

ALLOCATION OF RESOURCES IN THE SOVIET UNION AND CHINA

HEARINGS
BEFORE THE
SUBCOMMITTEE ON
NATIONAL SECURITY ECONOMICS
AND THE
SUBCOMMITTEE ON
TECHNOLOGY AND NATIONAL SECURITY
OF THE
JOINT ECONOMIC COMMITTEE
CONGRESS OF THE UNITED STATES
ONE HUNDRED FIRST CONGRESS
FIRST SESSION
—————
PART 14
EXECUTIVE SESSIONS
APRIL 14 AND JULY 7, 1989
—————

Printed for the use of the Joint Economic Committee



U.S. GOVERNMENT PRINTING OFFICE
WASHINGTON : 1990

22-367

For sale by the Superintendent of Documents, Congressional Sales Office
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¹ The name of the subcommittee was changed from "Subcommittee on National Security Economics" to "Subcommittee on Technology and National Security." This change did not affect the membership of the subcommittee.

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ALLOCATION OF RESOURCES IN THE SOVIET UNION AND CHINA

FRIDAY, APRIL 14, 1989

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

The subcommittee met, pursuant to notice, at 10:05 a.m., in executive session, in room SR-385, Russell Senate Office Building, Hon. Jeff Bingaman (chairman of the subcommittee) presiding.

Present: Senators Bingaman and Bryan.

Also present: Richard F Kaufman, general counsel.

OPENING STATEMENT OF SENATOR BINGAMAN, CHAIRMAN

Senator BINGAMAN. We will call the hearing to order.

This is a subcommittee of the Joint Economic Committee which has been designated the Subcommittee on National Security Economics.

I am very pleased to preside over this first hearing that I have had since I have been chairing this subcommittee, and it is fitting that the subject is the allocation of resources in the Soviet Union. The Soviet economy and attempts to reform it hold worldwide interest and are the subject of continued discussion and examination in this country and throughout the West.

CHANGES IN THE RIGHT DIRECTION

As the Soviet Union opens up to domestic and outside scrutiny under the policy of glasnost, we are learning much more about the country, seeing much more change than could have been imagined a few years ago. The changes so far seem to be in the right direction from the Western or American point of view. Gorbachev's reform proposals, some of which are being implemented, have the potential for radically transforming the Soviet system by introducing more rational policies and by moving toward a system where resources are allocated by the market rather than by central planners or bureaucrats.

The question is how far the reforms will go. Recent news is not encouraging as far as economic performance and new policy initiatives are concerned. Just yesterday, we learned that rationing has been introduced for sugar because of the shortages in that particular staple. Much as we would like to see the Soviet system change, we need to have the unvarnished facts before us so that we can judge the situation for ourselves.

We have learned to place great confidence in the assessments of the CIA and DIA in this area. We are very pleased to have those two agencies here today.

As I understand it, representing the CIA is George Kolt, who is the new Director for Soviet Analysis.

Representing DIA, General Frank Horton III, who is the Deputy Director for Foreign Intelligence.

Gentlemen, I have looked through the report; I have not read it fully, but I am anxious to hear your summary of it.

I guess the way to proceed is to have each of you take 10 to 15 minutes to present the highlights of the report. You might want to introduce those who accompany you and worked on this product.

I go to you, Mr. Kolt.

STATEMENT OF GEORGE KOLT, DIRECTOR, OFFICE OF SOVIET ANALYSIS, CENTRAL INTELLIGENCE AGENCY

Mr. KOLT. It is a privilege for me to appear for the first time before this subcommittee, Mr. Chairman. As you noted, I am new at the job of Director of the Office of Soviet Analysis, today being the start of my third week in that job. I am also a relative latecomer to the Central Intelligence Agency, having made a lateral entry into the Agency after a long career in the Air Force.

It is a particular pleasure for me to appear alongside of General Horton. I remember the days when we were both colleagues and teaching in the Department of Political Science in the Air Force Academy. That was some time ago.

Since I am new on the job, I am particularly pleased to have with me some of our analysts and managers who have more experience than I in dealing in detail with the Soviet economy, and I would like to introduce them.

On my left is John Young, who is the head of our Economic Performance Division.

Behind me is Bob Abbott, head of our Defense Economics Division.

Senator BINGAMAN. These are all divisions within the Soviet office?

Mr. KOLT. The Office of Soviet Analysis; yes, sir.

Further back are Geoff Schleifer and Vicki Rundquist, who actually did most of the work in preparing the statement that you have.

When General Horton makes his statement, he will introduce the people who are with him.

As I think you know, this is the 15th year that we have been asked to report, the CIA and the DIA, on Soviet military and economic developments. This is the fourth time that we are submitting a joint paper for the record. We are also happy to note that we are once again in fundamental agreement on the overall trends in economic performance and the indications for resource allocation. As you noted, you have the paper. There is a little summary. I would nevertheless like to highlight a few key points in order to set a framework for our discussions and for explaining our understanding of what is happening in the Soviet Union.

Specifically, I would like to discuss the impact of glasnost and the greater publicity on our ability to track economic growth, and then briefly review Soviet economic performance in 1988 and whatever policy adjustments may have been made by the Soviet leadership in that year.

General Horton will then follow me with some thoughts on the impact of Gorbachev's policy on Soviet military programs.

As regards to glasnost, there has been a very welcome upsurge—

Senator BINGAMAN. Let me just interrupt for a moment. Senator Bryan is here, who is a member of this subcommittee. We are very glad to have you here, Senator.

Senator BRYAN. Thank you, Mr. Chairman. Pardon the interruption.

Senator BINGAMAN. Mr. Kolt is starting the description of their analysis of the Soviet economy. Go ahead.

ECONOMIC DATA PROBLEMS

Mr. KOLT. Despite an upsurge in Soviet criticism in Soviet publications of the U.S.S.R.'s own official statistics, the resumption of a publication of some data series and an increase in the number of Soviet data handbooks published, we are probably not any better off than we were a few years ago in our ability to monitor Soviet economic performance from published Soviet data.

In some cases, the Soviets have stopped publishing data. Certain monthly industrial production statistics, for example.

In other cases, they have combined data in ways that make it difficult to interpret and verify. Even in those areas where the Soviets have begun publishing new information, estimates of GNP, for instance, put in Western terms, lack of any detailed methodology makes it difficult to interpret and impossible to verify.

Further, although glasnost has brought about a very welcome surge in criticism of official statistics by Soviet economists and a greater discussion of Soviet problems in the Soviet press, the economic critics so far have only been able to challenge Soviet estimates of growth. They themselves have not had access to sufficient masses of data or particularly to new or more reliable data, either to substantiate fully their alternative estimates of growth or provide us with new data.

Now we eagerly anticipate more complete and reliable Soviet statistics, hope they will be coming and certainly stand ready to revise our estimates, if we get more reliable data from the Soviet Union.

In short, while glasnost has revealed a great deal about Soviet political history and has provided new insights into Soviet social problems in the economics sphere so far, it has not been very revealing.

CIA-DIA ESTIMATES RELY ON PHYSICAL PRODUCTION

Now because of these problems and the historical problems with Soviet statistics, we have continued to make our estimate as we have in the past, and I want to stress, of course, that these are estimates of Soviet economic activity and should be viewed as such.

In producing these estimates, we rely primarily on disaggregated Soviet data on physical production, which we believe to be far more reliable than Soviet statistics put in value or ruble terms. Such ruble data, in our view, are seriously flawed because their apparent growth over time reflects substantial inflation as well as real increases in the output of goods and services. The mix is such that one cannot tell how much of their reported growth is actual growth.

In doing our estimates, we believe we have a good methodology and one that one of my colleagues will be pleased to discuss with you in detail, if you would like. But again, I stress it is a methodology made necessary by the distorted and incomplete records provided by the Soviets, and as all estimates, it contains a number of assumptions. Whatever its shortcomings in gross terms, however, we are confident our method has the virtue of consistency, and thanks in large part to our ability to publish detailed unclassified descriptions of our methods under the auspices of this subcommittee, our estimates have benefited greatly from the scrutiny of independent scholars.

Overall, we believe our estimates provide a good basis for identifying general trends and emergent problems, thus, trends of how the Soviet economy is doing from year to year on a comparative basis.

1988 ANOTHER BAD YEAR

Looking now at what we find in 1988, what our analysis shows us and what was also obvious to Soviet leaders, judging by their words and actions, 1988 was another bad year for the Soviet economy. We estimate that GNP grew only by 1.5 percent, and again, I use 1.5 percent to get some precision, but we should not get fixated on that exact number. It is a rough number.

Agriculture fell by over 3 percent. Per capita consumption rose by only 1.5 percent, and for what it is worth for Gorbachev, not at all, if alcohol consumption is excluded.

Now a sluggish economy would not have been disturbing to Gorbachev if his overall economic program were at least chipping away at the Soviet economy's technological backwardness and built-in inefficiency. His program to reform that economy, however, appears to have run into more serious problems than just slow growth. His modernization program, designed to equip Soviet industry with more modern machinery, has simply failed to live up to expectations after 3 years. Moreover, his attempts to introduce a greater economic rationale into decisionmaking through the device of so-called "self-financing" or really, better accountability, have done little to improve economic performance. In large part, this is because the leadership has put off in committing two of the most essential reforms on pricing and wholesale trade until later. In fact, one can say that the reforms have so far been mainly highly disruptive in the hands of planners and managers accustomed to Brezhnev-era management practices and still operating without the discipline that price reform would bring.

Finally, as noted, the leadership has failed in its hopes to improve living standards, continual shortages of consumer goods, such

as the one you noted at the beginning, sugar rationing in Moscow combined with inflationary pressures brought about in large measure by a record budget deficit, 9 percent of the Soviet GNP last year, left the consumer feeling worse off under Gorbachev than under his predecessors.

NEW EMPHASIS ON HELPING CONSUMER

As a result of this bind, Gorbachev appears to have reassessed and revised his original game plan. His emphasis now appears to be on helping the consumer and cutting the budget deficit, albeit at some sacrifice to progress in systemic economic reform. Indeed, in 1988 and early this year, we saw a number of major steps in this direction. As you undoubtedly know, Gorbachev has promised that the defense budget will be reduced by 14.2 percent and the production of military equipment and weapons by 19.5 percent by the end of 1990. Most of the freed-up resources are apparently to go to helping the consumer. Meanwhile, a high-level government commission submitted a program in mid-February of this year that besides for calling for reduced defense spending, cuts subsidies to unprofitable enterprises, and for the first time since World War II, reduces state investments.

Again, I think this is mainly at the profit of the consumer.

PRICE REFORMS POSTPONED

Finally, the Soviets have decided to back off some of the reforms that might have adversely affected the consumer. Specifically, they have put off retail price reforms which would have meant an increase in the price of some goods bought by the consumer. Food items are the most prominent example of that. Now this, I think, may temper dissatisfaction, lessen the danger of instability, but it also delays the systemic reforms which we feel are needed.

Overall, these changes are potentially extremely important and if implemented effectively and sustain for several years could do much to improve living standards and reduce inflationary pressures.

Over the longer term, the Soviets will have to come back to systemic reforms, if their economy is to be revitalized.

Now, we cover these issues in the paper. I think they will be covered more fully in the question and answer session. Let me, therefore, wrap up my presentation by saying just a few words about our ability to follow these policy shifts, the implementation of these shifts, especially the proposed defense spending cuts during this era of glasnost.

PLANNED DEFENSE CUTS

As noted before, we remain highly skeptical of glasnost as it applies to official Soviet statistics, and the way they announce their defense cuts is an example of why we are skeptical. The Soviets proclaim the very precise figure of 14.2 percent reductions in overall defense expenditures, not one-seventh or roughly 15 percent, but 14.2. At the same time they tell us that they cannot get released data on the size of their overall defense budget, that they

don't know themselves what it is. Now even some Soviet commentators have noted the absurdity of this stance.

Likewise, the Soviets have been vague as to what the 14.2 percent reduction in military spending represents. Is it a reduction from the 1988 spending level? Is it a reduction from some plan that was devised from 1989-90, or is it something else? They just have not said.

Now Gorbachev's announced reduction of 500,000 troops, 10,000 tanks, 8,500 artillery pieces and 800 aircraft is much more straightforward, but here too we will have some difficulties in monitoring. We are encouraged by Gorbachev's recent release of Soviet military manpower figures that come close to our own, particularly, as subsequently amplified by a military spokesman. At least on manpower, it looks as though we will be starting our monitoring from a roughly common overall base that the Soviets have published.

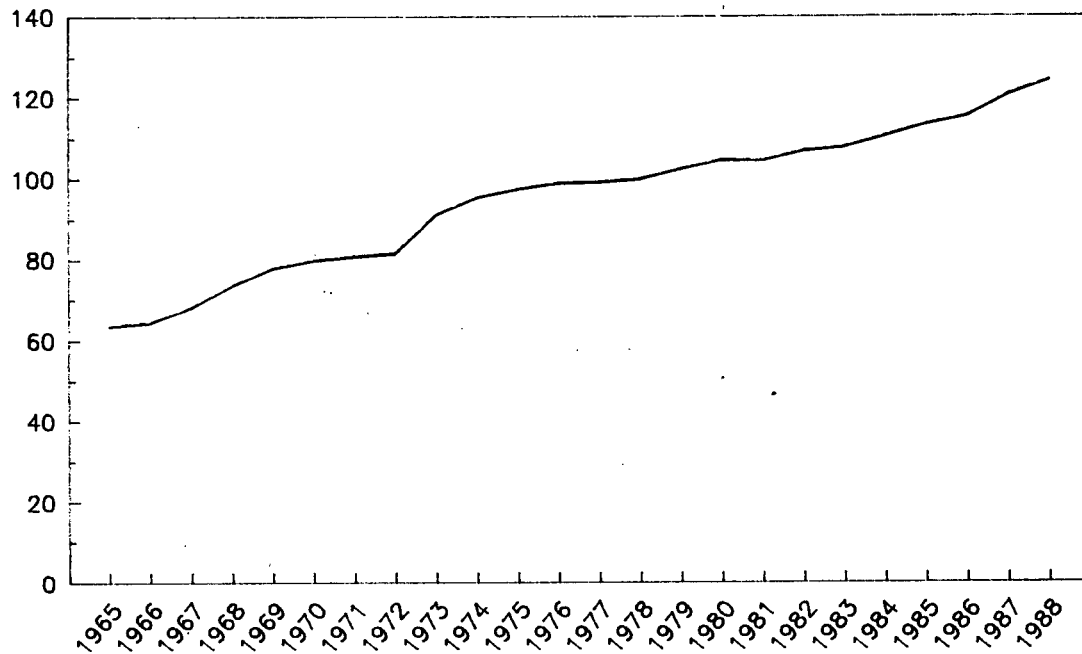
I think this will end my presentation, and it leads into General Horton's, who will talk about some of the implications of what we are seeing in the defense area.

[The following CIA charts and tables were attached to Mr. Kolt's oral statement:]

