their effort with our effort, and that's the value of the figures. It's nice to just sit there and speculate about whether they're getting bigger, smaller, or whatever, but we're concerned with what we should do, as policymakers here. We have a responsibility, so that the President should decide how much we should spend on resources, military resources, whether we should go ahead with weapons systems, whether we should increase procurement or decrease procurement, or maintain the same level.

And of course, the relevance of this information is to that decision. We have to make some kind of judgment somewhere along the line about how they compare with us.

DEPARTMENT OF DEFENSE AGREES NOT TO USE DOLLAR COST ESTIMATES

Mr. GATES. Senator, I certainly don't disagree with that at all. My concern, though, is, as the person responsible for putting together some of these figures, that it seems to me—aware of the shortcomings of these statistical calculations, and the differences in the two systems—that those kinds of decisions are better made on the basis of what the two sides have, on the capabilities of their military forces—how many tanks do they have, how many ships do they have, how many missiles do they have, and what are the capabilities of those systems—rather than some analytical construct that has some significant shortcomings.

In any event, I made the recommendation to the Director that we approach the Department of Defense, ask them, or tell them, in effect, that we would not be doing the dollar-cost estimate, and asking them that they not use dollar-cost estimates in their various publications, such as the posture statements and so on.

The Secretary of Defense agreed to that. Our effort is, in fact, to try and get a better handle on the burden on the Soviet Union, and we at the same time will continue to provide all of the information that we can, all the information that we have, to the Congress in terms of Soviet military capabilities and the systems that they have.

ESTIMATES NECESSARY TO MAKE COMPARISON

Senator PROXMIRE. Isn't it correct that without dollar estimates it would not be possible to make direct comparisons of the United States and the Soviet military spending on an aggregated or disaggregated basis?

For example, if I wanted to know who is spending more for bombers or surface-to-air missiles, wouldn't I need to have dollar estimates?

Mr. GATES. If you want to address the question of spending, that is accurate. But again, it seems to me that the more accurate comparison would be between how many they are buying and how many we are buying, what the capabilities of those aircraft are,

what their production capabilities are, and what their deployment patterns are.

It's a far more realistic assessment, it seems to me, of the relative needs.

Senator PROXMIRE. The only way we can know the resources going into this, and compare them, is with dollars. Dollar to dollar.

Mr. GATES. I don't think that that's true, in the sense that we can give you a very good estimate of the production capabilities of the Soviet Union for a given bomber, how many they're building, how many they are deploying, what the capabilities are.

Senator PROXMIRE. But not the resources in dollar terms?

CHANGE IN TRENDS

Let me just proceed. A disturbing aspect of the decision to withhold the dollar estimates is that they are being withheld just at the time when they no longer seem to indicate the trends that favor the Soviet Union. In the past, much has been made of the fact that the dollar-cost trends showed an even greater disparity between Soviet and United States spending for overall defense in various categories of spending, such as tactical aircraft, defense and strategic weapons, and the like.

Won't the decision to withhold dollar costs be interpreted as a victory for the Pentagon to suppress information that does not support their request for a larger budget?

You can see why the Secretary of Defense would support that.

Mr. GATES. The Secretary of Defense may have supported it. Some of his subordinates who have used these figures did not, and are unhappy about the fact that they're not being provided, and are still trying to fight that battle, if you will.

It seems to me if we had wanted to do this, to try and help the Department of Defense, we'd have done it last year, not this year.

Last year was the first year that we pointed out the plateau in procurement. Last year was the year that we talked more concretely than ever before to this subcommittee and to the administration about leveling off rates of growth and procurement, and Soviet military spending, over a period and a time when the political atmosphere in this country, if you will, was even more highly charged than it was now.

In fact, we are here with evidence that suggests that that pattern may have begun turning around. This would not have been a negative year, necessarily, from the standpoint of the Department of Defense, for us to do this, precisely because of these tentative indications we have that the Soviet procurement may be growing again.

Senator PROXMIRE. Only 2 or 3 percent, compared to our much higher percentage increases.

Well, I hope you understand, Mr. Gates, that I am not criticizing you personally, or your Agency's cooperation with the subcommittee.

As you say, this is the 11th year. You have been very forthcoming for a long time, and we greatly appreciate it. These have been most helpful hearings, as this one this morning is.

Would you be willing to make the dollar-cost estimates available to the subcommittee so the staff may examine them and report back to us?

Mr. GATES. Yes, sir. We will provide the subcommittee dollar-cost figures that we have.

Senator PROXMIRE. Thank you, sir.

[The information to be supplied for the record was a security deletion.]

IMPROVED ECONOMIC PERFORMANCE

Senator PROXMIRE. Now, you have discussed the factors that contributed to Soviet economic growth in the past 2 years, including improved weather and the discipline campaign, relief from raw material shortages, more effective management, better worker morale. Can you apply weights to these factors?

What's the most important?

Mr. NOREN. Senator, let me attempt to answer that. I think perhaps the most important factor in the improved performance of industry is the achievement of greater balance in the economy. In the early years, 1979, 1980–1981, and 1982, Soviet industrial capacity was working considerably below capacity. Perhaps the rate in some instances was 80 percent, 85 percent.

Senator PROXMIRE. Could you explain what you mean by "better balance"?

Mr. NOREN. Better balance. Industry was working below capacity because it was not receiving its raw materials, as we tried to indicate in the prepared statement; it was not receiving raw materials on time, the transportation and electric power problems——

Senator PROXMIRE. So relief from the raw materials shortages through improved transportation and so forth?

Mr. NOREN. Now, the weather was an important part of that, but I think we also have to give credit to the planners for not only raising the rate of investment, but also reallocating some of the investment to some of the troubled sectors. As a result, there was some resurgence, as we said, in electric power. The transportation sector received some help.

As a result of all of these factors, there was more balance in the economy. Industry received its raw materials, and you had the industrial recovery in 1983, which is continuing in 1984.

Senator PROXMIRE. Thank you, sir.

WEATHER

In the past, some CIA analysts have concluded that the 1980's would be a poor weather decade. Does the Agency still believe this?

Mr. GATES. There is, of course, Senator, a school of thought in Russian affairs, or Soviet affairs, that would suggest that the Soviets are now going through their 67th consecutive drought, given their agricultural problems. Frankly, we believe that the Soviets have to consider that at a minimum, statistically, at least 1 year out of 3 is going to be a bad one for them in terms of weather. At some points, it's worse than that.

One of the more interesting discussions of the effect of weather on Soviet or on Russian and Soviet agricultural production, is the

chapter in a book by Richard Pipes, "Russia Under the Old Regime," which lays this out in more historical terms.

In terms of whether we thought that the 1980's would be a worse period than the late 1970's—Jim, can you address that?

Mr. NOREN. In a chapter in one of the Joint Economic Committee compendiums of a few years ago, you may recall that we estimated that the spurt in growth in agricultural production in the early 1970's was the result of more than usually favorable weather, and that that probably would not continue.

Indeed, it did not continue. In fact, during the entire period from 1977 through 1981 or 1982, the weather was not favorable to agriculture. There has been considerable debate about the conclusions of that JEC paper that would seem to indicate that the weather through the 1980's would continue to be less favorable than it was in 1965 to 1975.

As a matter of fact, we have some studies underway looking in great detail at the weather patterns during the past decade. We will reach a judgment on that, I assume, in another year or so.

BOTTLENECKS

Senator PROXMIRE. According to your statement, the Soviet Government began to focus on transportation and raw material bottlenecks early in the 1981–85 plan. Apparently, they were successful to some extent.

What specifically was done to alleviate the bottlenecks? What actions were effective?

Mr. GATES. Based on what I have read, one of the most significant steps they took was to fire the head of the railroads in the Soviet Union and replace him with someone better.

I mentioned also in the testimony that the enterprises were given responsibility for repairing railcars when they arrived at those enterprises in damaged condition. Those were a couple of things that helped.

Maybe Mr. Noren can add some others.

Mr. NOREN. The improved weather in 1982–83 certainly helped transportation, as Mr. Gates has mentioned. Not only was the Minister of Railroads removed, but a number of the chiefs of the main administrations were fired. There was some reallocation of investment in favor of the railroads, and all these things put together permitted the railroads to recover somewhat.

ENERGY

Senator PROXMIRE. The Soviets have made progress in a number of oil and gas pipeline construction projects and the unified electric power grid system. You talk about a big improvement in gross national product because of their improved energy situation.

Is it possible that a critical mass has been achieved in improving the energy infrastructure and that they are now better able to manage their energy resources?

Mr. NOREN. They have made considerable progress in unifying the electrical grid system, and that enables them to save some investment. We also indicate in the testimony that we do not think that the energy outlook is all that favorable. We point out that the

rate of growth of energy production is now down to about 1 percent per year compared to 2 to 3 percent or even more in the 1970's. So we think they are managing their energy situation, but there is very little slack.

Senator PROXMIRE. Will energy be a constraint or will it not be a constraint in economic growth for the rest of the decade?

Mr. NOREN. Last year we pointed out that we had changed our view about energy being a constraint in the sense of limiting production. Since then, I think the outlook for oil production is perhaps a little less favorable than we thought then. On the other hand, they have made some progress in energy conservation. We think that the primary effect of the U.S.S.R's domestic energy position will be on foreign trade. We think that they will have less oil to sell abroad, forcing them, if they want to sustain some growth in the hard currency position, forcing them to market gas for hard currency.

Senator PROXMIRE. Thank you, Mr. Noren.

TECHNOLOGY GAP

You conclude, Mr. Gates, that the gap between the Soviet Union and the developed West continues to grow in technologies not directly confined to weapons systems.

Is there any way to measure quantitatively this gap or conclusions about it based on impressions and anecdotal evidence?

Mr. GATES. It really is a combination of both. We have some capability to estimate Soviet production of things like robots, industrial robots, the capability to produce computers, particularly smaller computers, more sophisticated computers, microelectronics, and so on. So we have a pretty good fix on it, and I might add, that as we improve our own capabilities in this area and resources are dedicated to this, we'll probably have a better picture of their production in these areas.

In addition to that, we have a notion of first of all, the size of the imports in these areas, the purchases that they're making of robots from Japan, and so on. We also have a good deal of anecdotal information about their own perceptions of their backwardness in these areas. And the point, really, is less to highlight the problems of the Soviet economy, than it is to illustrate that as a developed country, the Soviet Union is probably losing ground, as countries like the United States and Japan, France and others, move ahead into a world of industrial robotics, microelectronics, personal computers, and so on, that are just totally foreign in the Soviet system at this time. And in an information-based society, their capability or their recognition of this problem and ability to do anything about very much at this point seems very limited.

So their prospects, in terms—as a competitor, particularly economic competitor, seem fairly grim, in my view.

Senator PROXMIRE. It just seems to me, if they're having such difficulties with robotics, microelectronics, and computers, that that's bound to have an adverse effect on their military capability.

Mr. GATES. What we're really talking about, particularly when compared to the West and Japan, is the diffusion of these things throughout the society. We don't have any indication that they are

having problems acquiring adequate numbers of most of these kinds of things to meet their basic needs.

Senator PROXMIRE. Nevertheless, it would seem that in the long run, computers and robotics, particularly, are so essential in maybe 10 or 15 years from now, in improving productivity throughout the machinery section of the economy, that it will have some effect on their defense capability.

Mr. GATES. That certainly is true, and I think that's one reason why we see them turning to such substantial imports of these items. It's interesting, the limitations they seem to recognize in their ability to produce these things indigenuously, so what they can buy, they're buying. And in some of these areas, what they can't buy, they're stealing.

SOVIET TRADE WITH EASTERN EUROPE, CUBA, AND VIETNAM

Senator PROXMIRE. In your statement, you say you don't believe the Kremlin will have much success in reducing net exports to Eastern Europe.

Does that mean implicit subsidies to Eastern Europe and also to Cuba and Vietnam will not be substantially reduced, and their efforts to force these countries to pay their debts to the Soviet Union and reduce their trade deficits and accept world market prices will not be successful?

Mr. NOREN. During the past 4 years they have reduced deliveries of oil to some of the East European countries. As a result of the working of the price formula that governs prices charged, Eastern Europe has also been paying more for the Soviet raw materials. In other words, the terms of trade have been turning against Eastern Europe.

What we're saying is that we don't think that the Soviet Union can afford to cut back across the board on its exports of raw materials to Eastern Europe, and in some cases, it probably has already agreed to allow some increase. We think, however, that the trade deficits that have been a common occurrence in the past will, for the most part, be eliminated. We don't believe, on the other hand, however, that the Soviet Union will want to—well, it may want to, but will be unable to obtain repayment of East European debt to the U.S.S.R.

Senator PROXMIRE. How about their subsidies and their military assistance to Cuba? Are they likely to continue that, do you feel? Or is it possible that they'll reduce them?

Mr. NOREN. Well, military assistance, I believe—is an area that I'm not that familiar with. I believe that that will not be affected. There are some signs, in terms of the subsidies, economic assistance to Cuba, that the Soviets are, in fact, being a little harder.

Mr. GATES. If I may add, the evidence that we have suggests no decline in the amount of economic or military assistance to countries such as Vietnam and Cuba. What we see is some evidence of Castro, for example, seeking considerably more aid and the Soviets being very tough in terms of significant additions to the levels of aid they're already providing.

Senator PROXMIRE. How can they reduce their trade deficits, if they don't have much success in reducing net exports to Eastern Europe?

Mr. NOREN. If I said that, I misspoke. I said that the terms of trade had moved against Eastern Europe, which meant that the exports by the Soviet Union to Eastern Europe had leveled off. In turn, the East Europeans were being forced, because of the increases in prices, to deliver more goods to the Soviet Union, and, in fact, in the latest CEMA summit, the plans for the next 5 years seems to be for the Soviet Union to demand more in the way of advanced machinery, including some of the robotics and advanced technology that we're talking about earlier, but also, consumer goods.

SOVIET TRADE WITH THE WEST

Senator PROXMIRE. I understand the Soviets have not indicated which way they will go with respect to trade with the United States, other than with grain.

Can you explain this present Soviet policy and the prospects for trade with the West and the United States. Also, will you discuss, whether, in your view, progress in arms talks would influence Soviet policies toward trade with the United States.

Mr. GATES. Let me address generally, then see if Mr. Noren would like to add anything.

I think, in general terms, the Soviets are trying to encourage expanded trade with the West. They would like to sell more gas to the Europeans. They would like to buy more advanced machinery and technology from the West, or if they can't buy it, obtain it in other ways, as I mentioned.

Overall, trade with the West and with Japan, although occasionally costly to the Soviet Union, certainly serves their economic needs. In fact, some of the improvements in 1983 and 1984, may be due to some of the imports in Western technology that they have obtained.

There are some areas, obviously, that involve particularly high technologies, where they are looking to the West, whether it's petroleum exploitation or some of these more advanced technologies that we were talking about earlier.

I think that overall Soviet policy is worked out in economically sensible terms. In other words, they do not want to get themselves into the same economic bind that Poland did by getting too much in debt to the West. At the same time, I think they would like to have as much trade as possible. They would like it to be trade on terms that does not require them to spend hard currency.

Senator PROXMIRE. Does that mean increased trade with the United States?

Mr. GATES. I think the Soviets would very much like to increase trade with the United States, in part, or primarily to obtain these technologies, and so on. But I think their experience over the last 10 years has led them to the conclusion that their longer range interests are probably better served by trade with Western Europe and Japan, in part, because the terms are often better. And also,

they find it is easier, often, to obtain technologically advanced items from these countries.

Senator PROXMIRE. That might have military applications?

Mr. GATES. Yes, sir.

Senator PROXMIRE. That's unfortunate. That's something we've been working on.

Mr. GATES. In terms of what impact arms control, or whatever, might have on trade, I think essentially that those two aspects of the relationship are very separate in the Soviet mind. Obviously, any improvement in relations, the Soviets would see as contributing to an atmosphere in which they might have greater access to those technologies, but I think, fundamentally, they see them as quite separate.

Jim, would you like to add anything?

Mr. NOREN. I don't think I could add a great deal to that. In the past 9 months to a year, the Soviets have certainly signaled that they're interested in increasing trade with the United States, but in these indications, they refer to the better terms that they could get from Western Europe and Japan. They refer to their desire to receive most-favored-nation treatment from the United States. Most of all, they talk about arriving at some sort of arrangement whereby the deliveries of the products they buy can be guaranteed.

INFLUENCE OF THE MILITARY IN THE SOVIET GOVERNMENT

Senator PROXMIRE. Mr. Gates, how do you assess the influence of the military in the Soviet Government, whether it has increased or decreased in recent years, in light of the defense spending trends, the demotion of Marshal Ogarkov and other recent trends?

Mr. GATES. To be perfectly honest, we have some real uncertainties in this regard. One of those uncertainties, I must say, starts with whether or not Marshal Ogarkov has, in fact, been demoted, or has, in terms of the Peter Principle, executed a lateral arabesque to become commander of a major command in the West, because of some disagreements, perhaps, over strategy.

I think that the role of the military depends, in part, on your view of the Soviet Union. There is, too often, a tendency in the West to try to divide the Soviet leadership into hawks and doves or factions like that, one of which lines up with the military and one of which opposes them, and so on.

I think a more accurate analogy and it obviously has shortcomings, as all analogies do, is to suggest that the Soviet Union is much like Sparta. Virtually the entire economy and society is organized in a way in which the military and its needs receive first priority. That doesn't mean they have exclusive priority. It doesn't mean that there isn't competition for resources, but by and large, when hard choices come to be made, the military's interests will be protected, and I believe that that is the reflection of a consensus in the Politburo. Now obviously, having someone like Defense Minister Ustinov on the Politburo, given his 40-some years of experience at senior level in the Soviet Government, gives the Soviet defense establishment a very powerful voice.

It is our view that particularly since the death of Secretary Andropov both Ustinov and Gromyko have had much greater free-

dom of action in their own spheres of influence in foreign policy and in defense matters, that the other members have deferred to them, and the General Secretary has taken a less open or strong hand in the activities of their respective undertakings. That is not to say that Ustinov is purely and simply the tool of the uniformed military, although he certainly represents their interests well.

In terms of overall influence then, my own judgment is that the Soviet military has a very powerful voice at the center. It has the support of virtually all the members of the Politburo, and it is essentially fine tuning that finds the Soviet military competing for resources with some of the other elements of the economy.

Senator PROXMIRE. Now let's get into the Chinese, if you'd like to present your presentation there.

Mr. GATES. All right, sir.

ASSESSMENT OF CHINESE ECONOMY

Much of what has happened economically in China over the past year-and-a-half reflects the successes and failures of Beijing's massive experiment with economic reform. The experiment, which has been underway since 1978, has touched virtually every sector of the economy. Under what China calls its "contract responsibility system," farmers now have effective control, but not ownership, of most of the acreage in China. Peasants determine, to a large degree, what and how much they produce.

Enterprises that formerly remitted all but a small share of their profits to the state now retain a much larger share.

Moreover, for the first time in over 20 years, individual entrepreneurs have been allowed to set up small businesses, such as restaurants, barber shops, and clothing stands, and actually to employ small numbers of workers.

PERFORMANCE IN MAJOR SECTORS

Economic performance in 1983–84, particularly in agriculture, looks quite impressive, statistically. Agricultural output jumped sharply as a result of both the contract responsibility system and the better-than-ever weather conditions. Grain output reached a record 387 million tons in 1983, and may top 405 million tons this year. Cotton production jumped 25 percent last year, to a record 4½ million tons. And another rise, perhaps as much as 10 or 15 percent, may be in the offing this year.

The energy sector provided Chinese policymakers with what was perhaps their most pleasant economic surprise of 1983–84, as primary energy output rose at about a 6-percent clip, the fastest pace in 5 years.

Oil production rose to 106 million tons in 1983, enabling China to export 15 million tons of crude, and output should hit a new record of 114 million tons by the end of this year.

Coal output topped 700 million tons last year, and probably will reach 760 million this year.

China's international financial picture also improved steadily over the past 18 months. International reserves now stand at more than $20 billion, the 10th largest worldwide, and China will run a fourth consecutive large trade surplus in 1984. Beijing has bor-

rowed very little over the past 2 years, and much of what it acquired came in the form of government-subsidized loans or money from international financial institutions at low interest rates. As a result, less than 6 percent of export earnings are required to service China's foreign debt.

The military has been asked to sacrifice somewhat for the tme being in order to help revive China's economy. Chinese budget statistics show defense outlays as a share of government spending falling moderately, from 17½ percent in 1979, during the border war with Vietnam, to 15.3 percent in 1982, and 13.7 percent last year.

Although data for 1984 are still unavailable, we believe the military expenditure figure remained at 13 to 14 percent of government spending.

The People's Republic of China figures probably understate total defense spending, but we believe they accurately reflect the recent trends. The military has so far accepted the need for sacrifice, with the understanding that as the economy improves the armed forces will be appropriately rewarded.

The statistics on industrial performance also appear quite respectable. Industrial production rose at an annual rate of about 11 percent over the past 18 months.

DEFENSE BURDEN

Senator PROXMIRE. Can I interrupt to ask: You have just stated that military expenditures may have slipped below 15 percent of government spending by now.

Mr. GATES. Yes, sir.

Senator PROXMIRE. Can you give us a percentage of GNP?

Mr. CARVER. We haven't done the same kind of costing things that our colleagues covering the Soviet Union have done. But we do have a GNP figure worked out in dollars, and I could sit down and crank a rough estimate out for you. The hesitations that the Soviet analysts have in doing this kind of thing are even more amplified in our group.

Senator PROXMIRE. Can you give us a ballpark figure? Would this be 10 percent of GNP, or 12, or 8?

Mr. CARVER. I will provide that information for the record.

Senator PROXMIRE. All right.

[The following information was subsequently supplied for the record:]

THE DEFENSE BURDEN

Beijing claims that it spent 17.7 billion yuan (about $9 billion) on defense in 1983. We calculate that China's GNP for that year was about $275 billion which yields a defense burden of only about 3.3 percent. CIA's military experts believe that the Chinese figure for military spending may understate actual expenditure levels by as much as 50 percent. Assuming this to be the case, the actual defense burden is probably closer to 7 percent of China's GNP.

Mr. GATES. An equally impressive performance has been achieved in their production of such consumer items as refrigerators, washing machines, fans, and TV's. Beijing has experienced some inflation, but at manageable levels of 5 to 8 percent.

In short, we estimate that China's real GNP grew about 8 percent last year, and even sharper growth of 9 to 11 percent can be expected this year.

Despite the impressive statistics, Chinese leaders have become increasingly dissatisfied with the industrial sector. When reforms were first introduced in 1978, it was not industrial growth that the government was interested in. In fact, Beijing said it would willingly sacrifice shortrun growth if, through reform, it could make its enterprises more efficient.

In this area, China has failed. Its domestic enterprises continue to be among the world's most inefficient, using, by some estimates, up to 3½ times more energy to produce a unit of output than the average less-developed country firm.

At the same time, energy shortages presently idle 20 percent of China's industrial capacity. Raw material consumption is also high, and has shown almost no sign of coming down.

The state calls for reductions in per-unit consumption of raw materials, have been answered instead by increases. Then, too, the quality of China's output remains very low. And labor and capital productivity have failed to improve under initial reform efforts.

Finally, when China released its grip on the industrial decision-making process, it also gave up some of the control it once had over macroeconomic activity. In the wake of that move, China has been forced to accept five consecutive budget deficits totaling more than 55 billion yuan, about $25 billion.

NEW REFORMS

Runaway local investment drained both capital and raw materials away from high priority infrastructure projects, and mounting price pressures showed up in budding black markets, speculative activity, and rising free market prices. For a while, the problems associated with the early reforms threatened to overshadow the agricultural gains. In the 1981 to 1983 period, China's Communist Party strenuously debated the question of reform. The argument revolved around whether to move rapidly ahead with new reform measures or to cut back on market-orientated practices in favor of tighter controls and more reliance on comprehensive state plans.

Earlier this year, however, party advocates of reform moved into a predominant position. As a result, the drive to restructure the economy has accelerated.

At the same time, the emphasis has shifted away from agriculture, where the results have been good, to industry, where little real progress has been made. By late June, Chinese economists publicly were calling for experiments with such market-oriented practices as forcing state banks to compete against each other, allowing enterprises to issue stock and bonds, and were even advocating reform of the price system. Such proposals would have been labeled heretical 5 years ago.

In early October, the state council issued provisional regulations on improving the planning system—a detailed document calling for, among other things, a major overhaul of China's complex planning bureaucracy. The meeting of the Third Plenary Session of the

12 Central Committee on the 20th of October firmly committed the party to economic reform.

The Plenum approved a document on the reform of economic structure that reiterated all the elements of earlier reform efforts, and went further than any previous document on important questions such as price reform. In essence, the party committed itself to a comprehensive restructuring of its economic apparatus, that, if fully implemented, will permit free market regulation in China to a much greater degree than elsewhere in the socialist world, with the possible exception of Hungary.

Why is the party now prepared to make such a massive assault on its urban economic problems?

First, the waste and inefficiency that characterized the industrial sector has reached intolerable proportions. Heavy industrial sector warehouses now store more than $10 billion in unusable machinery, while Chinese factories continue to produce mostly 1950 and 1960 vintage equipment. Chinese mills continue to produce large quantities of low quality steel but most industries complain of major shortages.

Then, too, the weakness of the urban economy began impacting on the agricultural sector. A hugh surplus of grain is presently accumulating in the countryside because the urban commercial system is incapable of transporting it to points of need. At the same time, consumer goods are not reaching the countryside in quantities sufficient to meet rural demands.

Beijing also chose to move now because it believes it is well positioned economically to survive the problems that will inevitably arise from the planned overhaul. Agriculture, foreign trade, and energy are all performing well above expectations.

Finally, and perhaps most importantly, the reform wing of the party is eager to push ahead while the 80-year-old Deng Xiaoping is still active and at the peak of his power.

Because this accelerated drive at industrial reform is in its infancy, assessing its chance for success is difficult. We can say, however, that implementation will be very tough. Major economic problems will begin surfacing immediately as price adjustments work their way through the system.

Bureaucratic infighting is bound to increase as power is redistributed. Some party and state officials can be expected to resist the entire program, since they would tend to lose power if the reforms succeed.

Price reform is unquestionably both the most essential and the most troublesome element of the reforms. The Chinese economy is shortage driven, and even rumors of price adjustment can spark panic buying and bank runs. Many Chinese citizens remember the dislocations caused by hyperinflation in the late 1940's. They react rapidly and sometimes irrationally to announcements of upward price adjustments.

Beijing has also had a difficult task in determining what to do with the nearly 20 percent of state-run enterprises that are now losing money. Factory closedowns on such a large scale would mean unacceptable unemployment problems and industrial readjustments. But to permit continued operation encourages inefficiency.

Financial problems also will continue to plague Beijing. While China has many of the fiscal and monetary tools it needs to control the macroeconomy, it has little practical experience in their use. Given the difficulties that even industrial economies have in using these tools effectively, Beijing will probably be very tempted at the first sign of major problems to resort to what it knows best—direct control.

Finally, political opposition will continue to threaten the reform program, and it is the most difficult factor to measure.

The mounting economic problems will provide ammunition to party and state bureaucracies that are already resisting change. Nevertheless, we are cautiously optimistic that Beijing gradually will get a good percentage of the reforms into the pipeline, and that the new program will achieve a measure of success.

We are struck, for example, by the straightforward, nonideological approach contained in the Plenum document. Chinese leaders are keenly aware of both the economic and political obstacles they face. By allowing 5 years to get the program into place, Beijing is calculating realistically the tremendous problems it will face in implementation.

Beijing's willingness to launch a frontal assault on irrational prices also bodes well for success. Western and Chinese economists alike have long viewed the irrational price system as a major stumbling block to urban reform, but until this year, party bureaucrats viewed the potential danger of price reform as too high to warrant any major experiment.

It appears now, however, that these planners realize that piecemeal reforms in the absence of rational prices may be worse than no reforms at all. In addition, by letting individuals set up service-related businesses and handle commercial functions, Beijing has unleashed forces that could markedly increase the speed at which economic transactions take place. A more smoothly functioning economy is a likely outgrowth of such policies.

OUTLOOK

On the whole, then, we believe that the industrial reform program China has devised is workable and will accelerate economic gains, albeit at a slower pace than occurred following the early agricultural reforms. Some inflation is to be expected, though we do not believe Beijing will experience wildly spiraling prices. For this to occur, the Government would have to be willing to sustain increases in consumer demand by printing money, something this fiscally conservative Government is unwilling to do. In fact, we are more concerned that Beijing's fear of inflation will cause it to overreact to initial price changes by cutting back price reforms. Such a move could stall the entire reform program.

If China is successful at getting its reform program into place, there are several important implications for the United States. In our judgment, implementation of the reforms would both broaden and deepen China's ties with the United States and the West.

The emphasis on technological innovation at the plant level, foreign capital acquisition and increased joint ventures will expand investment and trade opportunities for U.S. and Western business.

At the same time, however, the reforms will aggravate some current problems in United States-Chinese relations. It can be expected that Chinese enterprises will continue to push for greater access to Western markets, and pressure on Washington to lower trade barriers probably will increase.

Similarly, Beijing will probably press harder on technology transfer in response both to its needs for economic and military modernization and the demands of its own enterprises. It is also likely that China will reduce its grain imports from the West, as its agricultural production continues to improve.

Beijing's success with economic reform could also prove to be a tempting example for other countries struggling with central planning. Beijing reportedly is already encouraging the North Koreans to learn from Chinese reforms and relax their tight control over the economy. As China's program proceeds, other countries, including some LDC's and even a few of the East European nations that China patterned its earlier forms after, may consider making wider use of market-oriented programs.

Having said this, I must conclude, still, on a cautious note. Several factors could derail China's reform program completely. For example, the death of China's 80-year-old leader would remove from the scene the most powerful advocate of reform. Deng's most likely successors are also deeply committed to reform, but in his absence, they probably would not be able to push the program to the extent he has done.

Other problems, such as a sharp upsurge in speculation and economic crime or several years of bad weather could, over the longer term also tip the political scales against reform and lead to retreat. Thank you.

Senator PROXMIRE. I appreciate that.

Both these presentations have been extremely good. And as Richard Kaufman just mentioned to me, this is a useful corrective for the feeling of Chinese euphoria, that they're going to be the Adam Smith free enterprise economy any day now. I think the note of caution is very welcome.

In your discussion of improvements and recent successes in Chinese agriculture, you say that improved weather and price increases have played an important role together with market-oriented rural reforms.

First, weren't the price increases part of the reforms, and second, can you assign weights to the roles of reform and weather in recent improved performance?

PRICES AND STRUCTURAL CHANGES

Mr. CARVER. There is some question about exactly what you include under the label of reform. The people in our shop who have examined the agricultural sector most carefully choose to distinguish somewhat between price adjustments, which China has tried periodically over the past 30 years, and the recent structural changes such as introduction of the contract responsibility system. The latter changes we are calling "economic reform."

Our experts believe that even if the commune system had been left in place, and the economic structure had remained basically as

it was, increased prices would have elicited an output response. Nevertheless, the freedom that the Chinese have given the farmer to make production decisions and to carry out those decisions has undoubtedly strengthened the output response.

As to how to weight each of these factors in terms of their impact on production, there is a great difference of opinion between experts both within our office and outside.

WEATHER

Weatherwise, the Chinese say that 1983 was in many ways the worst year they have had in some time. But, in terms of grain and cotton, they had the best harvest they've ever had. So there's some indication that weather, while it has played a role in this, is not playing as important a role as perhaps some people would think.

Senator PROXMIRE. It sounds like it might be playing a preverse role.

Mr. CARVER. In what sense?

Senator PROXMIRE. In other words, if they had these bounteous crops of wheat and cotton, and they had it in spite of bad weather, it sounds as if their reforms are more responsible than they would be, if the weather had been the same.

Mr. CARVER. I'm not sure that's the case. If the weather had been better, they might have received additional gains beyond what they achieved. What I think we can say is that the agricultural reforms are proving capable of generating production gains even under adverse climatic conditions.

We can start to say, sure, the weather's always been a factor, but the price adjustments, and the introduction of the contract responsibility system, are perhaps the major elements in this whole expansion we've seen in ag production.

Price reforms cannot be discounted. My feeling is, the price reforms have probably been at least as important as the contract responsibility system. The Chinese continue to rejigger prices, and they've seen just tremendous shifts in resources out of certain products and into other agricultural products, in very short order, with changes in prices.

PERCENTAGE OF POPULATION IN AGRICULTURE

Senator PROXMIRE. One of the most interesting contrasts between our country and the Soviet Union, and I presume, China, too, although it would be interesting to get your figures on this, is the enormous proportion of the Russian population that is in agriculture compared to this country.

Now the figures that I had a few years ago were that this country, less than 3 percent of our people were in agriculture, that is, were on farms producing, working on farms as their principal occupation, whereas, in Russia, it's closer to 30 percent, or was.

On China, I don't have any figures at all.

Could you bring me up to date on Russia and also tell me what the proportion of the people in China who are involved in food production is, that is, who are on farms?

Mr. NOREN. Perhaps 20 to 25 percent, I believe, of the labor force is now working in agriculture. It was 30 percent back in 1960.

Senator PROXMIRE. So they not only had a better crop year, but there's more productive work?

Mr. NOREN. This is in the Soviet Union.

Senator PROXMIRE. That's right. We were told by the CIA a few years ago that it was 30 percent. I remember I was so startled by the figure, it remained with me.

Mr. NOREN. I believe that figure for 30 percent refers back to 1965 and the 1970's. They've made considerable progress in reducing the labor force in agriculture through the late 1970's, they've made less progress since then.

Senator PROXMIRE. So it's about 20 to 25 percent now?

Mr. NOREN. Of the labor force working in agriculture.

Senator PROXMIRE. How about China?

Mr. CARVER. Eighty percent of China's population is in the rural economy.

Senator PROXMIRE. Eighty percent?

Mr. CARVER. Eighty percent—800 million people in the countryside. Some experts estimate that as much as 70 percent—this is the highest estimate—of this rural labor force is surplus labor, you could pull them off the farms without hurting production.

Senator PROXMIRE. What you're telling me is that you have about 80 percent of the people in rural areas, and they've mostly engaged in agriculture.

Mr. CARVER. At one time of the year or another.

Senator PROXMIRE. But about 70 percent of that 80 percent, or 56 percent of the population, to get a precise calculation, is surplus?

Mr. CARVER. That's the high figure, and as I say, it's a very rough figure, but I think it gives you an order of magnitude as to the size of the problem and to the potential if you could put those people into productive employment. The Chinese themselves say that by the year 2000 they hope to have this figure down to about 30 percent. Their goal is to have 30 percent or less of the labor force engaged in agricultural production.

Senator PROXMIRE. A big share of them are going to be unemployed.

Mr. CARVER. That won't take place. They're basically unemployed now, but they continue to receive a salary and are not unemployed in the Western sense of the word. China will not permit a large amount of Western style unemployment.

Senator PROXMIRE. Think how many people that is. That's between 500 million and 600 million people.

Mr. CARVER. Actually the figure is not that large because much of the rural population is too young or too old to be employed. Nevertheless there is a tremendous amount of surplus labor. All Beijing has to do is give many of these rural people the sign; that is, allow them to go into the city and set up barber shops, clothing stands, et cetera, and you immediately get an influx. They're already facing problems this way. Their system is not geared to having people move freely from point A to point B. As a matter of fact, it's geared to preventing people from moving from rural areas to urban areas. The government is trying to make changes right now that will allow part of this labor force, not to move to Shanghai and Beijing, but to move to small towns that they hope will form in the middle of these green belts.

BUDGET DEFICITS

Senator PROXMIRE. You mentioned the large and rising budget deficits starting in 1977, which forced cutbacks in investment and transportation.

What had been the trends in other areas of capital investment and what are the causes of those budget deficits?

That should be 1979. I beg your pardon.

Mr. CARVER. 1979 was their largest deficit. In 1979 and 1980 they had sizable decifits. The initial reaction to the deficits was to cut back government spending. At the same time they counseled their industrial sector to also cut back investment. They achieved the cutbacks in government spending, which came mainly out of major infrastructure projects. But in the private sector, what we would have to call the noncontrolled sector, there were big increases in investments.

Basically, there are several reasons for the deficits. Probably the most important is that when China adjusted prices, they raised procurement prices, meaning the state paid the farmer more, but continued to sell the grain to cities for exactly the same price that they did before. Of course this led to a tremendous subsidy.

Another factor was the readjustment in policy which shifted resources away from heavy industry to light industry. Heavy industry generated a large part of China's tax base, and when production began to slow down, and even decline, tax revenues fell. They had their expenditures going up at the same time their tax revenues were tapering off.

DEFENSE SPENDING

Senator PROXMIRE. You indicated in your prepared statement that Chinese do not reveal much about their defense spending.

Is it roughly as difficult to know what they spend, as it is to know what the Soviets spend? If so, doesn't that mean we know less about the Chinese military, in view of the fact that we place far less emphasis on gathering and assessing information about China's defense?