Soviet Defense Expenditures

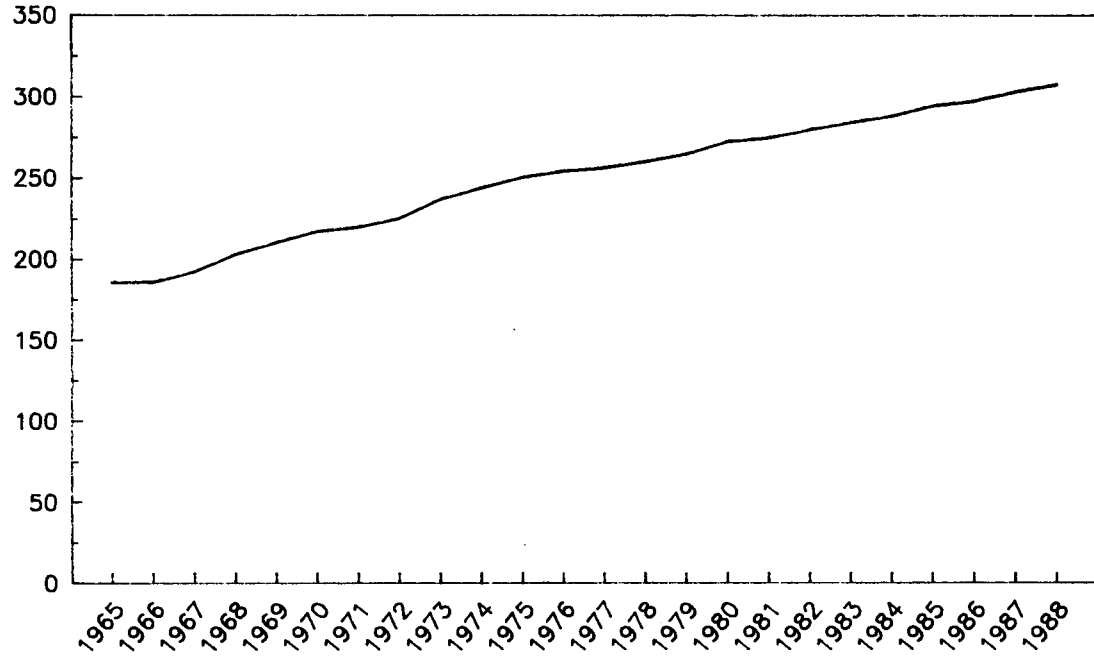
1965-1988

Billion 1982 Rubles



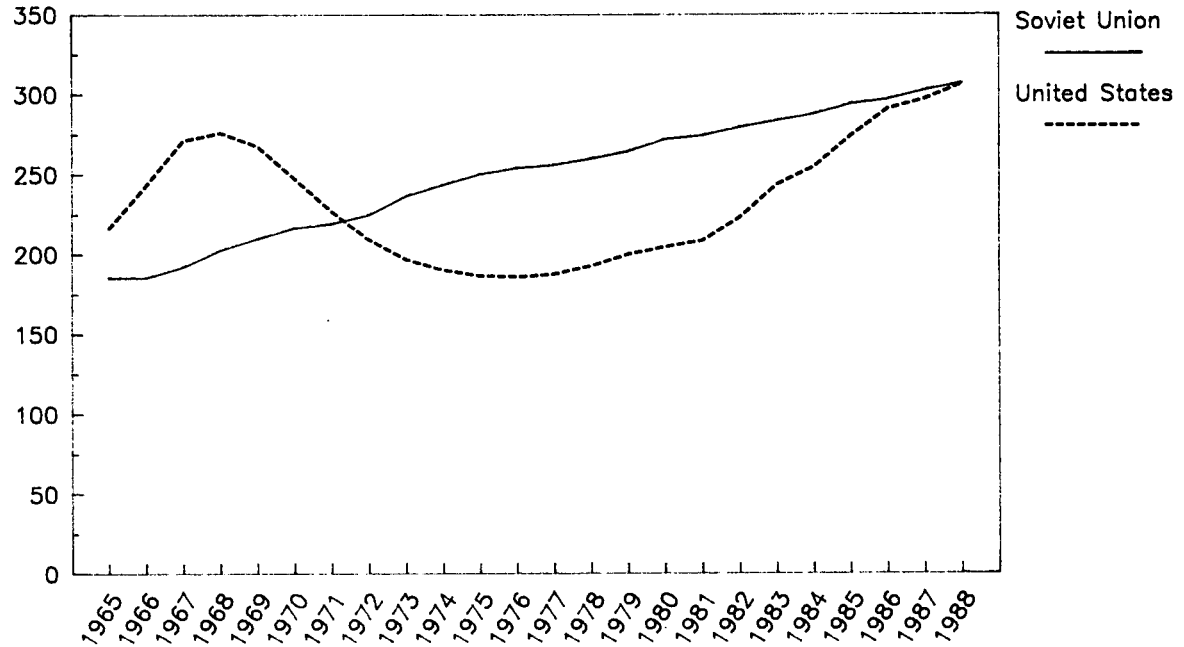
Soviet Defense Expenditures 1965-1988

Billion 1987 Dollars



Soviet and US Defense Activities 1965-1988

Billion 1987 Dollars

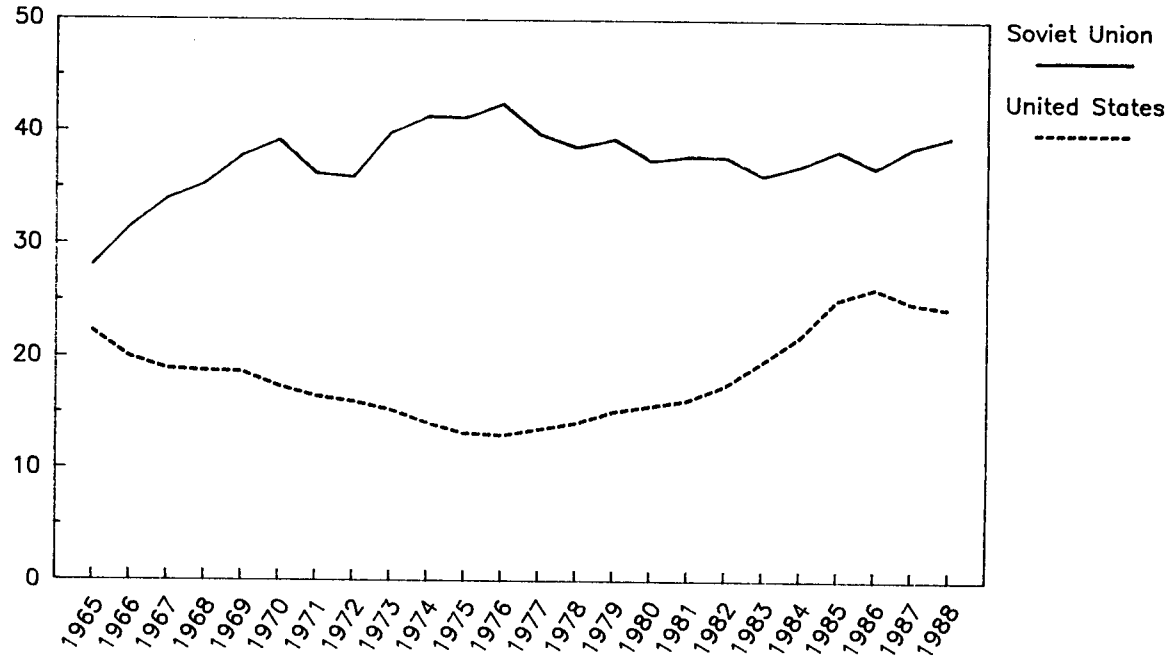


Soviet and US Defense Activities

Strategic Forces

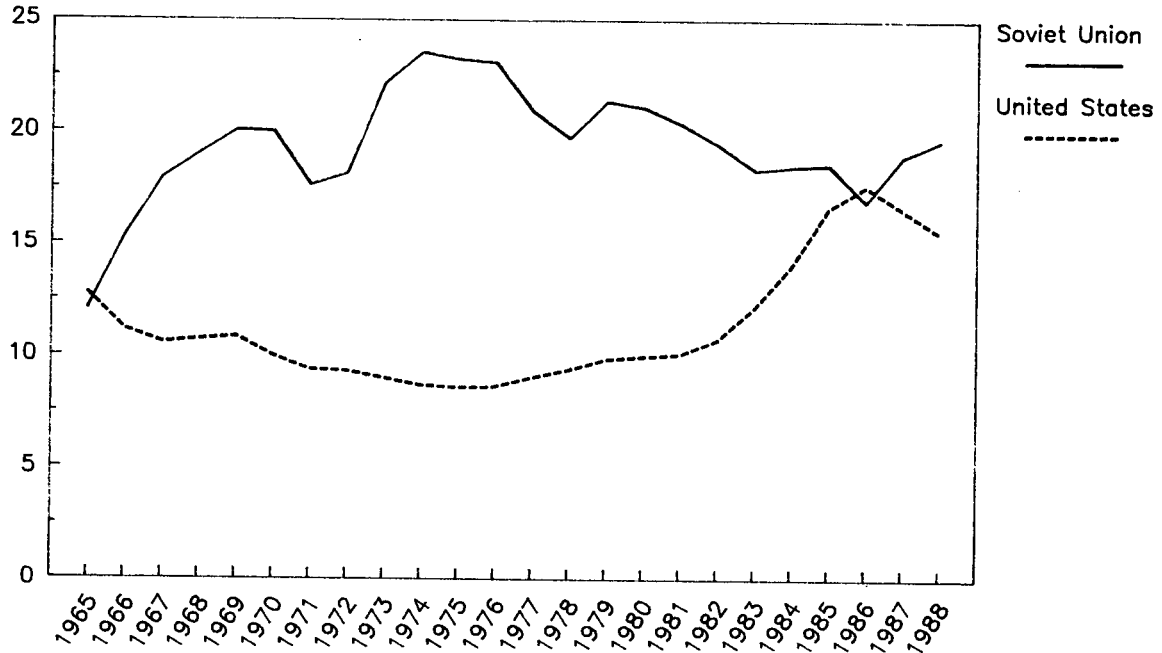
1965-1988

Billion 1987 Dollars



Soviet and US Defense Activities Strategic Offensive Forces 1965-1988

Billion 1987 Dollars

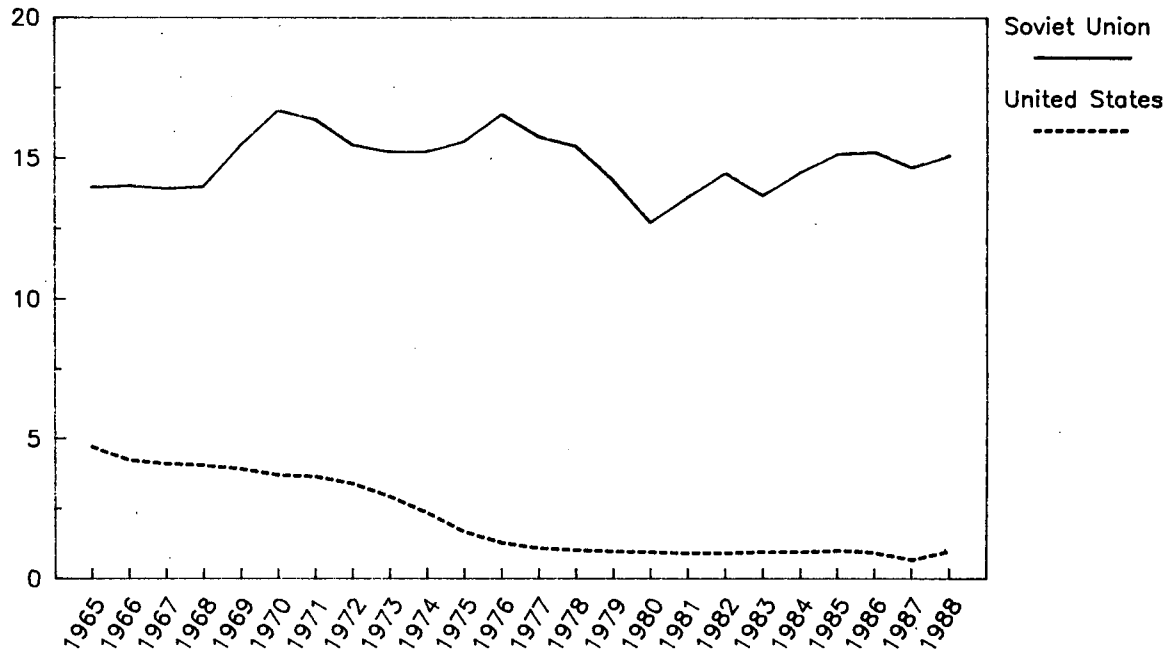


Soviet and US Defense Activities

Strategic Defensive Forces

1965-1988

Billion 1987 Dollars

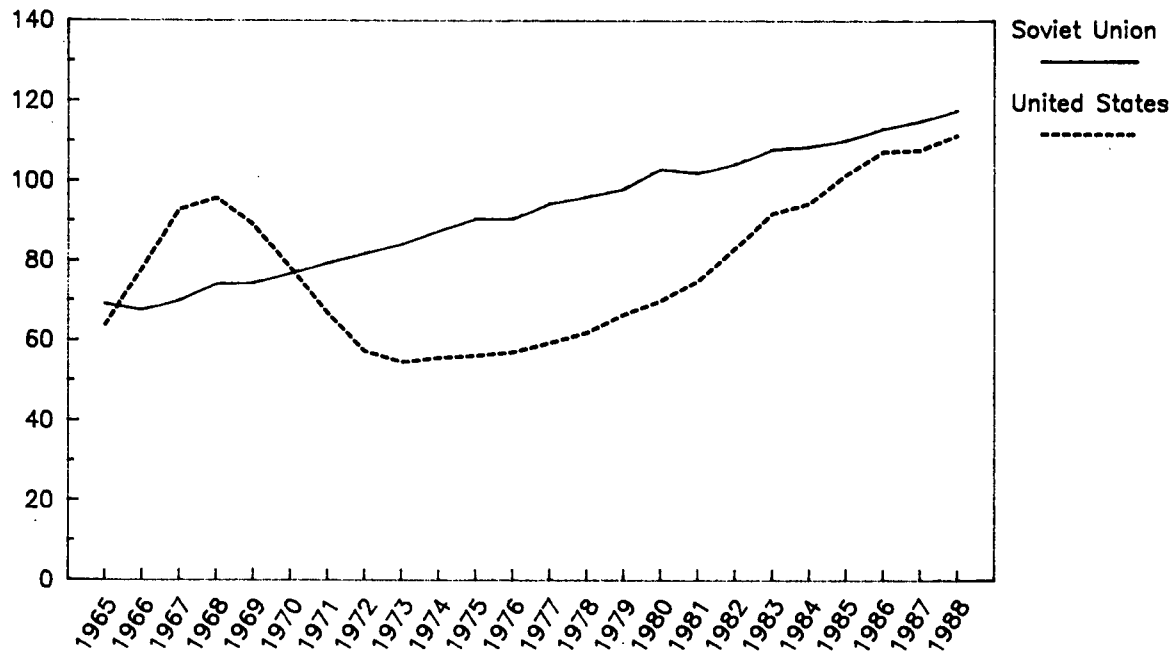


Soviet and US Defense Activities

General Purpose Forces

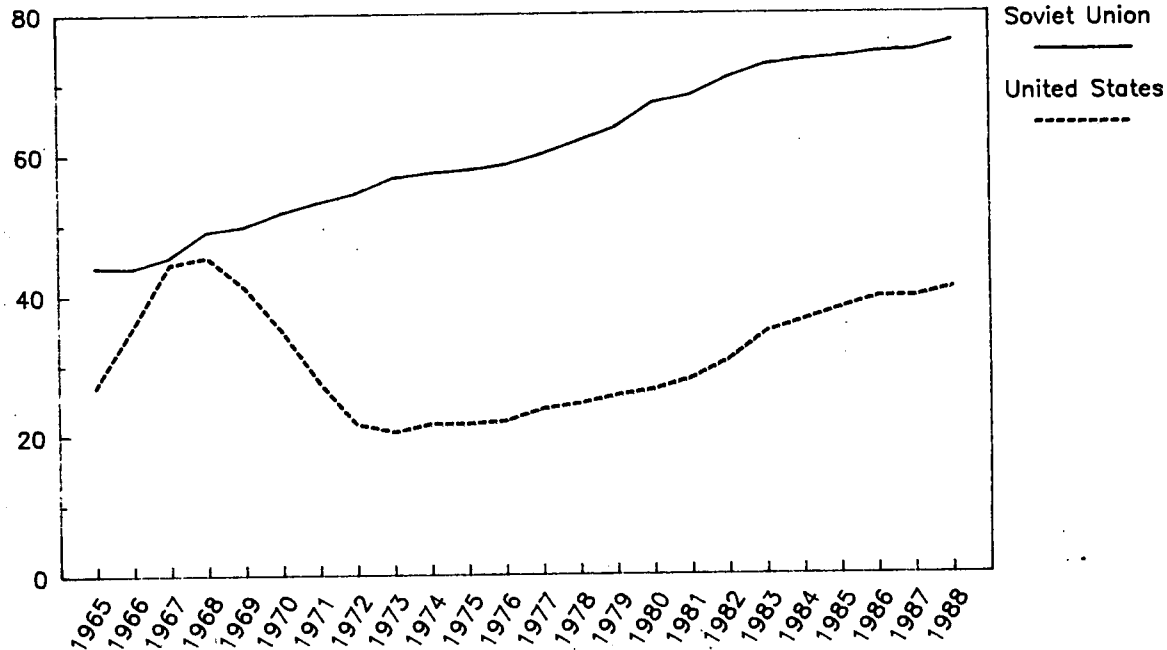
1965-1988

Billion 1987 Dollars



Soviet and US Defense Activities Ground Forces 1965-1988

Billion 1987 Dollars

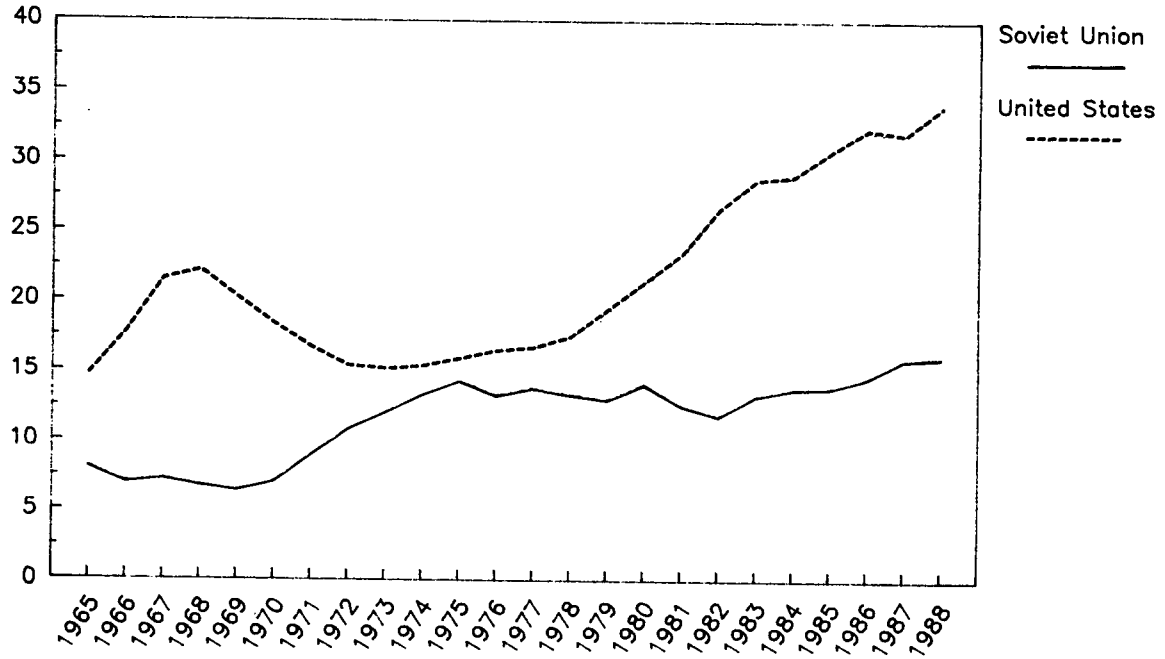


Soviet and US Defense Activities

Tactical Air Forces

1965-1988

Billion 1987 Dollars

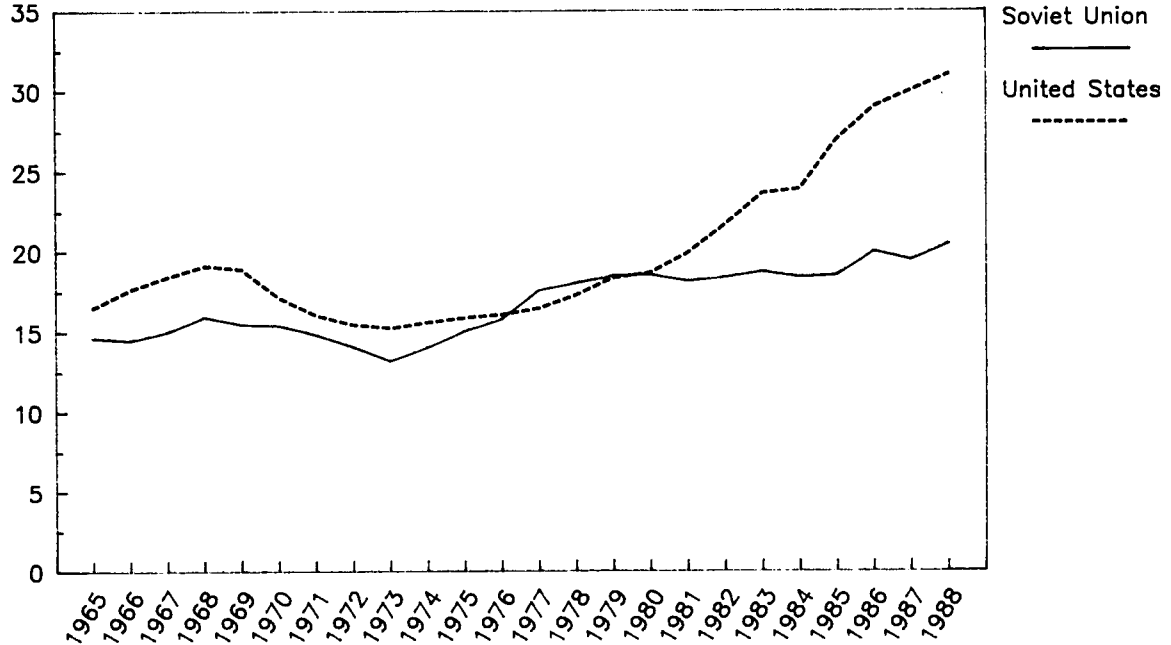


Soviet and US Defense Activities

General Purpose Naval Forces

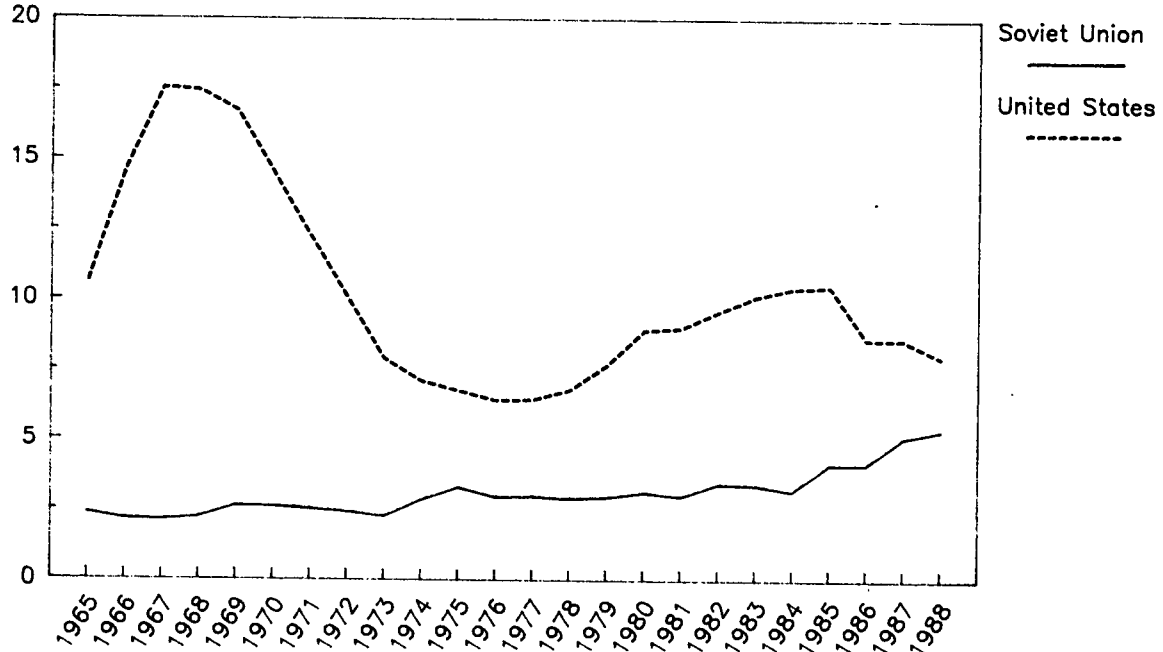
1965-1988

Billion 1987 Dollars



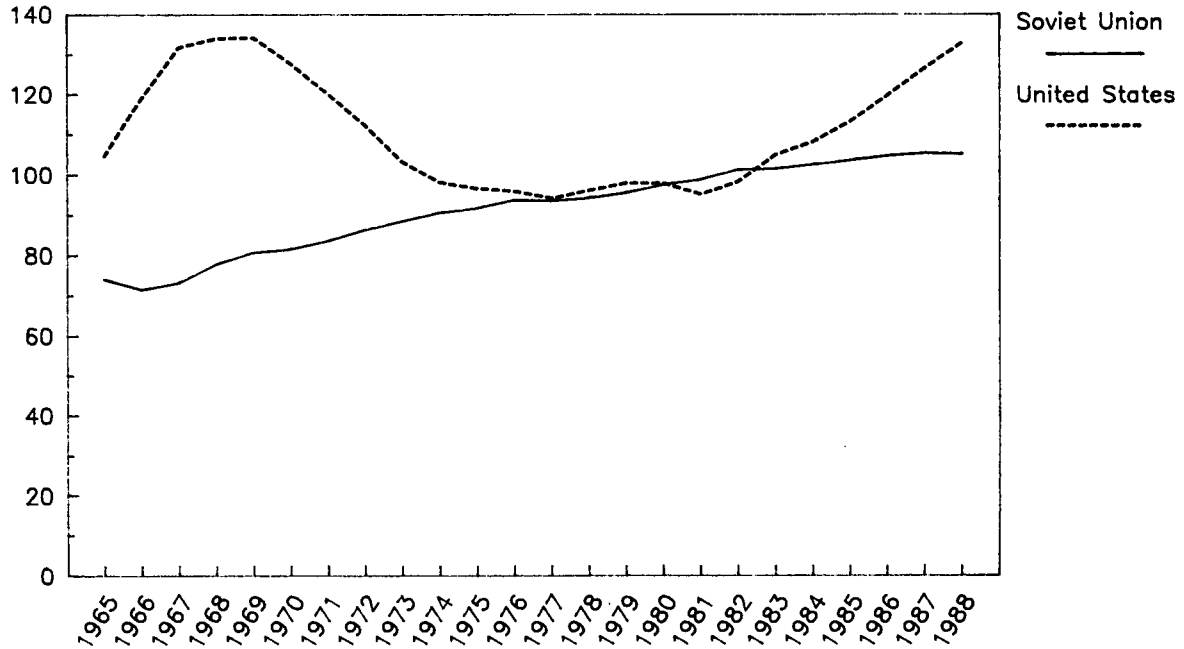
Soviet and US Defense Activities Mobility Forces 1965-1988

Billion 1987 Dollars



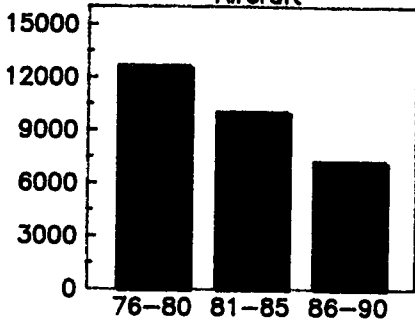
Soviet and US Defense Activities Support Forces 1965-1988

Billion 1987 Dollars

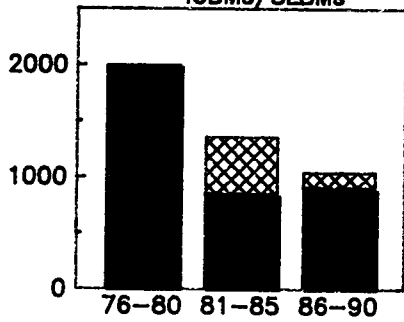


Estimated Production of Selected Soviet Weapons

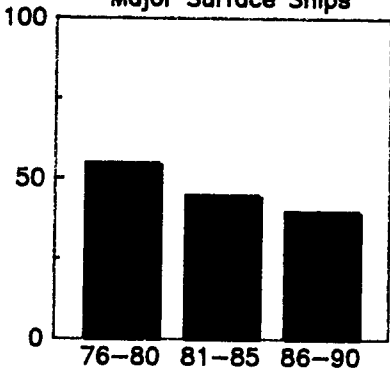
Aircraft



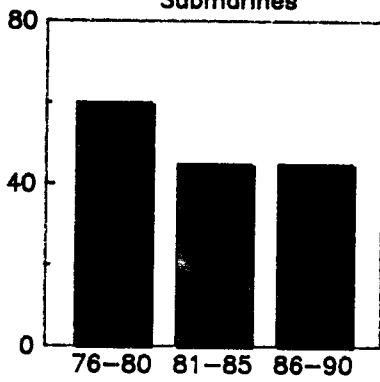
ICBMs/SLBMs



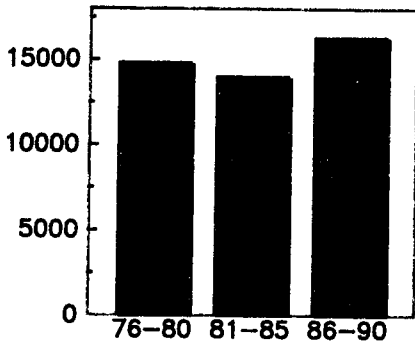
Major Surface Ships



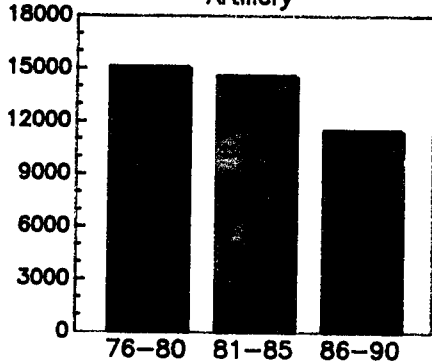
Submarines



Tanks



Artillery



NOTES

1. Production estimates for 1989 and 1990 are based on CIA projections that may be subject to considerable revision as events in the USSR unfold.
2. CIA's estimates are represented by the black bars. DIA's estimates, where different from CIA's, include the crosshatched segments as well.

USSR: Estimated Hard Currency Earnings (Includes Oil)
from Military Aid Deliveries

	Million Current US Dollars						
	<u>1981</u>	<u>1982</u>	<u>1983</u>	<u>1984</u>	<u>1985</u>	<u>1986</u>	<u>1987</u>
Latin America	20	30	40	40	60	50	50
Middle East/ North Africa	3,100	4,100	4,300	3,600	3,000	2,500	3,000
Sub-Saharan Africa	170	150	220	200	170	170	220
Asia	--	--	--	--	--	--	--
Total	3,300	4,300	4,600	3,800	3,300	2,800	3,300

This table is UNCLASSIFIED.

USSR: Value of Military Grant Aid Deliveries
to the Third World

	Million Current US Dollars							
	<u>1981</u>	<u>1982</u>	<u>1983</u>	<u>1984</u>	<u>1985</u>	<u>1986</u>	<u>1987</u>	<u>1988</u>
Total	4,670	6,230	5,700	6,050	<u>5,000</u> 6,750	6,000	7,700	7,800
Latin America	<u>1,430</u>	1,500	<u>1,270</u> 1,450	<u>1,300</u> 1,170	<u>830</u> 1,840	1,540	1,900	1,960
Sub Saharan Africa	<u>500</u> 560	570	1,030	1,240	780	<u>600</u> 750	<u>1,050</u> 1,240	970
Near East and South Asia	<u>1,470</u> 1,680	2,760	1,970	1,850	1,583	<u>2,360</u> 2,060	2,600	<u>3,070</u> 3,580
East Asia and Pacific	1,130	<u>1,400</u>	1,440	<u>1,470</u> 1,700	1,640	<u>1,500</u> 2,100	2,050	1,540

Note: Values are rounded to the nearest \$10 million. When one value is given, CIA and DIA estimates are the same or varied by less than 10 percent in which case an average of the two is given. When two estimates are given, CIA and DIA estimates varied by over 10 percent. CIA estimates are given first. (U)

This table is Unclassified.

USSR: Value of Military Deliveries to the Third World

	Million Current US Dollars							
	<u>1981</u>	<u>1982</u>	<u>1983</u>	<u>1984</u>	<u>1985</u>	<u>1986</u>	<u>1987</u>	<u>1988</u>
Total	14,160	16,030	16,500	16,300	13,680	15,480	19,080	19,100
Latin America	1,780	1,820	1,630	1,700	<u>1,130</u> <u>1,360</u>	2,030	2,350	2,180
Sub-Saharan Africa	<u>1,280</u> <u>1,430</u>	1,450	2,700	3,350	<u>2,270</u> <u>1,960</u>	<u>1,570</u> <u>1,870</u>	2,850	2,440
Near East and South Asia	9,520	10,860	10,380	9,250	7,950	<u>10,170</u> <u>8,130</u>	11,000	11,630
East Asia and Pacific	1,500	1,900	1,780	2,000	2,370	<u>2,300</u> <u>2,860</u>	2,880	2,860

Note: Values are rounded to the nearest \$10 million. When one value is given, CIA and DIA estimates are the same or varied by less than 10 percent in which case an average of the two is given. When two estimates are given, CIA and DIA estimates varied by over 10 percent. CIA estimates are given first. (U)

This table is Unclassified.

Senator BINGAMAN. General Horton, we are glad to have you here.

STATEMENT OF MAJ. GEN. FRANK HORTON III, DEPUTY DIRECTOR FOR FOREIGN ECONOMIES, DEFENSE INTELLIGENCE AGENCY

General HORTON. It is a real pleasure to be here today, sir, and to be next to my colleague, George Kolt, who is a little modest about his background. When he was in the Air Force, he served in a military liaison mission, and also in the U.S. Embassy in Moscow.

After he got over to Langley, as I recall, you were the Assistant National Intelligence Officer for the U.S.S.R. and the NIO over in Europe. And he was chief of the European shop in the CIA before he became chief of the Soviet shop at the CIA.

Mr. KOLT. I have done more than just teach at the Air Force Academy.

General HORTON. It is a pleasure to be associated with you again today, George.

With me from DIA, seated to my left is Jerry Weinstein, our Senior Analyst in the economy shop in the office that looks at Soviet affairs. Back in the back, joining him, Dave Newman, Assistant Deputy Director for Science and Technology, who can address issues regarding military technology, technology transfer and that sort of thing. Also Sam Crawford again from our Soviet research outfit whose specialty is military production, and Bill Schultz, again, from the Soviet shop, whose specialty is Soviet force structure and force posture and some others as well.

GORBACHEV AND MILITARY REQUIREMENTS

I would like to go back in picking up the challenge that George has laid down for me and tie into before Gorbachev, if I may, and look at the development of military requirements by the military establishment, looking in particular at statements and written publications by Ogarkov and others talking about the need to match the technology of the West, seeing SDI in a leading edge role, seeing what NATO would call CDI or follow-on forces attack or the Soviets would call it reconnaissance strike complexes that reach well beyond the forward line of troops and strike the second echelon is something that needs to be matched technologically in the general purposes forces area and concern that rather than catching up, they might be falling behind as compared to the West, seeing the need that would have to be built on top of an improved economic base. And many of the military pressing Brezhnev and others to reform the economy, so that it might serve the military in the year 2000 and beyond. Otherwise the gap might get larger and the security of the state might be in jeopardy.

Gorbachev comes along and agrees that indeed the technological base and the economic base do need to be revitalized and improved and strengthened, and so on. But at the same time, even from the outset, he seemed to be taking a somewhat different tack from the Akhromaevs. Akhromaev would say let's do the best we can now. Let's accelerate now and get better at accelerating later by improving the technological base of the economy, so that we don't allow a

gap to open up before we eventually close it. Gorbachev seeming to say there are really two approaches to avoid a gap. One is, we speed up. The other is to slow the other side down. Given the difficulties I perceive, putting words in his mouth now and summarizing things we have heard him say in other settings, given the difficulties of this technological base and this economic base, we aren't going to be able to accelerate. We aren't going to be able to afford to accelerate in the near term.

PEREDYSHKA—BREATHING SPACE

What we need to do is get, as he said in his own book "Perestroika," peredyshka or breathing space, and by "breathing space," one needs to reduce the threats we face, and the way to do that is at least to lessen the threat that those who would threaten us would perceive. You can sort of step through a number of military mission areas as this spins out. Gorbachev's initial concern in this regard seemed to be SDI. Right from the outset, he was interested in, if not stopping SDI, at least slowing it down and pushing very hard, as we know, to a narrow interpretation of the ABM treaty and applying that for some period of time as a technique to do that.

Concern about not only what SDI per se might produce but what SDI might spinoff in terms of offensive capabilities and in terms of spillover into the general purpose forces and, indeed, into just economic competitiveness.

STRATEGIC OFFENSIVE FORCES

One might then also look at strategic offensive forces. There seemed to be less concern at the outset on his part in that area. He was doing, comparatively speaking, better in that area in terms of intercontinental ballistic missiles, already trained. There was yet another modification to the SS-18, the Mod 5, which would improve its hard target kill capability, but moving into the mobile missiles, the SS-25's in advance of the West. With regard to bombers, the Blackjack following hard on the heels of the Backfire. With regard to SLBM's, two modern SLBM's or SSBM programs, with particular note to the Adela-4's and the SSM-23's, with the possibility of a hard target kill capability from an SSBM force.

The savings one might achieve too with reductions on both sides in strategic forces might be less than most other areas, but still we explored the possibilities, and we have proposals on the table in which the Soviets have offered some approaches that we might not have anticipated in advance with regard to cutting back possibly the heavy ICBM area, allowing bomber counting rules, which might on the surface seem to be advantageous to the West, although when you look at the size of the Soviet air defense system as compared to that of the West and the production lines for Backfires and Blackjacks today, it is unclear, a decade downstream, to whose advantage the bombing counting rule ultimately falls.

THEATER FORCES

Then you look at transitioning down toward the theater forces where the greatest statements might be achieved. Theater nuclear

forces, of course, that is where we actually had the most progress, as we well know. After the fielding of the SS-20's, and we countered with the Pershing II's, they finally came back to the table and agreed to 0-0, after much discussions of possibilities that would have been less advantageous to the West.

Now we see a lot of pressure for the third 0 and the short-range nuclear forces. On the Soviet side we see a lull. Some characterize it as the end of one phase of Soviet SNF modernization and on the threshold of another phase. That is, we would simply say it is a lull in a continuing phase in SNF modernization. Inasmuch as they are past masters of making a virtue of necessity, they say now that we have to go into this lull, why don't you, as well?

But one might well ask which comes first: SNF reduction or elimination or a reduction and an elimination in conventional forces, particularly considering NATO's strategy of flexible response and the degree to which it would depend upon, as they well know, the threat that leaves something to chance, the possibility of escalation in the use of nuclear weapons, which brings us to that area which is most attractive from their point of view, in terms of potential savings that might be oriented toward either investment and infrastructure which, to some degree, is fundamental and could be applied to either military or civilian construction in the future, which, as Mr. Kolt has pointed out, they have had to now shift out to some degree, because it hasn't worked that well, or into consumer consumption per se, which is important in its own right and also in terms of motivating the worker to become more productive, which affects the other segments of the economy.

WHY UNILATERAL CUTS NOT PREDICTED

But getting back to conventional forces, I would like to go ahead and address a question that must be on your mind as it was on our own from the very outset. Why didn't we predict the unilateral cuts? There certainly were some indicators that there might be unilateral cuts. There was some discussion among certain civilian analysts in the Soviet Union about that. There were some indicators out of intelligence sources to indicate that it was under discussion, but at the same time, you had Akhromaev, when he visited the United States, presumably with Gorbachev's blessing, saying no way will there be any more cuts. They must be bilateral and not only just bilateral, United States-Soviet, but they must be NATO to Warsaw Pact, because from the Soviet perspective, non-United States-NATO is more significant than non-Soviet-Warsaw Pact.

That was reinforced again when Secretary Carlucci visited with Defense Minister Yazov in the Soviet Union. Again, no unilateral cuts. We had no reason to believe that that was the official position and would remain so. After all, it would be to their advantage if they were to reduce and we reciprocate. But sure enough, we have the announcement in the United Nations, why would that be the case? It is difficult to say why for certain, but one might at least look at indirect evidence. We know that the Chinese, for example, were pressing the Soviets very hard to make reciprocal reductions in general purpose forces to their own that they have unilaterally done not too long before. About a million men on their side. And

indeed, they were saying to us that they would expect the Soviets to reciprocate for those cuts, that that would be part of one of the three conditions for the improvement of Soviet-Chinese relations which, of course, Gorbachev is very interested in.

Furthermore, Europe was also on Gorbachev's mind. The very fact that he replaced Dobrynin with Falin, who is a Europeanist and no particular friend of the United States by inclination, is indicative of the focus on a European audience. Surely he must have thought that if he would have been able to gain not only political leverage but, indeed, perhaps, some unilateral action on the part of the Europeans with some unilateral action on his own. And as we have seen things develop, he may well be right, and then obviously, the United States, if not to bring about unilateral actions, at least encourage us to be serious at the bargaining table, if you will, to prime the pump.

With all these considerations in mind, I would expect that while the military, and they did say so, in private publications, were not entirely happy with this, at the same time they were prepared to accept it and live with it. Indeed, one might even see it as a compromise because rather than a million men which the Chinese were looking for, it's 500,000, although there may be more forthcoming in the upcoming Soviet-Chinese summits to be announced. I wouldn't be surprised if we heard something more about additional cuts in the East at that time.

EFFECTS OF CUTS ON EUROPEAN BALANCE

The result in terms of the balance of forces in Europe is another reason why the military would be, in my mind, willing to go along with this. When you look at the first echelon of forces on both sides, as they in their calculations in the macro sense, echelons, that is, West Germany on one side, East Germany, Poland and Czechoslovakia on the other, using the technique [security deletion], the ratio has been reduced from about 1.1 in the Pact's favor in combat potential to about a 1 to 1 ratio of combat potential.

But if you look further back into the second echelon to the U.K., France and so on, and the rest of Western Europe on the one hand and to the Western districts of the Soviet Union on the other, the balance appears to be little affected. In fact, the balance of military capability remains at somewhere between a [security deletion] advantage to the Pact.

Once you move back to the third echelon, the United States on the one hand and the deeper Soviet military districts on the other, the advantage again shifts the other direction. In that echelon there is an advantage to the West, but of course, we have an ocean to cross, and they do not. And bringing those forces to bear, it certainly has, as we have said in estimates and elsewhere, reduced considerably the potential for a short warning on reinforced attack. It has put a greater premium on reinforcement and mobilization to be able to have any kind of confidence of success of an attack on the part of the Warsaw Pact.

But all in all, the overall correlation of forces remains at about a 2 to 1 advantage to the Pact when all of the echelons are consid-

ered, which brings us to where do they go from here? Will they make further cuts?

As I have already indicated, we might expect to see some further announcements concerning forces in the East, but we have heard from Shevardnadze and others once again what Akhromaev said, what Yazov said, before the cuts were announced. Now this is what we want to do in terms of bilateral negotiations. While he didn't say so in so many terms, Shevardnadze's formula amounts to elimination of asymmetries, that is, we eliminate imbalances in the things that seem to be threatening to you, tanks in particular, you eliminate asymmetries of those things that tend to be threatening to us like capable aircraft, another one of those links between conventional forces and nuclear forces in pursuing Western response. And they have concern about carrier forces and sea-launched cruise missiles.

The next phase might be deep cuts which, if they are at parity, would not seem to be all that threatening. On the other hand, Chris Donnelly, who is about to move from Sandhurst to become the Chief Sovietologist for the Secretary General of NATO, and also General Galvin, in the presentation he made to the Council on Foreign Relations, struck the theme that if deep cuts go deep enough, even in parity, in the correlation of forces, the capability to continue to mount a successful forward defense, which is the initial part of the NATO strategy, is thrown into doubt, that one may need to move from the forward defense to a mobile defense to trade space with time, and while that could work, is the NATO alliance prepared for that, politically?

So there might be a floor below which deep cuts might be of concern to us, before they could be a concern to the other side.

"OFFENSIVE CAPABILITIES"

Finally, the elimination of offensive capabilities, and there is always the question of what do we mean and what do they mean by "offensive capabilities"?

When Marshal Akhromaev came to the Council on Foreign Relations, he was asked that question: Specifically, since your concept of defense includes the counteroffensive, and while you are talking about letting us in and then only after a period of time, if you can't negotiate us out, you will throw us out. Throwing us out talks about a counteroffensive. How can you talk about a force that is capable of a counteroffensive and one that is capable of an offensive in the first place? He really didn't have a good answer to that question.

But presumably, it has to do with, again, a correlation of forces that would not give confidence in the ability to mount offensive operations, that is, something well above a 1 to 1 ratio, which we do see after these cuts announced at the United Nations are brought to pass, a 1 to 1 ratio, at least in the forward areas. And that is a good move from our perspective.

FUTURE CHANGES

But what else do we expect to see in these forces? Regardless of any negotiations, I think we will see modernization, a continuing

upgrading of the percentage of tanks that are new, the percentage of tanks that have new technology, for example, and mobility as a part of that, an ever-increasing percentage of self-propelled artillery and the like and the professionalism of the force.

There has been some speculation as to whether they would go to an all-volunteer force, in today's paper, I understand, Minister of Defense Yazov denied that that is where they are going, but that does not necessarily mean that they are not going toward a more professional force, that if one were to, in the process, eliminate 500,000 men and eliminate 100,000 officers, if that was a move away from that group of officers that affect those NCO-type tasks in the Soviet military, and if one were then to pick the best of the lot of a smaller group of conscripts to then become part of a professional career NCO corps to pick up those tasks, one could at once improve the professionalism of the force and reduce its cost, because presumably, you are paying the enlisted less than you are the officers, and you are reducing training costs because your turnover is slower.

It would also help solve your demographic problem and your problem of a greater percentage of non-Soviets, or I should say non-Slavic members of the Soviet military.

So the bottom line is that while there may be reductions, the reduction, if any, of military capability is certainly not proportional to those reductions. And if the reductions at the same time can be carried out on the part of the West, the correlation of forces may remain reasonable from the point of view of the Soviet Union.

PURPOSE OF PERESTROIKA

To wrap up, I would borrow a quote from John Ericson, who many of you may know is at the University of Edinburgh and has studied the Soviet military for sometime. Indeed, he was even invited by Khrushchev to work with the Soviet military as Khrushchev was experimenting with some reforms in his time to provide advice. His insight is a rather simple one. "Perestroika has a purpose, and the purpose is not to build a consumer society, although that could conceivably be a side effect over time."

The purpose of perestroika was initially peredyshka and the restructuring of an economy that could ultimately provide a broader and more robust base for a superpower with political and economic capability to manage that one-legged military capability that was the basis of the superpower status in the past.

OUTCOME OF PERESTROIKA

Should we wish that he succeed or fail in that quest? I think that is the wrong question. I think the question might be rather how quickly would he succeed or fail? If he succeeds quickly, which is very unlikely, as our paper points out, the nature of the society and the nature of the objective will not have had an opportunity to have changed very much, if at all, and that increased power might then well be used in ways inimical to our interests. If he fails quickly, then there are two outcomes at least that would not be particularly propitious for us, either perhaps replacement by someone who would re-Stalinize or some sort of a chaotic situation. In

either event, still well armed and perhaps less predictable and thus more dangerous a Soviet Union that we are seeing at the moment.

Perhaps what we should wish for is some kind of muddling through, and that if he eventually succeeds, it may not be in his generation's lifetime, but over a period of generations, which is truly the expectation of most Soviets anyhow. It may not be in my lifetime or even my child's lifetime but in my grandchild's lifetime, by which time perhaps we would have seen a greater pluralism develop over time and a more benign Soviet Union develop in that time as well.

In the meantime, to sum it up, what we are attempting to do perhaps, build bridges, think about crossing them perhaps, but don't burn them behind us. Thank you, Mr. Chairman.

[The joint report by the Central Intelligence Agency and the Defense Intelligence Agency follows:]

**"The Soviet Economy in 1988:
Gorbachev Changes Course"**

A Report

By The

Central Intelligence Agency

And The

Defense Intelligence Agency

Presented to the

Subcommittee on National Security Economics

Of The

Joint Economic Committee

April 14, 1989

**The Soviet Economy In 1988:
Gorbachev Changes Course**

14 April 1989

Not to be released without permission of the chairman.

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

**The Soviet Economy in 1988:
Gorbachev Changes Course**

Summary

In 1988, prompted by another year of slow economic growth, continuing disappointment in his efforts to modernize and reform the economy, and rising consumer dissatisfaction, General Secretary Mikhail Gorbachev reassessed and revised his economic policies. Gorbachev remains committed to his original vision of a revitalized economy. He has, however, apparently concluded that he cannot realize this vision as rapidly as he once thought possible, nor proceed directly along the path he initially planned to follow.

According to our estimates, the Soviet economy grew by only about 1.5 percent in 1988--the second straight poor yearly showing. Meanwhile, Soviet media indicated that the campaigns to modernize industrial plant and equipment and reform the economic system and even the once much-vaunted anti-alcohol campaign were not only failing to meet the leadership's expectations but were occasioning major disruptions:

- Only 68 percent of the state's priority projects scheduled for commissioning last year were actually completed and the growing backlog of unfinished construction testified to widespread waste of investment resources.
- Although economic perestroika has yet to include such radical moves as the elimination of price subsidies, the economic reforms that have been introduced reportedly have been confusing to planners and managers accustomed to Brezhnev-era ways of conducting their business.

- Reduced state revenues combined with increased state spending for investment, defense, and subsidizing unprofitable factories and farms substantially boosted the budget deficit and, in turn, inflationary pressures.
- Consumers grew more dissatisfied and more willing to voice their complaints--a development driven home to Gorbachev during a much-publicized trip to Siberia where he faced crowds of angry consumers.

Recognizing that a continuation of these problems would threaten both the USSR's economic well-being and his own political standing, Gorbachev launched a number of major policy changes designed to increase substantially the production of consumer goods and services, reduce the budget deficit, and postpone reforms that would require sacrifices on the consumer's part. These shifts were reflected in:

- The approval of a 1989 plan that greatly increased the priority of consumption.
- A subsequent decision to cut state investment for the first time since World War II.
- The promise of a 14.2-percent cut in overall defense expenditures over the next two years.
- The leadership's move to put retail price reform on hold indefinitely.

The adoption of this package of measures does not signal the abandonment of modernization or economic reform. The cutbacks in investment are to come primarily from large, expensive projects such as land reclamation. At the same time, the leadership has reaffirmed its commitment

to retooling Soviet plants with modern equipment. Similarly, Gorbachev is proceeding with reforms such as land leasing and the encouragement of private-sector initiatives. Still, he has clearly modified his program in an effort to increase popular support for perestroika and reduce its disruptive impact.

The shifts that Gorbachev has implemented, in our view, have the potential--if sustained--to boost consumer welfare and bring a sense of order to the economy. A successful diversion of resources from defense to consumption, in particular, could do much to increase worker incentives and ease inflationary pressures, thereby paving the way for the eventual implementation of key economic reforms. Effecting such a diversion, however, will be no easy task given the inefficiencies that plague the Soviet economy.

Gorbachev, moreover, is likely to face political as well as economic obstacles to proceeding with his program. He will increasingly be held personally responsible for any of its future failures. This situation obviously increases the pressure on Gorbachev to produce results. Moreover, his decision to alter the pace of economic restructuring has made him vulnerable to second guessing--opponents and bureaucrats could see Gorbachev's temporizing as a sign of weakness and become even more recalcitrant. Although the regime has portrayed the defeat of a sizable number of party officials--several at high levels--in the March 1989 elections as a warning to those who are resisting Gorbachev's reforms, the unexpected repudiation of so many party officials almost certainly has strengthened pressure on Gorbachev from more conservative leaders who view his political reforms as a threat to party authority. On the other hand, the election of a bloc of radical reformers beyond Gorbachev's control-

-such as former Moscow leader Yel'tsin--gives those who have criticized the slow pace of economic reform a new forum in which to press their demands.

**The Soviet Economy In 1988:
Gorbachev Changes Course**

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**The Soviet Economy in 1988:
Gorbachev Changes Course**

This joint CIA-DIA report is the fourth in a series examining General Secretary Mikhail Gorbachev's efforts to revitalize the Soviet economy and the implications for defense. In particular, it assesses the major policy shifts Gorbachev initiated in 1988 to get his program on track. The first part of the paper details the economy's performance in 1988 and the status of the modernization and reform programs. The paper then discusses Gorbachev's backtracking on economic reform and his move to shift resources to consumer goods production. Finally, we consider whether these changes are likely to be successful.

1988 Economic Performance: Few Bright Spots

According to our estimates, after a spurt in 1986 the Soviet economy grew by about 1.5 percent in both 1987 and 1988 (see box 1), a rate

Inset 1
Intelligence Community Estimates vs. Official Soviet Claims

Although Soviet media commentary and leadership statements on last year's economic results have been highly negative, the officially reported growth of Soviet GNP--5 percent--is substantially above the Intelligence Community's estimate, as well as high by historical Soviet standards. As in the past, Moscow's official statistics exaggerate actual growth both because of their failure to correct completely for inflation and their understatement of agriculture's influence on overall economic performance. Soviet leaders have become increasingly critical of the official growth statistics and our estimate of the growth of Soviet GNP last year--about 1.5 percent--is currently more in line with leadership statements of the economy's performance than the growth figures reported by the state statistical authorities.*

* See Revisiting Soviet Economic Performance Under Glasnost: Implications for CIA Estimates, SOV 88-10068, September 1988, Central Intelligence Agency.

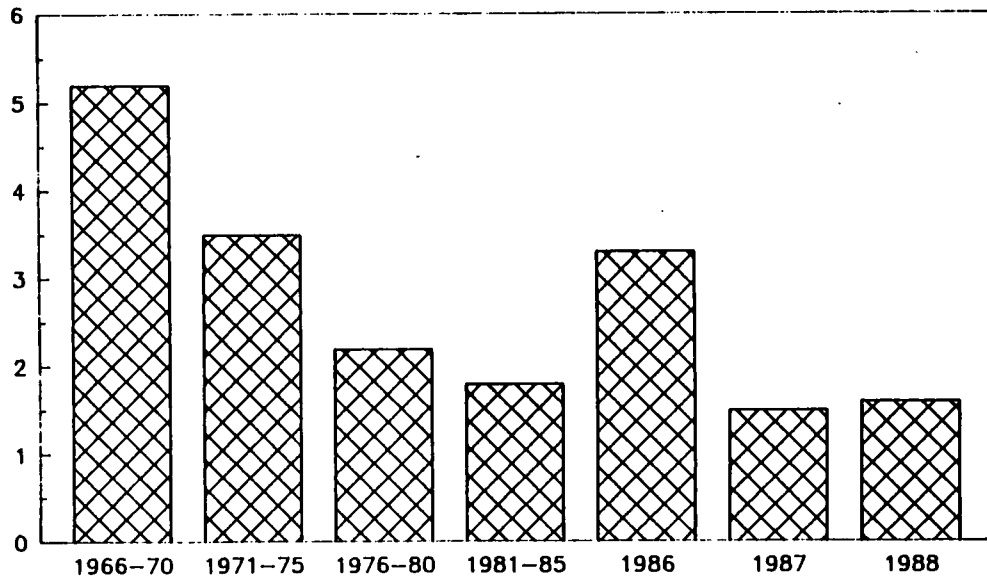
reminiscent of the pre-Gorbachev "stagnation years" (see figure 1).¹ Although the regime could take some comfort from the acceleration in the growth of labor productivity last year--as enterprises disgorged surplus labor and used the savings to raise wages and salaries--the performance of most sectors of the economy was extremely discouraging to Soviet leaders (see Appendix A for a detailed discussion and Appendix B for selected tables). A disappointing harvest did much to slow the economy's growth--farm production fell by an estimated 2 percent. Record highs in the production of meat, milk, and eggs were more than offset by a grain harvest that--according to Soviet statistics--was about 8 percent less than in 1987, a potato crop that was the worst since 1951, and stagnating vegetable and fruit production.

Not all of the blame for slow growth, however, can be attributed to agriculture. Our estimates indicate that industrial production increased by only 2-2.5 percent last year--not much better than the sluggish rates registered throughout most of this decade. This continued low growth might have been acceptable to the leadership if it had been caused mainly by enterprises halting production in order to retool--a development that might promise more and better output in the future. Unfortunately for the Soviets, such was not the case. Instead, supply disruptions, failure to bring new capacity on line, and confusion generated by reform measures such as wage reform and self-financing constrained output in most branches of industry. The crucial machinery sector continued to lag as even high-priority state orders for many types of machinery were not fulfilled. Although energy production grew by about 3 percent according to our

¹Our estimates for 1988 are preliminary, and, as with previous estimates, will probably be revised slightly as more complete information on the past year's economic performance becomes available to us.

Figure 1
USSR: Growth of GNP, 1965-88

Average Annual Growth Rates (Percent)



estimates--a respectable rate in light of the continuing difficulties of oil and coal extraction--the much ballyhooed Soviet campaign to conserve energy showed few positive results.

The Soviet leadership has expressed increasing alarm over the lack of economic progress. Premier Nikolay Ryzhkov in a year-end review of the economy painted an especially gloomy picture. Although some of the economy's problems were due to circumstances beyond Moscow's control--the Armenian earthquake (see box 2), for example--Gorbachev placed much of the blame on the failure of his own policies to take root. In a speech to scientists and cultural figures on 6 January 1989, he said that progress in the modernization program was being made only "very slowly" and that economic reform is "still encountering resistance." Yet the leadership currently seems most worried about the growing inflationary pressures caused by large state budget deficits and the consequent consumer discontent. In his 6 January speech, Gorbachev labelled this "the key question," while on 14 January 1989, Premier Ryzhkov said that the USSR's "most important task...[is] to satisfy the Soviet people's steadily growing needs."

Slow Progress on Perestroika

To judge from media commentary and leadership speeches, the Soviets were counting on continued positive results from their "human factor" campaign to achieve higher overall growth and effect some tangible improvements in living standards during 1988. They also expected their program to retool civilian industry to begin to bear fruit. Finally, they hoped that new economic reforms would get the economy on the path to economic vitality. In each of these areas, however, they were disappointed.

Inset 2
Economic Impact of the Armenian Earthquake

The Armenian earthquake of 7 December 1988 dealt a severe economic blow to a republic already hobbled by months of ethnic unrest and economic dislocation. Before the earthquake, Armenia's economy was suffering from work stoppages and disruptions resulting from ethnic clashes between Armenians and Azeris.

The earthquake killed an estimated 25,000 people and left 500,000 homeless, with damage to the region's industry, rail lines, road system, and power lines. Economic recovery will cost billions of rubles and take several years:

- *Moscow plans to construct about 5 million square meters of housing over the next two years, at an estimated cost of over 3 billion rubles, or 5 percent of annual investment in national housing construction.*
- *The length of time needed to rebuild damaged factories suggests that Armenian industrial capacity will not be fully restored for at least four years.*
- *Armenian agriculture will falter until destroyed irrigation systems are rebuilt.*

Although the damage to the small Armenian economy will have only a marginal effect on national economic performance, it will still strain Gorbachev's economic program:

- *The costs associated with reconstruction will increase the Soviet budget deficit and probably exceed the 8-billion-ruble cost of the Chernobyl' cleanup.*
- *The diversion of food and consumer goods to the stricken region will threaten already limited supplies of some of these commodities in other republics.*
- *Moscow's intervention in the economy to relieve the effects of the earthquake will further retard an already delayed program to increase enterprise independence and move toward economic decentralization.*

"Human Factor" Campaign. To give momentum to the economy,

Gorbachev first relied on his "human factor" campaign, which included a series of measures to increase personal accountability, improve worker attitudes, and "weed out" incompetents. The most visible of these measures were his campaigns for discipline and against corruption and alcoholism. During his first year in office, for example, 25 economic ministers and state committee chairmen were replaced as Gorbachev made clear his intention to hold government and party officials more responsible for their performance.

The Soviet press during 1985 and 1986 also indicated that as a result of the anti-alcohol campaign, there had been a marked decrease in absenteeism, fewer industrial accidents, and increased productivity overall.

Gorbachev continued to press parts of his "human factor" campaign in 1988. With the trial of former General Secretary Brezhnev's son-in-law Yuriy Churbanov last summer, Gorbachev again put officials on notice that corruption would no longer be tolerated. Similarly, the leadership continued to pay lip service to the issues of discipline and the need for greater efforts by workers. However, in at least one critical area--the anti-alcohol campaign--Gorbachev appears to have retreated in 1988. The apparent reason for this retreat was his recognition that the campaign had been less effective than originally claimed and had led to unforeseen problems. In contrast to earlier official claims that per capita alcohol consumption declined by 60 percent during the first three years of the campaign to reduce drunkenness, recent statements by Soviet officials indicate that the drop was less than half that amount as a result of a surge in illegal production. Home distilling of alcohol also contributed to widely-publicized sugar shortages, and the loss of revenue from taxes on official alcohol sales added to the budget deficit, perhaps by as much as 10 billion rubles per year. For these reasons, Gorbachev has allowed state production of alcohol to increase over the past year.

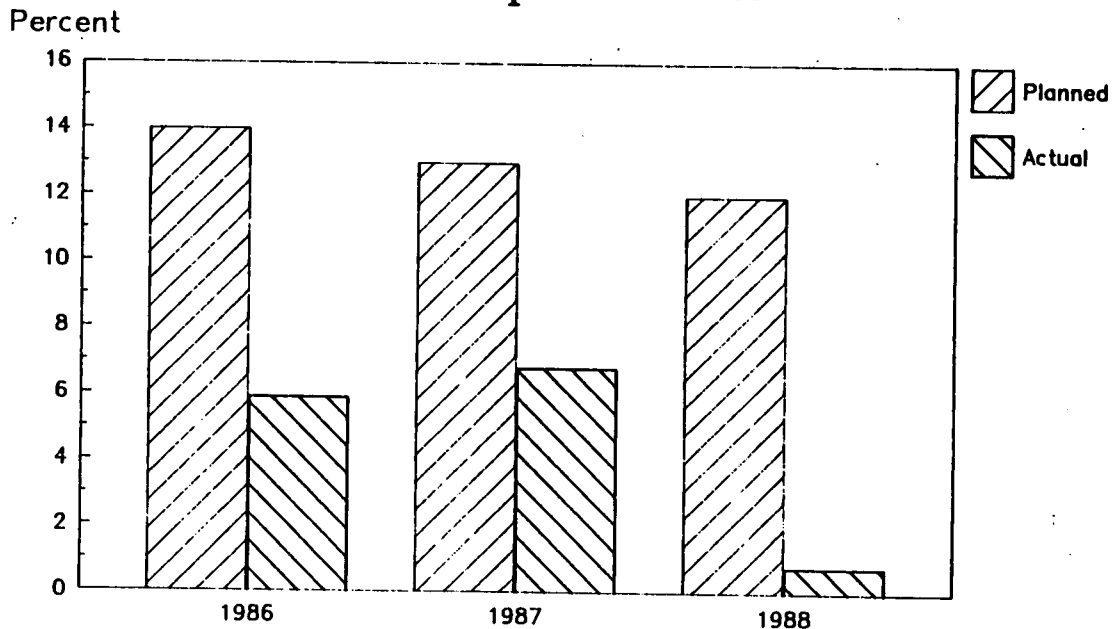
Modernization Program. Soviet media reports also indicate that after three full years, Gorbachev's program to reequip Soviet industry with more modern machinery has failed to live up to expectations. On the positive side, the proportion of investment used to retool and reconstruct existing enterprises continued to increase in 1988. Also, newly introduced machinery models were said to constitute 11.4 percent of machine building output,

compared with a planned level of 9.2 percent. These successes, however, have not been accompanied by comparable increases in commissionings, production capacity, or across-the-board improvements in product quality or in the technology embodied in new products. In fact, only 68 percent of the state's priority projects scheduled for commissioning last year were actually completed, with shortfalls in all sectors of the economy (see figure 2). Consequently, the total value of uncompleted construction projects increased by 8.7 percent over 1987. In addition, according to Izvestiya commentator Yuriy Rytov, scheduling and supply miscalculations resulted in over 14 billion rubles worth of equipment simply waiting to be installed at the end of the year.