Mr. GATES. I think that based on Mr. Carver's earlier comments, we do have even greater uncertainties in the realm of Chinese defense spending than we do for the Soviet Union. By the same token, again, I would go back to comments I made earlier. Even so, we have a pretty good fix on the actual military capabilities of the Chinese, in terms of the forces that they have, the equipment that they have, their military research and development, the programs, the new weapons systems that they're developing, whether they're submarines or missiles, and so on.

Senator PROXMIRE. How about their strategic capability?

Mr. GATES. I would say that our capability there is probably the best of all.

Senator PROXMIRE. What's that?

Mr. GATES. I would say that our ability to accurately assess their strategic capabilities is probably the best of any aspect of their military.

Would you like to add anything?

Mr. CARVER. I think that's accurate.

As Mr. Gates said, we basically have a good feel for the direction, for the kind of sacrifice that the military has so far been willing to accept in the name of economic modernization.

STRATEGIC FORCES

Senator PROXMIRE. How does the Chinese strategic capability compare with the United States and the Soviet Union? Factor of 10? Factor of 20? And with France and the United Kingdom?

Mr. CARVER. I would say we should field that question and bring it back. Our military experts aren't here. My own feeling is that they're just not even in the same ballpark as the United States or the U.S.S.R., especially if you're talking about strategic weapons.

Senator PROXMIRE. I realize that. I realize they're not in the same ballpark as the United States and the Soviet Union, but I just wondered what the discrepancy is. Is it on the order of, as I say, 10? 20?

Mr. GATES. You're looking at a country where their strategic missiles can be counted in a few 10's.

Senator PROXMIRE. Compared with a few thousand?

Mr. CARVER. Their ships, we could add, are basically coastal ships. They are not a blue water navy.

Senator PROXMIRE. And their submarine fleet? Do they have nuclear weapons on their submarines? How about their air force? Does that have a nuclear capability?

Mr. CARVER. Again, we should really bring the military people in to talk to you more closely on that.

Senator PROXMIRE. You're going to give some of that to us?

Mr. GATES. We'll respond.

DEFENSE BURDEN

Senator PROXMIRE. Let me just pursue that question I asked a little bit earlier, just one more time. Maybe you can't give it to me directly, but it would be very helpful if you could make an approximation.

In a discussion of the Chinese defense sector, you indicated that the burden of defense has been reduced somewhat. I realize that you have no precise estimates of the proportion of GNP that go for defense, but can you say whether it is closer to the United States figure of 7 percent, or the Russian figure of 13 to 14 percent?

Mr. CARVER. My gut feel is that it would be much closer to the U.S. figure, and when I respond, I will be more accurate.

Let me say this: There's been a lot of fat in the Chinese military budget that's been cut out without really deleting too much of their military capability, as small as it is.

For example, they had a tremendous capital construction corps. That was part of their military budget. When they cut that military budget, that corps of people was freed up and sent back to private practice. China's military capability, however, was probably not severely hurt.

So our military people tell me that while the Chinese military has definitely sacrificed, we should not overstate the degree to which it has impacted on military capabilities.

The military continues to get a lot of technology. They have gotten into the business themselves of exporting military weapons, and this has been generating foreign exchange for them.

GNP

Senator PROXMIRE. On the last page of your prepared statement, you have a table showing selected economic indicators in China. You have the growth of the GNP and the gross value of industrial output, and so forth.

Can you tell me what their GNP is?

Mr. CARVER. Well, we do rough estimations of GNP on an annual basis, and have it in the neighborhood of $300 billion.

Senator PROXMIRE. It used to be about the same size as Italy's. Can you give me any countries that are about the same GNP as China?

Mr. CARVER. Not right offhand. Again, I can put that in for you.

Mr. NOREN. Senator, if I may add, you're correct, total Italian GNP in 1983 in U.S. dollars was $355 billion.

[The following information was subsequently supplied for the record:]

Comparing China's GNP With Major OECD Countries

[In billion of U.S. dollars]

United States	3,305
Japan	1,156
West Germany	655
France	[1] 543
United Kingdom	460
Italy	350
Canada	317
China	275
Spain	156

[1] 1982 figure.

Senator PROXMIRE. It's a little bigger now. Of course, they have grown more rapidly than just about any other major country, in GNP.

I notice you have a 7, 5.2, 3, 7.4, 9, and 10. Those are very, very healthy growth figures.

Mr. CARVER. Again, I don't think that's necessarily a good sign. The Chinese are not necessarily pleased at that. As we said in the prepared statement.

Senator PROXMIRE. Why?

Mr. CARVER. Their feeling is that what they really need is an improvement in efficiency. They continue to produce a lot of junk, basically, and the state continues to have to procure that stuff at high cost. Their warehouses are full and yet their factories are crying for better machinery, equipment, and steel.

So what China wanted was growth rates more in the neighborhood of four—well, their plans have been for anywhere between 4- and 6- percent growth. That's what they were asking for.

Senator PROXMIRE. Well, that's a good helpful modification.

ECONOMIC GAINS OVERSTATED

Your discussion of the problems of inefficiency and waste in the industrial sector suggests recent reports of Chinese economic success may be somewhat exaggerated. Do you agree that a big question mark remains as to whether China will overcome its economic problems and be able to maintain the pace of economic reform?

Mr. CARVER. That certainly is a key question. The press is overplaying how well the Chinese have done. The Chinese themselves have been very, very pragmatic, for probably the first time.

Senator PROXMIRE. Are you talking about our press?

Mr. CARVER. Our press, the Western press.

The Chinese themselves have been very, very pragmatic in saying: "We have done well in agriculture, but in the industrial sector, our performance has been bad." They recognize the weaknesses. Party members, for the first time are being told to prepare for problems that will inevitabley arise when reforms go into place. And to attack new problems not by labeling people as capitalists or something else but by trying new reform.

Senator PROXMIRE. I think that's pretty hard to avoid. We have an understandable, and, I think, a proper, bias in favor of free enterprise. I am sure all of you would agree with that.

So when they move toward a little freedom, we say, "See how well they're doing?" and we would like to feed on that as evidence of how superior our system is.

It is superior. But, I think we tend to overstate it.

Mr. CARVER. We should probably also say that in terms of the free enterprise, we feel that probably about 2 percent of the Chinese labor force, urban labor force, right now is engaged in these kind of what you could really call free enterprise—type of activities: small shops, et cetera. So, the sector of the economy that is uncontrolled is still quite small.

PANIC BUYING

Senator PROXMIRE. You explained that very well. You point out that the improvements have been by giving incentives to cooperative entities which are not free, competitive operations. And then a price modification, rather than the fact that you have as you say, a lot of people getting into barber shops and that kind of thing, which is fine, but it can't account for the improvement.

An example of the problems that remain in the background, some panic buying, you report, occurred last month in the—and the fact that you conclude that panic buying would be inflationary in the short run.

Can you give us an idea of the magnitude of these problems, whether panic buying has stopped, and inflation? And I would also like to discuss the problem of unemployment.

Mr. CARVER. The feeling we have is that there were pockets of panic buying and bank runs but the Chinese were quick to stamp these out. They simply refused to let people pull their money out of banks, they also came out strongly with proclamations that no one would be allowed to change prices for a while, and when changes were made they would be gradually with incomes being adjusted at the same time.

So I think so far the scale of this sort of thing has been very, very small. We highlight it because the potential for major problems is there, and every time the Chinese talk about price reform they raise the spector of bank runs and panic buying.

The Chinese are so sensitive to this that they react quickly whenever problems occur. We are more concerned that they will overreact to this sort of thing than we are that they will let price problems get out of hand.

POSSIBILITIES FOR LEADERSHIP CHANGES

Senator PROXMIRE. You warned us about the effect of Deng's death. You also indicated that his successors shared his view of the reforms, or his most immediate successors. But they wouldn't have the same force and power that he has.

Can you give us a little more specific assessment of the prospects for the reform movement to prevail in the event of Deng's death or removal from office in the near future?

Mr. CARVER. You know, it's speculation, but I will give you my best feel for what could happen.

The two people next to Deng in power are Zhao Ziyang and Hu Yaobang. Both of them are very openly proreform. Even the people in the top echelons of the party who are not strong advocates of reform—and we do have indications that some important leaders are not fully on board—are not Maoists. They are not going to argue for a retreat all the way to the left. There are people who would argue that free enterprise should not be allowed to operate to the degree that reformers are now advocating. These opponents argue for a pull back. They contend that free enterprise should operate only at the very fringes, and a tight central plan should regulate the bulk of the economy.

So, whereas during the 1960's and early 1970's we had extremes—Maoists who argued for strict Chinese Marxism opposed to a few others like Deng who were at the other extreme—now the band has narrowed significantly.

Even the people who advocate a retreat from reform are really talking about a retreat to a milder kind of reform. Although this group does not wield much power right now, if the reforms begin to bog down, I think these leaders would resurface, and there's definitely the capability among those people to slow the reform process.

Having said that, the ag reforms have been widely accepted by about 80 percent of the population, and it will be very, very hard to turn those people around.

So my best guess would be that any new leadership would not be able toundermine the program to a major degree; that, in fact, even when we do get succession, we will continue to have reform.

Again, that's just my guess.

CHINESE-SOVIET RELATIONS

Senator PROXMIRE. Mr. Gates, would you briefly discuss the recent developments in Chinese-Soviet relations and the prospects for closer ties between them?

Mr. GATES. There were some developments about 1½ or 2 years ago that suggested that the two parties, for reasons of their own, probably related to the relationship of each to the United States, was interested in moving closer to one another to establish a closer bilateral relationship.

There were a number of very small steps that were taken, and we anticipated, or at least raised the prospect, that might involve some longer term, significant improvement in relations. Frankly, this just hasn't happened. There has been a slight warming in state-to-state relations. There have been some contacts between the two parties, some negotiations. Trade between the two is increasing rapidly, but from a very small base.

They are still planning on having a Soviet Deputy Prime Minister, or Premier, if you will, visit China, a visit that was canceled earlier.

But on the whole, it appears that the Soviets are totally unprepared to meeting the Chinese preconditions for a significantly improved relationship: Getting out of Afghanistan, ending their support to the Vietnamese, and getting the Vietnamese out of Kampuchea, getting out of Mongolia, and so on. There's just no sign that the Soviets are prepared to undertake any of those things, and absent that, any improvement in relations, even on a state-to-state basis, will be, in our view, quite limited.

[The prepared statement of Mr. Gates follows:]

Prepared Statement of Robert Gates

Soviet Economic Performance, 1983-84

Introduction

In our past testimony we have analyzed Soviet economic performance and military spending over the last two decades. Summarizing that testimony, we reported that economic growth in the USSR was relatively robust during the decade of the sixties and the first half of the 1970s. The mid-1970s, however, marked a turning point in the economy's fortunes. Economic growth began to decelerate and eventually fell below 2 percent for three consecutive years--1979, 1980, and 1981. But the economy has been doing somewhat better recently. GNP increased by about 3 percent in 1983 and growth continues to be higher in most sectors in 1984, although the USSR's national product will rise by only 2 percent this year because of a poor harvest.

Our testimony this year will focus mainly on the developments of the past two years. First we will review the performance of the Soviet economy and its major sectors in the last two years in an effort to assess the extent of the economic upturn and the distribution of the modest growth dividend available to the leadership. We will try to identify the reasons for the improved performance and weigh their relative importance. We then will give our assessment of Soviet economic prospects over the next few years and for the second half of the 1980s and discuss the implications for the West in general, and the United States in particular.

Economic Performance in 1983 and 1984

Soviet economic performance picked up marginally in 1983, a trend that has continued in most sectors of the economy through October of this year. The 3-percent increase in GNP in 1983 represents an improvement over the poor showing the four previous years when growth averaged only about 1-1/2 percent per year. This better performance does not mean that the economy has rounded

the corner, leaving its economic difficulties behind, however. Growth of GNP is still well below the rates posted in the early and mid-1970s and thus is unlikely to provide much relief for the leadership as they search for ways to devote more resources to both defense and consumption without sacrificing industrial modernization.

USSR: Growth of GNP and Selected Sectors of the Economy

	Average Annual Percent Change				
	1971-75	1976-78	1979-82	1983	1984[c]
GNP[a]	3.7	3.7	1.6	3.2	2
Agriculture[b]	-0.4	5.2	-0.9	6.3	0
Industry	5.9	3.8	2.4	3.4	3.5

[a] Calculated at factor cost.

[b] Excludes use of farm products within agriculture but does not adjust for purchases by agriculture from other sectors.

[c] Preliminary.

Some of the improvement in Soviet economic growth in 1983 and 1984 represents a rebound from 1982's low growth in much the same way that the US economy records rapid rates of growth in the initial stages of recovery from a recession. Moreover, for the Soviet Union, the trend in GNP can be a misleading indicator of the underlying health of the economy because of its sensitivity to the ups and downs of agriculture. For instance, during the worst of the slowdown beginning in 1979 and continuing until 1982 and during the subsequent recovery, the change in agricultural output explains roughly two-thirds of the change in GNP growth even though agriculture accounts for only about 15 percent of the national product.

An alternative measure of the condition of the Soviet economy excludes

agriculture from GNP to remove most of the volatility of agricultural performance. Abstracting from agriculture in this way gives a slightly different picture of the economy since 1975 (figure 1). First, it shows that a substantial part of the slump in GNP growth from 1979 to 1982 is the result of unusually poor harvests in most of these years. The rate of increase of non-agricultural GNP fell by only one percentage point compared with the 2-percentage point decline in the growth of total GNP. Second, the economic recovery in 1983 and 1984, although heavily influenced by agricultural performance in 1983, also reflected improved performance in industry and key service sectors outside of agriculture. Growth in non-agricultural GNP has continued in 1984 at about the same rate as in 1983. But because of the poor grain harvest, overall GNP growth is likely to be around only 2 percent this year. Problems in branches producing industrial materials and fuel and the shortfalls in agriculture this year could, moreover, curb economic development once again in 1985.

Agriculture

Farm output rose by 6.3 percent in 1983, reaching an all-time high. Nevertheless, the value of total agriculture output in 1983 was less than 5 percent greater than the previous record achieved in 1978. The livestock sector performed particularly well last year; production of meat and milk reached new records. Some 16.4 million tons of meat were produced, one million tons more than in 1982. The grain, potato, and sugar beet crops also registered increases over the depressed 1982 levels.

Net agricultural production is expected to remain at roughly the 1983 level this year. Output of livestock products will rise again, but most crops will fall. The increased emphasis on production of forage crops such as hay and silage--aided by longer and more favorable growing seasons in both 1982

and 1983--boosted feed supplies and led to higher milk yields and heavier slaughter weights. On the other hand, the USDA estimates that grain production in 1984 will be only about 170 million tons--25 million tons below its estimate for 1983.

USSR: Output of Selected Agricultural Products[a]

	Average Annual 1976-80	1981	1982	1983
Grain[b]	205	158.0	180.0	195.0
Potatoes	82.6	72.1	78.2	83.1
Sugar beets	88.7	60.8	71.4	81.8
Cotton	8.93	9.64	9.28	9.22
Meat	14.8	15.2	15.4	16.4

[a] In million metric tons.
[b] See table 5 in appendix B.

Industry

The 3.4-percent increase in industrial production in 1983 was the highest since 1977. Growth at about the same pace seems likely in 1984, although earlier in the year prospects appeared brighter than they do now. Industry has thus almost returned to the rate of growth experienced in 1976-78, but not to the much higher rates of the first half of the 1970s (figure 2).

Industrial Materials. The most significant improvement has been in sectors producing industrial materials (figure 3). These industries, which produce the raw materials and intermediate products used throughout Soviet industry, faltered in the last half of the 1970s. Their sluggish performance had transformed some of the sectors into bottlenecks as plan requirements outstripped domestic supplies. In some cases, notably steel, imports have had to be increased to make up some of the difference.

In 1983 and 1984, production in these branches grew by 3.6 and 3.1 percent per year respectively, compared with an average growth of 1.4 percent

during 1979-82. The turnaround in the fortunes of the ferrous and forest products sectors was especially helpful in easing the industrial materials situation. In addition, chemical output has increased as much in the last two years as in the previous four combined. Nonetheless, there are already indications that the recovery in industrial materials has begun to lose steam during 1984, casting doubt on its strength.

Energy. Unlike industrial materials, the performance of fuel industry as a whole has deteriorated even further (figure 4). The combined value of output of fuels grew at about 1 percent a year in 1983-84 compared with 2 percent during the worst slowdown years. The fall in coal production continues, and oil production has stagnated this year. An important offset to the coal and oil picture is the robust growth in gas output, which hardly slowed during 1979-82 and has accelerated slightly the last two years. The electric power sector has also enjoyed a resurgence as a result both of more reliable fuel supplies and the influence of faster economic growth on the demand for power.

Whether slow growth in the fuels sector will ultimately brake the recovery in industry depends on the success of energy conservation and Soviet hard currency requirements. In 1982 and 1983, some progress seems to have been made in reducing the consumption of fuel per ruble of GNP, permitting Moscow to increase its sales of oil to the West.

Industries Supporting Investment. The performance of the industries supporting investment shows a stabilization in the growth of machinery production and some pickup in the output of construction materials. The planners must be distressed by the apparent failure of civilian machinery to rebound along with the rest of the economy. During 1979-82, this branch had been about the only the bright spot in the entire economy, even though its

growth had also slowed. This industry is important because it produces the machinery and equipment used to promote future growth.

Output of construction materials on the other hand, began to rise at a comfortable rate after falling in 1979-82. Shortages of construction materials and metals had limited construction activity, so this reversal will help the construction-intensive part of the Soviet investment plans, especially housing and the Food Program.

Consumer Nondurables. On the whole, the industries that cater to the Soviet consumer did no better in 1983-84 than in 1979-82 (figure 5). The growth of output of soft goods continued to decline, to a rate of only about one percent per year. But production of processed foods grew slightly faster. To a large extent, performance in this sector is the result of larger harvests of vegetables and fruit and the continued large imports of grain that were instrumental in spurring growth in output of milk, meat, and eggs.

Transportation

During the past two years, the better showing of the railroads, which carry 70 percent of nonpipeline traffic, is the most significant development (figure 6). A smoothly running transportation system is particularly important in a country the size of the USSR because disruptions in deliveries that hurt one plant can quickly multiply in effect throughout the economy. We believe that the severity of the slump from 1979 to 1982 can be partly blamed on gridlock in the transportation sector. Thus, a sizeable portion of the industrial recovery can equally well be attributed to improvements in this sector's performance.