Confusion accompanying implementation of decisions to reorganize the construction industry on a regional basis, to shift construction activity toward housing and other social-cultural purposes, and to switch construction organizations to self-financing undoubtedly contributed to the growth in unfinished construction. In addition, local officials and enterprises took advantage of increased autonomy to restart pet construction projects Moscow had halted in 1986 and 1987--in effect dissipating scarce construction resources. The pace of factory modernization suffered--commissionings of computerized processing centers and robotized lines actually fell--and shortfalls appeared in the planned output of heavy electrical machines, turbine generators, chemical machinery, metal-working machine tools, and ball bearings.

To make matters worse, much of the machinery produced in 1988 failed to meet Moscow's expectations for higher quality. Prime Minister Ryzhkov again complained that machine tool builders made too many manually operated machine tools and too few numerically controlled ones. According to the

Figure 2
USSR: Reported Growth in Commissioning
of New Capital Assets



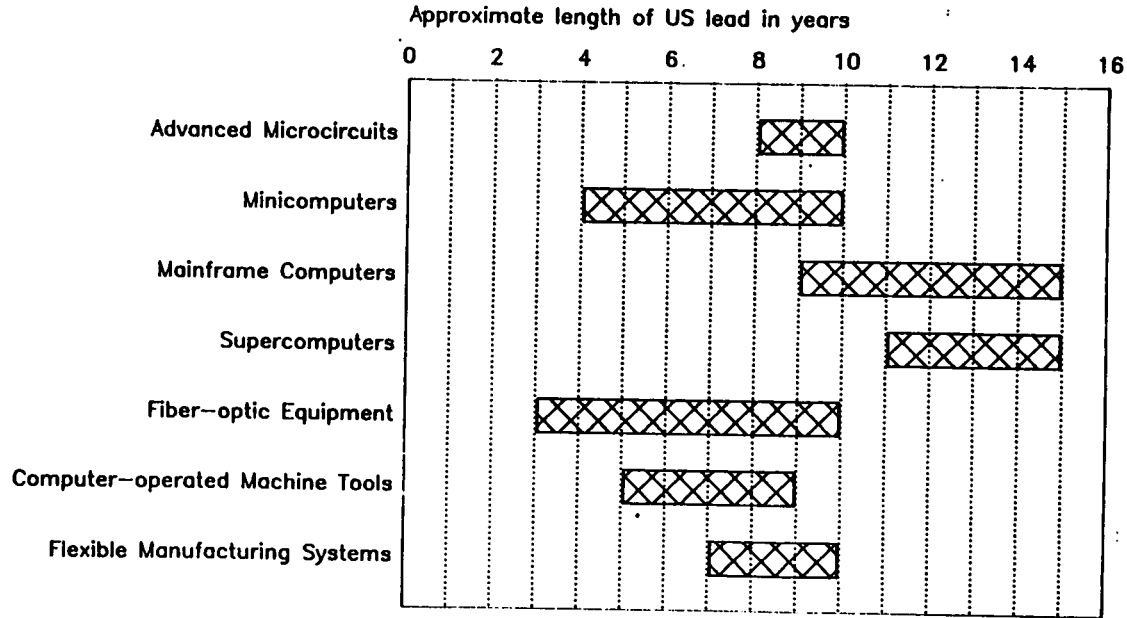
Soviet press, almost a quarter of newly produced machines purporting to meet world technological standards failed to do so. This trend must be particularly worrisome to Soviet leaders, as they struggle to overcome large--and in many areas growing--technological lags behind the West (see figure 3).

Economic Reform. Meanwhile, Gorbachev's economic reform package--which faced its first real test in 1988--did little to help matters. Almost without exception, implementation of the reforms (see table 1) proved to be disruptive.

Among the reforms introduced or extended last year were measures designed to:

- Slash the number of centrally mandated output targets--now known as "state orders"--and give the enterprises more authority to make their own production decisions.
- Reduce the central rationing of supplies and gradually replace it with a system of "wholesale trade" that allows enterprises to freely purchase their supplies from other enterprises, manufacturers' outlets, or territorial supply organs.
- Institute a system of economic accountability ("self-financing") that allows the enterprises to keep a larger percentage of their profits in return for footing more of their own expenses.
- Encourage the formation of independent businesses (cooperatives) to improve the quality and availability of consumer goods and services.
- Expand long-term leasing arrangements in agriculture to encourage greater individual initiative and responsibility.

Figure 3 Estimated Soviet Lag Behind the United States in Key Technologies



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

Table 1
Soviet Economic Reforms: A Status Report

	Major Purpose	1988 Results	1989 Goals
<u>Reform Enterprise self-financing</u>	Enterprises will bear full economic responsibility for the results of their activity. Investment will be financed through an enterprise's own resources.	Enterprises producing 60 percent of output in the economy reportedly operated on self-financing.	Reform is to be extended to 100 percent of industry and agriculture; planners "hope" to complete changeover of nonproduction sphere to same principles.
<u>Regional self-financing</u>	Republics and local governments will have a greater role in forming their own budgets and will be expected to cover a greater share of their expenditures.	Not yet introduced.	Reforms to be introduced in Estonia, Latvia, Lithuania, Belorussia, Moscow City, Tatar ASSR, and Sverdlovsk Oblast.
<u>Planning</u>	Enterprises will produce only a portion of their output in compliance with mandatory state orders and will be given greater latitude in determining the rest.	State orders made up 86 percent of industrial production.	State orders are to make up 40 percent of industrial production.
<u>Supply</u>	Only "scarce" producer goods and supplies for state orders will be rationed by the state. Other supplies will be distributed through a wholesale trade system to allow free purchase and sale between suppliers and buyers.	Only 4 percent of industrial output was distributed through wholesale trade.	About 10 percent of total industrial production under wholesale trade. 50-55 percent of sales through state supply networks operated on wholesale trade.
<u>Wages</u>	Entire wage and salary structure in the production sector is to be overhauled. Increases will depend on an enterprise's ability to finance them and be tied to increases in productivity.	Contrary to the reform, wages rose by 7 percent while labor productivity only rose by 5 percent.	No announced goal. 1988 goal was 60-70 percent of work force.
<u>Foreign trade</u>	Allows selected ministries and enterprises to engage directly in foreign trade and enter into joint ventures.	25 percent of exports and 44 percent of imports were conducted directly by enterprises.	Beginning 1 April, all enterprises have right to engage in direct foreign trade subject to some constraints not yet disclosed.
<u>Retail prices</u>	Will be made more flexible and will better reflect supply and demand, probably resulting in higher prices for foods, housing, and consumer services.	Not scheduled to be implemented.	None. To begin only after full public discussion.

Given the enormous bureaucratic inertia that plagues the Soviet economy, even well conceived and well implemented reforms would inevitably have been disruptive. The disruptions occasioned by these reforms, however, also reflected a number of problems in both their design and their execution. The most serious of these were caused by the decision to introduce a package of fundamentally interdependent measures gradually and sequentially, leaving full implementation of two of the most essential reforms--in pricing and wholesale trade--until last. The result was a series of "disconnects" that reduced the effectiveness of the package as a whole. For example, the attempt to implement self-financing before reforming the price structure meant that profitability could not be used as an accurate measure of enterprise efficiency. It was partly to compensate for these pricing inequities that the ministries continued to prop up unprofitable enterprises and rely extensively on state orders, undermining the intent of the reform.

Implementation of the reforms was also made more difficult by their introduction in the midst of a five-year plan that had been adopted before the reforms were worked out. As a result, enterprise managers were asked to undertake major reforms while at the same time meeting high output targets. Holding the ministries responsible for meeting those targets virtually guaranteed their continued interference in enterprise decisionmaking.

These design problems were compounded by execution of the reforms in ways that distorted their original intent. For example:

- Bureaucratic foot-dragging on the conversion to wholesale trade forced an even greater dependence on the central supply system than was envisaged by the 1988 plan.

- Some private businesses set their prices at exorbitantly high levels--a move that discredited the cooperative movement in the eyes of many consumers.
- When centrally-set state orders were reduced, ministries stepped in to establish their own state orders that often accounted for much--if not all--of an enterprise's capacity, thereby circumventing attempts to decentralize production planning.
- Leasing arrangements were interpreted by many farm managers in ways that gave the individual farmer no more incentive to increase his production than he had under the old system.

Growing Popular Dissatisfaction

While the leadership's efforts to restructure the economy were floundering, the regime encountered growing popular discontent over its failure to improve living standards. In laying out the 1986-90 Five-Year Plan, Gorbachev had originally told consumers they would have to sacrifice in the short run until economic reform and the industrial modernization program began to yield results. The regime stuck to this policy through most of 1986 and 1987, but speeches by Gorbachev and other senior officials during 1987 signalled their realization that Soviet workers expected more goods and services up front. To counter growing skepticism among the population as to the benefits of perestroika and otherwise build support for the regime, the Soviet leadership had promised to improve the availability of goods and services--especially food--and the quality of life during 1988. Indeed, in laying out the plan for 1988, Gosplan Chairman Talyzin said that consumer goods production was to be "considerably in excess" of the 12th Five-Year Plan targets for that year.

Consumers, however, had little cause for satisfaction in 1988. Per capita consumption grew, according to our estimates, by only about 1.5 percent and would have been stagnant had consumption of state-produced alcohol continued to fall. Reduced farm output, processing, marketing, and distribution problems, and the inadequacy of storage facilities resulted in food shortages and widespread consumer complaints. According to the Soviet press, "interruptions in the supply of beef" affected 80 percent of the major cities. The availability of nonfood consumer goods improved only slightly as well, and industry continued to be criticized by Soviet leaders for the poor quality of its goods. According to Premier Ryzhkov, the Soviets estimate that the unsatisfied demand for consumer goods last year amounted to approximately 90 billion rubles--by our estimates about 20 percent of total consumer purchases of goods and services.

The goods that were available, moreover, were often priced higher than in previous years. Indeed, since Gorbachev became General Secretary in 1985, prices in collective farm markets--where a large share of meat, fruit, and vegetables is purchased--have risen almost 20 percent, due to poor supply of these goods in state stores and rising consumer demand. Similarly, average prices for manufactured goods have risen sharply, primarily because many enterprises either artificially labelled some of their products as "new," allowing them to increase prices, or stopped manufacturing cheaper varieties of a given item.

The difficulties with mounting inflationary pressures last year were due primarily, however, to the emergence of large-scale budget deficits, resulting from a rise in state spending for food subsidies, defense, investment, and the support of unprofitable enterprises, and near stagnation in the growth of government revenues. We estimate that in 1988 the deficit

rose to roughly 9 percent of Soviet GNP (see figure 4). Moreover, as part of the wage reform package introduced in 1988, enterprises were given much more control over wages. This allowed enterprises to raise wages far in excess of productivity increases, thereby contributing to increased demand for consumer goods that were already in short supply (see figure 5).

All of these factors led during 1988 to a growing disparity between consumer expectations and actual results (see table 2). The most striking example of popular dissatisfaction came during Gorbachev's much-publicized trip to Krasnoyarsk in September 1988, where he was besieged by local residents complaining of poor housing, food, schools, and hospitals. Indeed, commentary in the Soviet press and widespread worker expressions of unhappiness suggest that Soviet citizens saw themselves worse off in 1988 than previously.

Rethinking Strategy

The lack of progress on economic perestroika and the surge in consumer discontent last year highlighted for the Soviet leadership the seriousness of the problems the USSR faces, as well as the extent of the economic and social disruptions to be expected during the transition to a "reformed" economy. Indeed, we believe that the growing recognition that his campaign to revitalize the economy was simply not working has led Gorbachev to alter his basic approach to solving the country's economic problems. In the clearest manifestation of this shift in course, Gorbachev has acknowledged that consumer welfare must be substantially improved soon if the regime is to develop broad-based popular support for perestroika. He put forward a 1989 Plan that gives consumer welfare a higher priority than did previous plans: production of consumer goods is slated to grow by 7 percent, rather than the original target of 5.7 percent. Minister of Light

Figure 4
USSR: Estimated State Budget Deficit, 1981-88

Percent of GNP

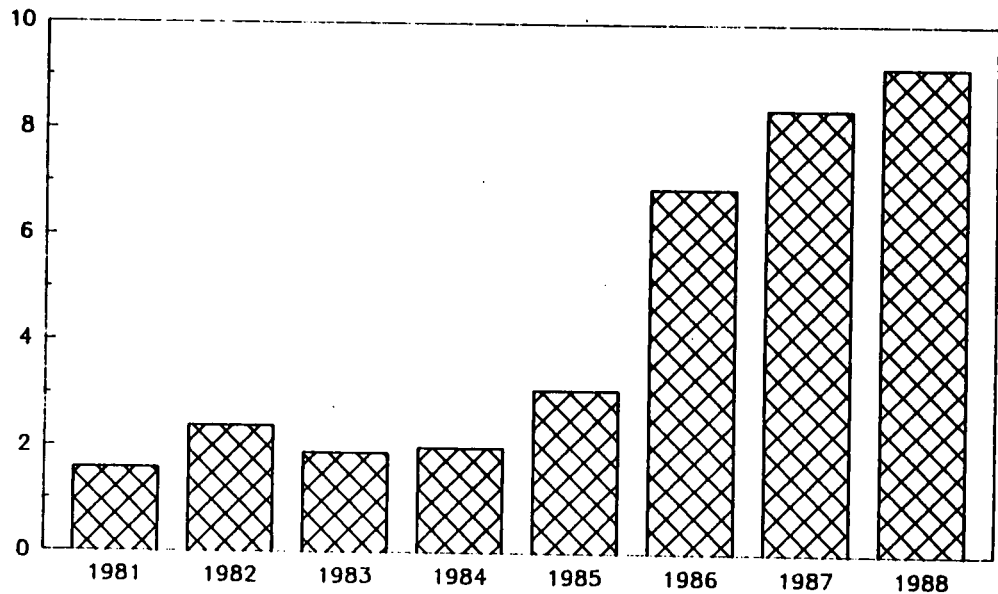
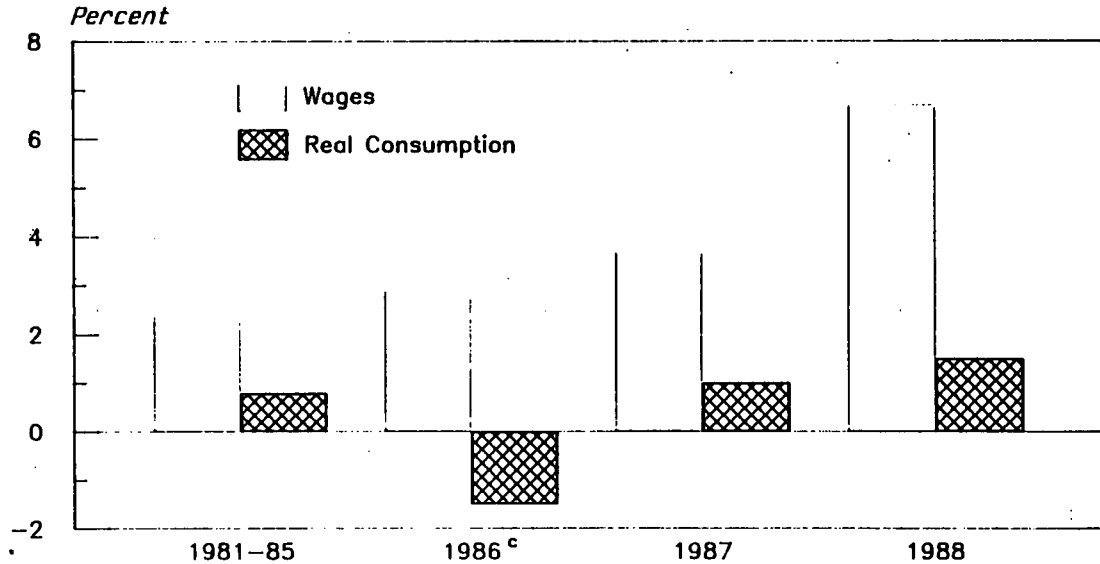


Figure 5
 USSR: Comparison of Reported Growth in Average Monthly Wages^a
 With Estimated Growth in Real Per-Capita Consumption^b



^a Workers and employees.

^b Average annual rate of growth.

^c The decline in per-capita consumption in 1986 reflects the drop in alcohol consumption.

Table 2
Summary of Selected Indicators of Consumer Welfare

Indicators ³	Performance Measures ¹			Popular Perceptions ²
	1986	1987	1988	1988
Total Consumption	-	0	0	-
Meat	0	0	0	-
Other foods				-
- Vegetables	0	-	-	
- Fruit	+	-	-	
Durable goods	+	0	0	0
Clothing	0	0	0	0
Personal care and repair services	0	+	+	0
Housing	0	0	+	0
Health care	-	0	+	0
Inflation	0	-	-	-

+ = improvement 0 = no significant change - = deterioration

¹ Performance is measured by comparing an indicator's rate of growth with the growth rate achieved during 1981-85, the five-year period that preceded the Gorbachev era.

² Based on analysts' judgments of the perception of citizens in the USSR as to how living standards changed under Gorbachev--through December 1988--in comparison with the first half of the 1980s.

³ All indicators, except inflation, are measured in per capita terms.

Industry Klyuyev has also stated that during 1989-1990, output of consumer goods would be 9 billion rubles higher than the plan target. To raise the output of consumer goods, Gorbachev has reverted to the traditional strategy of bringing additional production resources to bear, as opposed to relying on increased efficiency. What sets Gorbachev apart from his predecessors is that these resources are to come primarily from defense.

The Soviet leadership has also realized that it must restore financial order to the economy, primarily by tackling the budget deficit, before it can bring inflationary pressures under control. To this end, a high-level

government commission chaired by Ryzhkov submitted a program in mid-February 1989 for reducing the deficit. Expenditures are to be slashed by cutting defense spending and--for the first time since World War II--state investment.

Gorbachev has also apparently decided to slow substantially the pace of those economic reforms, such as the elimination of price subsidies, that would require sacrifices on the part of the consumer. Leonid Abalkin, the director of the Institute of Economics of the Academy of Sciences and a leading advocate of reform, recently admitted that the failure to meet consumer demand, combined with the higher budget deficit, had prompted a rethinking of priorities that would slow the reform effort, with the first real results of reform not to be felt until 1995.

Trading Guns For Butter. Over the past year and a half, Gorbachev has increasingly called on the defense industries to step up their support to the civilian sector. In March 1988, he gave them responsibility for re-equipping most of the 260 plants from a disbanded civilian ministry that manufactured equipment for food and consumer goods production. In September, in an effort to increase their incentive to do more for the consumer, the Council of Ministers passed a decree that allows the defense industries to retain profits from above-plan production of consumer goods during 1989 and 1990; previously they had to remit most profits to the state. At the same time, defense industries were publicly criticized for not doing more. Ryzhkov warned that anyone who failed to support the consumer goods program was "making a big mistake."

In the past, attempts to prompt the defense industry to support consumer goods and the modernization program have been relatively

unsuccessful because the leadership did not apply substantial pressure and was unwilling to pare back military demands. Last year was no exception. We estimate that Soviet defense spending, as measured in constant 1982 rubles, grew by roughly 3 percent--in line with the growth rates of the past several years. Procurement of weapon systems was again a major contributor to growth. Expenditures on ship procurement rose sharply, caused primarily by an increase in spending on both strategic and general purpose submarines. Missile procurement--particularly for ICBMs and strategic surface-to-air missiles--also displayed strong growth.

Last year, however, Gorbachev took several actions that evidently were intended to lay the groundwork for future military cuts. At the 19th Party Conference in June, the leadership characterized the threat from the West as declining, while charging that the expenditures of "huge sums" on weapons and the neglect of political means had weakened both the economy and national security. Numerous commentators, for example, criticized the deployment of the SS-20 missile as a waste of badly needed resources and a move that intensified political strains between the Soviet Union and the West. The Conference's response to such complaints was to mandate that future improvements in military capability should be based on qualitative rather than quantitative factors, and that political considerations be given greater weight before developing and deploying new weapon systems. Soviet spokesmen began implying that this would result in lower defense expenditures, while other officials stated that the increased civilian demands on defense industries could reduce military production.

On 7 December at the United Nations, Gorbachev moved from hints and suggestions about his plans for defense to more specific promises by announcing major unilateral cuts in Soviet military manpower and equipment

to be carried out during 1989 and 1990 (see table 3). During a meeting with the Trilateral Commission in January 1989, Gorbachev expanded upon this pledge, promising that the defense budget would be cut by 14.2 percent and the production of weapons and military equipment by 19.5 percent during the same period. Soviet commentators subsequently said that the promised cuts in defense spending will be applied to their "total defense expenditures" rather than to the small portion of this total published in the annual state budget (see box 3).

For all the Soviets' show of openness on their defense spending plans, some crucial points about Gorbachev's pledge remain unclear. Moscow has not, for example, indicated whether the promised 14.2-percent cut applies to 1988 spending levels or to the expenditures planned for 1989 and 1990. Similarly, it has not indicated whether the defense budget is to be reduced in real or only nominal terms--i.e., whether the cuts will be made after or before the budget is corrected for inflation. Moreover, the Soviets have yet to reveal any figures on the level of their total defense spending. This continuing silence makes it

Table 3
Promised Soviet Force Reductions in Eastern Europe, USSR, and Mongolia

6 Tank Divisions From Eastern Europe
-4 from GDR.
-1 from Czechoslovakia.
-1 from Hungary.
Tanks
-10,300 total.
- 5,300 from Eastern Europe.
- 5,000 to be "liquidated," others converted to tractors and training vehicles.
Artillery
-8,500 total.
Aircraft
-800 total.
-parts of planes to be used as spares.
-ground support equipment to be "redistributed."
Personnel
-500,000 total.
-240,000 from European part of USSR.
- 60,000 from Southern part of USSR.
-200,000 from Eastern part of USSR.
Mongolia
-3 of 4 ground force divisions to be withdrawn.
-Air forces to be eliminated.

Inset 3
Glasnost on the Soviet Military Budget?

In the past, the Soviets have released annually a single figure for the "defense budget." In August 1987, Deputy Foreign Minister Petrovskiy publicly announced that this figure represented only Ministry of Defense expenditures for maintaining military personnel, military pensions, logistics, military construction, and "a number of other articles." He also pledged that comprehensive defense spending data would be released following a price reform which would "allow comparability with the West." Other spokesmen quickly claimed that this would happen in "two or three years."

There have been a number of statements recently in the Soviet press--including from government officials such as Foreign Minister Shevardnadze--calling for early release of the Soviet defense budget. Pro-reform elements, who want to use the data to strengthen their case for transferring resources from production of defense to civilian goods, are apparently growing impatient with what they perceive as stalling by opponents of perestroika. They have said that they would like to see the new Supreme Soviet play a greater role in determining allocations to defense.

The Soviets may release defense spending data this year because of mounting pressure. Even then, however, it will take time and strong political support from Gorbachev for the Supreme Soviet to shape Soviet defense spending policies in the face of entrenched military interests.

Meanwhile, claims by the Soviets that they are unable to release their defense budget because they themselves do not know what they are spending are increasingly less credible, now that Moscow has announced a very specific--14.2 percent--promise of a reduction in total military expenditures. Indeed, continued Soviet delays in releasing a "true" defense budget will leave the USSR open to the charge that they are using the time to devise a plausible but still deceptive or uninformative set of figures.

difficult to assess the size of the promised defense spending cuts. Given the distortions that historically have characterized Soviet economic and financial statistics, this difficulty almost certainly will persist even if the Soviets make good on their pledge to release their "total defense expenditures."

In view of the problems inherent in measuring Soviet defense expenditures, moreover, confirming the implementation of the promised spending cuts will require substantial evidence of reductions in Soviet forces and the flow of weapons and equipment to them. In many cases, Moscow

will provide substantial publicity--both for domestic and foreign audiences--on specific cuts. In some areas, national technical means will provide the West with independent confirmation. In other areas, such as research and development, cuts in spending will be far more difficult to monitor.

If the promised cut is to be applied to a defense budget as large as we estimate Moscow's to be--about 15 to 17 percent of Soviet GNP--then the resource savings involved would be substantial. Indeed, our estimates indicate that to reduce their total defense budget by 14.2 percent, the Soviets would have to go beyond the cutbacks in military programs that they have specifically promised to make.

By our estimates, only about a third to a half of the 14.2-percent reduction can be accounted for by savings associated with withdrawing from Afghanistan, complying with the INF Treaty, and carrying out the reductions promised at the UN. Although some additional savings will come from reduced demand for weapons--that is, reduced procurement--as a result of the force restructuring Gorbachev promised during his UN speech, we believe the Soviets will have to do much more than what they have publicly disclosed to achieve reductions amounting to 14.2 percent.

Actions the Soviets might take to meet their promise of a defense spending cut are likely to include reductions in military research, development, testing, and evaluation (RDT&E). During 1988, Defense Minister Yazov, Deputy Defense Minister for Armaments Shabanov, and Deputy Foreign Minister Bessmertnykh all criticized the USSR's military RDT&E. Taken together, these criticisms suggest that future Soviet RDT&E may be concentrated on a smaller number of projects, but that those projects funded may be more technologically ambitious than was typical in the past.

Projects that would result in only minor improvements might be rejected as simply not being worth the effort. At the same time, technologically ambitious projects designed to counter very distant or only hypothetical threats might also be rejected. As noted above, however, cutbacks in military RDT&E would be especially difficult to confirm.

The Soviets probably also hope that some of the promised spending cuts can be implemented under or in anticipation of future East-West arms reduction agreements, although they recognize that agreements will be difficult to conclude before their January 1991 deadline for implementing the reductions. Conclusion of a START treaty, for example, could save the Soviets several billion rubles a year. Moreover, the Soviets probably also hope that a START agreement--particularly when combined with their unilateral reductions in conventional forces--will lead to negotiated reductions in the conventional area or, at a minimum, weaken NATO's resolve for conventional and tactical nuclear weapons modernization. Any accommodation with NATO that would allow them to forgo or reduce expenditures on modernizing conventional forces could result in substantial savings.

According to Bessmertnykh, the Soviets also expect their foreign policy to contribute to the country's economic goals not only directly by achieving arms control agreements, but indirectly by promoting a more benign international environment that will allow them to redirect resources from defense to the civilian economy without damaging the USSR's security. Easing tensions with the People's Republic of China, for example, might allow the Soviets to reduce the size of their armed forces in the eastern Soviet Union to a greater extent than they already have promised.

The Soviets have indicated that the 14.2-percent reduction in the

defense budget will be carried out by 1991, but transferring the freed-up resources to civilian uses--and fully realizing economic benefits from them--is likely to take more time (see box 4). The Soviets themselves have admitted that in many cases they are just beginning feasibility studies on converting final assembly plants from military to civilian uses. They have indicated that they intend to convert existing plants from defense to civilian production rather than transferring manpower and equipment from defense plants to civilian enterprises. Unless, however, the converted defense plants are given the same priority in resource allocation that they have enjoyed historically, their ability to satisfy the requirements of their new civilian customers may not be as great as it was for the military.

In our view, Gorbachev will have strong incentives to keep defense spending down, at least through the period of the 13th Five-Year Plan

Inset 4 Transferability of Resources

Ultimately, the degree to which resources are transferable from one use to another is a question of time. It is relatively easy to plan for shifts in resources that will occur several years into the future. If it is known now, for example, that a given weapon is not going to be built in the 1990s, then the plant and machinery needed to produce that weapon do not have to be built and the materials and intermediate goods intended for that purpose can be readily diverted to a different plant or purpose. Shifting the existing stock of resources, or those planned for defense within the next few years, in contrast, can be more difficult, depending upon the resource involved:

- *Most materials used in weapons production--specialty steels, construction materials, and engineering fibers, for example--are both readily transferable and in great demand in the civilian sector.*
 - *Intermediate goods--such as bearings, composites, and, most importantly, microelectronics--are also relatively easily to transfer and important for civilian production.*
 - *The Soviets would benefit from the transfer of large numbers of defense-industrial workers and, to a lesser degree, from reduced conscription demands resulting from personnel reductions.*
 - *Transfers of defense-related industrial plant and equipment would prove more difficult, but the USSR would derive clear benefits from the reallocation of high-quality production machinery to civilian production.*
-

(1991-95). This would be consistent with the government's announced plans for the defense industries to aid the consumer sector during the same period. Council of Ministers Deputy Chairman Belousov has said, for example, that during 1988-95 the defense industrial ministries are to provide 17.5

Table 4
Soviet Defense-Industrial
Ministries Contributions to
Food Processing Modernization

Ministry	Food Processing Equipment
<u>Aviation</u>	Fruit & vegetable processing Starch & syrup production Pasta production Canning industry Packaging of dry goods
<u>Defense Industry</u>	Livestock & poultry processing Ice cream production Canning industry
<u>General Machine Building</u>	Bakeries & sugar refineries Confection industry Processing of fats & oils
<u>Medium Machine Building</u>	Dairy industry
<u>Radio Industry</u>	Refrigeration equipment
<u>Shipbuilding</u>	Bakery ovens

billion rubles of machinery--out of a total of 37 billion rubles--for the food processing sector--almost as much as the total value of machinery installed in food processing from 1980-87 (see table 4). They are also to produce 7-8 billion rubles worth of goods for light industry, as well as increase output of construction materials, medical equipment, and plumbing supplies. Reflecting this greater emphasis, Ryzhkov has stated that the share of civilian goods produced by the defense industries would increase from 40 percent currently to 50 percent in 1991 and to some 60 percent by 1995. On the surface, this suggests further efforts to reduce the defense burden during the 13th Five-Year Plan.

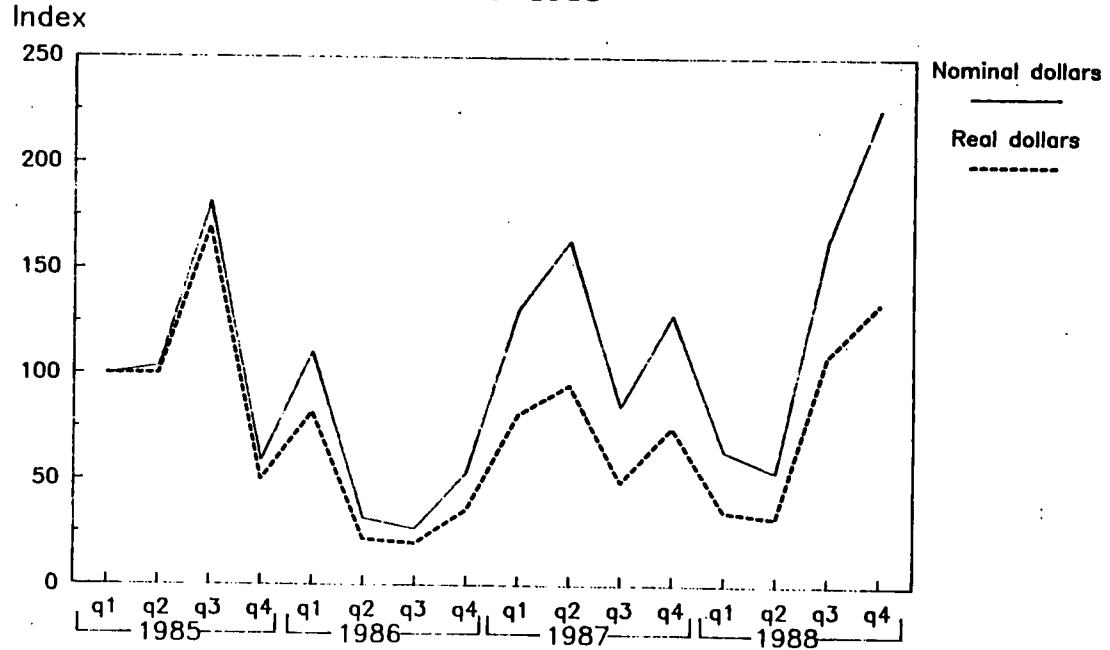
Selectively Seeking Outside Support. Although the Soviet leadership appears firmly committed to seeking indigenous solutions to economic problems, it is not ignoring potential gains from trade and other foreign

relations. Indeed, debate within the leadership over the role foreign resources can play in economic restructuring has intensified over the past year. A number of Soviet economists have, in particular, called for stepped up imports of consumer goods to placate a restive populace and, hopefully, provide sufficient incentives to give perestroika a boost.

The leadership has not, to be sure, abandoned the conservative approach towards increasing imports that it has pursued in recent years. For the most part, this leadership--like those before it--remains sensitive to the national security implications of becoming financially overextended. They are particularly reluctant to boost imports substantially without greater confidence in their ability to pay for the goods as well as to effectively absorb--and ultimately diffuse--imported technology. Moscow's debt runup in the mid-to-late 1970s, the subsequent application of Western economic sanctions against the USSR, and Eastern Europe's own financial plight earlier in this decade are still cited frequently in Soviet discussions of foreign economic policy.

The recent pattern of Soviet trade and financial activities nevertheless is sending mixed signals on Moscow's immediate plans. Soviet orders of machinery and equipment from the West climbed in the third and fourth quarters of last year, suggesting a boost in these imports over the next two years (see figure 6). Conversely, the Council of Ministers has recently proposed that imports of consumer goods be increased in 1989, with the increase apparently to be financed by reduced imports of capital goods. And while net new borrowing rose several billion in the first half of 1988, the trend appeared to have tailed off during the latter half of the year. Moreover, the program to arrange sizable Western credit lines for the import of machinery for consumer goods production has quieted considerably.

Figure 6
**USSR: Orders of Western Machinery and
 Equipment from Top Seven Countries,^o
 1985-1988**



^o The seven countries—Austria, France, Italy, Japan, Great Britain, the US, and West Germany—usually account for over 90% of total orders.

Sizable lines were finalized only with consortiums of West German and Italian banks, and these are being drawn down very slowly. Most importantly, despite growing consumer unrest, the Soviets have yet to arrange for a substantial infusion of Western consumer goods.

To the extent Moscow is seeking Western inputs, it is making a concerted effort to ensure that it will neither waste what it obtains nor pay more than is necessary. For example, Moscow is continuing its aggressive pursuit of joint ventures with Western firms to improve its chances of more effectively absorbing Western equipment and know-how (see box 5). Moscow is also seeking ties to international organizations such as the GATT, apparently hoping that membership will increase its knowledge of world markets and lead to increased exports.

Mapping A New Investment Course. During the past year, Soviet commentators have expressed misgivings about the long-term efficiency of their investment strategy that emphasized rapid growth of investment and targeted heavy industry for top priority. The Soviet press was particularly critical of the waste and inefficiency involved in large-scale investment projects such as dams, canals for water diversion, and huge hydroelectric installations. Even the completion and maintenance of the Baykal-Amur railway (the BAM)--a showpiece investment project--was questioned. The move towards more efficient use of investment resources resulted in proposals last year to close a number of major projects--the Dnepr-Bug hydraulic complex, the planned world's largest hydroelectric power complex on the Yenisey River in Northern Siberia, and the Volga-Chogray canal project--and culminated in March with an announcement that investment spending financed by the state budget would be cut by 7.5 billion rubles in 1989. These cuts are to come from halts in regional development programs

Inset 5
Recent Trends In Soviet Joint Ventures

The USSR's continued "hard sell" of joint ventures, as well as its willingness to grant concessions during project negotiations, resulted in a substantial increase in contract signings last year. As of December 1988, Moscow reported that 191 joint ventures had been registered with foreign firms, with 164 of these involving Western participants. Only 20 joint ventures had been registered by the end of 1987. West Germany, the US, Italy, France, Great Britain, and Finland were the leading partners in terms of the number of agreements actually signed.

Despite the impressive growth in the number of deals concluded, the Soviet leadership is far from satisfied with the progress of its joint-venture program. Foreign firms have committed to make relatively small investments--in the aggregate only about one-third of the estimated total \$1.3 billion investment. Well over one-half of the projects with Western firms involve capital contributions of less than \$10 million. Service and consumer-related projects--rather than deals that will enable Moscow to acquire advanced technologies--continue to dominate the list of complete contracts. The Soviets have, however, completed several small deals to assemble personal computers and develop software, and some ventures in the machine-tool area are also under way. The transfer of human capital--the technical skills, expertise, and know-how of Western labor and management--has also been far less than the Soviet leadership anticipated.

The Soviets have expressed interest during the past year in establishing "free economic zones" in the Soviet Far East and the Baltic states, largely as a means to attract additional joint venture investment. Joint enterprises operating in these zones would be granted concessions on taxes and customs payments. Research on this topic is only in an early stage. Although a few may be established as early as late 1989, it will take several years--and probably better terms and conditions than are likely to be offered initially--before they attract substantial foreign investment.

New regulations attempt to address some Western concerns by allowing foreign partners to exercise greater management control over joint venture projects and reduce their hard currency outlays. Western businessmen are reportedly disappointed, however, that Moscow failed to offer solutions to the problem of profit repatriation--the main barrier to foreign involvement. A group of six US companies known as the American Trade Consortium has recently signed a framework agreement that will allow the members to overcome this problem by pooling their hard currency revenues, with a US oil company shouldering most of the burden by exporting products from a potential petroleum joint venture. Even if the profit repatriation angle can be surmounted, additional problems confront joint ventures once they are established, including high tax rates, unreliable material supplies, unexpected hard currency costs, and a shortage of working and living accommodations.

and land reclamation projects. From 1990 on, moreover, state expenditures for investment are to be further reduced by giving enterprises more

responsibility to finance investment through their own funds and interest-bearing bank loans.

In line with the increased emphasis on the consumer, investment for the development of the consumer goods sector is being increased significantly while heavy industry will receive less investment. Investment in the food industry is to rise by 46 percent and in the meat and dairy industry by 60 percent. When imported machinery is included, equipment for light industry retooling is to increase 30 percent. In addition, in July 1988, in a move to prevent limited R&D resources from being squandered, the Soviets announced that henceforth only those machinery designs that supported one of the some 44 priority directions of technological development would be centrally funded (see table 5). At least half of the 44 directions are clearly intended to benefit the consumer.

Meanwhile, Moscow has taken major steps to focus its modernization effort. The primary emphasis remains on the machine-building sector and the need to modernize the technology of enterprises. In December 1988, the Politburo reaffirmed the machine-building sector's priority role as the technological basis of economic modernization and gave the Machine Building Bureau, the ministries, and Gosplan six months to plan "radical measures" to improve machine building's performance (see box 6).

If this trend holds, the planned average annual rate of investment growth in the 13th Five-Year Plan will probably be lower than the 5-percent rate of the 12th. Investment growth is more likely to be in the 1-3 percent range, as resource constraints put pressure on state spending across the board. Investment allocations will probably favor consumer-oriented sectors and rural infrastructure--especially roads. Nonetheless, competition for

Table 5
Focusing Industrial Modernization: 44 Priority Areas

Major Emphasis of Areas	Number of Areas	Specific Emphasis	Assessed Needs
<u>Social development</u>	4	Consumer goods Medical equipment Publishing & printing equipment (one not reported)	Color TVs, VCRs, Refrigerators, and Freezers Diagnostic equipment Finishing, tanning & footwear equipment for light industry Knitting equipment
<u>Food program</u>	8	Automated processing complexes Scaled-down equipment for brigades & private farms Advanced technologies (five not reported)	Processing equipment for dairy industry, fruits, & vegetables Stainless steel equipment Packaging equipment Measuring equipment Beverage equipment Refrigerated storage
<u>Transportation</u>	12	Subway trains Local trains Improved buses Compact cars (eight not reported)	Locomotives with improved braking and electronic systems Freight cars, especially refrigerated and special-purpose rolling stock Train commo & control equipment Boats, including icebreakers Mechanized loading/unloading equipment
<u>Construction machinery</u>	6	General construction equipment Road laying equipment Road repair equipment (three not reported)	
<u>Fuel & energy equipment</u>	3	(none reported)	Motors, engines, and valves Geophysical equipment High-quality noncorrosive pipes
<u>Metallurgical equipment</u>	3	(none reported)	Scrap steel processors Electric arc furnaces Rolling mills
<u>Machine-building equipment</u>	3	(none reported)	Machine tools Computers
<u>Chemical and forestry equipment</u>	5	(none reported)	Electronics/electrical equipment Processing equipment with automated controls Noncorrosive tanks Engineering plastics Stainless steel, titanium pipes, and valves

Inset 8
Backing Off From Retail Price Reform

We simply cannot possibly win the price [reform] campaign under the present conditions. No matter how carefully the retail price increase might be prepared and explained to the people, no matter how much compensation will be paid to the consumer, the ensuing situation would not satisfy the majority.

*Nikolay Shmelev, Institute of
USA and Canada*

A reform [of retail prices] would be justified, I think, under certain conditions. First, there must be adequate stability of the consumer market when the supply of goods and money are in balance. Second, there must be sufficiently large stocks of goods to prevent potential negative events. Third, there must be economic competition among state enterprises, between them and cooperatives, and so forth. Do all of these conditions objectively exist today? Not yet.

*Leonid Abalkin, Director,
Institute of Economics, USSR
Academy of Sciences*

A year to a year and a half ago I was writing and insisting on [price reform]. Even now I believe that a structural reform of prices is necessary. Only before it was both necessary and possible; now it is necessary and impossible. I hope we will still get to a point where it will once again become possible, but for now the moment has passed.

*Otto Latsis, deputy chief
editor, Kommunist*

The threat of growing inflation, as the experience of Hungary, Poland, and China warns, requires a particularly cautious and gradual approach to the implementation of reforms. It is no use fostering too many illusions about the possibility of putting the consumer market in order by increasing prices.

*Oleg Bogomolov, Director, Institute
of Economics of the World Socialist
System.*

In another step to restrain inflation, prices of consumer goods will also be stabilized through stricter governmental controls.

Other reforms, however, particularly those that will benefit the consumer, continue to be pushed by the leadership. Land leasing was endorsed by the recent plenum on agriculture, and Gorbachev laid out bold plans to reduce central controls over the farms. The reform of agricultural procurement prices, originally scheduled for 1991, was moved up to 1990.

Also, the regime continued to support the expansion of the private sector, although measures have been introduced to restrict cooperatives in setting prices because of popular resentment over price gouging.

Outlook

We believe that the policy shifts Gorbachev has made have the potential to advance his efforts to revitalize the Soviet economy. As Gorbachev seems to recognize, he must put his financial house in order and regain the support of consumers if he is to proceed with the other parts of his economic agenda. Cuts in investment and defense spending should help ease the deficit problem and provide resources for increasing production of consumer goods. At the same time, the reduced targets for production of capital goods should allow the Soviets to tackle the problem of unfinished construction, allowing them to bring additional capacity on line and thus increase output.

Successful diversion of resources from defense and investment to consumption, however, will be a difficult task, especially given the inefficiencies that plague the Soviet economy. Changing a system that for the past 50 years has emphasized heavy industry into one oriented toward the consumer will be time-consuming and disruptive.

Moreover, even once the transfer of resources is achieved, there is a substantial risk that such a shift in resource allocation will come to be regarded as a way of avoiding radical reform rather than as a means of preparing the populace for it. In sum, we believe that while the policy shifts Gorbachev has made may buy him time to proceed with the hard parts of his economic program, a key question to be answered in the next few years is whether he will be able to make effective use of this. To do so,

Gorbachev must achieve at least modest near-term improvements in consumer living standards, reduce the budget deficit and the wasteful use of investment resources, devise a comprehensive plan for the implementation of difficult measures such as price reform, and prepare the population psychologically for the sacrifices these reforms will inevitably entail.

Gorbachev, moreover, is likely to face political as well as economic obstacles to proceeding with his program. He will increasingly be held personally responsible for any of its future failures. This situation increases the pressure on Gorbachev to produce results. Moreover, his decision to alter the pace of economic restructuring has made him vulnerable to second guessing--opponents and bureaucrats may see Gorbachev's temporizing as a sign of weakness and become even more recalcitrant. Although the regime has portrayed the defeat of a sizable number of party officials--several at high levels--in the March 1989 elections as a warning to those who are resisting Gorbachev's reforms, the unexpected repudiation of so many party officials almost certainly has strengthened pressure on Gorbachev from more conservative leaders who view his political reforms as a threat to party authority. On the other hand, the election of a bloc of radical reformers beyond Gorbachev's control--such as former Moscow leader Yel'tsin--gives those who have criticized the slow pace of reform a new forum in which to press their demands.

Appendix A
1988 Economic Performance by Sector

Our preliminary estimates indicate that perestroika did little to improve Soviet economic performance in 1988. A poor harvest, supply shortages, widespread failure to meet delivery deadlines, and confusion sparked by reform policies all contributed to a relatively low 1.5-percent growth in GNP--a rate similar to the previous year's.

Industry

Industrial production grew by an estimated 2.3 percent last year. Production was disrupted because of transportation bottlenecks, supply interruptions, and difficulties in implementing economic reform.

Machinery. According to our estimates, output of civilian machinery showed its slowest growth since the early 1980s, finishing only 2-3 percent higher than the level in 1987¹. We estimate that output of consumer durables increased by almost 4 percent last year. Consumer complaints remained widespread, however, as much of the output apparently continued to be of poor quality and consisted of items not highly sought after. We estimate that the growth of producer durables was considerably lower last year than in 1987--just over 2 percent--reflecting continuing problems implementing the industrial modernization program.

¹ Estimating machinery production is becoming particularly difficult because the Soviets have cut back on the release of statistics on various machinery products. While they have increased the availability of information on consumer durables, statistics on producer durables--as well as some industrial materials such as chemicals and wood products--are increasingly scarce. For this reason, our estimates of machinery output should be considered very preliminary.

Industrial Materials. The rate of growth of production of industrial materials (chemicals, metals, construction materials, and wood products) in 1988 was an estimated 2.3 percent--a repeat of 1987's disappointing performance. Continued problems with modernization were compounded by the introduction of economic reforms. Mediocre results were registered across the board; growth in two of five subsectors dropped compared with 1987:

- Serious shortfall in output of plastics and resins, intermediate chemicals, and pesticides brought down estimated annual growth in the chemical industry from 2.6 percent in 1987 to 1.8 percent in 1988.
- Output of cement reached a record 139 million tons, helping the construction materials industry to post a 3-percent gain. However, the production of window glass and precast ferroconcrete--both critical to Gorbachev's plans to modernize construction--declined.
- Ferrous metals production rose an estimated 1.7 percent in 1988. Output of crude steel, steel pipe, and rolled steel rose modestly, while iron ore output fell.
- Growth of nonferrous metals production--an estimated 3 percent last year--rebounded to 1986 levels, due in large part to increased utilization of processing capacity and new Western smelting equipment.
- Strong performance in furniture production and a middling improvement in paper output helped sustain a 2.5-percent increase in the output of the wood products industry. The industry was criticized, however, for shortfalls in production of chipboard and cardboard packaging.

Energy. Despite unresolved problems in the fuels and energy industries, the Soviet Union remains the only major industrialized nation that is energy independent, with the largest proven oil reserves outside the Persian Gulf and 40 percent of the world's natural gas reserves. Energy production in 1988 grew by about 3 percent, although this level of output required 15 percent of total Soviet investment (20 percent if pipeline systems are included). To prevent declines in national production, Moscow will need to make another large boost in oil-industry investment. Oil production averaged 12.45 million barrels per day (b/d) in 1988, although daily output fell from a high of 12.53 million b/d in the second quarter to 12.37 million b/d in the fourth quarter. Production in the key West Siberian region-- which accounts for two-thirds of national production--has levelled off while production from other regions continues to fall. Without a substantial increase in drilling and new well completions, West Siberian production will soon begin to decline.

Natural gas output again led growth energy production, reaching 770 billion cubic meters, with increased production from gasfields in northern West Siberia continuing to account for nearly all the growth. Maintaining this robust growth over the next several years, however, will become difficult and expensive. Further expansion in gas consumption will require accelerated construction of local distribution pipelines as well as successful addition of new customers through conversion of existing equipment to gas and wider use of new gas-fired equipment.

Raw coal production increased by only 1.6 percent in 1988, and once again the net gain to Soviet energy output is probably less than this due to the declining average energy content of Soviet coal. The trend toward small gains in energy from coal is likely to continue since almost all of the growth

in raw coal production continues to come from open-pit mines in the Eastern USSR that produce some of the lowest-quality coal in the Soviet Union. Coal production will probably continue to grow slowly because Moscow is facing technical challenges in exploiting Eastern coal and developing new industrial consumers very slowly.

Electric power output grew by 2.4 percent last year--the smallest gain since 1981. Nearly all of this increase was produced at nuclear and hydro plants instead of at fossil-fueled plants as in previous years. The suspension or cancellation of 12 nuclear plants--involving 34 reactors--means that maintaining the needed 2-to-3 percent annual rate of growth in electricity will become increasingly difficult unless efforts to increase power plant capacity receive priority attention.

Consumer goods Industries. Overall output in light industry grew by an estimated 2.5 percent in 1988, with most products--except textiles and hosiery--showing higher growth rates than in 1987. Light industry was sharply criticized, however, for the high price of its goods and was accused of using price supplements and contract pricing to boost the price of its goods without making real style improvements. The food processing industry also delivered a respectable performance, with increased output of meat, dairy, and fish products offset by a sharp drop in sugar production. The official announcement of the easing of the anti-alcohol campaign is also reflected in production statistics, with output of most alcoholic beverages showing strong growth. This industry also came in for heavy criticism last year, with complaints of shortages and declining quality.

Agriculture

We estimate that Soviet farm production dropped by about 2 percent in

1988, on the heels of a 2.5-percent drop in 1987. Record highs in production of meat, milk, and eggs led to a 2.6-percent increase in the livestock sector. Still, this was not enough to offset the negative effects of the smallest potato crop in over a third of a century, an 8-percent drop in grain output--from 211 million tons in 1987 to 195 million tons in 1988--and unchanging vegetable and fruit production. The only bright spot was a 7-percent increase in cotton production. Moscow's efforts to eliminate corruption in the cotton-growing Central Asian republics and to reestablish proper crop rotation--crucial for obtaining higher yields--are evidently taking hold.

Future food consumption may also be undercut by changes in inventories of livestock. The number of hogs held steady last year, but the stocks of cattle, sheep, and goats continued their slide and are now down to 1983 levels. According to some Soviet researchers, the declines in herd size may jeopardize ambitious long term plans for meat production. In part because of this inventory reduction, per capita meat availability was up by more than 2 percent. Supplies were spotty, however, as marketing and distribution problems resulted in numerous shortages.

Transport

Freight shipments by all carriers increased by 1.2 percent in 1988, the second year in a row of slow growth. Transport plans overall were fulfilled, mainly because the slow growth of industrial output dampened demand for transport services. Shipments were up on the river fleet and pipelines, and virtually unchanged on common carrier trucking. The volume of freight shipments carried by railroads--the main barometer of freight transportation--grew by only a little more than 1 percent in 1988.

Moscow is trying to support future growth in shipments by improving efficiency. Railroad labor productivity continues to soar because of the implementation of the Belorussian railroad experiment that pared down the size of the workforce. A program to shift highway freight from departmental carriers to the centralized fleet is making slow progress, but promises to improve the notorious inefficiency of overall trucking with respect to labor, capital, and fuel usage. Soviet transport--especially the railroads--nevertheless will require substantial investment to modernize antiquated equipment and expand capacity. For example, severe rail car shortages and slow progress in automating traffic control are constraining growth of rail shipments.

Trade

The USSR's hard currency trade balance took a turn for the worse in 1988 following a strong showing the previous year. On the basis of preliminary data, we estimate that the trade surplus fell nearly \$3 billion to about \$3.5 billion because export growth could not keep pace with surging imports. The dollar value of Soviet hard currency exports increased about three percent last year due to a hefty boost in arms sales--again on credit--to the LDCs and some growth in non-military, non-energy exports, with the composition of these sales spread over a number of commodity categories.

Imports were up an estimated 16 percent as a poor harvest fueled a substantial burst in grain purchases. The higher quantity of grain imports--coupled with rising world prices--added at least \$2 billion to Moscow's import bill. Sizable growth in imports from countries such as West Germany, Austria, and Japan suggests that machinery and equipment imports also increased last year--some increase was anticipated following a pick-up in orders from these countries in 1987. Consumer goods purchases reportedly

rose, albeit not enough to make a visible impact on store shelves.

The shrinking Soviet trade surplus prompted both higher borrowing and increased gold sales. Net new borrowing increased by several billion dollars, with much of it taking place early in the year when the leadership probably decided to finance some imports and build up reserves in the face of uncertain export earnings because of tumbling oil prices. In looking to foreign credits, the USSR sought to diversify its sources of money by issuing its first state bonds in the Swiss and West German capital markets. The Soviets also began to negotiate large credit lines with a number of Western banks during the latter half of the year. They concluded a deal with West German banks, but so far they have made little use of this credit line. Estimated Soviet gold sales amounted to approximately \$4 billion in 1988, as for the third straight year Moscow turned heavily to the gold market in order to earn hard currency.

The Soviet Union's trade with its Communist trading partners also suffered in 1988. Moscow registered large trade deficits with most of the countries of Eastern Europe as falling CEMA energy prices continued to erode Soviet terms of trade with the region. The value of Soviet exports to Eastern Europe declined by roughly 5 percent, prompting Moscow to limit the growth of imports from the region to avoid even larger deficits. Trade with Yugoslavia--another large customer for Soviet oil--also experienced little growth because the Soviets have been unable to boost non-energy exports to offset the falling value of its oil exports. Moscow's trade with China rebounded sharply in 1988 following a downturn the previous year but is still below planned targets.