The picture is mixed with respect to other modes of transportation. The amount of gas transported by gas pipelines continues to rise at double-digit rates, but traffic on highways and rivers has declined.

Foreign Trade

The Soviet hard currency position by mid-1984 was quite solid. In 1983, Moscow balanced off an increase in imports of machinery and equipment and pipe (needed to built the new gas export pipeline) with a reduction in agricultural imports. At the same time hard currency exports rose by almost half a billion dollars, primarily because the USSR reacted to falling oil prices by increasing the amount of oil exported to the West. The rise in the volume of oil sales for hard currency was made possible by an increase in oil obtained from OPEC countries in partial payment for past deliveries of arms and a tight-fisted attitude toward deliveries to Eastern Europe. The net result of these transactions was a gain of almost $300 million in Moscow's merchandise trade balance for the year.

The trend in Moscow's hard currency position continued to be favorable in the first six months of 1984. Both exports and imports, measured in current prices, fell compared with the same period the previous year, but imports dropped by almost $1.3 billion more than exports. Machinery and pipe deliveries have fallen off as the Urengoy-Uzhgorod gas export pipeline nears completion. Arms sales were also down. The volume of oil exports to hard currency OECD countries, however, apparently increased by at least 6 percent, offsetting a roughly 5-percent drop in average oil prices.

Although the Soviet hard currency trade surplus for 1984 as a whole may be higher than the $4.7-billion surplus realized last year, the overall improvement is not likely to be as marked as it was during the first six months.

-- The USSR will find it more difficult to raise the volume of oil exports because domestic production has leveled off.

-- Soft world oil prices will reduce hard currency receipts for a given volume of oil exports.

-- Soviet grain purchases will increase sharply in the second half of the year. Soviet hard currency grain purchases in the 1984 calendar year will probably exceed the 1983 bill by about $2 billion.

-- We do, however, expect imports of other agricultural products and machinery and equipment to continue to fall. Soviet equipment orders have fallen from $6.9 billion worth in 1982--when large orders for the export pipeline were placed--to $2.2 billion in 1983 and to less than $500 million in the first six months of 1984.

Moscow's healthy international financial position (and the waning of sanctions) has been recognized in the increased credit worthiness assigned to the USSR by Western banks. Soviet assets in the West are at near record amounts, and Moscow's gross debt to the West is at manageable levels--the ratio of debt service to hard currency receipts is currently a respectable 15-16 percent.

The Beneficiaries of Better Economic Performance

How the leadership responded to the improved economic picture in 1983 and 1984 provides a window on the regime's current policies and intentions.

- Defense

Defense has been considered to have priority in the allocation of resources in the Soviet economy. We cannot yet conclusively establish how the

economic recovery affected defense spending, however, or, for that matter, how defense spending might have impinged on the recovery. Nevertheless, since reporting to you last year, we have noted evidence of some acceleration in the rate of increase in defense spending.

The Burden of Defense. To understand the role of defense in the economy, it is important to measure how defense diverts national resources from other purposes. One such measure is the share of GNP allocated to defense spending. In the Soviet Union, this amounts to 13 to 14 percent of GNP, which is considerably higher than the comparable 7-percent figure for the United States. The defense share of Soviet GNP has remained roughly constant since 1965 because the growth of defense spending has matched overall economic growth. When economic growth slowed after 1975, defense spending growth slowed correspondingly.

This ratio of defense spending to GNP simply measures the trend in average share of all resources going to defense. Certainly the impact of defense falls unevenly on different parts of the economy. Material inputs must not only be made directly available for defense, but other resources are needed indirectly as inputs to produce the materials used for defense.

Some key industries must devote especially large shares of their output to support defense programs (figure 7). For example, more than 25 percent of all machinery production is allocated to military procurement even though procurement is no more than 7 percent of GNP. In the process, resources are denied to the civilian sector that otherwise could be used to promote economic growth through investment or to bolster consumer morale by increasing the supply of consumer durables. In addition, as much as a fifth of all metallurgy production, a key input for construction and machinery production, may be needed to support procurement. That the metallurgy industry has

encountered considerable difficulties in sustaining the growth of output in recent years makes this large share all the more significant to civilian industries. Other industries that contributed--directly or indirectly--significant shares of their output in 1982 to support military procurement include chemicals, electric power, fuels, transportation and communications, and forest products. If other resource categories of defense are taken into account, such as O&M and RDT&E, the military demand on these industries would be even greater.

The true burden of defense includes many intangibles associated with defense activity that cannot be easily measured in quantitative terms. Examples of some that would raise the burden include giving the military establishment priority access to:

- -- The highest quality raw materials for defense industry;
- -- Transportation and distribution of raw materials for defense purposes;
- -- The best industrial workers for defense industry;
- -- The national pool of research and development talent; and
- -- The best, most advanced machinery.

Some other intangibles could lower the burden. Examples of these include:

- -- Using military construction troops on civilian projects;

-- Sending troops and military trucks to help with the harvest; and

-- Training largely untrained and unskilled non-Slavic minorities.

Finally, there are other activities that might be construed as defense-related, which we do not even consider in our estimates. This would include subsidized weapons sales, support for surrogates such as Vietnam and Cuba, civil defense programs, the dispersal and hardening of industrial sites, many intelligence activities, some communications facilities, and joint purpose projects, such as the BAM Railroad and city subway systems. Although we have not been able to measure these activities, it is clear that they would imply a defense burden higher than our estimate of 13 to 14 percent of GNP.

Defense Spending Trends. In the ruble estimate, we use constant prices (1970 is the base year) so that we can measure the real growth in defense--that is changes in military manpower, the volume of procurement and construction, and the scale of research and development (RDT&E) and operations and maintenance (O&M), excluding the effects of inflation. Budgetary discussions in the USSR are presumably often conducted in terms of current price data, however. Such figures, if available, would show higher growth than our constant price estimates because of the inflation that characterizes the Soviet economy generally. Nonetheless, so much of Soviet planning is conducted in physical rather than financial terms that sufficient information is undoubtedly available to the leadership to permit them to identify the real trends underlying expenditures in current rubles.

There have been two distinct periods in Soviet defense spending since 1965. Before 1976, growth in total defense spending had averaged about 4 to 5

percent per year; after 1976, the rate of increase in spending dropped appreciably, to about 2 percent a year.* Nevertheless, spending levels were so high that the defense establishment was able to continue to modernize its forces and to enhance substantially its military capabilities. Between 1976 and 1983, the Soviets purchased 1,100 ICBMs and more than 700 SLBMs for their arsenal of strategic forces--even while they were adhering to the SALT II restrictions and spending in this category was declining. At the same time, they procured about 300 bombers and 5,000 fighters, including the MIG-23/27 Flogger fighter and the Backfire bomber. The modernization of the ground forces proceeded through the introduction of more sophisticated armament. Some 15,500 new tanks were added to the forces, including the costly T-72 and T-64 tanks. Finally, the Soviet naval buildup continued. During this period, the Soviets acquired substantial numbers of major surface combatants, nuclear-powered ballistic missile submarines, and attack submarines.

Despite the scale of the ongoing Soviet defense programs, the growth of spending did slow. The impact of the slowdown can be seen by reviewing trends in the outlays allocated to the various military services and the trends in outlays in major resource categories (procurement, construction, personnel, O&M, and RDT&E). The behavior of expenditures for the military services provides insights into the competition among conflicting interests in a period of slower growth in defense. The most striking feature of service spending trends is that all services shared in the reduced growth in spending. Before 1976, total outlays of the services increased by 3-5 percent annually. Starting in 1977, however, the rate of growth of total spending in all the services decreased substantially. Some services were hit harder than others;

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* Unless specifically stated, all defense spending growth rates are measured in constant 1970 rubles.

for example, total outlays for the Strategic Rocket Forces and Air Defense declined in absolute terms after 1977.

Trends in spending on the various resource categories before and after 1976 demonstrate that the main source of slower growth in defense spending was a stagnation in spending for military procurement after 1976. Year-by-year estimates of the level of total defense spending and outlays for procurement since 1965 (figure 8) confirm this judgment.

Could we be wrong about the procurement slowdown? this is a reasonable question that has been raised, in part because our building block (item-by-item) approach toward estimating procurement is obviously subject to uncertainty. We have audited our results to examine three possible sources of uncertainty: the physical estimates of military production; the cost of the new sophisticated Soviet weapons systems relative to costs of older systems; and possible increases in the real cost of defense production caused by declining productivity since the mid-1970s (which means that more resources might have been required to produce the same product).

Based on this audit we have reasonable confidence in our estimates of the level and trend of Soviet military procurement.

-- We have considerable confidence in our production estimates for large programs, which make up the bulk of procurement.

-- We also found that program costs for the most expensive and complex systems would have to be substantially in error to raise procurement growth back to pre-1976 trends.

-- Productivity changes in Soviet industry were not

large enough to alter our judgment about recent procurement trends.

Smaller increases in spending in the other categories of Soviet military programs, however, also contributed to slower growth in defense spending. After 1976, for example, the estimated cost of operations and maintenance grew about half as rapidly as before the slowdown. Since 1976, the main driver of defense spending has been the rapid growth in RDT&E; in the earlier period, procurement had been the leading source of growth.

The Procurement Slowdown

Why did Soviet procurement stop growing after 1976? Many explanations have been offered, including policy decisions, technical difficulties, manufacturing constraints, and industrial bottlenecks. But there is still disagreement as to whether one factor dominated or even if the list is complete.

Policy decisions. We would note that the stagnation in the level of procurement lasted for at least 7 years--from 1977 to 1983. This plateau arguably lasted too long to be the result exclusively of bottlenecks or technological problems. In a period so long, the leadership of the Soviet Union could have used its control of industrial priorities to ensure a higher rate of growth of military procurement. Older-generation weapons could have been kept in production while problems with new systems were ironed out, or once the problems were overcome, the new systems could have been produced at catchup rates. We believe they chose to pursue neither alternative.

In deciding to hold procurement growth down the Soviet leadership in the mid-1970s may have viewed the external threat as manageable and the existing high level of procurement as enough, possibly recognizing that the USSR was

entering a period of generally slower economic growth and counting on a continuation of the decline in US military spending. But even if a policy decision was made to put a temporary though high cap on military procurement, other factors clearly played a supporting role.

Other Factors. Modern Soviet weapons embody ever higher levels of technology. The Soviets could be experiencing some difficulty, particularly in the R&D phase, in solving technological problems encountered in producing new weapons. Even after production of new weapons has begun, the Soviets may have encountered delays in achieving a high level of serial production of some high technology weapons systems in recent years.

The shortages of key materials and transportation problems that affected much of Soviet industry since the 1970s clearly may have also affected defense. Soviet industrial growth as a whole has been slower since 1975 than in the past. Despite the traditional priority accorded to defense it has become more difficult to isolate defense from these economic disruptions.

Defense Spending During the Recovery

What can we say about defense spending in 1983? Our preliminary estimates for 1983 suggest that procurement may have experienced some modest growth over 1982. This conclusion is tentative because of the difficulty we have in estimating the distribution through time of the costs of systems that are built over several years. The phasing problem is a particular problem for recent years like 1983 because it involves judgments about new systems that we think will deployed in the future but for which the lead costs must be phased back to the present. If the system enters at reduced levels, or is stretched out longer than expected, then our current estimates for 1983 will be revised downwards.

What interpretation should then be placed on the higher apparent growth

of procurement in 1983? One possibility is that this figure will be revised downwards as we collect more information about he pace of weapons production in 1984 and 1985. This has happened before when we did an annual update. Another interpretation is that this growth lies within the range of the year-to-year fluctuations of the previous six years and does not signify a new trend. A third possibility is that this estimate is sufficiently above the average of the last six years to be an early indicator of a return to more rapid growth. Another year of data is required before we can choose among these interpretations.

Investment

While defense has been maintaining its place as a claimant on Soviet production, new fixed capital investment--annual outlays for plant and equipment--has absorbed a rising share of GNP in the 1981-85 Plan period. Investment increased at an average annual rate of more than 4 percent during 1981-83, and the economic plan calls for an increase of 3.9 percent this year. Since investment has been running well ahead of plan each year, the actual increase in investment in 1984 could be even greater. Assuming that the 1984 target is reached or exceeded and that new fixed investment grows by 4 percent in 1985--about the 1981-84 average--investment in the first half of the decade would rise by roughly 20 percent compared with 1976-80, almost double the planned growth of 10.4 percent.

The 1981-85 Plan had called for slower growth in investment than in overall economic growth. The slowdown in investment growth planned--the lowest in Soviet post-war history--was predicated on the assumption that offsetting increases in capital (and labor) productivity would stimulate growth in GNP and in individual sectors of the economy.

-- Plans for building new facilities were pruned, and construction activity was refocused on renovating existing structures.

-- Existing machinery was to be replaced more rapidly by new, technologically advanced equipment as the primary means of introducing new technology into the economy.

At the same time, inventories of unfinished construction were to be markedly reduced in order to maintain the annual flow of new production capacity brought on line. Indeed, the commissioning of new capacity was targeted to rise by an average of almost 4 percent a year.

As we noted in our testimony last year, this investment policy apparently was abandoned by the leadership from the very outset of the 11th Five-Year Plan. Investment has been accelerated in order to provide more balance between renovation and reconstruction of existing facilities--the cornerstone of the original plan--and expansion of existing facilities and the building of new ones. During 1981-83, for example, state expenditures on the reconstruction of the "productive" capital stock grew by about 6-1/2 percent a year while state spending on construction of new "productive" facilities increased by approximately 4-1/2 percent a year.

As far as the allocation of investment thus far in the 11th FYP is concerned, investment in industry has increased by slightly more than 4 percent a year on average. The fuel and power branches have absorbed the largest share--more than one-third of industrial investment during 1981-83. Investment in the oil industry has grown particularly rapidly--by more than 10 percent per year.

Investment in the machinebuilding sector has risen by less than 4 percent a year. This is a vitally important sector of Soviet industry; it produces defense hardware for the military, durable goods for the consumer, and machinery for investment. Because the modernization of the machinery sector has lagged, it is not producing the quantity, and more importantly the quality, of equipment required to refurbish Soviet industrial facilities. Indeed, some Soviet experts argue that the rise in capital-output ratios in the USSR will not be arrested until the technological level of Soviet machinery is raised substantially and on a continuing basis.

Meanwhile, the share of investment going directly to agriculture has remained about 27 percent. Investment in the railroads has been flat since 1981 even though rail freight transport has been a major bottleneck in the economy.

USSR: Average Annual Percentage Growth in New Fixed Investment

	Actual 1981-83	1981-85 Plan
Total investment	4.4	1.6
Industry	4.1	4.2[a]
Fuels and power	6.5	8.7[a]
Ferrous metals	5.6	5.4[a]
MBMW	3.8	3.4[a]
Agriculture	2.5	1.4[a]
Transportation and communications	5.5	NA
Construction	3.0	NA

[a] Estimated.

Consumption

Consumption has grown at a rate only slightly less than that of GNP

during the current five-year plan period--except for 1982, when it grew much more slowly than GNP. This year official Soviet data imply an increase in consumption (about 4 percent) in excess of GNP growth.

General Secretary Chernenko, like Andropov before him, has shown concern for the welfare of the population in investment allocations, program proposals, and import decisions. In public statements, however, both leaders were careful not to raise consumer expectations too much. They played down the material aspects of consumption while still stressing the link between increases in income and labor productivity.

The regime is trying to reduce the imbalances between demand and supply of individual consumer goods that have made persistent shortages and rationing--formal and informal--a way of life in the USSR. The growth of personal incomes has been restrained to bring wages more in line with the availability of consumer goods. Average wages increased about 2.5 percent a year during 1981-83 compared with 3 percent during 1976-80 and 3.6 percent in 1971-75.

The regime also is taking steps to increase supplies of food and nonfood consumer goods, housing, and consumer services. To increase the availability of quality foods Moscow is (1) banking on a quick payoff from the Food Program to increase domestic production of agricultural products and (2) continuing to import large quantities of agricultural products. More than $9 billion of hard currency--about one-third of Moscow's total hard currency receipts--were spent in 1983 on agricultural imports. The Kremlin also is trying to spur domestic production of consumer goods, although improvement in this area has been slow or even negligible, and is continuing to import large quantities of nonfood consumer goods. About $11 billion worth of such goods were purchased abroad last year--almost 60 percent from Eastern Europe. In internal prices

these accounted for a substantial share of retail sales of nonfood consumer goods--about 10-15 percent. As a result of these policies, retail trade turnover, which had been stagnant in 1982, increased in real terms by about 3 percent in 1983. Based on statistics for the first six months of 1984, growth in retail turnover may be even faster this year.

The Soviets also have stepped up construction of new housing. The 112.4 million square meters of housing constructed in 1983 represents the largest yearly increase in housing construction in more than two decades. In addition, a flurry of party-government resolutions in recent years have called for improvements in the consumer services area--expansion of repair and cleaning shops, more personal services, and the establishment of more convenient shopping hours in the service sector.

Still, consumption levels in the USSR have risen only slowly in the 1980s. Per capita consumption, for instance, dropped in 1982 and increased by only about 1-1/2 percent in 1983. Certainly the regime has a considerable distance to go in eliminating the disequilibria plaguing consumer markets and in providing more adequate incentives for workers. This will not be accomplished, we think, until the leadership is willing to restructure retail prices and bring the mix of products produced into greater conformity with demand and is able to provide the population with more substantial and continuing increases in the supply of quality food, housing, and personal services.

USSR: Annual Growth of Per Capita Consumption

(percent in established prices)

	1971-75	1976-80	1981	1982	1983
Total consumption per capita	2.9	2.1	1.9	-0.6	1.4
Consumer goods	2.8	2.0	2.0	-1.2	1.2
Food	1.6	0.8	0.7	-0.6	1.8
Soft goods	3.0	3.1	2.4	-1.5	0.7
Durables	10.0	5.4	6.4	-2.7	-0.3
Consumer services	3.0	2.3	1.7	1.5	2.2

Reasons for the Improved Economic Performance

Ordinarily, we might have expected Soviet leaders to be enthusiastic about the results of the last two years, but their reaction has been restrained. This unusual reticence reinforces our caution in assessing the recovery. The lack of euphoria on the part of the Soviets can perhaps be better understood by looking at the trends in the level of output since 1975 rather than growth rates.

From 1976 to 1978, Soviet industry recorded unprecedentedly low rates of growth. At the time we believed this development reflected serious economic difficulties even though a continuation of those basic trends would still have output in 1984 some 40 percent above the 1975 level. From 1979 to 1982, industrial growth slowed even more, opening a gap between actual achievements and the then historically slow 1976-78 trend. The 1983-84 recovery put industry back on its 1976-78 growth path, but left it substantially below the level that could have been reached if the Soviet growth recession had not occurred. Still, the question remains, why has measured economic growth turned up after several years of mediocre performance? We have considered a number of possible explanations.