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Tables on Soviet Economic Performance

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

	1970	1975	1980	1981	1982	1983	1984	1985	1986	1987	1988 ¹
GNP ²	481.4	561.3	624.0	631.1	648.5	669.3	679.0	684.7	712.3	721.4	731.9
Industry	142.3	187.2	210.9	213.6	216.4	221.8	228.0	232.6	238.9	245.9	251.6
Agriculture ³	137.6	122.5	123.5	120.5	131.3	139.0	136.1	130.8	144.3	138.5	134.2
Construction	33.6	44.1	49.9	51.2	51.7	53.2	54.3	55.5	57.6	58.9	60.2
Transportation	37.3	51.5	61.1	63.3	64.0	65.8	66.6	68.0	70.1	70.9	72.4
Communications	3.3	4.4	5.6	5.8	6.0	6.2	6.4	6.7	7.1	7.6	8.1
Trade	28.8	36.3	41.5	42.3	42.4	43.6	44.8	45.3	45.5	46.4	47.3
Services	85.2	100.9	115.2	118.0	120.1	122.8	125.7	128.7	131.6	135.8	140.6
Other (including military personnel)	13.4	14.9	16.2	16.3	16.6	16.9	17.1	17.1	17.3	17.4	17.5

¹ Preliminary

² Components may not add exactly to total because of rounding.

³ Net of feed, seed, waste, and purchases from outside the sector.

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

	1970	1975	1980	1981	1982	1983	1984	1985	1986	1987	1988 ¹
Industry ²	142.3	187.2	210.9	213.6	216.4	221.8	228.0	232.6	238.9	245.9	251.6
Metals											
Ferrous	11.0	13.4	14.1	14.1	14.1	14.5	14.6	14.7	15.2	15.4	15.7
Nonferrous	5.7	7.5	8.1	8.1	8.2	8.5	8.7	9.0	9.2	9.4	9.7
Fuel	14.4	18.6	21.7	22.0	22.4	22.6	22.8	22.7	23.5	24.0	24.3
Electric power	8.9	12.5	15.6	15.9	16.3	16.8	17.6	18.1	18.7	19.5	20.0
MBMW	43.2	61.3	71.4	71.7	72.8	74.0	76.7	78.9	81.3	84.3	86.4
Chemicals	9.2	13.7	15.9	16.5	16.8	17.8	18.4	19.1	20.1	20.6	21.0
Wood,pulp,paper	11.5	13.1	12.7	12.9	13.0	13.4	13.7	14.0	14.7	15.0	15.4
Construction	9.3	11.9	12.7	12.9	12.8	13.3	13.5	13.7	14.2	14.7	15.1
Light industry	11.5	13.0	14.7	15.0	14.9	15.1	15.5	15.9	16.1	16.4	16.8
Food industry	12.3	15.1	16.1	16.6	17.1	17.6	18.0	17.7	16.9	17.4	17.9
Other industry	5.4	7.1	7.9	8.1	8.2	8.4	8.6	8.8	9.0	9.3	9.5

¹ Preliminary

² Components may not add exactly to total because of rounding.

Table B-3
USSR: Estimated Average Annual Growth of Per-Capita Consumption
(based on 1982 established prices)

	1956-60	1961-65	1966-70	1971-75	1976-80	1981-85	1986	1987	1988
Total consumption	3.9	2.5	5.0	3.0	2.0	0.8	-1.5	1.0	1.5
Food	3.8	1.1	4.2	2.1	1.0	-0.4	-7.7	-0.9	0.9
Soft goods	5.6	2.2	7.2	2.7	2.8	1.3	2.2	0.3	0.0
Durables	10.4	3.9	9.5	9.7	5.4	3.0	10.6	5.4	2.7
Services	3.2	4.4	4.3	3.0	2.1	1.7	1.6	2.7	3.5
Housing	3.0	2.4	2.0	1.6	1.2	1.7	1.7	1.9	-2.0
Utilities	4.7	7.8	5.4	5.3	3.8	3.3	3.0	3.1	2.2
Transportation	9.3	8.9	8.2	6.4	2.3	1.7	2.2	1.2	2.7
Communications	5.4	5.7	7.6	5.4	3.8	3.0	4.5	5.7	6.0
Repair & personal care	3.7	5.0	6.4	4.4	4.1	3.1	3.1	6.2	9.5
Recreation	5.3	3.6	2.7	4.1	1.2	1.0	0.2	0.8	0.0
Health	3.4	2.2	3.2	1.6	0.9	0.9	-0.5	2.9	2.0
Education	1.4	5.2	2.9	1.5	1.4	0.9	1.1	1.3	2.0

Table B-4
USSR: Estimated Growth of GNP, Industry and Labor Productivity¹
(average annual percent change)

	1966-70	1971-75	1976-80	1981-85	1986	1987	1988 ²
Gross national product ³		5.0	3.2	2.2	1.9	4.0	1.3
Labor productivity		2.9	1.4	1.0	1.2	3.7	1.5
Industry		6.0	5.6	2.4	2.0	2.7	2.9
Labor productivity		2.8	4.1	1.0	1.4	2.3	3.2

¹ CIA's procedures for calculating total factor productivity are being revised and, therefore, estimates of total factor productivity are not available at this time.

² Preliminary

³ Based on indexes of GNP (1982 rubles) by sector of origin at factor cost.

Table B-5
USSR: Gross Fixed Capital Investment
(billion 1984 rubles¹)

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

¹ Source: *Narodnoye Khozyaystvo v SSSR, 1987 and earlier years.*

Table B-6
USSR: Total Trade, 1981-87¹
(billion current US dollars)

	Annual Average 1981-88	1981	1982	1983	1984	1985	1986	1987	1988 ²
USSR: Exports by region									
Total	94.0	79.4	87.2	91.7	91.5	87.2	97.0	107.7	110.6
Communist	56.5	43.4	47.2	51.0	51.9	53.5	65.0	70.0	70.1
Developed countries	24.0	24.4	26.2	26.7	26.4	22.5	18.8	22.7	24.3
Less developed countries	13.5	11.6	13.8	13.9	13.2	11.2	13.2	14.9	16.2
USSR: Imports by region									
Total	85.9	73.2	77.8	80.5	80.3	83.3	88.9	96.0	107.3
Communist	52.6	37.2	42.5	45.5	47.0	51.0	59.4	66.6	71.8
Developed countries	24.5	25.4	26.2	25.4	24.2	23.3	22.7	22.1	26.9
Less developed countries	8.8	10.6	9.1	9.6	9.1	9.0	6.8	7.3	8.6

¹ Includes both hard currency trade and trade conducted with soft currency partners on a clearing account basis.

² Preliminary.

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

	1975	1980	1981	1982	1983	1984	1985	1986	1987	1988 ¹
Current account balance	-4565	1470	-387	4293	4760	4664	137	1376	5073	1400
Merchandise trade balance	-4804	1814	365	4468	4712	4727	519	2013	6164	2700
Exports f.o.b.	9453	27874	28254	31975	32429	32173	26400	25111	29092	30000
Imports f.o.b.	14257	26060	27889	27507	27717	27446	25881	23098	22928	27300
Net interest	-521	-1234	-1752	-1275	-1052	-1163	-1482	-1737	-2191	-2400
Other invisibles and transfers	760	890	1000	1100	1100	1100	1100	1100	1100	1100
Capital account balance	6981	284	5430	-2965	-1541	-124	1869	1966	-1017	1710
Change in gross debt ²	6786	-792	1977	-640	116	224	6804	6983	4768	860
Official debt	1492	-280	-1370	967	340	-375	463	563	561	190
Commercial debt	5294	-512	3347	-1607	-224	599	6340	6420	4207	670
Net change in assets held in Western banks ³	-163	-35	-166	2122	277	-664	1787	1595	-527	20
Estimated exchange rate effect	-22	-411	-1457	-817	-1070	-688	3248	3322	5012	-2570
Net credits to LDCs	715	950	870	2120	3200	2700	1700	4100	4800	5500
Gold sales	725	1580	2700	1100	750	1000	1800	4000	3500	3800
Net errors and omissions ⁴	-2416	-1754	-5043	-1328	-3219	-4540	-2006	-3342	-4057	-3110

¹ Preliminary.

² Including additions to short-term debt.

³ A minus sign signifies a decline in the value of assets.

⁴ Includes hard currency assistance to and trade with Communist countries, credits to developed Western countries to finance sales of oil, other nonspecified hard currency expenditures, as well as errors and omissions in other line items of the accounts.

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

	1975	1980	1981	1982	1983	1984	1985	1986	1987 ¹	1988 ¹
Gross debt	12.5	20.5	22.5	21.9	22.0	22.2	29.0	36.0	40.8	41.7
Commercial debt ²	8.2	11.0	14.4	12.8	12.6	13.1	19.5	25.9	30.1	30.8
Government and government-backed debt ²	4.3	9.5	8.2	9.0	9.4	9.1	9.5	10.1	10.6	10.8
Assets in Western banks	3.8	10.0	9.8	11.9	12.2	11.5	13.3	14.9	14.4	14.4
Net debt	8.7	10.5	12.7	10.0	9.8	10.7	15.7	21.1	26.4	27.3

¹ Preliminary estimates.

² Estimates of government-backed and commercial debt are measured in current dollars and reflect fluctuations in exchange rates. Commercial debt also includes estimates for promissory notes held outside banks.

Table B-9
USSR: Selected Indicators of Agricultural Output

	1970	1975	1980	1981	1982	1983	1984	1985	1986	1987	1988 ¹
Value of Output ² (billion rubles)	112.5	109.4	113.7	112.5	120.8	128.5	127.7	125.8	136.5	133.1	130.6
Commodity Production (million metric tons)											
Grain ³	186.8	140.1	189.1	158.2	186.8	192.2	172.6	191.7	210.1	211.3	195.0
Potatoes	96.8	88.7	67.0	72.1	78.2	82.9	85.5	73.0	87.2	75.9	62.7
Sugar beets	78.9	66.3	81.0	60.8	71.4	81.8	85.3	82.4	79.3	90.4	87.8
Sunflower seed	6.1	5.0	4.6	4.7	5.3	5.1	4.5	5.3	5.3	6.1	6.2
Cotton ⁴	6.9	7.9	9.1	8.4	7.9	8.2	8.1	8.8	8.2	8.1	8.7
Vegetables	21.2	23.4	27.3	27.1	30.0	29.5	31.5	28.1	29.8	29.2	29.3
Meat	12.3	15.0	15.1	15.2	15.4	16.4	17.0	17.1	18.1	18.9	19.3
Milk	83.0	90.8	90.9	88.9	91.0	96.5	97.9	98.6	102.2	103.8	106.4
Wool	.42	.45	.44	.46	.45	.46	.47	.45	.47	.46	.46
Eggs (billion)	40.7	57.4	67.9	70.9	72.4	75.1	76.5	77.3	80.7	82.7	84.6

¹ Preliminary

² Net of feed, seed, and waste, in constant 1982 prices.

³ Bunker weight. To be comparable to Western measures, an average reduction of 11 percent is required.

⁴ 1981, 1983-84 estimated.

Senator BINGAMAN. Thank you. Let me ask a few questions and then I will defer to Senator Bryan to ask whatever he would like.

RISKS TO GORBACHEV

In the slow pace of progress in improving the Soviet economy, do we have an assessment or any consensus between your two agencies as to how this is affecting Gorbachev's continued leadership and whether there is a risk that he would lose control, if this continues for a significant period?

Mr. KOLT. That he would lose power in effect.

Senator BINGAMAN. Yes.

Mr. KOLT. Certainly, the state of the economy is a factor that has to be considered. If the economy deteriorates and public dissatisfaction arises, it is a factor that can be held against him, but there are a lot of other factors which come into play.

I would say the greatest danger to him, in effect, is how the establishment, the nomenklatura, is reacting to his political reforms. In effect, what has happened in the Soviet Union is in the elections, the creation of independent associations, there is now much greater pressure on the party establishments and great uncertainty as to their future status, in particular, to the privileges they have had in the past.

I think that this would be the major source of dissatisfaction on the part of those within the party structure who would be opposed to Gorbachev and, of course, if the economy just deteriorates and nothing happens, it is a complete mess, and it remains for years, this is the argument that could be made against him and could allow people to coalesce against him.

General HORTON. I wouldn't disagree with that, but I would add to it. And that is, it strikes me that at least as much danger to his continued tenure as what George just cited is the centrifugal forces that we are seeing in the Soviet empire, partly contributed to by the economic situation, more important, contributed to by glasnost and the upsurge of nationalist feelings, not only within Eastern Europe but as we know in the Baltic States and Georgia. If that were to spread to places like the Ukraine, if the Ukraine were to become out of control, which Gorbachev, of course, is well aware of, because he has left Sherbitsky in power to help him keep it under control, that those who would oppose him would finally say, we must reverse this, and we may have to have someone else to do it.

EFFECTS ON CHANGE IN EASTERN EUROPE

Senator BINGAMAN. With regard to Eastern Europe, does the level of dissatisfaction and unrest that is evidencing itself both in Georgia and in Eastern Europe, does that lead you folks, your agencies to conclude that Gorbachev would likely go slow with further liberalization as it affects Eastern Europe or that he would proceed to move at the pace he has gone? I have had people suggest to me that the Berlin Wall was going to come down one of these days and various other things. It would seem as though the level of unrest would tend to cause a retrenchment of some sort.

I don't know if that is your assessment. I would be interested in hearing.

Mr. KOLT. There is an easy one on the Berlin Wall. I know some people have speculated that. We don't expect it any time soon.

As far as Gorbachev slowing down, what he is trying to do in Eastern Europe, I think the real impetus for change, the change that is taking place in some parts of Eastern Europe, has come from within those countries. What has been new is that it fits into what Gorbachev is doing at home, and then there is a greater level of toleration on the part of Moscow on what can be done in those countries.

Now there are some countries in Eastern Europe where despite all Gorbachev's stated desire, expressed desires to those countries, for those countries to perform and create a more viable economic system, we have seen very little change. Romania, of course, is the extreme example. Ceaucescu hasn't budged, but we have had the same situation, in effect, not changing the system in East Germany, as well. So would he slow it down or not?

I would put it in terms that the Soviet toleration has risen. I think it will remain high. As long as we don't have open rebellions, Communists hanging from lamp posts in various East European countries, toleration will remain. And I think Gorbachev is going to concentrate on his economic, political, social and national problems, as Barry rightly stated, at home.

At the same time, we must not forget that Gorbachev is putting a certain amount of pressure on East European countries to support him economically, which does two things. Two of the many things that it does is put some pressure on the countries, on the East European countries, to become more efficient so as to be able to adjust to this greater demand for assistance, but also, if fully implemented, would increase the level of popular dissatisfaction in those countries as well.

General HORTON. I would agree and would add, just as we seem to have a policy of differentiating, I think Gorbachev has too, that there are levels of tolerance for one country that may differ from the level of tolerance for another. Perhaps the least tolerance will be East Germany as compared to, say, Hungary. He might be willing to let things go a little further in Hungary than he will in East Germany.

GERMAN REUNIFICATION

One of the Soviets worst nightmares is the reunification of Germany, even if it were neutral. To them, that might be an even greater threat than the United States reflecting back to them, to their recent experience in World War II.

EUROPE 1992

Senator BINGAMAN. This coming of 1992 in Europe is an occasion for tremendous activity by U.S. business, Japanese business and everybody else, to take advantage of the window of opportunity to get established and make arrangements and enter into joint ventures and do various things with Europe, economically and commercially.

To the Soviets, what is the window of opportunity? What pressures are they under to get certain things done by the time this 1992 event occurs, or is this something that they have been work-

ing on a long time, and the coming of 1992 isn't a great factor in their planning? I am just wondering what actions they are taking that we need to be aware of with regard to the unification of Europe.

Mr. KOLT. I would stress two points.

The first one is that the purpose of EC 1992, the greater integration of national economies in Europe in 1992 is an end goal for certain steps and it will continue. But the purpose of this, of course, is to make those economies more efficient, more productive. So, in a sense, as this goes along, and if these economies do become even more productive than they are today, it makes the Soviet Union relatively worse off, so in effect, it increases the pressure on the Soviet Union to do something to keep up, if not to catch up, with the West.

The second point I would make is that the Soviets have long feared, in effect, the emergence of a united Europe. They have warned against it, and I think what they have realized now is that no matter what they do on any economic and political sphere, it is happening. They had better recognize this and adjust to it, and they have done that, and, of course, they have done it because it is a reality that is there, but also because that is a way for them to maintain those economic links that you talked about and not cut themselves off from potentially profitable economic relationships.

Senator BINGAMAN. General.

General HORTON. They are interested not only in ties to Europe but to Japan and others in Asia. They are not just aiming West, they are also aiming East for those ties, and what it might bring them in terms of technology transfer, which is something we might want to talk about some more here as well. And, of course, in a sense, they are of two minds about that. On the one hand, technology transfer can help in the short run, as can the purchasing of consumer goods help in the short run. But in the long run, it continues a level of dependency when, in fact, what they really want to do is become self-sufficient in technology and the ability to produce for the consumer and so on. So it is a tension as they approach that issue.

Senator BINGAMAN. I will defer to my colleague and let him ask a few questions. Senator Bryan.

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

REDUCTION IN MILITARY FORCES

Recognizing the difficulty in analyzing Soviet statistics as they are provided to us, has there been a quantitative reduction in terms of the numbers of Soviet personnel in the armed services, the rate of acquisition of new equipment?

Give us, if you would, please, both of you, a general observation, in terms of whether or not we are seeing something that is significant, even though we may find it difficult to quantify in terms of percentages or allocation of GNP.

General HORTON. I will start off on this one.

The most significant thing we have actually seen thus far is, of course, the withdrawal from Afghanistan, which has happened. What has not yet happened is the demobilization of 500,000 men

nor the complete stopping of production lines for tanks and so on. They are still producing a lot of military hardware at rather rapid rates, but, of course, the Soviets told us, give us time, you aren't going to see this for a while. This is a very big economy. It takes a while to turn it around. So we are waiting and we are watching, and we are sort of establishing for ourselves the indicators Mr. Kolt talked about, and your general counsel, Mr. Kaufman came over and looked at some of the techniques that we used in DIA, where we design bureau by design bureau, system by system, project what we think they are doing in terms of development testing and deploying of systems, and we have been about 90 percent right thus far with that system.

If we start becoming 50 percent right because of stretch outs and cancellations, that would be a very important sign to us that, indeed, things are shifting in a more dramatic way from the military to civil production.

Senator BRYAN. General, without being contentious, I am not certain I got an answer to my question. Are we seeing anything significant, quantitatively, in terms of the reduction of either personnel or production of military armament, or is it still too early to tell?

General HORTON. I would say too early to tell, but Mr. Kolt may want to comment on that.

Mr. KOLT. I would agree with that. I would just say in 1988, the year we talked about, we estimate that Soviet spending on defense grew, increased by 3 percent. So the cuts that Gorbachev has announced is for the future. We will wait and see.

Senator BRYAN. Which, if I understand your testimony previously, would be faster than the overall growth of their economy.

Mr. KOLT. Absolutely.

TROOP WITHDRAWALS FROM SATELLITE COUNTRIES

Senator BRYAN. Another question, if I may.

Is there any likelihood that we are going to see the withdrawal of Soviet troops from the satellite countries? Is that something that is likely? Is it being debated, do you think? What is your assessment, in terms of the likelihood of that occurring in the next, say, 2 to 5 years?

Mr. KOLT. There will be—Gorbachev has announced that there will be those cuts of six divisions and so many tanks which Barry has described for you. To go beyond that, in the next decade, yes, I think that is a possibility, some decrease in the amount of forces, but I would agree with Barry. They would like to do it on a negotiated basis.

BERLIN WALL

Senator BRYAN. I think you indicated in response to the chairman's question that you saw little likelihood of the Berlin Wall coming down, and I would like to kind of get your insight and perspective as to what the Soviet rationale is for not doing anything when they seemingly want to project this massive and somewhat effective public relations barrage personified in the chairman himself, Gorbachev. This would be such a dramatic symbolic gesture, it would seem to me, that if, indeed, there is some ultimate objective

they seek to obtain in terms of allaying, assuaging apprehensions in the West of, in effect, softening our alliance, that would be a very dramatic way of doing so, and I am not sure what the downside is from that perspective.

Mr. KOLT. There is no question that it would have great public impact on the West, but I think it would be outweighed, in their view, by the negative impact on East Germany. Just recall why the wall went up in 1961, because there was a great hemorrhage of the most qualified East Germans to the West. I don't think the situation has changed all that much. If the wall came down, the flow would not be as fast, but there would be a flow to the West. East Germany which is, I agree completely with Barry, has been the linchpin of the Soviet position in Europe, and, certainly the way they see it, would become very unstable. They would want to avoid that.

General HORTON. I agree.

ETHNIC GROUPS IN SOVIET MILITARY

Senator BRYAN. One last question. The ethnic unrest we read about in Georgia, Armenia and the Baltics, is that reflected within the Soviet military itself? Do we see considerable difficulties in terms of ethnic conflict and tension among the enlisted ranks, the officer corps? If so, to what extent does that impact the readiness or the professionalism is, I think, the term you used, General, of their armed forces?

General HORTON. Not so much—someone may want to correct me back here—ethnic conflict but ethnic difficulties, shall we say, within the Soviet military. You have an ever-increasing percentage coming in in conscription that they are doing that are not only non-Russians but do not even speak Russian or read Russian. That becomes a greater and greater problem as they become more modern and more technologically sophisticated and depend more and more on understanding how to operate technologically sophisticated gear.

So it is a problem that they can, to some degree, solve by reducing the size of the force and then being more selective on who they bring into the military. And, of course, ultimately, what they need to do is to improve their ability to educate those from outside the RSFSR.

Mr. KOLT. I will generally agree with that. Given the problems, they have tried to improve language training, they have set up some preofficer schools in their republics to prepare people for service in the armed services in the officer ranks, but certainly, there has been nothing comparable to what has happened in the republics themselves.

Senator BRYAN. I guess to try to focus just a little bit more closely, you have a substantial Moslem population in the Soviet Union for which you have not only language difficulties but religious and cultural differences which are quite diverse.

Does that pose a problem to them in terms of assimilating those nationalities, those religious groups, if you will, into the Soviet military? Does it create tensions? Do you have rioting or at least confrontation among enlisted personnel of different backgrounds?

Quite candidly, as you know, we have had some problems in this country, and I just ask to what extent that might exist, if at all, in the Soviet military?

Mr. KOLT. Certainly, it exists to some extent. I think that the soldiers from different parts of the Soviet Union tend to associate with each other and not sort of an integrated fashion, but if I were to pick out fault lines in the Soviet military and say, in effect, it would be more among the way the conscripts, new conscripts are exploited and abused by senior conscripts, I think that is a greater problem so far in the Soviet military, as far as people getting along with each other than the nationality problem.

The nationality problem, I agree with Barry, I think I do anyway. The language has been a big problem in the Soviet Union.

General HORTON. I would agree. Jerry, did you want to say something about that?

Mr. WEINSTEIN. Another aspect of this is the concern that you raised about the effect on military capabilities. Most of the front line troops, most of the troop units in the forward area are almost all Slavic. There is still a great tendency to put the non-Slavic people, conscripts, in construction units and railroad construction battalions, and so forth, outside of the forward areas. So it is a problem. That is, at least in the past, how they dealt with it by trying to focus it geographically.

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

SOVIET LAGS IN KEY TECHNOLOGIES

Senator BINGAMAN. Certainly. I would like to ask about technology. You have a very interesting chart in your report, figure 3, which estimates the Soviet lag behind the United States in key technology. I didn't see a page number on it, but it is about page 8 or 10, somewhere like that.

Have you folks been involved—we had a request in the Defense authorization bill last year for the Department of Defense to prepare this critical technologies plan that they prepared and submitted to us on the 15th of March. I gather they are preparing a classified version of that. I just wondered if either of your agencies are involved in the preparation of the classified version.

Mr. NEWMAN. I can address that. Within DIA, we provided the red side of the comparison and worked with the Under Secretary for Acquisitions, and I have the coordination draft on my desk at this moment.

Senator BINGAMAN. I sort of started a little collection of these comparisons to the extent that I can. We had one in 1985. I don't even know what this is from. It is fiscal year 1985, U.S. DR&E Posture Statement. Another one for fiscal 1988, JCS Posture Statement. Then we've got Air Force. Let's see. What is this? U.S. DR&E of June 1988, I guess is the source. Then we've got one in the report of this subcommittee back in 1987 or 1986. It's in 1987. At any rate, just picking out one area there, which is obvious, you folks show in your figure 3, that the Soviets are anywhere from 3 to 10 years behind us in fiber optics, optical equipment.

OPTICS

Some of these others show, like the one that was in the report for 1987, shows that in optics, the Soviets are equal to us and getting into a superior position. This 1988 report that the Air Force did that I referred to in June of 1988 says the same thing. In optics, the Soviets are equal to us and moving ahead.

Is it because we have different definitions of these terms? Is it that there is real disagreement in the intelligence community on this subject? Is this something that will be—I guess my real question is, when we get the classified version of where the Soviets stand relative to us in this critical technology, are we—is that going to represent a consensus view?

Mr. NEWMAN. The problem with optics is, it is a very broad generic category. If you try to lump everything in the basket, it is perhaps not fruit salad but a piece of garbage in it. You have to be careful just how you address the issue.

In the area of integrated optics, the Warsaw Pact, NATO countries, the United States and Japan are all pretty much on par, and the Warsaw Pact, as well as anybody else, is trying to pull ahead.

In the area of fiber optics, the United States and Japan are—and Japan is trying hard to pull ahead. And that is primarily used in telecommunications, of course. The Warsaw Pact is way behind us in that, and sometimes somebody will take different things, and they will average them or something like that and make an immediate point that that is how far behind they are.

I remember the classic case, gosh, 5 to 10 years ago, of the U.S. DR&E. They wanted to know how we stood in countermeasures. We decided that the United States was ahead in radar countermeasures and that the Soviets were ahead in communications countermeasures. So U.S. DR&E said it's a wash.

So you lose some of the details. It is very difficult. This is fiber-optic equipment, where they are definitely behind us, and I think fiber optics, of course, as GTE tells you and AT&T tells you, they are leaders in this field, is used primarily in communications. It is difficult to intercept, and all these good things. Very high data handling capacity and so on.

I would read this chart as saying in 10 years, left to their own devices, they could perhaps catch up with us where we are today. In 3 years, through the medium of tech transfer, they might be able to catch up with us.

And this specific chart addresses fiber optics, where they are behind. As far as other types of optical devices, they really are on the mark.

INTELLIGENCE COMMUNITY ESTIMATES

Mr. KOLT. I think the point I would like to make on the same line, this chart is based on an intelligence community estimate on general technologies. It may be that some of the charts you have, particularly from the Air Force, are based on militarily applicable technologies. The situation could be somewhat different.

In answer to your earlier question, the CIA is also involved in critical technologies. All of that is handled not by our office but the Office of Science and Weapons Research.

I think my colleague, John Young, would like to amplify on the point.

Mr. YOUNG. Just to add one point, sir, on what David said. Some of the reasons for differences in these charts have to do with the area of applications, as Mr. Kolt says. In some places we look primarily at military applications. This chart, because of the nature of the report, as Dave suggests, is oriented toward the Soviet telecommunications industry and the economic applications. Some of the differences also stem from analyses that differ, depending on which are in the stage of R&D or production, you are making the call.

We are looking here, primarily, at commercial large-scale application of technologies. Again, because of the economic application of this report, where the Soviets tend to do particularly badly relative to us.

Senator BINGAMAN. You are talking then about actual technology that has been applied in the commercial sector; you are not talking about the level of the development of new technology?

Mr. YOUNG. We are not talking about the most advanced applications and the early stages of R&D. We are principally talking about technology that is in the late stages of development or early commercial application.

General HORTON. Let me just say that one of the areas that they are most interested in technology is not so much the basic technologies but rather the technology of mass production where they, in fact, fall behind, and what they most need to be able to have economically and militarily significant numbers at reasonably low cost of whatever the technology might provide for you.

TECHNOLOGY ACQUISITIONS FROM FAR EAST

Senator BINGAMAN. To pick up on that comment, if the crucial thing for the Soviets is technologies and mass production, I would think they would go to the area of the world that has become renowned for competence in advanced technology in that area, and that is the Far East, and they would do everything they could to buy and enter into joint ventures and otherwise obtain that technology for purposes of modernizing their own industry.

Is that happening at a rapid pace?

General HORTON. It is certainly happening. Others may be able to comment on what the pace is.

Mr. YOUNG. Yes, sir. The Soviets are making a very concerted effort to approach the Far East for technology and have been for sometime. What may be different today is that in addition to initiatives with the Japanese in trying to attract joint ventures and new forms of arrangements, the Soviets are putting aside some of the ideological baggage, and they are approaching countries like South Korea, whom they don't even have diplomatic relations with and trying to establish a trading relationship, principally with the idea of trying to attract technology, high technology.

U.S. MONITORING AND COCOM

Senator BINGAMAN. What have we done to respond to that obvious need that they have? If, in fact, the Soviets are focusing their efforts to obtain technology in the Far East, which I think they

may to a great degree, what are we doing to strengthen our ability to monitor that and restrain it to the extent that is in our interest. I mean, is COCOM adequate to get this job done, or are we just living on the assumption that COCOM is doing fine, we don't need to do anything else, or are we doing anything else?

Mr. KOLT. There are two aspects to this. From the intelligence aspect, the ability to monitor what they need where it is available and what it would do for them, yes, we are trying to improve our capabilities on that. We are working very hard on that. There was a request that came from President Reagan, I think, toward the end of his term. So work is being done on that, some of which you have seen.

From the COCOM angle, of course, how it runs, that is a political question. I think everybody realizes COCOM is not perfect, but there don't seem to be many alternatives out there.

SOCRATES AND CASTAR

General HORTON. If I could just amplify on that. We have been approached by the previous administration's NSC staff, and we will see if the new one wants to continue it, or are there methods of refining the COCOM list to perhaps a smaller subset of critical technologies that we would want to pay special attention to? We and the CIA have our own methods that one might apply to that, but the ones in DIA are two, Socrates and Castar. Socrates attempts across the world to assess the level of technology similar to figure 3 here, country by country, in those technologies that might be critical for, in particular, the production of weapons systems. Then Castar says, what do the Soviets need, given the various ways they might go about producing weapons systems, and include ways that might be more compatible with their industrial traditions than ours and to produce those next generations of weapons systems.

You marry those up, and it says, what do they need and where can they go to get it? If it is something that is widely available, it might be something that is too hard to do, but if it is something that is available only in one or two places and is a critical node, if you will, in the steps along toward a modern weapons system, that might be a candidate for a COCOM list.

But that is the kind of refinement we are talking about. Picking out what those nodes are, then monitoring them.

Senator BINGAMAN. Doesn't the fact that most of the technologies that are considered crucial to defense are dual use, isn't that fact—doesn't that cause us to sort of meet ourselves coming around the corner? We are saying that the changes that are occurring in the Soviet Union most likely are beneficial and that we would not want to see them reversed again. We would not want to see Mr. Gorbachev lose power or go backwards. For that to happen, there has got to be modernization of that economy. For that to happen, there's got to be transfer of technology into that economy, so that they can do a better job of mass production and improve their efficiencies.

At the same time, we are very concerned that in doing that, they would obtain a technology that would allow them to become a greater threat militarily.

Are we adjusting the way we approach this thing? We've got COCOM to keep them from getting technology. We've got nothing in place aggressively to help them get technology, but presumably they are working at that themselves. Do we have any change in policy with regard to this, in light of the situation that has developed in the Soviet Union?

Mr. KOLT. That is a policy issue I am going to defer to you.

SOVIET ACQUISITION OF FOREIGN TECHNOLOGY

Senator BINGAMAN. Is there anything that you folks are doing differently in the collection of information now as compared to what you were doing 5 years ago with regard to this subject of Soviet acquisition of foreign technology?

Mr. NEWMAN. I will speak to it. I would like to go back to one of the earlier questions. Having worked with COCOM and their [security deletion]—I don't know if you have been exposed to that.

Senator BINGAMAN. What is the subsidiary?

Mr. NEWMAN. [Security deletion.] One problem we have, and I did digress from this, and let me wrap it up, one problem we have is that we find that the [security deletion] naturally, and we have some that [security deletion] some that send a [security deletion] on a different topic. The topic might be [security deletion] it might be advanced [security deletion], a host of topics. Test equipment, production equipment, and so on.

We have found in some cases that some of the other countries in COCOM seem to be using the [security deletion] avenue as a way of [security deletion], and we have been very [security deletion] of this, and we have seen some indications. We have also found that the COCOM principals, and [security deletion] do not necessarily [security deletion] tell them. We have found quite often that COCOM representatives, who is a guy from a foreign ministry or a trade ministry, and say, our objective is to transfer technology, transfer goods or something like that, and to restrict the flow, as we think COCOM has attempted, seems to me running in opposition to their agenda.

So we do have that kind of a problem. So I don't think that COCOM is a real good solution. It is only a way of trying to shut the barn door, and the door has a lot of loose boards in it. As you well know, in the Toshiba case.

[Security deletion.]

Mr. NEWMAN. We see this going on, and we think that pattern may follow in other technologies as well in the future. We just don't know which.

Senator BINGAMAN. Mr. Kolt.

Mr. KOLT. If you would like John Young can amplify a little on what we are doing to improve our ability to monitor.

Senator BINGAMAN. All right.

Mr. YOUNG. Sir, as you probably know, we have always intensified any signs of Soviet acquisition of high technology for military or even dual use as well, either through clandestine means or

through open trade. We are trying, as Dave suggests, to cooperate as best we can with our COCOM allies to try to assure that information is fully conveyed as to what they are up to.

In addition, we have arranged, or we are arranging with countries like in the Far East, pertaining to your earlier question, channels where we would obtain better information on what they are doing, and, of course, we certainly have the ability and try to implement it to control any uses they may make of licensed U.S. technology. The export control laws allow us to do that.

As far as collecting on what the Soviets are doing inside the economy, we have always followed very intensively the military industries and dual-use industries in our collection priorities through every source—surveillance, humans and even the open literature—and focused on those areas. We are looking in addition now, in particular, at some of the new legal methods the Soviets are using like joint ventures to try to attract technology in novel ways through Western equity investment.

In no way do I want to suggest that we are satisfied with the information that we have, that we can always detect what the Soviets are doing with technology. We can't. But we feel comfortable that for the most part we are obtaining information on at least most of what they are doing with the openly acquired technology with primary economic applications.

Senator BINGAMAN. General, did you have something to add?

General HORTON. Just to say that in addition to the tension between wanting to trade and at the same time not wishing to transfer that which would be militarily applicable, as you indicated, determining what is militarily applicable is difficult at times. A case in point, more applicably related to the Third World than the Soviet Union, since the area the Soviet Union has more or less targeted is the area of chemical warfare, in which certain precursors are fairly specific to certain agents, but one can substitute for them, albeit perhaps to produce a less virulent agent than other precursors that are also used in pharmaceuticals, fertilizers. And it is very difficult to say that that particular precursor should not, therefore, be transferred, because it could, among other things, be used to make, let's say nerve gas.

That is perhaps a particular stark example, but there are so many of them.

So it is difficult, as you say.

MICROELECTRONICS

Senator BINGAMAN. I think a real practical question which is a policy question, which is one that sort of points up the difficulty of where we have been and where we may be going in this relationship, is the transfer of microelectronics technology.

Is that something that we should try to prevent from happening? I think we have always assumed yes. I don't know if that is an appropriate policy position for our government at this stage or not to assume that we can see a significant modernization of mass production facilities in the Soviet Union without them having microelectronic technology.

General HORTON. Without making a policy call, sir, one could at least posit that certainly that is an area in which they are relatively far behind and which would make a great difference in their military capability, among other things, if they were able to catch up and stay there. George.

WESTERN TECHNOLOGY AND SOVIET ECONOMY

Mr. KOLT. I just want to go back to the general impact of technology from the West on the Soviet economy. In effect, that would say, as I said in my opening statement, the only thing that can make the Soviet economy operate better is systemic reform of that economy.

Any input from the West can be a palliative, particularly, applied technology applied to key sectors, military sectors, but that is all one can do. In one sense, you can say that sometimes the ability to get it from the West has been used by opponents of reform in the Soviet Union, who say, why do we need to change the way we do business? That gives us such a nice life. We will get the stuff from the West.

Senator BINGAMAN. You are saying that their ability to acquire, legally or surreptitiously, technology from whatever source, has more of an effect on their military capability than it does on their economic capability, because the basic problems they face, economically, are not subject to being fixed with technology?

Mr. KOLT. Yes.

MICROELECTRONICS

Mr. YOUNG. The Soviets, sir, have mounted a very aggressive campaign to acquire microelectronics technology going back to the 1960's, and they have been quite successful in getting a lot of it. This has, at best, kept them more or less equal with us and now, as has been noted, the lag is actually growing, mainly because of what Mr. Kolt says their difficulty and inability to properly assimilate that technology and building upon it to generate their own microelectronics industry. That would apply to the overall economy.

Mr. NEWMAN. I think if you look at that 22 critical technologies list that USD has, and you are working with them on, you will find somewhere on the order of 40 percent or so are dependent on microelectronics, advanced microelectronics. You have advanced computers for computer-aided manufacturing, computer-aided design in engineering, you have all kinds of things—gallium arsenide devices for higher speeds. All those kinds of things show up across the board in that, with very few exceptions.

General HORTON. One other thing that strikes me too, about something that Dave just alluded to, the automation of factories and the use of robotics in factories, and so on, are one of the things he had hoped to do, Gorbachev hoped to do, and the modernization of the industrial base, which he has now had to shift some out of, is that kind of modernization is really what he is most interested in.

It is in some degree fundamental. That is, it can be used for either civil consumers or defense consumers, and the more you do it, automated production line, roboticize the production line, the more rapidly and easily it would seem that you could transfer from

one to the other, application of that production line, from military to civil and from civil back to civil, which is not necessarily a good thing from the point of view of the West.

Senator BINGAMAN. All right. Well, I think the report looks extremely comprehensive. We look forward to receiving it. Do you have a date as to when this would be ready to be released? You have completed your work, and it is up to us?

General HORTON. Yes, sir. [Laughter.]

Senator BINGAMAN. OK. We got the final version today.

General HORTON. Yes, sir.

Mr. KOLT. Right.

Senator BINGAMAN. This transcript of this hearing, do you folks need to declassify that, so that we can make that available?

Mr. KOLT. Yes, sir. We would like to look at it, and we will do it as quickly as possible, as soon as we receive it.

Senator BINGAMAN. And sanitize that, if there needs to be some. I appreciate very much your coming over for the hearing. I appreciate all the work on the report.

Mr. KOLT. Thank you, sir. It has been a privilege.

General HORTON. Thank you for the opportunity, sir.

Senator BINGAMAN. Thank you. The subcommittee stands adjourned.

[Whereupon, at 11:30 a.m., the subcommittee adjourned, subject to the call of the Chair.]

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

RESPONSES OF THE CIA TO WRITTEN QUESTIONS

26 June 1989

Richard Kaufman, General Counsel
Joint Economic Committee
Washington, D.C. 20510

Dear Mr. Kaufman:

Attached are our responses to your questions of 20 April 1989. Although we have not formally coordinated our replies with the Defense Intelligence Agency, they have seen a draft and raised no objections. Please let me know if I can be of further assistance.

Sincerely,

A handwritten signature in black ink, appearing to read "George Kolt", with a long horizontal flourish extending to the right.

George Kolt
Director of Soviet Analysis, DI

Enclosure

PERESTROYKA LOSING MOMENTUM

Question 1: Your report concludes that Gorbachev's recent policy shifts have the potential to advance his efforts to revitalize the economy. Could it not also be concluded that both the leadership and the public seem unwilling to pay the price of real reform and are therefore backing away from it? Is it possible that perestroika is losing its momentum and comprehensiveness and may suffer the same fate as other attempts by Communist countries to reform gradually?

Answer: Basic reforms of planning and management attempt to change a system that has been firmly in place for more than 60 years. Specifically, they:

- go against the grain of top-down management that has characterized the "command" economy.
- threaten power and privileges of the party and government bureaucracies.
- undermine deeply held ideological precepts that represent a conscious decision by successive regimes to choose an egalitarian and ordered society over economic efficiency.

This is a monumental task, and it would be unrealistic to believe that the regime and public could agree to effect this program easily and quickly. Gorbachev himself has admitted that he underestimated how difficult it would be. The economic reform program, therefore, is likely to proceed in fits and starts.

The danger is that the longer the implementation period, the greater the chance that the opposition will coalesce and block further change. The postponement of retail price reform, for example, decreases the chances for a bold reform that slashes subsidies and makes dramatic changes in the prices of basic goods and services. Continued growth in democratization makes public opinion a force to reckon with, and the Soviet electorate is unlikely to lend enthusiastic support to economic policies that threaten the social contract. It is possible, therefore, that the momentum of the reforms is being lost and that without prodding from a united leadership these hard decisions will continue to be avoided.

PROGRESS OF REFORMS

Question 2: Last year, your report set out the signs to look for to measure the progress of Gorbachev's reform program. These included a leadership decision to take the long view, to wait for economic gains in the 1990s, and to realize that short-run disruptions are a necessary part of the reform process. Another sign to look for was a leadership commitment to elements of the reform package, such as price reform. By the standards you gave us last year, should we conclude that progress has slowed or stopped? What signs should we look for in the future?

Answer: Judged by our previous set of progress indicators, the reforms appear to be in serious trouble today. The leadership is unwilling to tolerate the disruptive effects of reforms in the short-run, and it has not given the go-ahead to vital parts of the original package such as price reform. This time, however, the reform schedule has been thrown off course by a very different set of obstacles than in the past. Previous reforms have been derailed largely by bureaucratic foot-dragging, a piecemeal approach to reform, internally inconsistent reform legislation, and a lack of leadership support. Although these problems have to some degree impeded the progress of the current reforms, the most serious obstacle is of more recent vintage. Because of the leadership's growing concern over the large budget deficit, inflationary pressures and the lack of progress in consumer welfare, the leadership has pulled back on those reforms that threaten to exacerbate these fiscal and consumer dilemmas. Until the regime regains control over these problems, it will not be ready to restart implementation of reforms detrimental to the consumer.

All reforms are not dead, however. The very factors that have stopped some reforms give new impetus to others. The regime's fiscal problems, for example, are a catalyst for:

- a more serious attempt to shut down unprofitable enterprises and farms or turn them over to cooperatives so that state subsidies can be cut.
- a break-up of monopoly producers in order to encourage more price competition.
- the development of financial markets to sop up excess purchasing power.
- the devolution of economic control from the central government to regions in an attempt to reduce central budgetary allocations.

Similarly, the new turn toward the consumer gives added impetus to:

- reformist solutions to the food problem. The tight budget forecloses the traditional solution to the farm problem--increased investment allocations--and increases the chances for reforms that harness private initiative such as land leasing.
- expansion of private and cooperative businesses in order to increase the availability of consumer goods and services.
- reforms that challenge traditional concepts of socialist property--for example, the sale of stocks and bonds and state housing to individuals.

Over the next several years we should look for progress in these new areas. If gains are actually made, a better foundation would be laid for the regime to restart the stalled reforms in the mid-1990s.

SOVIET TRADE WITH WEST

Question 3: What will be the rate of growth of Soviet trade with the West and with the United States over the next five years, and how will the composition of hard currency exports and imports change?

Answer: Hard currency trade is volatile, and can fluctuate widely depending on the world prices of such goods as oil, gold, and other raw materials, the size of the Soviet grain harvest, and the value of the dollar vis-a-vis the ruble. For example, total hard currency trade turnover plummeted from around \$60 billion in 1983-84 to just \$48 billion in 1986 due largely to falling oil prices, a depreciating dollar, and markedly lower agricultural import bills. Renewed grain purchases coupled with imports of Middle Eastern oil that were reexported pushed trade above the \$61 billion mark last year and it could go a bit higher this year. But Moscow's inability to alter significantly the composition of its exports to include a larger share of manufactured goods and a smaller share of energy and raw materials is likely to result in only a slight growth in hard currency exports from the current level of \$31.2 billion. (Of course, rising oil prices would lead to faster export growth.) Given the constraints on export revenues and the leadership's current aversion to large-scale borrowing, import growth is also likely to be modest over the next five years. A further worsening of domestic economic conditions, however, could induce Moscow to step up markedly imports of food and consumer goods, even at the cost of increased indebtedness. In any event, Moscow probably will at least alter the composition of imports to include a larger share of foodstuffs and industrial consumer goods over the next year or two.

Trade with the US is particularly susceptible to wide swings because of the dominance of grain in US sales to the Soviet Union. In 1988, US exports doubled to \$3 billion due to a surge in Soviet purchases of wheat and corn, and grain sales will remain high again this year. Soviet purchases of other goods, primarily chemicals and small amounts of machinery, will probably grow marginally above the current levels of around \$550 million. Similarly, US purchases of Soviet products--mainly metals, chemicals, and oil products--are expected to grow at only a modest pace from the current level of about \$500 million.

SOVIET INTEGRATION WITH WORLD ECONOMY

Question 4: Gorbachev says he wants the USSR to integrate with the world economy. Do you see any signs of that happening and, if it does, is it a good thing for the West?

Answer: Gorbachev has already undertaken a number of moves to help make the Soviet Union a bigger player in the world economy. For example, Moscow has succeeded in gaining a foothold in a number of small organizations such as the Asian Development Bank, the Pacific Economic Cooperative Council, and the UN-sponsored Common Fund for Commodities, and it has expressed its desire to join the GATT. The Soviets have also taken actions to expand bilateral trade contacts with a host of countries, including South Korea, which--until recently--they only traded with via third parties. Moscow is also working aggressively to expand its world banking and commodities trading networks. Such moves will have only limited payoffs, however, as Moscow will not become a substantially bigger player in world markets until domestic reforms needed to improve the competitiveness of Soviet products take hold.

If Moscow becomes a bigger player and, specifically, an active participant in international economic organizations, it will have new forums from which to press its causes and seek divisions within the Western alliance. Its desire to gain economically from these organizations, and from Western trading partners generally, however, would encourage constructive participation. In addition, the Soviets are unlikely to accrue sufficient economic strength to dominate international economic policy, or even sufficient market power to influence substantially the price or availability of critical commodities, other

than possibly a few strategic metals, such as chromium and platinum-group metals.

SOVIET GOVERNMENT DEFICIT

Question 5: The chart in the report on the Soviet government deficit shows that large increases occurred in 1986, the first full year under Gorbachev. Explain why this problem got so much worse and whether Soviet figures agree with your own.

Answer: The large increase in the deficit in 1986 was due to a surge in government spending that year accompanied by a slight decline in overall revenues. Expenditures rose sharply because of Gorbachev's ambitious investment program--state capital investment increased 9 percent in 1986. An increasing consumer subsidy bill, continued growth in defense spending, and unanticipated costs such as the Chernobyl' cleanup also contributed to the increase in spending. At the same time, revenues were curtailed by tax losses of about 10 billion rubles from the reduction in alcohol sales due to the antialcohol campaign and a further loss in revenue because of the collapse in world oil prices in early 1986 and the subsequent decision to reduce imports of highly taxed consumer goods. Until the fall of 1988, Soviet officials maintained that the state budget was in balance. While they now admit the deficit is a severe problem, they have not yet released specific deficit figures for years prior to 1989.

INFLATION

Question 6: Your report discusses inflation but does not contain an estimate of how high it is. What are your estimates of consumer and producer price increases for each year since 1980?

Answer: Soviet officials openly acknowledged for the first time last year the existence of inflation. Although official indexes indicate that retail prices have been generally stable, some government officials in the USSR have admitted that these indexes are unreliable. Some Soviets have even published their own estimates:

- According to a recent article in the Soviet newspaper Ekonomicheskaya Gazeta, the annual rate of inflation was 1.6 percent during 1981-85, 3.0 percent in 1986, 3.1 percent in 1987, and 4.1 percent in 1988.
- Finance Minister Gostev, in a press statement earlier this year, put the rate of inflation at 2-4 percent.

It is difficult to evaluate these estimates because the methodologies used to calculate them are unknown. While we believe inflation exists in the USSR and has gotten worse in recent years, we think it unlikely that any of the figures cited in the Soviet press are more than rough "guesstimates."

The CIA constructs its own retail price index using data on the total value of retail and collective farm sales published in Soviet statistical handbooks. These estimates indicate an acceleration of inflation in the retail prices of consumer goods since 1985 (see table), with retail prices increasing by over

Average Annual Inflation, Percent

	1981-85	1986-88
Retail prices of consumer goods	2.1	3.2
Producer prices of industrial output	3.6	1.2
Producer prices of agricultural output	5.3	1.1 ^a

^a Average for 1986-87; data on agricultural output in current prices are not yet available for 1988.

5 percent last year . A principal reason for the worsening inflationary pressures is the huge budget deficit which has developed since 1986, resulting in excessive amounts of money being pumped into the economy. High levels of investment and defense spending, for instance, have injected purchasing power into the economy without increasing supplies of consumer goods, or--even when investment has been channeled to consumer industries--done so only after a lag of some years. Similarly, under new reform measures, wages have been allowed to increase much more rapidly than worker productivity.

In addition, as Gosplan has relaxed its control over the detailed production targets handed down to individual enterprises, they have found ways to increase their profits by producing more higher priced items. Children's clothing and items such as toothbrushes, for instance, generally are in short supply. The problem, as the authorities have found, is that there is no

alternative mechanism such as meaningful prices to guide enterprise decisions in a period in which central planners' control of enterprise decisions has been reduced.

In contrast to rising retail prices, the inflation rates for industrial and agricultural producer prices have not risen, however--largely because the 1981-85 estimates reflect major official increases in these prices in 1982 and 1983, respectively. We believe that inflation in most of the Soviet economy was faster in 1988 than in 1986-87, but this view is tentative because only preliminary data are available for last year.

INVESTMENT AND MODERNIZATION

Question 7: You discuss the cut in investment and the shift in emphasis from industry to consumer goods. Does this indicate that the industrial modernization program has been put on hold? What are the consequences of the new investment strategy for defense?

Answer: Financial disequilibrium and higher priority for the consumer have relegated the industrial modernization program initiated by Gorbachev in 1985 to a somewhat lower place on Moscow's agenda. In October of last year, a senior machine-building official publicly stated that it was necessary to forsake attempts to improve all of civil machine building immediately because there simply were not enough resources. Moscow is not abandoning the modernization program, however, but is taking steps to refine and refocus it. Since last July, Moscow has exerted more centralized control over technology policy and concentrated resources on only the most important new technologies--particularly in the area of consumer welfare. Moreover, Soviet planners have been directed to develop a comprehensive plan by this summer to radically improve machine-building's technological level during the 13th FYP beginning in 1991.

Over the next few years a scaling back of the modernization program probably could delay the renovation of some defense industrial factories. At the same time, however, the planned cutbacks in weapons production and conversion of some defense industry capacity to civil uses will reduce somewhat the requirements for modernizing weapons plants.

INVESTMENT STRATEGY

Question 8: In 1975, Brezhnev changed the investment strategy by substantially slowing the rate of growth. The hope was that investment resources would be used more efficiently. But the plan backfired and the whole economy slowed down in the late 1970s and early 1980s. Is it possible that the new investment strategy might also backfire?

Answer: The emerging policy of slower growth of investment may again fail to improve efficiency in the use of investment resources and could contribute to significant industrial supply bottlenecks as in the early 1980s. A reduction of several billion rubles out of a total investment level of over 200 billion rubles per year clearly does not have to lead to bottlenecks, however, if the right decisions are made about where to invest and where to cut. The cutbacks currently planned appear to be more selective than those in 1975 turned out to be, with large scale infrastructure projects bearing the brunt of the reductions. Thus, the reductions may prove less disruptive than the earlier investment slowdown.

INVESTMENT PRIORITIES

Question 9: How does the new investment strategy affect sectors such as energy, transportation, and agriculture? Will they receive the same relative share of investment resources that they have been receiving, and, even if they do, will their activities have to be curtailed if the absolute amounts of resources are reduced?

Answer: The new investment strategy involves a reshuffling of investment priorities to favor consumer goods production and housing in the context of an intended cutback in state investment overall. Nevertheless, given the economy's vital need for energy and increasing investment requirements in that sector, the share of energy investment almost certainly will continue to increase. Plans announced last year to invest large sums in rural road construction and the need to modernize the railroad system suggest an increasing share of investment resources for transportation, but these plans could be stymied by resource constraints with resulting slow improvements at best. The share of investment going to state and collective farms is likely to contract, given the intense criticism this sector has come under in the last year for wasting resources. Moscow is counting on agricultural reform for production increases. At the same time, investment for storage and processing of agricultural products is slated to increase. In any case, if the absolute amount of total state investment is reduced and decisionmaking decentralized, there will be much pulling and tugging among competitors for the diminished resources available, and Moscow may have difficulty making its priorities stick.

PRICE REFORM

Question 10: Some economists view the postponement of price reform as very discouraging and a sign that fundamental and systemic reform may not occur. What is your view?

Answer: Price reform is the linchpin of all other reforms, and the regime must ultimately confront this issue. The sensitivity of budgetary and consumer problems is the ostensible reason for postponing price reform, but another excuse probably would have been found to avoid the bold sweeping transition to market-based pricing that the reformers advocate. The regime fears the short-term disruptions resulting from such a radical price reform and is more likely to change the price system incrementally. Even these incremental changes are being delayed--wholesale price reforms have been postponed from their 1 January 1990 implementation date, with no indications of when they will occur.