The Recovery As A Statistical Anomaly?

Our estimates of Soviet economic performance in 1983 and 1984 are preliminary. The statistics for 1983 are subject to change and the size of the sample for 1984 will increase considerably next year when we have access to a larger volume of information. Often the early sample exaggerates the growth rate because it relies on press reports that tend to emphasize the positive features of economic performance. As more data become available, we expand our sample and revise our estimates accordingly. A good example of this happened recently. We had been carrying an estimate for the growth of production of processed foods for 1983 as 5 percent, but a reassessment this fall lowered that figure to 3 percent. While we do not expect large changes in every part of the economy, further revisions may reduce the measured extent of the recovery.

Restoration of Balance

In the late 1970s, a lack of balance in Soviet industrial development became increasingly apparent. Shortages of industrial materials and energy pushed down capacity utilization rates. Then, the economy suffered two severe shocks from extremely harsh winters in 1978-1979 and 1981-1982. Plants were idled while waiting for raw materials to be produced and shipped. The cold weather increased the demand for fuels and electric power. In factories, choices had to be made whether to slash output and keep energy use constant or maintain output and accept disproportionate increases in energy use. In some locations, electric power stations were forced to reduce the amount of power they supplied.

Unusually extreme winter weather also snarled the transportation network, further complicating the shipping of products to their ultimate destination. These effects spilled over into other sectors, as their supplies of raw and

intermediate materials dwindled, and hampered production of several commodities, some of which suffered unprecedented declines in the level of output. In turn these large shortfalls created other imbalances which further disrupted the economy.

The regime began to focus on these bottlenecks early in the 1981-85 Plan. In 1983 and 1984, the process gained momentum. Transportation benefited from fewer weather-related interruptions and decreased demand for freight cars to support activities related to the invasion of Afghanistan and efforts to deal with the crisis in Poland. Shortages of ferrous and nonferrous metals also eased. With more reliable transportation, better performance in the raw materials sector, and more dependable supplies of electric power, production of steel, chemicals, and construction materials was able to rebound. Just as the effects of bottlenecks had spread throughout the economy during the poor years, so breaking them produced the opposite effect.

Productivity Growth

The economic acceleration in the past two years has not been the result of faster growth in the supply of labor or fixed capital. Rather, it has reflected improvements in productivity. The combined productivity of labor and capital in nonagricultural sectors, which had declined by 1.3 percent a year in 1979-82, levelled out at -0.4 percent in 1983 and may be increasing in 1984.

The breaking of bottlenecks and improved supplies of raw materials helped on the productivity front by permitting a more complete utilization of the capital stock and labor force. Other factors have been at play, however. For example, Andropov's discipline campaign (discussed below) probably had an appreciable effect. If, for example, the campaign managed to reduce average

absenteeism by only one-half hour per week, labor productivity (as measured by output per worker) would have been raised by one percent, provided that the necessary raw and intermediate materials were available. Improvements in the supply of consumer goods may also have boosted worker morale and productivity by reducing the time spent off-the-job in queues to purchase consumer goods or by simply increasing incentives.

Policy Decisions

Whatever the reason for the continued restraint on military procurement, it did give the economy some breathing space. A continuation of procurement growth at its historical rate after 1976 would have raised the level of procurement by 25 percent and the defense burden by at least one percentage point. The resources used for investment are the ones that are most substitutable for procurement. If the resources were diverted entirely from investment, the rate of investment growth would have fallen by as much as two percentage points a year. The stagnation in procurement permitted the leadership to raise investment above the levels originally planned for 1981-85.

Continued growth in military procurement would not only have hampered investment; it would have increased demand for the products of those industries that were finding it hard to expand output. The effects of an increase in procurement spread across the economy as inputs--both direct and indirect--must be provided to accommodate it. In particular, metallurgy, machinery, electric power, and fuels would have to devote a larger share of their output to supporting defense. (We should note, however, that increased investment, especially in machinery production, will pay dividends in terms of long range military procurement.)

Outlook

In sum, we think that economic pressures have eased somewhat in the USSR during the past two years. To recapitulate, the better economic performance was due to:

-- Better weather, which helped boost farm output and industrial production and ease snarls in rail transport;
-- Relief from the shortages of raw materials that had been severely constraining industrial production;
-- Increases in hours actually worked per day and greater utilization of production capacity; and
-- Greater efficiency resulting from more effective management and, perhaps, an improvement in worker morale.

The Near Term

Can the Soviet economy's better showing be sustained in the years ahead? In our judgment, the recent upswing in GNP growth could continue for another year or two. This would require continued improvement in some of the same factors that have been responsible for the better performance in the last two years, especially increases in actual hours worked and further relief from bottlenecks.

Whether the labor discipline campaign has run its course is a major uncertainty in near-term projections. Because of the prevalence of long lines at markets and the difficulties encountered in obtaining many goods, Soviet workers frequently spend part of the working day away from the job shopping.

Drunkenness at work also is a serious problem. The campaign introduced by Yuri Andropov in late 1982 was intended to prevent such violation of work rules, to enforce tighter discipline in management, and to punish corruption. One of Andropov's first acts, in fact, after taking office was to fire some allegedly corrupt or incompetent officials. The Minister of the Railways, for instance, was summarily dismissed within weeks of Brezhnev's death.

General Secretary Chernenko has followed Andropov's lead in stressing the need to maintain labor discipline. In a recent speech he underlined the importance of increasing discipline, ending "parasitism," and eliminating alcoholism. He pointed out that increased discipline had produced an "immediate and noticeable" improvement in production and in conserving resources. Chernenko also appears to be continuing the crackdown on corruption.

We are skeptical that the campaign actually has made people work significantly harder, although it apparently has succeeded in forcing people to spend more time on the job. Nonetheless, even if Chernenko matches Andropov's zeal for discipline and cracking down on corruption, the discipline campaign offers only temporary assistance in raising productivity in the economy. Without more stringent application, the impact of the discipline campaign will weaken. There are, in fact, indications that the campaign has begun to wind down; the crackdown on people who, contrary to law, offer merchandise for private sale has abated as has the police campaign to check on people absent from work.

Further progress in eliminating bottlenecks in the economy won't come easy either. The railroads, for instance, continue to operate at near-maximum capacity, and serious difficulties in transportation could resurface at any

time.

On balance, the factors reviewed above suggest that GNP growth the next year or two will remain in the 2-3 percent range. This estimate reflects primarily a judgment that industry and other key sectors outside of agriculture will continue their improved performance of the last two years. Because year-to-year movements in GNP depend heavily on agricultural output, which in turn depends so heavily on the weather, growth in a particular year could well fall outside this range if the weather is unusually good or bad.

Longer Run

The stronger showing in 1983 and 1984, even if it continues another year or two, would not in our view foreshadow a higher growth rate over the longer term unless Moscow begins to take effective steps to attack the inherent inefficiencies of the Soviet economic system. The primary sources of improved growth in recent years will not overcome the more fundamental problems that have pulled economic growth down in the Soviet Union since the mid-1970s.

Slower Growth in Labor and Capital. Additions to the working-age population have been falling since the mid-1970s because of the lower birth rates of the 1960s, an increase in the number of workers reaching retirement age, and a rising mortality rate among males in the 25 to 44 age range. These increments will be lower in the next several years than at any time in the last several decades. In fact, they will be less than one-third of the annual additions to the work force in the first half of the 1970s.

Growth of the Soviet capital stock has also slowed, although less than we previously expected because of the faster-than-planned growth in investment and some success in holding down the growth of unfinished construction. The value of the stock of fixed capital in the Soviet economy increased by slightly more than 6 percent per year during 1981-83, compared with 8 percent

in the first half of the 1970s and 7 percent in 1976-80. A more pressing problem has been an inability to employ capital assets more effectively and a failure to embody more modern technology in new capacity being brought on line. A large part of the Soviet capital stock is old and obsolete. One Soviet author estimates, for instance, that 30 to 40 percent of all equipment now in operation in the USSR has been in use for 15-20 years or more.

Rising Costs of Industrial and Agricultural Raw Materials. Even though the Soviet Union is endowed with enormous quantities and a wide variety of raw materials, these materials in many instances have become increasingly inaccessible and the cost of exploiting them has risen sharply:

-- The economy has become more dependent on Siberia for fuels and other raw materials. Developing these new areas requires large capital investments, particularly in construction.

-- Most of the new areas require social overhead capital--roads, housing, cultural, and service facilities--in addition to the basic facilities for exploration and exploitation.

-- The declining quality of readily available raw materials has pushed up capital requirements because of the cost of enriching poor-grade minerals and ores.

If oil and coal production does not begin to increase again, energy supplies will remain taut and spot shortages of the sort experienced in recent years will continue.

Agriculture and its supporting industries currently preempt about one-third of total Soviet investment and one-fourth of hard currency earnings and require growing subsidies to maintain stable food prices. A number of factors will continue to sap productivity in the farm sector in the years ahead.

-- Until the leadership eliminates output quotas, revises the success indicator system, and stops interfering in day-to-day operations, farm production will be plagued by high costs and low productivity.

-- The relatively slow pace of industrial growth in the second half of the decade will limit the support industry can give to agriculture unless the planners give the Food Program very high and continuing priority.

-- The renewed commitment to land relamation at the October Plenum on agriculture suggests that a considerable part of farm investment will have long-delayed and uncertain returns if past experience with these programs is a reliable guide.

-- Technical progress in farm production will occur slowly because of inadequate incentives and poor support from industry.

-- Shortages of younger, skilled workers will persist in many regions until there are major improvements in rural living conditions and an upturn in annual increments to the general labor force.

Systemic Problems. Economic growth will also be held back by the USSR's highly centralized system of planning and management. As the Soviet economy has grown in size and complexity, it has become more and more difficult to manage from the center. Moreover, a perverse system of incentives promotes inefficient behavior by enterprise managers and dampens the introduction of new technology into the economy.

The inflexible Soviet system contributes to the USSR's technological backwardness. The gap between the USSR and developed western countries continues to grow in technologies not directly confined to weapon systems. The Soviets have been particularly unsuccessful in stimulating advance in the technologies that underlie the hopes for western productivity growth--microelectronics, computers, robotics, and advanced materials. They concentrate on copying western developments, and only a massive program for acquiring western technology has prevented them from falling further behind.

Indeed, the greatest potential for economic gain in the USSR over the longer term probably lies in economic reform. However, true reform--that is a major restructuring of the Soviet economy to include greater use of markets--is not likely. The political elite strongly oppose full-scale marketization because they fear it would lessen party authority and control. Most policy advisers in the Soviet Union do not believe it would be the right solution even if it were politically feasible. Soviet leaders view centralized planning as mandated by "Marxism-Leninism" and as being responsible for elevating the USSR to world superpower status.

Certainly nothing in Chernenko's background or past pronouncements indicates an inclination toward bold systemic change that would significantly reduce centralized planning and management. After almost a year in office the General Secretary has not put forward a clear-cut economic strategy let alone

any new initiatives in the area of economic reform. He has largely carried over the programs of the previous administration which focus on seeking modest improvements in the system of incentives and performance indicators.

The most important of the "new" programs carried over from the Andropov regime is the "economic experiment" introduced in January 1984 in two All-Union and three republic-level industrial ministries. The experiment gives enterprises managers more latitude in using investment and wage funds, reduces the number of success indicators (making contract fulfillment the key indicator), increases the role of production associations and enterprises in drafting plans, and ties worker benefits and managerial bonuses more closely to enterprise performance. Soviet planning officials have characterized the experiment as a "strategic study" or "proving ground" for measures to be introduced throughout the economy as a whole. Those innovations that "justify" themselves during a two-year experimental period--1984-85--will be adopted on a national scale for the 12th Five-Year Plan (1986-90).

The Soviet leadership has already expressed satisfaction with preliminary results of the experiment and has announced plans to expand it to include enterprises in six new All-Union and twenty new republic level ministries. (Participating industries will then account for 15 percent of industrial production.) According to Soviet officials, there has been a substantial increase in fulfillment of contracted sales obligations, an improvement in product quality and productivity, a reduction of production costs, and a more rapid introduction of technological innovation in those enterprises participating in the experiment.

Nonetheless, a steady undercurrent of skepticism and criticism of the experiment appears to be building among Soviet economists, government officials, and factory managers. One Soviet economist, for instance, has

questioned the effectiveness of the new measures in ensuring contract deliveries and has suggested that there will be even larger problems in extending the experiment to the entire economy. The noted Soviet economist, A.N. Aganbegyan, director of the Novosibirsk Institute of Economics of the USSR Academy of Sciences, said recently that incentives provided under the experiment have had little, if any, effect on the productivity of the average worker.

More generally, economists at the Novosibirsk Institute have termed the achievements of the experiment during the first seven months "modest". Enterprise managers have complained that despite the stipulations that they be given a larger role in the planning process and that plans remain stable over a 5-year period, their submissions have been largely ignored and plans are still frequently changed. Our own assessment is that the experiment is too limited to have much potential for improving industrial performance and that the success reported so far is largely the result of the priority given to the participants in receiving supplies of labor and materials.

Foreign Trade as a Spur to Economic Growth

The Soviet economy would certainly benefit from continued or increased access to Western goods.

-- Large quantities of farm products will be required to support the livestock program and to keep per capita consumption of quality foods at present levels.

-- Imports of industrial materials such as phosphate materials and other chemicals, ferrous metal ores, and alloying materials would prevent or alleviate bottlenecks that could constrain industrial

production.

-- More and more modern machinery and equipment are badly needed to help modernize industry and to carry out Moscow's investment policy calling for the renovation and reconstruction of existing production facilities.

-- Significant amounts of construction and transportation equipment also may have to be imported.

The Soviet need for imported capital goods will be most pressing and the potential payoff the greatest in the energy sector. During the remainder of the 1980s, the cost and pace of certain phases of Soviet energy development will depend substantially on the level of imports of Western oil and gas equipment and know-how. Soviet interest in imports of Western equipment and technology should increase as exploration and development shifts to deeper and more complex onshore deposits, especially as exploitation of the deep sulfurous petroleum deposits in the Pre-Caspian Depression and Central Asia proceeds. Exploration and development of Arctic offshore deposits in the Barents and Kara Seas would also be helped by Western equipment and technology. The pace of Arctic offshore development will also depend on the degree to which the Soviets are willing to permit major Western firms to man and manage operations and, possibly, on the availability of Western financing of project costs measured in tens of billions of dollars.

Still, we do not believe that the Kremlin can rely much on increased imports to avoid resource pressures in the domestic economy during this decade. Our projections indicate that--barring another round of spiraling oil

prices--Soviet hard currency purchasing power will not rise significantly through 1990. Consequently the USSR will have difficulty financing more than modest growth in hard currency imports unless it is willing to accept a sharp increase in its debt. Western credits are one--and a relatively immediate--means of financing additional hard currency imports. But Soviet debt management policy would first have to become less conservative, and Western governments would have to provide significantly greater encouragement and guarantees to Western banks. If Moscow were willing to rely more on Western loans to buy equipment and technology--as it did in the early and mid-1970s--the benefits would be sizable. For example, if Moscow had adopted a less restrictive borrowing policy during 1981-83--perhaps allowing a doubling of equipment imports from the West--the machinery component of new fixed investment would have increased by about 10 percent annually compared with the 5-percent annual growth actually attained.

The Soviets, however, appear reluctant to step up overall imports from the West on political grounds. The recent credit and trade embargoes have persuaded Moscow that becoming too dependent on the West is dangerous. Imported Western plant and equipment, moreover, has fallen short of its potential for improving the USSR's overall economic performance because of problems in assimilating and diffusing Western technology.

Moscow could attempt to squeeze more out of Eastern Europe by pressuring Warsaw Pact allies to reduce their deficits on bilateral trade with the USSR in the second half of the 1980s and to boost their exports--especially those of higher quality goods--to the Soviet Union. In fact, the Soviets now appear more willing to lean on Eastern Europe than they have in the past.

-- The Soviets are envious, even resentful, of the higher standard of living in most East European countries than in the USSR.

-- Moscow is probably confident that social order can be maintained. Martial law has effectively controlled tensions in Poland, and there has been little overt discontent in any of the East European countries despite harder economic times.

-- The regime probably believes that the East European nations could compensate for increased Soviet demands by cutting down waste and inefficiency in their economies.

We don't believe, however, that the Kremlin will have much success in reducing net exports to Eastern Europe. Most East European countries are struggling to sustain some positive economic growth of their own while putting their hard currency balances in order. Moreover, the technological level of most East European finished goods is still below that of the West.

Overall Long Term Assessment

All things considered, we believe Soviet economic growth will average 1.5-2.5 percent per year in the second half of the 1980s. If the low end of the range is to be avoided, capital investment will have to continue to increase at above-plan rates (as seems likely), weather conditions for agriculture will have to approximate the 1960-83 average, and Moscow must succeed in implementing plans for fuel conservation and fuel substitution. Energy shortages are not likely to be a major hindrance to growth of GNP this decade unless the oil sector goes rapidly downhill--a point that was

emphasized in last year's testimony. In fact, the Soviets appear to have had some success in slowing the rate of growth of energy consumption relative to GNP.

To reach or exceed the high end of the GNP growth range the USSR would have to achieve productivity gains like those recorded in the late 1960s and early 1970s. Until 1983, combined productivity of inputs of labor, capital, and land had been falling for over a decade--as the tabulation below shows. Our judgment is that the USSR will not be able to reverse this trend over the next several years. Soviet policymakers have not adopted the changes in investment policy or in economic management that might arrest the long-established decline in fa τ r productivity.

USSR: Growth of Factor Productivity
(average annual percentage change)

	1966-70	1971-75	1976-80	1981-82	1983
GNP	5.3	3.7	2.6	2.1	3.2
Inputs of labor and capital	4.1	4.2	3.5	3.1	3.0
Factor productivity	1.1	-0.5	-0.8	-1.0	0.1

Policy Implications

Domestic Policy

Moscow's room for maneuver in resource allocation among military and civilian claimants in the second half of 1980s will be severely limited. The Soviets have released little information about their plans and policies for 1986-90. We do know, however, that the Soviet leaders have already adopted two expensive programs as part of the 12th FYP--the Food Program and a long-

term Energy Program. The cost of the Food Program could run as high as 265 billion rubles--suggesting that agriculture's priority will not be decreased. Indeed, at a recent special Party Plenum devoted to agriculture, Chernenko announced increased output and investment goals for land reclamation, calling success of the Food Program critical to the leadership's effort to raise consumer welfare and productivity. Investment in energy also is likely to be an enormous drain. At a minimum, we expect investment in the energy complex to total 170 billion rubles, an increase of 28 percent over planned investment in 1981-85. Although the Soviets have announced no official target for total investment during the 12th FYP, anything less than the current 4 percent annual growth--assuming they go ahead with the Food and Energy Programs--would put a severe crimp in the amount of investment resources available for other areas essential for future economic growth, such as machinebuilding and transportation.

In our judgment, the leadership will probably attempt a precariously balanced policy of at least some growth in living standards and increasing allocations for new plant and equipment combined with some growth of military procurement. Certainly the pressure to step up defense procurement must be intense given the state of Soviet-American relations and the recent increases in US spending on military hardware. But a decision on increasing the rate of growth of defense spending has to be a tough one, not so much because of the impact it would have on overall economic growth but because of the implications for Soviet society. Our analysis indicates, for instance, that at current rates of investment, and even with defense growing at our present estimate of 2 percent a year, per capita consumption would grow by only 1-1.5 percent annually during 1986-90. Accelerating defense spending to a rate of 5 percent a year--a rate approximating the 4 to 5 percent growth observed

during 1966-76--would jeopardize Soviet prospects for anything but minimal improvements in consumption levels.

Sluggish improvement in living standards over a prolonged period would not sit well with the Soviet population. At a minimum it could erode recent gains in productivity. It could even provoke a crisis between the regime and Soviet society if it continued over a long period.

It is important to note, however, that even if defense spending growth is not increased during 1986-90 and overall economic growth is in the 2-2.5 percent range, the Soviets could continue to deploy major weapon programs and modernize their forces. Important programs in development that could still be deployed through the early 1990s include several military space systems, strategic cruise missiles, another generation of strategic ballistic missiles, a strategic bomber, a large transport aircraft, and a large carrier for conventional aircraft.

Foreign Policy

Continued slow economic growth in the range indicated is unlikely to result in major changes in Soviet foreign policy. We do not see economic problems at home motivating the leadership to undertake high-risk adventures abroad that are designed to distract an unhappy public or produce economically beneficial geo-strategic breakthroughs. Nor, on the other hand, would a continuing economic slowdown be likely to significantly constrain Soviet political and military activity in the Third World.

Eastern Europe. An economic slowdown would have its most serious external impact on relations between the USSR and its client regimes in Eastern Europe, which currently receive most of Soviet economic and military aid. To achieve the levels of GNP growth and per capita consumption we have projected by 1990, for instance, Moscow may have to impose cuts in oil

deliveries to Eastern Europe beyond those already levied. Reductions in raw materials deliveries from the USSR are also possible. Measures such as these could cause new political and economic strains to develop between Moscow and its East European allies.

Relations with the Third World. A continuation of the slowdown in economic growth would be a factor affecting Soviet policy toward the Third World, although it would be of less importance than military and geopolitical considerations. In general, Moscow is likely to become more tightfisted in giving economic assistance. However, exceptions are likely to continue to be made to this policy. In the case of Cuba, Vietnam, and Afghanistan political and military-strategic factors outweigh economic considerations, even though the USSR incurs most of its Third World economic burden in its relations with these countries.

Bilateral US-USSR Relations. Although we don't believe that Moscow can rely much on increased imports to avoid resource pressures on the domestic economy, economic difficulties will give the Soviets a continuing incentive to obtain US grain and state-of-the-art technology in such key areas as energy, agricultural technology, and machine tools. The robust outlook for global grain production over the next few years suggests that in years of average harvests the Soviets will have only a limited need for purchases from the United States above the Long-Term Grain Agreement minimum commitment of 8 to 9 million tons. Therefore, US grain-based political leverage is likely to be quite limited. Nonetheless, Moscow will still find the United States attractive as a supplier because of its unique year-around capacity to deliver large volumes of grain quickly--especially corn--at short notice.

As noted above, large-scale US assistance probably would be helpful to Moscow in maintaining oil output and developing Arctic offshore resources.

Whether this degree of technological dependence on a narrow range of US equipment--particularly high-capacity submersible pumps and offshore equipment--translates into much political leverage for the United States is doubtful. Soviet willingness to accommodate US political interests in return for assistance in oil production would be questionable in any event and would depend greatly upon Moscow's assessment of the overall state of US-USSR relations.

Figure 1
USSR: Growth of GNP and Non-Agricultural GNP

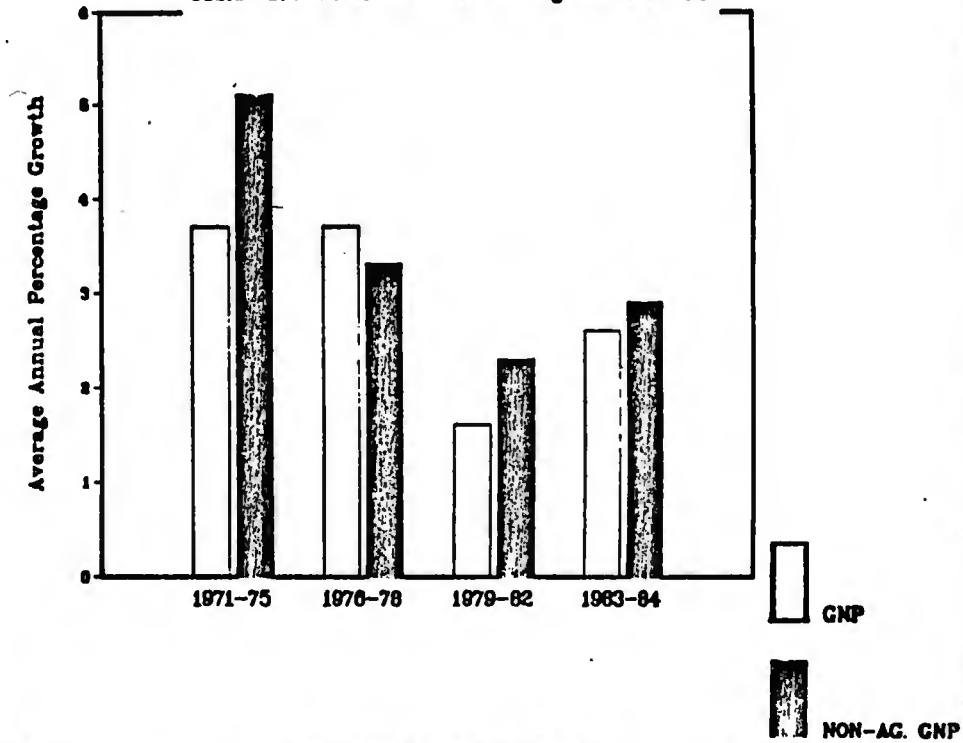


Figure 2
USSR: Growth of Industrial Output

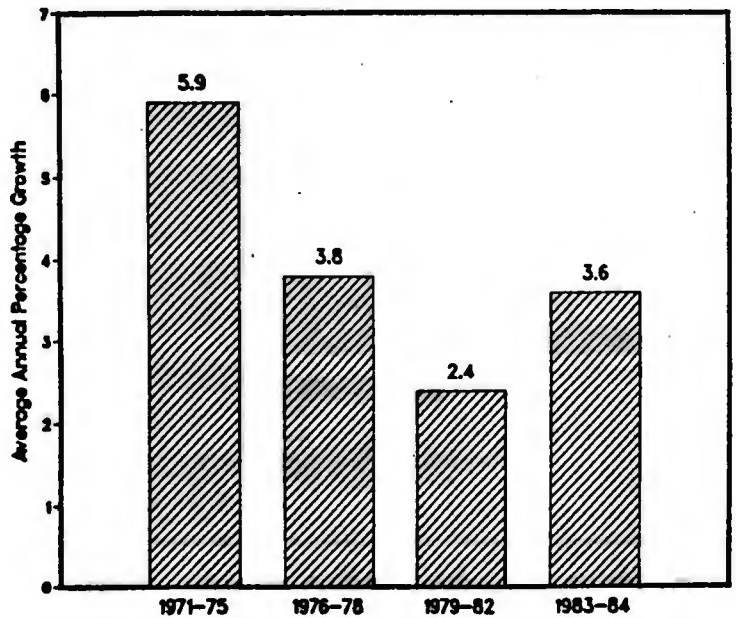


Figure 3
USSR: Growth of Output of Key Industrial Materials

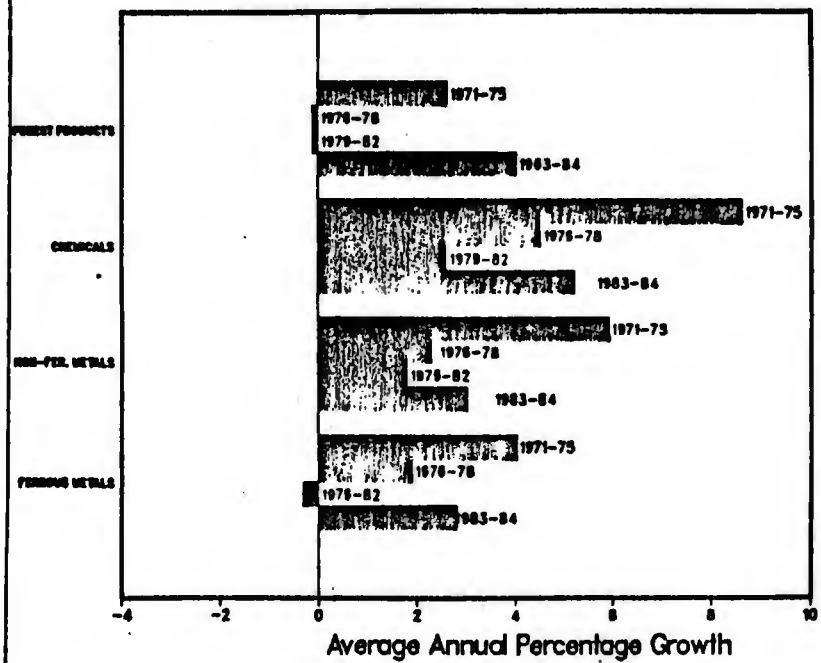


Figure 4
USSR: Growth of Output of Fuels and Electric Power

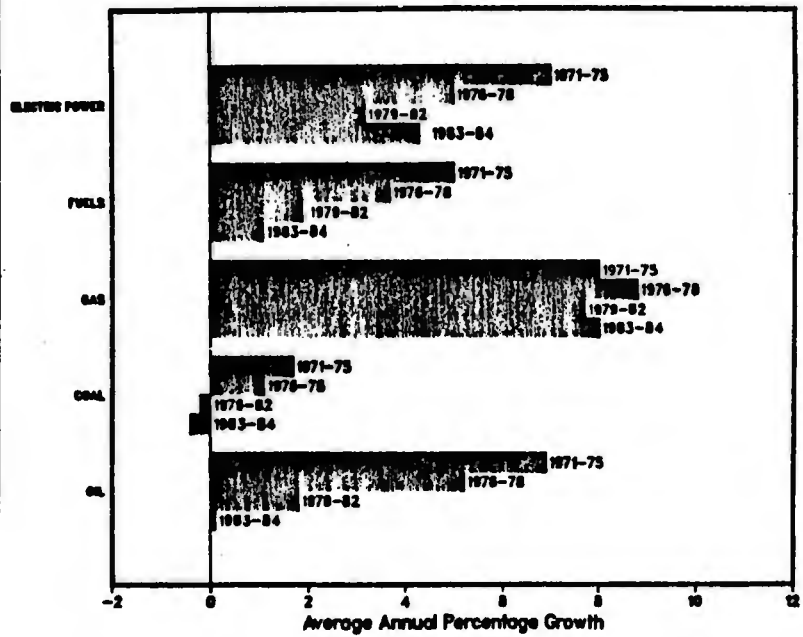


Figure 5
USSR: Growth of Output of Consumer Nondurables

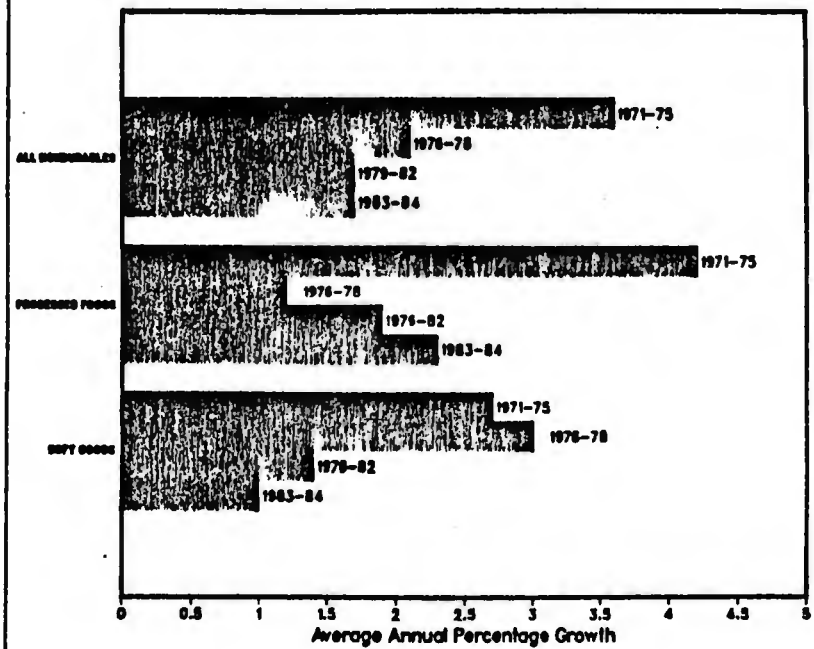


Figure 6
USSR: Growth of Transportation Activity

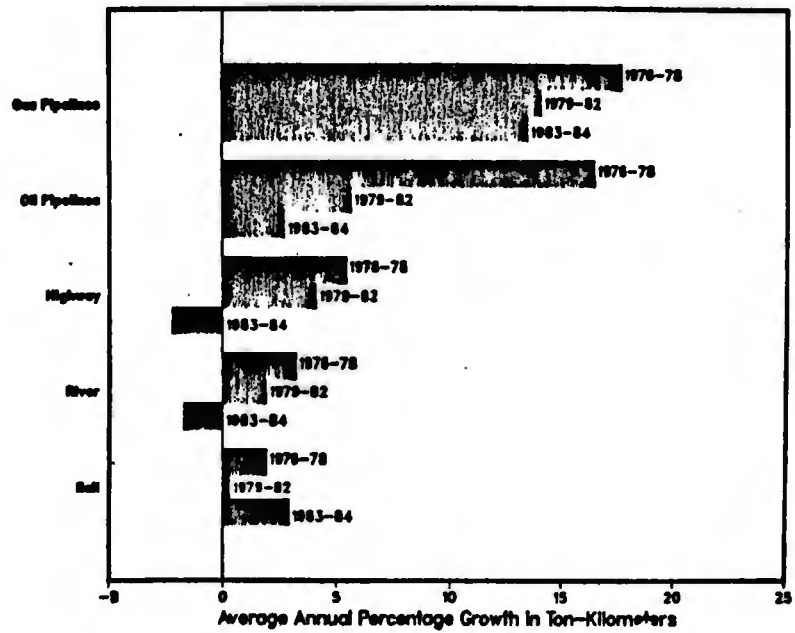
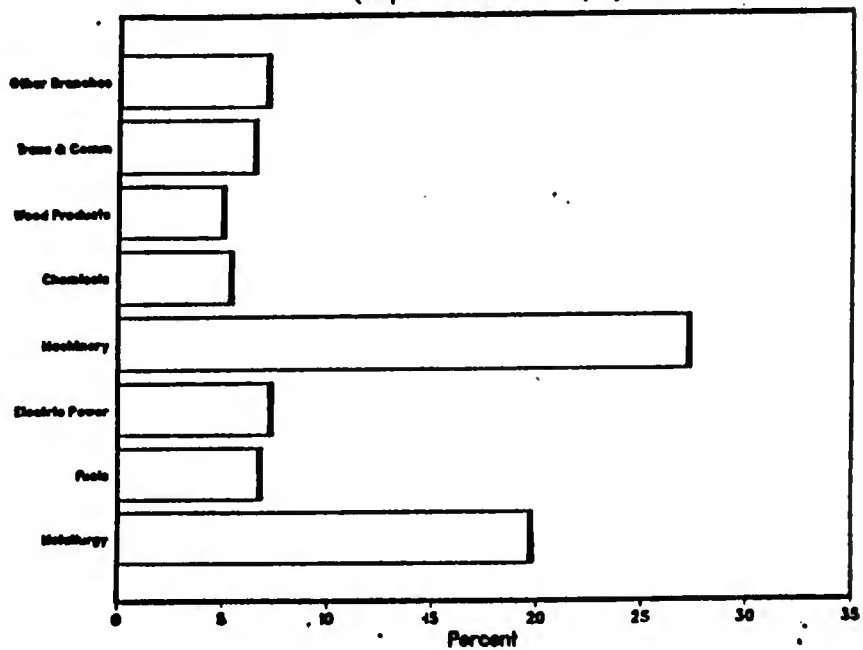
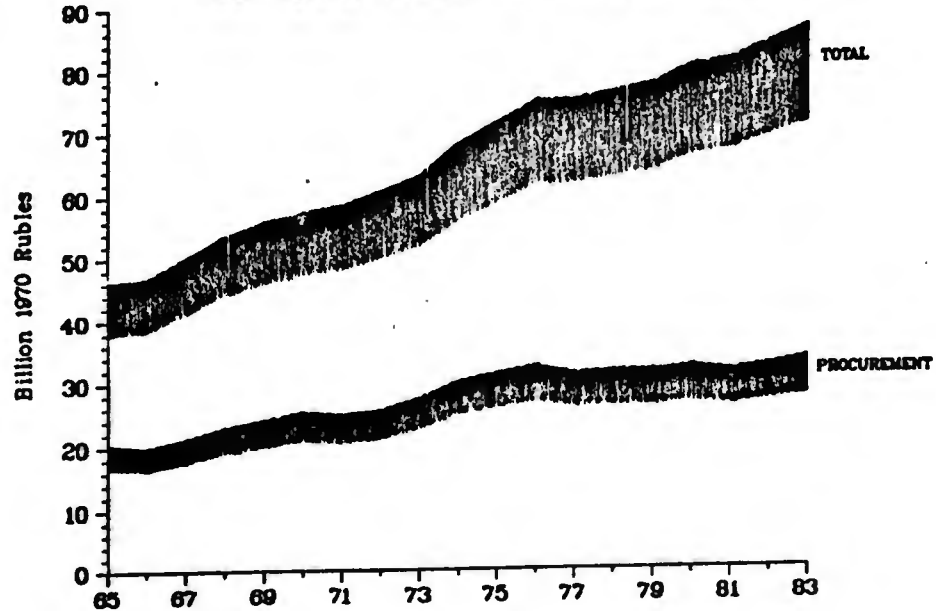


Figure 7
USSR: Key Estimated Direct and Indirect
Deliveries to Military Procurement by Key Industries in 1982*
(as percent of total output)



* Direct deliveries consist of raw and intermediate materials actually used to manufacture procurement goods, such as steel for a tank. Indirect deliveries account for all additional materials that are needed to support military procurement. For example, indirect deliveries would account for the electric power consumed to smelt the steel embodied in the tank as well as the coal to generate that electric power.

Figure 8
USSR: Defense Spending and Procurement, 1965–83



China: The Impact of Reform on the Economy in 1983 and Prospects for the Future

Introduction

China's economic performance in 1983 and early 1984 reflects the successes and failures of experiments with reform that have been underway since late 1978. Grain and cotton output reached new highs as agricultural reforms gave peasants a freer hand in farming. Growth in the industrial sector was strong, but Beijing had major problems improving efficiency. At the Party Plenum last month the reform wing of the party under Deng Xiaoping approved a comprehensive document on reform that builds on the success of agricultural reforms to push for more sweeping changes. If Beijing can successfully overcome the difficulties it will encounter in implementing its urban reforms, we believe significant economic gains are possible in the long run. Such successes would bode well for China's open door policy and could promote a broadening and deepening of China's ties with the United States.

Economic Results in 1983--Mixed Picture

Agricultural Production Up Sharply

Agricultural reforms were the centerpiece of China's effort to restructure its economy, and recent gains have given the regime the peg it needed to justify even more radical departures from orthodox Marxist economic practices.

-- In 1983, the total value of agricultural output jumped 9 percent, more than double the 4-percent goal set in the annual plan.

-- Grain production--the key indicator--hit a record 387 million tons, more than 9 percent above the bumper 1982 crop.

-- Grain imports fell to less than 13 million tons from 15 million tons in 1982.

-- Cotton production showed an even sharper increase of 25 percent as China shed its role as one of the largest cotton importers and began small-scale raw cotton exports. Shipments of US cotton to China were indicative of this trend, falling steadily from a peak level of $700 million in 1980 to only $2 million last year.

China credits its experiment with market-oriented rural reforms for recent agricultural gains, although we believe better-than-average weather and price increases also played an important role. The contract responsibility system, which gives peasants effective control over acreage for periods of 15 years or more, sparked rural enthusiasm. Since the adoption of the responsibility system in late 1978, the Chinese have increased their annual grain production by 83 million tons--more than the entire annual grain production of Australia and Canada combined. A government decision to hike procurement prices for agricultural products also improved rural living standards. With procurement prices now 40 percent higher than in 1978, peasants have been willing to increase their use of fertilizer and other inputs, further boosting agricultural yields.

Beijing is also touting the reforms for their impact on rural employment. In pursuit of profits, an increasing number of unemployed and

underemployed peasants have begun to engage in either commercial activities in the service sectors--opening restaurants, repairing shoes, making clothing, cutting hair, etc.--or production of handicraft items. Beijing hopes by the end of the century to have about 40 percent of its rural labor force employed in non-agricultural production.

The sharp gains have left the peasantry much better off than it was prior to 1978. Rural residents have seen their annual income more than double over the period to about 300 yuan per capita (roughly $150). Moreover, the gap between rural and urban living standards has narrowed significantly. Consumption by city residents rose at an annual rate of 7.2 percent between 1979 and 1983, while rural consumption shot up at a 14.7 percent annual clip. Consumer goods such as televisions, bicycles, watches, and fans are also beginning to work their way into the rural areas.

Energy and Transportation--Mixed Results

The energy sector provided Chinese policymakers with what was perhaps the most pleasant surprise of 1983.

-- Primary energy output rose 6.7 percent, the fastest pace in five years.

-- When energy saving measures are included, the gain comes to more than 9 percent.

-- Much of the production increase can be attributed to improved recovery processes which helped boost oil output by nearly 4 percent to 106 million tons.

-- A new incentive system which allowed producers to market above-quota production at higher prices also had a major impact on coal--China's largest energy source--and probably boosted oil output as well. A newly instituted tax on energy consumption probably contributed to energy conservation efforts.

The transportation sector also achieved good results when measured against the low level of resources that Beijing devoted to it over the past few years. The 7.6 percent increase in goods transported last year came mainly from improved management of existing facilities. Burgeoning budget deficits starting in 1979 forced Beijing to scale-back its budgetary outlays and investment in transportation was especially hard-hit. The share of total investment in capital construction going to transportation and telecommunications dropped from an already low average of 18 percent in the 1971-75 period, to 13 percent in 1976-1980 and to 9 percent in 1981. Last year Beijing raised the proportion back up to 13 percent, but clearly the rate of investment is far short of China's needs.

Foreign Trade--A Growing Surplus

The foreign trade sector has experienced significant growth under China's open door policy. Exports in 1983 rose 2 percent to a record $24 billion and imports showed a 10 percent increase to $18.4 billion. The $5.6 billion trade surplus, China's third consecutive large surplus, has drawn increasing criticism from Western trading partners.

Total foreign currency holdings, (including gold and SDRs), at yearend 1983 amounted to an unprecedented US$20 billion, tenth largest in the world

and seventh largest if only foreign exchange is considered. We estimate the debt service ratio at the end of last year was only about 6 percent, one of the world's lowest. Despite an obvious and growing need for Western technology, Beijing has been unusually cautious about accumulating debt or spending its reserves. This reluctance to make major outlays for Western equipment probably stems from several factors, including Beijing's uncertainty about which projects warrant top priority, domestic financial problems, and bureaucratic constraints on the use of foreign exchange.

Military Sector--Aiding Economic Progress

With all the emphasis on economic reform the military has been asked to accept, for the time being, a smaller share of the economic pie. Chinese statistics show the proportion of total budget spending that goes to national defense falling from 17.5 percent in 1979--during China's border clash with Vietnam--to 15.3 percent in 1982. Last year the figure may have fallen below 15 percent. While Chinese budget figures undoubtedly understate total military spending (perhaps by as much as one-half), nevertheless, we believe the percentages give an accurate indication of the trend toward sacrifice the military has so far accepted.

Perhaps in part to attract military support for the cutbacks, Beijing has encouraged military industries to become more involved in civilian production and apparently has allowed them to acquire technology and to retain profits in the process. In 1983, civilian products (bicycles, transportation vechicles, clothing, etc.) accounted for 22 percent of the defense industry's total output, compared to only 6 percent in 1975. If this rate of increase is maintained, by 1990 about one-third of military production will go directly to civilian consumption.

Industrial Performance--A Different Story

China's industrial performance, when measured in terms of total output, also appeared more than satisfactory.

-- The total value of industrial output rose a sharp 10 percent last year, well ahead of the planned 4 percent growth rate.

-- Half of total output originated in the light industrial sector--where China feels its major potential lies--as opposed to only 42 percent in 1978.

Despite the apparent gains, Beijing has grown increasingly dissatisified with the industrial sector's failure to come to grips with major problems of inefficiency and waste. Although small gains have been made in energy conservation, 20 percent of China's industrial capacity is idled by electricity shortages while Chinese enterprises continue to use three-and-a-half times more energy to produce a unit of output than their counterparts in the average LDC. Moreover, much of the output produced at this high cost is shoddy and outdated. For example, only 10 percent of the machinery and equipment currently produced is up to modern standards; the rest, the Chinese claim, is 1950s and 1960s vintage.

The economic reform program was supposed to be an all out attack on these problems, and Beijing openly declared its willingness to sacrifice growth while reforms worked their magic. The Sixth Five Year Plan (1981-1985) called for average annual increases in industrial output of only 2.7 percent, but demanded accompanying decreases in per unit output costs of 1 to 2 percent.

Actual results so far, however, have shown industrial output growing at an 8 percent annual clip and costs inching upward at the same time. The industrial reforms have clearly failed to accomplish their most important tasks.

Mounting Problems Associated With Reform

The failure of the so early piecemeal efforts to improve industrial efficiency provided ammunition to conservative elements within the Chinese leadership who were arguing for a return to tighter central control. Their cause was supported further by a host of new problems that emerged or were made worse by reform policies.

The devolution of decisionmaking authority, for example, threatened to untrack China's high priority infrastructure investment program. Enterprise managers, using their authority to make decisions on capital investment, ignored government pleas to hold the line on industrial investment; between 1979 and 1982 extrabudgetary investment in capital construction more than doubled. The increase not only drained funds needed for infrastructure investment, it also left China short of cement, glass, and other construction supplies needed to support the program. Many of the projects, when operational, also began attracting raw materials needed by larger, more efficient state-run enterprises.

Most serious, in the view of some Chinese leaders, the failure of the initial industrial reforms also threatened to limit China's long term growth potential. Beijing was counting on productivity gains from industrial reform to offset the impact that the falling investment rates would otherwise have on long term growth. But this has not happened. Since 1979, nominal investment in productive assets has risen at only a 4.5 percent annual pace compared to the 6.3 percent real growth of GNP.

Efforts to decentralize decisionmaking authority created financial problems that also threatened to derail the reform program. The fiscally conservative government has had to reconcile itself to 5 consecutive budget deficits totalling about 55 billion yuan. Treasury bonds were used to help finance the red ink without resorting totally to the inflationary printing of money, but the government has grown increasingly concerned about its inability to balance revenues and expenditures.

On the revenue side, budget shortfalls stemmed in part from the decision to cut back on growth in heavy industry--the major revenue generator. When heavy industrial output levelled off in 1980 and then declined in 1981, revenues suffered. And when the government tried to spark productivity by introducing a tax system that would allow enterprises to retain more of their profits, many enterprises began understating profits and overstating costs to avoid tax payment. The China Audit Administration, set up in September 1983 to monitor the situation, found errors and violations amounting to more than 600 million yuan in its first year of operation.

Even successful agricultural reforms compounded financial problems on the expenditure side. Procurement prices for agricultural products were increased sharply beginning in 1979 to boost rural incomes, while consumer prices for those products went relatively unchanged. The result was a huge gap requiring more than 140 billion yuan in price subsidies between 1979 and 1983. Price subsidies alone took nearly one-fourth of total state revenue by 1983 and more than offset the defense and investment cutbacks that were part of the government's budget balancing efforts between 1980 and 1982.

Factors Behind China's Mistakes

Given the magnitude of the changes Beijing introduced, the emergence of serious problems was not surprising. But on several counts, the government's piecemeal approach exacerbated existing difficulties. For example, rather than introducing a comprehensive, well-considered program, the industrial management reforms began as an experiment and then spread almost of their own volition. In 1979 about 4,000 enterprises throughout the country were allowed to experiment with decentralized decisionmaking authority. Less than a year later, 16 percent of all enterprises under the state budget--producing 60 percent of the total value of output and earning 70 percent of the profits--had been given expanded decisionmaking authority. In our view, neither party officials nor central authorities were prepared to surrender authority on such a large-scale on such short notice. Misunderstanding and bureaucratic infighting became major problems.

Lacking a comprehensive plan, Beijing was forced early on to make major alterations in the reform program. The frequent changes led factory managers to question to government's commitment to reform, and hence slowed the implementation process. For example, the government repeatedly altered its tax policy and demonstrated a great deal of uncertainty over how much autonomy local-level enterprises should have in distributing bonuses and in making investment decisions. For factory managers who survived China's Cultural Revolution by resisting any policy changes that deviated from orthodox Marxism, the government's vacillation was a signal to go slow in implementing change.

Beijing's most serious problem in promoting a transition to a more market-oriented economy was its failure to come to grips with its irrational price structure. Aside from the financial problems this generated, the price

structure--large parts of which date from the 1950s--conveyed no meaningful information on which economic decisions could be made. Since prices bore little relationship to production costs, enterprise losses were not necessarily attributable to either inefficiency or lack of demand. Beijing's insistence, therefore, that enterprises make profits had little realistic effect, as the government had no criteria for determining which enterprises should be forced into bankruptcy. By yearend 1983, one-fourth of all state enterprises were operating in the red.

Outdated fixed prices, moreover, meant that firms had no means of assessing their most profitable economic endeavors. Enterprises producing high priced goods requiring cheap inputs, for instance, made large profits regardless of efficiency or product quality. Even when there was no consumer demand for a firm's output, its profits were assured by the state's practice of procuring the commodity at the arbitrarily established price.[1] At the same time, the production of many popular consumer goods began declining or even stopped because such items yield little or no profit.

Nor could China's banking system help in the transition. During the Cultural Revolution the People's Bank of China had operated primarily as a cashier/accountant for the Ministry of Finance. The major function of the bank was to transfer funds at the ministry's bidding. Loans were made to meet plans regardless of the borrower's financial status or the efficiency of the project. Interest charges were held low, when assessed at all, and repayment

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[1]A study of 32 enterprises in Liaoning province revealed that 47 percent of all goods produced in 1983 were unmarketable or already overstocked.

was seldom enforced. The upshot of this policy was intense pressure from enterprises to secure funds for investment, without regard to the possible return.

Finally, the environment in which the seeds of urban reform were sown was much more hostile to change than that of the agricultural sector. Rural reforms gave agricultural decisionmaking authority back to the farmer, but urban reforms handed authority to factory managers who were ill-equipped for their jobs. Most acquired their positions during the Cultural Revolution as a result of their political orthodoxy, not their managerial talents. They lacked both the education and the expertise necessary to function in a competitive environment. Hence, it was not surprising that, for example, when Beijing gave managers the power to reward outstanding work with bonuses, payments were usually made on an egalitarian basis, across the board.

Pushing Ahead With Reform--The 1984 Policy Shift

From 1980 to early 1984, China's economic policies had something of a seesaw character, as economists and economic administrators debated the merits of tight planning versus market regulation, and of reform versus readjustment of the economic structure. At the top of the political structure, it appeared that Politburo elders Chen Yun and Li Xiannian favored a gradual approach to change, relying on more efficient operation of an improved planning apparatus. Opposed to them were Premier Zhao Ziyang and several of China's leading economists, who argued that earlier reform measures had not gone far enough and that there was a need greater reliance on the market, and hence more institutional change.

Earlier this year, the momentum shifted decisively in favor of the reformers, who, with Deng Xiaoping's support, apparently were given the

wherewithal to implement their programs. In January, Beijing issued Central Document No. 1, a comprehensive summary of rural reform measures and a clear call to expand the reforms, giving more opportunities to farmers to engage in commerce and "commodity production." In April, the State Council issued new regulations permitting factories and commercial enterprises to experiment with new wage programs. Less than a month later, the "Provisional Regulations on Greater Freedom for State-Owned Industrial Enterprises" were published, giving enterprises the right to:

-- Produce whatever goods are in short supply after fulfilling State plans for their normal output.

-- Set retail prices for industrial machinery and other means of production within a range of 20 percent around the state price.

-- Decide what share of their income will go to production, expansion, reserves, or bonuses.

-- Lease or rent equipment as long as proceeds go to upgrade existing facilities.

-- Recruit technical specialists directly and develop pay standards.

Although many of these measures were little more than restatements of policies Beijing had experimented with during the previous three years, they signalled a renewed commitment to industrial reform.

Zhao's address to the May session of the National Peole's Congress (NPC) gave official confirmation to the policy shift. After a brief note of praise for agricultural reforms, Zhao devoted nearly two-thirds of his speech to the "urgent" need for "quickening" reform in the cities. Specifically, Zhao called for:

-- Implementation of the second stage of China's tax reform program to give enterprises even greater financial autonomy.

-- Experimental restructuring of the managerial system in the construction industry, replacing financial appropriations with bank loans, using public bidding procedures to issue contracts, and revamping the material distribution system to alleviate shortages.

-- Better utilization of educated technicians in the planning and management process in enterprises.

-- Reform of the commodity circulation system to facilitate the flow of goods between town and country, and the exchange of goods between different regions.

By late June, various Chinese media were publishing articles calling for experiments with such market-oriented practices as forcing state banks to compete against each other for deposit and loan business, and allowing domestic enterprises to issue stocks, bonds, and other securities. Perhaps the most notable shift, however, was the emergence of a host of articles advocating an early resolution of the price question. Prior to this time--

despite the view widely held by Western and Chinese economists alike that the entire experiment with market tools could not succeed within the framework of China's irrational prices--only the most daring advocates of economic reform suggested moving quickly to tackle the potentially explosive issue of price reform.

The October Party Plenum

The most irrefutable evidence of the reformers' strength came during the Third Plenary Session of the Chinese Communist Party's 12th Central Committee, which convened for a single day on 20 October to endorse a sweeping "Decision on Reform of the Economic Structure." The plenum was preceded by six days of "preparatory meetings," at which the document was presumably explained in detail to various constituencies, though it probably underwent litle change. The Central Committee's "Decision" committed the party to a comprehensive reform program that if, implemented as planned over the next five years, will change the face of Chinese socialism.

Although the decision is a bold and politically risky attempt to confront fundamental problems in the Chinese economy, it is not, in our view, a turning point for economic policy, nor is it a surprising announcement of some historic new trend, i.e. the reintroduction of capitalism. Rather, it represents an acceleration of the reform drive that began in late 1978, and a deepening of the shift away from concentration on rural policy and toward urban reform that Zhao introduced at the May NPC.

The document cites four characteristics of China's Soviet-style economic structure that have drained enterprises of their initiative and vitality:

-- The lack of clear distinction between functions of government and industry.

-- "Excessive and rigid" state control.

-- An inadequate role for prices and markets.

-- The practice of "absolute egalitarianism."

It demands the creation of a "new socialist economic structure with Chinese charactertistics," where major assets continue to be owned by the state, but where enterprise managers are free to respond in a competitive way to market signals. In the words of the document, the party seeks to create a system where "ownership can be duly separated from the power of operation."

A New Relationship Between Government and Enterprise.

The structural changes called for in the decision are basically intended to remove the state and party from most day-to-day business decisions. To accomplish this, the entire national economic planning apparatus will be revamped. Strict mandatory plans, which previously dictated production and allocation quotas for most sectors of the economy, will now be applied only where essential commodities are involved.[2] According to the decision, other

[2]China recently published a partial list of essential commodities, which included coal, oil and petroleum products, steel, non-ferrous metals, timber, cement, chemicals, electricity, munitions and other items. Agricultural products on the list included cereals, cotton, edible oils, tobacco, pigs and some aquatic products.

products and economic activities, which are far more numerous, should either come under guidance plans or be left entirely to the operation of the market.

Guidance plans are to be "rough and flexible" guidelines on how much of each particular good the state deems desirable. Enterprises will be required to give first consideration to these plans, but where local conditions make implementation of guidance plans unreasonable--for example, because of energy shortages or peculiarities in supply and demand--the firms will be free to deviate from plan without penalty. Enforcement of guidance plans will be accomplished mainly through the use of economic levers such as interest rates, bank lending policies, and taxes.

Enterprise management responsibilities are to be greatly expanded. Specifically, most enterprises are expected to become "relatively independent economic entities," responsible for their own profits and losses. Not only will they have more control over what and how much they produce and over their finances, they will also have authority--within as yet undefined limits--to hire and fire workers, to set wages and bonuses, and even to set product prices.

Although the new program calls for a weakening of the role played by state bureaucracies, their power nevertheless remains significant. By any objective standard, China's economy will remain socialist in its essentials. In addition to the continued importance of the central planning apparatus and strict control over products of national importance, the state will continue to appoint and remove key enterprise managers and hence to exert a powerful, if indirect, influence on production decisions. Moreover, when enterprises experience financial problems, it is the state that will determine which firms will be subsidized, and which will be forced to merge or shut down.

Price Reform--The Key to Success.

The plenum brought to an end the party's reluctance--perhaps for fear of sparking potentially destabilizing inflation, hoarding, and speculation--to come to grips with the problem of irrational prices. The plenum document explicity recommends establishment of a "rational price system," calling it "the key to reform of the entire economic structure." The fact that Beijing hopes to have its now totally irrational price system corrected in only five years is an indication of the party's commitment to rapid reform.

To carry out its program, Beijing will gradually reduce the number of items subject to state-set fixed prices. Most product prices will be allowed to fluctuate--according to changes in supply and demand--within narrow bands set by the state. Floating prices will be used for a small number of consumer products and for most services provided by individual entrepreneurs. For essential goods, the state will retain tight control, but major adjustments are probable even here as Beijing attempts to bring its raw material and energy prices into line with the current world economic situation.[3]

Recognizing the sensitivity of the local population to price changes--many Chinese remember the hyperinflation of the late 1940s--Beijing's plans for rationalizing prices are cautious. The plenum document emphasizes that price reform will be implemented "gradually, in a step-by-step" fashion. It promises that "the real income of urban and rural inhabitants will not go down as a result of price readjustments." The document also warns potential entrepreneurs that it is "absolutely impermissible for any unit or person to boost prices at will by taking advantage of the reform."

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[3]Coal, which is greatly underpriced in China, will probably be one of the first targets of state-controlled price adjustment.

The Short-term Outlook

The current effort to speed up industrial reform came too late to have much impact on economic performance in 1984. Even so, the economy will probably boast rapid growth again this year. Industrial production rose at an 11.6-percent rate in the first six months of 1984 with light and heavy industry moving at matching rates of 11.5 and 11.7 percent respectively. We estimate that China's GNP for the year may rise 10 percent. Energy output during the first half increased a 7 percent; however, we believe that output for the year as a whole will run about 6 percent, because of fourth quarter problems in the power sector.

The agricultural sector is also expected to perform well again this year. Grain production may top the record harvest of 1983 by 5 percent. Despite the increase, the PRC claims it will honor import commitments under its grain agreements with the United States, Canada, Australia, and Argentina. The record harvests are, however, making it less likely that China will want to renegotiate expiring agreements. Cotton output will probably also rise sharply again this year, perhaps by as much as 20 percent. (C)

There are preliminary indications that the domestic financial situation may also be mending somewhat. State revenue collections reportedly rose 23 percent during the first six months of 1984 as Beijing's new Audit Administration began conducting spot checks on enterprises across the country. On the expenditure side, however, Beijing apparently continues to be plagued by large price subsidies and increasing demands for budgetary outlays for infrastructure. We expect China to run about a 6 billion yuan deficit for the year, slightly less than in 1983, but considerably larger than the fiscally conservative government prefers.

China's international financial picture--already one of the strongest worldwide--will probably improve further in 1984. So far this year, preliminary figures show exports continuing to outpace imports by a wide margin. Although we expect this trend to begin reversing itself soon, export growth will remain strong during the year--at about 10-15 percent. Imports could approch $24 billion or a growth rate of 25-30 percent on the strength of Western equipment and technology sales. The resulting $2-4 billion trade surplus will probably boost total reserves to more than $23 billion by December 1984, and China's debt service ratio could drop another percentage point to less than 5 percent.

Economic Problems Ahead.

Introducing price reform into China's shortage-driven economy probably poses the most immediate threat to the reform program. The plenum's call for price reform reportedly sparked a few bank runs and some panic buying last month, despite assurances that prices would be adjusted slowly and that consumer income would not be allowed to suffer. Further problems can be expected as Beijing attempts to bring prices for essential goods such as cereals, industrial raw materials, and coal into line with costs.

Beijing is committed to immediate price adjustment, but it also clearly recognizes the potential for panic that price reform raises, and will move very deliberately to implement changes. In fact, we believe the risk that the leadership will move too slowly with essential price adjustments (and stall the entire reform package) is greater than the risk that too rapid an advance will spark economic instability. Nevertheless, it is safe to assume that price reform will be somewhat inflationary in the short run. Most adjustments will probably be upward, and important products such as coal, oil, and certain

foodstuffs will eventually undergo steep revisions. The reforms may occasionally spark bouts of panic buying as consumers draw down savings deposits that are now at record levels. Beijing is most likely to respond to these periodic bouts by limiting bank withdrawals, ordering producers to hold the line on prices, and by raising interest rates and taxes to discourage consumption.

Another economic hurdle that the leadership must cross in the immediate future is the question of corporate bankruptcy. Last year, nearly one-fourth of China's industrial enterprises were unprofitable, and this year, even after the government exerted strong pressure for improvement, 16 percent are still operating in the red. Clearly, Beijing cannot allow a massive shutdown of such a large portion of its industrial base. Furthermore, until reform is in place, there is no effective way of determining which enterprises deserve closing. Despite the fact that continued subsidization of losing enterprises encourages inefficient behavior all around, we believe Beijing will probably be cautious and allow a large number of inefficient firms to continue to operate.

Where the government decides some firms must be forced to close, the accompanying unemployment problems may be locally destabilizing. Beijing has historically prohibited the free movement of the population in order to prevent massive migration from the countryside to the cities. If major industries are allowed to fold, certain geographic areas could face high unemployment rates for long periods of time. We believe this problem will reinforce Beijing's inclination to accept inefficiency rather than promote other serious problems.

In light of the many problems, we do not expect the benefits of urban reform to match those experienced under the agricultural reform program. But

neither does Beijing. The government is allowing itself five years to get the program in place and probably will hail even minor improvements in efficiency during that period as evidence of success. The fact that Beijing is going into this program with its economic eyes open increases the probability that it will be able to resist pressures to revert to tight central planning when problems arise. Nevertheless, the next year will provide a critical test of the government's willingness to accept the dislocations necessary to carry the program through.

Longer Term Prospects

The Agricultural Sector--More Gains

In the longer term, the question of how well the economic reforms will achieve China's avowed goal of quadrupling output by the year 2000 depends critically on several factors. In agriculture, many of the productivity gains accompanying the introduction of the contract responsibility system were one-time achievements. Future gains will probably come more slowly as farmers gradually introduce new technology and as more underemployed laborers leave the land to pursue non-agricultural employment. Nor can Beijing's good luck with weather continue indefinitely. Consecutive years of widespread natural disaster could cut crop yields dramatically, especially if laborers under the contract responsibility system resist leaving their own plots to engage in dike repair or rescue operations that may not be directly beneficial to them.

Other factors, however, bode well for continued improvement in agricultural productivity. The rapid increase in production of consumer durables will continue to motivate Chinese farm workers. Commercial reforms

that speed the delivery of farm goods to urban markets and urban goods to the rural sector will also help. If banking reforms boost domestic interest rates further, as we anticipate, this too should give the already cash-rich rural population additional incentive to boost agricultural output.

On the whole we believe the positive factors outweigh the negative and we anticipate annual gains in the value of agricultural output of between 5 and 7 percent over the next few years. The gains should enable Beijing in most years to devote the bulk of its foreign exchange reserves to equipment and technology rather than to agricultural imports. Nevertheless, as both rural and urban incomes expand, food consumption will probably also rise sharply. This--combined with the massive problem China already has in moving grain to urban consumers--will, we believe, result in continued purchases of sizable quantities of US grain, even in years of better-than-average weather. Poor climatic conditions in consecutive years would probably deplete grain reserves and bring China back into world markets in a big way.

Military--More Technology But Limited Expenditures

With the renewed emphasis on economic reform we expect defense spending to remain at relatively modest levels. To bring about qualitative, if gradual, improvement of defense capabilities and to appease the military leadership that is eager to modernize, Beijing will, however, probably continue to increase the import of Western military-related technology. The purchase in 1984 of 24 Sikorsky medium lift helicopters for $150 million is evidence of this turn westward. The military has a strong economic argument in support of its desire to boost imports; since 1979, exports of Chinese military hardware abroad have generated several billion in foreign exchange, well in excess of anything currently being requested.

Industry--Major Obstacles Ahead

Long term success in the industrial sector depends heavily on how fast and effectively some of the new reforms can be implemented. Despite Deng's efforts, there is still considerable opposition within the party bureaucracy to further expansion of the reforms. There are those with grave ideological reservations about the program, and those who fear that Deng's concomitant demand that the party upgrade the expertise of party leaders, as well as enterprise managers, will cost them their jobs. Since the task of implementing new reforms rests heavily on these mid-level cadre, we expect progress to be neither smooth nor rapid, as they seek by various bureaucratic methods to impede the progress of changes they view as threatening.

Beijing already has achieved some success in removing party cadre from the economic decisionmaking process and installing trained technicians in their place. Hu Yaobang recently told Japanese officials that nearly 1 million veteran cadre have left their posts since the government began its efforts to upgrade its managerial expertise, and 2 million will have retired by yearend 1984. Further progress in this political aspect of reform will improve the chances for overall success.

Other institutional changes needed to buttress reforms will probably continue to develop slowly. Despite major reforms in the banking system, there is evidence that local pressures, not economic factors, continue to determine the direction of loans. Nor has Beijing been very successful at replacing budgetary allocations with loans. This suggests that enterprises still lack the incentives necessary to force them to make efficient investment decisions. The productivity of capital is unlikely to show marked improvements until Beijing achieves better results with its banking reform.

Efforts to revitalize the commercial system may generate considerable efficiency gains. The difficulties that stem from China's inadequate road and rail system are compounded by bureaucratic problems that accompany tight state control over transport activities. Although it would take a masssive investment program to eliminate Beijing's transportation problems, we believe that the increased involvement of individuals and cooperative enterprises in-middleman activities will alleviate a significant number of the distribution problems that now plague Chinese industries.

We anticipate that, over the longer term, devolution of the decisions on hiring, firing, wages and prices to managers will improve enterprise efficiency. As more enterprises are required to market their own products, quality will undoubtedly improve and a wider variety of goods can be expected on Chinese markets. Since small firms producing nonessential goods will be given the most leeway, they will probably be the first to show marked improvements. Progress within large, state-run enterprises producing major goods will, we believe , occur more slowly.

Despite some short term problems as the government carries out price adjustment policies, we do not believe there is significant risk of serious long-term inflation. For this to occur, the government would have to be willing to sustain the increases in consumer demand by printing money. Although some subsidies or wage increases will be offered in the early stages of the adjustment process--to help ease concerns about eroding purchasing power--the conservative government is unlikely to resort to long-term use of the printing press to finance consumer spending.

On the whole, we believe the gains from current reform will lead to some efficiency gains as early as next year. Although Beijing is likely to be disappointed at the rate of progress, the fact that the economy is moving in

the right direction should give impetus to further change. If, however, Beijing backs away from price reforms, the overall reform program could lose steam rapidly. Under such a scenario, Beijing might be forced as early as 1986 to move back toward greater central control.

If Beijing can resist political pressure to ease off on reforms in the face of mounting problems, we believe long-term productivity will increase and economic growth will accelerate. Government efforts to encourage surplus labor to take up private commerce and service activities have considerable potential for increasing both agricultural and industrial productivity. The renewed emphasis on enterprise autonomy also bodes well for productivity increases, some of which will go unobserved in Beijing as enterprises attempt to understate profits to avoid taxes.

A final threat to the continuing rapid advance of economic reform is the health of China's 80 year old leader, Deng Xiaoping. Although Deng's successors are firmly committed to the reform policies--and indeed, Hu Yaobang and Zhao Ziyang have staked their political futures on success--they still lack Deng's political clout and tenacity. If one of the more prestigious advocates of central planning--such as Peng Zhen, Li Xiannian or Chen Yun--is able to succeed to Deng's pivotal role as power broker and final authority, we believe that he might at least attempt to curb some of the more experimental aspects of reform. In our view, however, a modicum of success for economic reform programs will enhance the prospects for Hu and Zhao to succeed Deng smoothly.

A Worst Case Assessment.

Deng and his allies have indicated they expect that the early going will be rough and are prepared to ride out short term problems, such as panic

buying and isolated runs on banks. If those problems persist, or get worse, critics of reform will almost certainly seize on the dislocations to call for a return to direct central control, even though this alternative has demonstrably failed to promote efficiency in the past. Although reform advocates seem to hold the balance in party councils now, party and military conservatives could coalesce into a potentially powerful political bloc if economic problems became socially destabilizing.

Even if Beijing manages to weather its inevitable short-term problems, Deng's death or a combination of incremental breakdowns--such as floods, drought, a succession of poor harvests, a rapid rise in undesirable side effects of economic expansion such as price gouging, speculation, or graft--could over the longer term tip the political scales against reform and lead to a retreat.

Retrenchment on reforms would confront the party with serious sociopolitical difficulties as it sought to reassert its control down to the local level. At a minimum, the party leadership would again be seen as vacillating and unconcerned with the common welfare, precisely the image it seeks to dispel by implementing new policies. At worst, disaffected peasants or workers might engage in active or passive resistance. The failure of reform would almost certainly bring on a protracted period of political instability, as leaders struggled for the right to affix the blame.

Implications for the United States

In our judgment, implementation of the reforms will both broaden and deepen China's ties with the United States and the West. The emphasis on technological innovation at the plant level, foreign capital acquisition, and increased joint ventures will expand investment and trade opportunities for US

and Western businesses. In addition, we expect that Chinese enterprise managers will take advantage of their new flexibility to tap the West for increased amounts of information, training, and managerial expertise.

At the same time, however, the reforms will aggravate some current problems in US-China relations. It can be expected that Chinese enterprises will want greater access to Western markets to sell their products--largely textiles and light industrial goods--so Beijing's pressure on Washington to lower trade barriers will increase. Similarly, Beijing will probably press Washington harder on technology transfer in response to both its needs for economic and military modernization and the demands of its own enterprises. It is also likely that China will reduce its grain imports from the West as its agricultural production continues to improve.

In the five years since the "open door,"--one of China's most fundamental reforms--was introduced, two-way trade with the United States has burgeoned from $1.1 billion in 1978 to a peak of $5.5 billion in 1981 before receding slightly to $4.4 billion last year. US investors have reportedly put $90 million into joint ventures in China, US oil companies have probably spent an additional $300 million in offshore oil exploration, and Occidental Petrolemm Company is involved in a coal mining joint ventures that may generate $400-600 million in machinery, equipment, and technology sales. As long as the reformers continue to hold China's economic policies we believe these economic ties with the West will expand.

Beijing's continued success with economic reform could also prove to be a tempting example for other countries struggling with central planning. Chinese economists have already spent a great deal of time studying East European experiments with economic reform. Articles in Chinese economic journals have been especially favorable toward the Hungarian experiment where

major reforms have been under way since 1968. Beijing is also reportedly encouraging the North Koreans to learn from the Chinese reforms and relax their tight control over the economy. As China's program proceeds other countries--including some LDCs and even a few of the East European nations that China patterned its early reforms after--may look more closely at making wider use of market-oriented programs.

China: Selected Economic Indicators
(1979-1984)

	1979	1980	1981	1982	1983	1984(est)
Growth in GNP (percent change)	7.0	6.4	4.9	8.3	9.1	10
Gross Value of Industrial Output (percent change)	8.5	8.7	4.1	7.7	10.5	13
Heavy Industry (percent change)	7.7	1.4	-4.7	9.8	12.4	13
Light Industry (percent change)	9.6	18.4	14.1	5.7	8.7	12
Output of Selected Products						
Grain (million tons)	332.1	320.6	325.0	354.5	387.3	400-410
Raw Cotton (million tons)	2.2	2.7	3.0	3.6	4.6	5-5.5
Cloth (billion meters)	12.2	13.5	14.3	15.4	14.9	14
Watches (million units)	17.5	22.7	29.1	33.1	34.7	36
Sewing Machines (million units)	5.9	7.7	10.4	12.9	10.9	9.5
Bicycles (million units)	10.1	13.0	17.5	24.2	27.6	28
Volume of Freight Traffic (percent change)	11.0	5.6	1.0	6.8	7.2	N.A.
Volume of Passenger Traffic (percent change)	12.9	15.9	9.6	9.8	12.8	N.A.
Total Energy Production (million tons standard fuel)	645.6	637.2	632.2	667.7	712.6	759
Oil (million tons)	106	106	101	102	106	114
Coal (million tons)	635	620	622	666	715	760
Natural Gas (billion cubic meters)	14.5	14.3	12.7	11.9	12.2	12
Hydropower (billion kilowatt hours)	50.1	58.2	65.5	74.4	86.4	83.2
Exports (billion US$)	13.7	18.9	21.5	22.9	23.5	27
Imports (billion US$)	14.4	19.3	18.0	16.7	18.3	24
Foreign Exchange Reserves (billion US$)	2.2	2.5	5.0	11.3	14.9	23

Senator PROXMIRE. Gentlemen, I want to thank all of you, Mr. Gates, Mr. Noren, Mr. Licari, Mr. Carver, and commend you for your excellent testimony and the comprehensiveness and high quality of the prepared statement on the Soviet Union and China.

In the interest of getting information to the public as soon as possible, I would like you to sanitize the statement you gave us, so it can be released, hopefully in the next 2 weeks or so.

The entire transcript will eventually be printed in sanitized form, after we have heard from the Defense Intelligence Agency.

Again, I want to thank you and your staff for the fine work you're doing, and your appearance today. Thank you very much.

[Whereupon, at 12:25 p.m., the subcommittee adjourned, subject to the call of the Chair.]