The postponement of retail price reform has far-reaching consequences, illustrating how crucial price reform is for the success of Gorbachev's entire reform program:

- Artificially low prices for consumer goods mean queues will persist as will rationing, muting the economic impact of a host of reforms based on raising productivity through stimulating workers' interest in earning higher income.
- Without the incentives and penalties inherent in retail prices set by market conditions, neither the reform of supply nor the reforms designed to make enterprises more responsive to

customers and accountable for their performance will reach their potential.

- Burdensome state subsidies will make reducing the budget deficit harder.

DEFENSE SPENDING REDUCTION

Question 11: The report discusses Gorbachev's announcement that defense spending will be cut by 14.2 percent. Assuming that it is done this year, how would it translate into rubles and dollars, and what would the level be after the reduction?

Answer: In a recent announcement before the Congress of People's Deputies, Gorbachev stated that Soviet defense spending for 1989 was 77.3 billion rubles and indicated that the savings from a 14.2 percent cut would be about 10 billion rubles. Simply converting the 10 billion ruble figure into dollars by applying the official exchange rate would be inappropriate on two counts. First, even market exchange rates are often poor measures of how much of one country's currency would be required to replicate any given set of another country's goods and services. In addition, the ruble is not a convertible currency. The preferred technique, which we use in our comparisons of US and Soviet defense activities, is to estimate what it would cost the United States to replicate Soviet forces and weapons programs, and Gorbachev as not yet given us sufficient information to do so for his promised defense spending cut. We believe, moreover, that the 77.3 billion ruble figure represents only about half of total Soviet defense outlays.

DEFENSE SPENDING TRENDS

Question 12: The 14.2 percent announced cut and the cuts and redeployments announced by Gorbachev in the December 7 United Nations speech, together with the new defensive doctrine apparently adopted by the Soviets, suggest there will be major changes in the structure and deployment of Soviet forces and in the composition of the defense budget.

- (a) Discuss the trends and changes in the structure and deployment of Soviet conventional and strategic forces, and in the composition of the military budget, during 1980-85.
- (b) Discuss the trends and changes since 1985.
- (c) Discuss the likely effects on deployments, force structure, and the budget should Gorbachev's announced changes be implemented, paying particular attention to East Europe, Mongolia, and the Chinese border.

Answer:

Strategic Offensive Forces

From 1980 to 1985 the Soviets emphasized improving the accuracy and survivability of their ICBMs and SLBMs. They replaced older SS-18 and SS-19 ICBMs with more accurate SS-19 Mod 3 and SS-18 Mod 4 ICBMs. They continued expanding their SS-20 IRBM forces, from about 250 SS-20s in 1980 to over 440 in 1985. To improve the survivability of their ICBM forces, they began testing a fifth generation of ICBMs--the rail-mobile SS-24 and the road-mobile SS-25. We judge that these solid-propellant missiles will have a longer service life and lower maintenance requirements.

Modernization of strategic naval forces continued at a reduced pace after the late 1970s. Through the early 1980s, the Soviets continued to produce

Delta-III-class ballistic missile submarines, each of which carry 16 liquid-propellant MIRVed SS-N-18 SLBMs, and the Typhoon submarine, which carries 20 solid-propellant MIRVed SS-N-20 SLBMs. The SS-N-20 had completed testing and was deployed by the end of this period. They also began construction of a new class of ballistic missile submarine during this period--the Delta-IV-class submarine which carries 16 liquid-propellant MIRVed SS-N-23 SLBMs.

The Soviets also started producing the Bear H heavy bomber during this period. They improved force capabilities by equipping it with the AS-15 air-launched cruise missile. They also continued development and began flight testing the more capable Blackjack bomber.

Since 1985, the Soviets have continued to focus on improved accuracy and survivability. They have begun to deploy SS-25 and SS-24 mobile launchers and MIRVed SLBMs. The Soviets have also begun deployment of the silo-based SS-24 ICBM and SS-18 Mod 5 ICBM. Since mid-1988, the Soviets have been eliminating their SS-4 MRBM and SS-20 IRBM forces in accordance with the INF Treaty. They have also launched additional Typhoon and Delta-IV-class strategic ballistic submarines, adding to the number of longer-range, more capable MIRVed SLBMs in the USSR's submarine force. The Soviets also are continuing to produce Blackjack and Bear H heavy bombers.

Strategic Defensive Forces

The Soviets have made gradual but persistent progress during the 1980s in modernizing their strategic defenses, building steadily throughout the decade

on their already considerable investment in defensive programs. For example, we expect a modernized Moscow antiballistic missile (ABM) system to begin operation in 1989. Begun during the 1980s, this effort will eventually yield an expanded and upgraded system comprising a two-layered defense of 100 launchers. The Soviets have also continued to build passive defense measures for leadership protection. This work has included construction of deep underground bunkers, tunnels, secret subway lines, and other facilities beneath Moscow, other major Soviet cities, and the sites of major military commands.

To modernize their air defenses, the Soviets have been replacing older SA-1, SA-2, and SA-3 surface-to-air (SAM) systems with the SA-10 SAM, which represents their first credible capability against cruise missiles. SU-27 and MIG-31 fighters, with a true lookdown/shootdown capability and modern air-to-air missiles, are replacing older fighters. Increasing numbers of Mainstay airborne warning and control system (AWACS) aircraft are also being made available to Soviet air defense forces.

Conventional Forces

Between 1980 and 1985, there was slow growth in the overall size of the Soviet ground forces, with only a handful of new low-strength maneuver divisions added during this period. The combat capabilities of Soviet forces continued to increase, however, as additional infantry and artillery pieces were added to tank divisions, and to a lesser extent, motorized rifle divisions. Moreover, a large number of new nondivisional artillery and air assault units were formed, which greatly increased the number of guns,

armored infantry carriers, and helicopters in Soviet ground forces.

Ground Forces equipment modernization continued at relatively normal rates during 1980-85, although the rate of fielding of some highly sophisticated and expensive missile systems began to slow during this period. In the early 1980s, the Soviets introduced such weapons as the T-80 tank, the BMP-2 infantry fighting vehicle, and the SA-11 SAM system, and began to replace in earnest their towed artillery systems with self-propelled versions. Modernization of the Soviets' short-range ballistic missile (SRBM) force also occurred, with the SS-21 continuing to replace the highly inaccurate FROG rocket at a relatively slow rate throughout this period and the SS-23 beginning to replace the old SCUD system by 1985.

Some expansion also occurred in Soviet air forces between 1980 and 1985. This growth was exclusively in the ground-attack components, however, where the number of bombers and fighter bombers increased by almost one-third during this period. There was a corresponding loss of some 10 percent of fighter-interceptor aircraft. Aircraft modernization also continued during the early 1980s, but at a relatively moderate pace. The numbers of Backfire and Fencer bombers grew at a steady pace, but only a few fourth-generation Fulcrum and Flanker fighters were fielded by 1985.

Since 1985, there has been little growth in the overall size of Soviet ground forces, with almost no new maneuver divisions added. The force structure changes within divisions seen in the early 1980s continued to be implemented up through the end of 1988. Since General Secretary Gorbachev's force

reduction announcement in December 1988, however, a major restructuring of Soviet ground forces has begun, and it is not yet clear how, or how much, it will affect overall Soviet ground forces structure and capabilities.

Modernization of ground forces equipment has continued since 1985, with the introduction of more new weapons systems such as a new tank developed from the T-72 series vehicle, a new short-range anti-aircraft gun system, and the SA-12 SAM. Because the Soviets agreed to destroy all of their SS-23s as part of the INF Treaty, the SS-23 is no longer available to replace the large number of SCUDs that remain in the force.

The overall size of Soviet air forces also has remained relatively stable since 1985, and equipment modernization has continued at a moderate pace.

Fulcrum and Flanker aircraft are being fielded at a modest but steady rate, although the majority of the Soviet fighter inventory remains equipped with the MiG-23 and even older aircraft.

Defense Expenditures

Total estimated defense expenditures--as measured in constant 1982 rubles--continued to grow during the 1980-85 period, due to rising expenditures on RDT&E and O&M. However, estimated procurement spending--which accounts for almost half of total defense expenditures--was essentially flat through the mid-1980s, as decreased spending on ships, missiles, and aircraft offset rising expenditures for land arms and space programs. Personnel and construction expenditures remained flat or grew very slowly during this period.

During General Secretary Gorbachev's tenure, however, we estimate that procurement spending--and consequently total defense expenditures--have shown an upturn in growth. The increase in defense procurement has been driven by the start-up and early stages of production of new generations of weapon systems as described above.

Effects of Gorbachev's Announced Changes

If all of the force reductions announced by Gorbachev are carried out during the next two years, there would be a significant change in the structure of Soviet ground forces--especially in those forces stationed outside the Soviet Union. Although Soviet personnel reductions in Eastern Europe would only amount to some 10 percent, six tank divisions and half of the total number of Soviet tanks in Eastern Europe are to be withdrawn, along with heliborne air assault units and assault river crossing units that are designed to conduct deep offensive operations. The large tank reductions in Eastern Europe also will require a major restructuring of all remaining Soviet ground forces divisions. In Mongolia, the Soviets claim they will withdraw 75 percent of their ground forces and all of their air forces, while eliminating 12 ground forces divisions--some 30 percent--of their strength along the Sino-Soviet border. Therefore, some of the most threatening elements of the Soviet ground forces will be removed.

In the Atlantic-to-the-Urals zone, a 10,000 tank reduction would represent a cut of about one-third in the total number of Soviet tanks in units, and the elimination of 8,500 artillery systems would reduce the number of guns, mortars, and multiple rocket launchers by as much as 25 percent. Finally,

500,000 men represents about a 10 percent reduction in overall Soviet manpower. Some Soviet statements have suggested that as many as half of all Soviet divisions and armies could be eliminated or restructured to achieve these cuts.

In sum, all of these force reductions will reduce, to some extent, Soviet ground forces capabilities--particularly those in Eastern Europe and Mongolia. The Soviets, however, will still be able to effectively defend themselves against invasion in all theaters and will retain extensive offensive capabilities against NATO after mobilization.

As for air forces reductions, the Soviets have provided few details on the composition of the 800 aircraft to be eliminated from Europe or of the 11 air regiments to be cut in the eastern USSR. While significant, these reductions would not seriously impair Soviet military capabilities unless they are concentrated in a single force element, such as theater deep attack aircraft.

The promised reductions in military manpower and the numbers of tanks, artillery, and aircraft fielded by Soviet forces will--if implemented completely--result in reductions in military operating expenditures. In addition, as part of his promised 14.2 percent cut in defense spending, Gorbachev has pledged to reduce expenditures for the production of weapons and military equipment by 19.5 percent during the next few years.

As noted in our answer to question 11, however, the "total" defense

spending figure recently released by Gorbachev--77.3 billion rubles--is only about half of what the Intelligence Community estimates the Soviets actually spend on defense. Depending on what is responsible for the difference between the defense spending figure released by Gorbachev and the Intelligence Community's estimate, our assessment of the necessity of further cuts in military programs beyond what the Soviets have specifically promised would differ substantially. If, for example, the difference was due solely to pricing problems--the Intelligence Community was using higher prices for military goods and services than the Soviets--our judgment that additional cuts will be necessary remains unchanged, because our estimate of the savings achieved through announced cuts--INF, Afghanistan, and the UN reductions--would also be lower. On the other hand, if the difference was due only to the omission of some categories of expenditures from the new defense budget, the ruble value of the 14.2 percent cut would be smaller than we originally thought and most of the promised cuts could be accounted for by the announced reductions. From the information available to date, it is clear that a portion of the difference is due to disparities in coverage, but an even larger portion still remains unaccounted for.

OPERATIONS AND MAINTENANCE ACTIVITIES

Question 13: What changes have occurred in Soviet operations and maintenance (O&M) activities, including military exercises of air, ground, and naval forces, since 1985, and what have been the effects on spending?

Answer: Since 1985 the military has come under increasing pressure to reduce waste and increase efficiency. Articles in the military press indicate that some ground force units have been given specific goals for reducing the use of fuel and other resources. In addition, longstanding Soviet efforts to extend the service life of various weapons have been given additional emphasis. These efforts have produced little in the way of resource savings, however.

The most notable change in Soviet operating practices has been the downturn in naval activity. Since 1985 the Soviet Navy has reduced its operational tempo (optempo), i.e. the number of days that an operational ship is at sea, either in local training operations, involved in an exercise, or deployed out of area, as a percentage of the days available for such operations. Soviet units are spending more time in port and at anchor and less time at sea than in the pre-1985 period. The Navy also has reduced the extent of distant deployments and exercise activity. The reduction in optempo eases the burden on shipyards because repairs can be scheduled at longer intervals and produces some--albeit small--savings in terms of fuel and other consumables. Ground and air exercises have not demonstrated a similar departure from past practices, although for a variety of reasons--including a growing recognition of NATO's military capabilities--some ground forces exercises are now including an increasing

number of defensive maneuvers. Again, these activities have had little impact on overall military outlays.

GORBACHEV'S UNILATERAL DEFENSE CUTS

Question 14: Why did Gorbachev decide to unilaterally reduce military spending?

Answer: Gorbachev was facing a set of problems which--if left unchecked-- could threaten the USSR's economic well-being and his own political standing. The economy continued to perform poorly and the reforms he had established were causing major disruptions. Therefore, the General Secretary undertook a series of steps--including a reduction in defense expenditures--in an effort to promote consumer welfare and reduce the budget deficit.

Gorbachev turned to the defense sector for several reasons. Defense production consumes large amounts of resources, some of which--microelectronics, for example--are crucial to the civilian sector. Possibly equally as important, though, announcement of the unilateral reductions was intended to put political pressure on NATO to reduce its own defense outlays. In our view, Gorbachev was hopeful that such a development would enable the Soviets to maintain their military standing versus NATO and, perhaps, allow for further cuts in Soviet defense spending.

MILITARY FORCES IN KOLA PENINSULA

Question 15: Reportedly, the Soviets have been building up military forces in the Kola peninsula area bordering Norway. The "Mike" class submarine that sunk in the Norwegian Sea April 7 was a part of this buildup.

- (a) Is it correct that this area contains 66 percent of the Soviet strategic nuclear reserve, 30 percent of intercontinental bombers, 21 percent of the intercontinental warhead inventory, and large numbers of amphibious and conventional forces?
- (b) What is the explanation for this heavy concentration of military resources, how rapid is the buildup, and what has been the trend since 1985?

Answer: The Kola peninsula is significant in terms of Soviet strategic strike forces because it contains the homeports for the nuclear-powered ballistic missile submarines (SSBNs) of the Northern Fleet. The Typhoon, Delta and Yankee-class SSBNs based on the Kola comprise some two-thirds of the Navy's SSBNs, with the others based in the Pacific. Though upgraded with significantly more capable classes, the total number of SSBNs based on the Kola has remained basically constant for more than a decade. The Northern Fleet SSBNs carry about one-fifth of the Soviet Union's total arsenal of strategic warheads, most of which are carried by intercontinental ballistic missiles (ICBMs). The Kola does not contain ICBM silos or home airfields for long-range bombers.

The Kola peninsula is important to the Soviets because it offers the Northern Fleet the advantage of immediate access to open waters, whereas units of the Baltic and Black Sea Fleets must pass through straits that would be

controlled by NATO in time of war. Conversely, the Soviets recognize that NATO forces can threaten Soviet territory and SSBN operating areas from the maritime approaches off the Kola. The Northern Fleet, therefore, has become the most important of the Soviet fleets and has traditionally enjoyed a high priority in the allocation of new units. In addition to new SSBNs, since 1985 the Fleet has continued to gradually receive new major surface combatants--such as Kirov and Slava-class cruisers--and Oscar-, Sierra-, and Akula-class submarines. A Kola-based naval aviation strike regiment was also recently upgraded by the addition of medium-range Backfire bombers. Although the concurrent retirement of older units has meant that the Fleet has not changed dramatically in size, it has become a higher quality force. Although most of the Fleet's wartime role would involve operations at sea, it also includes a small naval infantry unit that could conduct amphibious landings in support of operations by Soviet ground forces units.

DEFENSE CONVERSION

Question 16: There is much talk by the Soviet leadership of conversion of defense facilities to consumer production. Aside from anecdotal evidence, is it possible to measure the level of conversion that has taken place and that will occur in the future? Can you conclude at this time that there has already been a significant shift in resources from defense to the civilian sector?

Answer: We have not yet observed a major shift in Soviet production priorities from weapons to civil goods, but are seeing limited signs that changes are beginning to occur. For example, Western journalists, who were recently allowed to visit Moscow Plant 30--which produces the MiG-29 Fulcrum--noted that the facility appeared to be at least partially converting to civil production; the plant director said production of the fighter would be cut 30 percent a year through 1990. The Soviets, however, are likely to increase production of the MiG-29 elsewhere, because demand for the aircraft probably will remain high.

We should not be surprised by the fact that we have little evidence so far of a diversion of defense industry resources to civil programs. Altering the guns-versus-butter ratio requires more than a budgetary adjustment and takes time to implement. New designs must be developed and tested; production plans must be changed; financial, material, and human resources must be reallocated; new production processes must be set up; and the goods that emerge must be priced and shipped to customers. Moreover, it will take time for us to identify and accurately assess any reductions in weapons development or production. For example, we will not always know

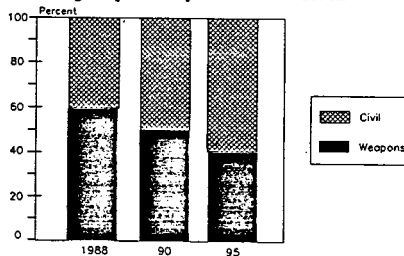
immediately whether apparent cutbacks in weapons programs are intentional and prompted by economic imperatives or whether the affected facilities are experiencing supply or technical problems.

It is difficult to analyze Soviet statements on the conversion of defense industrial capacity to civil programs. Many of them are being exaggerated to send a positive message to consumers and to the West. In addition, statements on conversion have been somewhat confusing and may be purposely misleading. The confusion arises in part because the Soviets for the first time are talking openly about their common practice of producing both civil and military products in defense industry plants (see inset). Until aggregate data become available--which could be several years--it will be difficult to assess the scale of the shift to civil output.

The Soviet Defense Industry: Support for the Civil Sector

Of the 16 industrial ministries that make up the machine-building complex, nine--collectively referred to as the defense industry--specialize in military hardware while the other seven produce primarily civil goods. The bifurcation of these ministries does not mean, however, that production is neatly segregated. The civil ministries produce military items such as armored vehicles and missile launchers, while the defense industrial ministries produce a variety of civil goods. In fact, Premier Ryzhkov recently announced that 40 percent of the output of the defense industry was civil goods in 1988. He claimed that the proportion is to rise to 50 percent by 1991 and 60 percent by 1995.

**Defense Industrial Plants:
A Growing Responsibility for Civil Production**



**Selected Defense Industry Output:
Estimated Percent of Total Production in 1988**

Consumer Durables	
Refrigerators	95
Washing machines	60
Tape recorders	90
Television sets	100
Producer Durables	
Numerically controlled machine tools	25
Computers	90
Tractors	15

DEFENSE CUTS AND GNP

Question 17: In the past, this Committee has been told that reductions in defense spending do not translate on a one-for-one basis into increases in civilian economic activity because of lead time problems and the structure of the Soviet economy. Do you have an estimate of how much a 14.2 percent cut in spending would add to Soviet GNP over the next five years?

Answer: Defense production contributes directly to our measure of Soviet GNP. Thus, the initial effect of a cut in defense would be to lower GNP unless the cuts were soon offset by increased non-defense economic activity. The freed resources can contribute to boosting non-defense economic activity in at least two ways: a portion can be directly channeled to consumer goods production, and this in turn may raise productivity by providing improved material incentives; over the longer term a portion can be channeled to civilian R&D and investment which would raise productivity by stimulating technical advance and augmenting capital stock.

The lengthy process of restructuring industrial capacity suggests that the increases in non-defense GNP will be slow in coming. Thus, the overall increase in GNP from a substantial defense cut over the next five years is likely to be small. Nevertheless, consumption per capita would be somewhat higher than otherwise as would civilian investment resources, setting the economy up for somewhat faster growth in the second half of the 1990s.

DEFENSE BURDEN

Question 18: You estimate the Soviet military burden at 15-17 percent. If defense expenditures are cut by 14.2 percent, what would be the effect on the military burden?

Answer: Assuming the Soviet economy continues to grow at 1.5-2 percent annually until 1991, when the cut is apparently scheduled to be completed, the burden--as measured in constant prices--could decline by as much as 3 percentage points. If defense spending were then frozen at the 1991 level and the economy continued to grow at the same rate, the burden could decline another percentage point by 1995. These calculations, however, are based on our estimate of Soviet defense spending. President Gorbachev has recently indicated that defense spending accounts for only about 9 percent of Soviet GNP. His claim that the military burden is only about half as great as we estimate also implies that a 14.2 percent cut in defense spending will only reduce the burden by about one percentage point.

WILLIAM LEE ESTIMATES

Question 19: The report estimates that Soviet defense spending increased by 3 percent in 1988, about the same as in recent years. I understand that William Lee, an analyst with the DIA, has a different estimate. According to Lee's estimates, Soviet procurement has already been reduced in the past several years. Can you discuss Mr. Lee's analysis and findings and your reactions to them?

Answer: We are unaware of any recent published estimates by Mr. Lee that indicate defense spending has dropped and we believe it would be inappropriate to comment on unofficial or oral presentations. We are, therefore, unable to comment on the findings.

MILITARY MANPOWER

Question 20: In a speech in London on April 7, Gorbachev made some interesting remarks about Soviet manpower. He said Soviet numerical strength as of January 1 was 4,258,000 men. That figure is about one million below some Western estimates. What is your own estimate of Soviet active duty strength and how do you reconcile it with Gorbachev's figure?

Answer: General Secretary Gorbachev's speech provided the West with its first "official" statement on the numerical strength of the Soviet armed forces. Although Gorbachev announced that the number was 4,258,000, he did not fully indicate what this figure included.

A few days later, General Batenin--a military advisor to the Central Committee--confirmed that the armed forces had 4.2 million men but added a significant qualification: he claimed that the total excluded KGB border guards, internal troops of the Ministry of Internal Affairs (MVD), and civil defense troops. He noted that when these were added in, the number rose to "over five million."

CIA's estimate of Soviet active duty military personnel who perform a combat mission is 4.4 million. If we exclude the KGB border guards from this estimate in order to make it more comparable to what we believe Gorbachev may have included in his 4,258,000 figure, our estimate becomes 4.2 million.

On the other hand, if we add in the remaining Soviet uniformed military personnel--MVD, construction, railroad, and civil defense troops--and the KGB personnel previously removed for comparability purposes, our estimate

increases to 5.5 million men. This roughly compares with Batenin's figure of "over five million."

RAND MANPOWER ESTIMATES

Question 21: I understand a recent Rand study shows that Soviet manpower figures have been overestimated in the past, and that analysts in both CIA and DIA have been examining this issue. What are the reasons for the overestimation, if any? Why is it not possible for you to give us an unclassified table showing the trends in military manpower?

Answer: Some two years ago, prior to the Rand study, CIA concluded that given our current estimates of force structure and manning levels, the number of Soviet 18-year-old males who would have had to be conscripted to man the forces was unrealistically large when compared to the size of the 18-year-old male population and the evidence on draft deferment. We undertook a review of our data and determined that manning in some units--particularly in non-combat support elements--needed to be changed. Although the manning level in most of the units which we were able to update was decreased, in some it was increased. The net result was a reduction in our estimate to the current total of 5.5 million (see table).

If the overall size of the Soviet military--in the broadest sense--is at least five million men, as indicated by General Batenin, the CIA estimate would be within ten percent of his total. We believe that this probably is as close as we can come to the "true" number, given the available evidence. If the

Soviet Military Manpower										
million men										
	<u>1980</u>	<u>1981</u>	<u>1982</u>	<u>1983</u>	<u>1984</u>	<u>1985</u>	<u>1986</u>	<u>1987</u>	<u>1988</u>	<u>1989</u>
Total Manpower	5.3	5.3	5.4	5.4	5.5	5.5	5.5	5.5	5.5	5.5

Soviets become more open with their military statistics, we will adjust our numbers and methodologies accordingly.

SOVIET LAGS IN KEY TECHNOLOGIES

Question 22: Your report shows that the Soviet Union lags behind the United States in seven key technologies. Three years ago, you gave us a table showing similar lags for some of the same and for different technologies. With respect to each of the technologies, are the lags getting wider or narrower?

Answer: In the areas of mainframe and supercomputers and fiber-optic equipment, the technology gap appears to have widened. We estimate that the technology gap narrowed by several years in the case of computer-operated machine tools but that it stayed about the same with respect to the Soviet's ability to integrate automated machine tools within flexible manufacturing systems. The US lead in microcomputers remained about the same for the most advanced components, but was cut about in half for the least technically advanced items. We judge that the US lead in advanced microcircuits stayed about the same between 1987 and 1989.

TECHNOLOGY ESTIMATES

Question 23: How were the ranges of the lags determined, and what are the effects of the lags on military production?

Answer: The lags were determined by comparing the dates when series production began for high tech Western equipment with the dates when comparable Soviet equipment entered production. In cases where comparable Soviet equipment has yet to enter series production, we used the date we estimate series production will begin. The ranges for the lags typically reflect the use of several models of US and Soviet equipment in making the comparison.

These lags are a handicap to the Soviets in their efforts to field weapon systems incorporating advanced technologies. The Soviets, in many cases, have attempted to offset this handicap by incorporating advanced technologies into their weapon systems as soon as they are confident they can produce them. In the US, on the other hand, advanced technology often shows up first in products for the civilian sector. In situations such as these, the Soviet lag in technologies incorporated in military systems would be less than the lags depicted in our chart.

The technology lag also makes military production less efficient than in the US. Less technological sophistication means more time-consuming hand labor will be required, resulting in lower levels of productivity and precision. This trend is particularly evident in manufacturing areas that require close tolerances--aircraft construction, avionics fabrication, microelectronics production, and precision machining. Here the Soviets are particularly

hindered by their lags in microelectronics and machine tools. The Soviet lag in microelectronics means that the sophistication of the computer controllers on Soviet numerically controlled machine tools has to be kept low. The Soviet lag in these machine controls results in less efficient machining operations, increased waste from mismachined parts, requirements for large numbers of skilled machinists, and slowness in changing production assembly lines when new products are introduced.



TECHNOLOGY PROSPECTS

Question 24: In view of the fact that the industrial modernization program seems to be on hold, and military spending is apparently being reduced, is it fair to conclude that it is not likely that Soviet dual-use and military technology lags with the United States will be substantially reduced in the foreseeable future?

Answer: That is a fair conclusion. Improving the technology levels in Soviet industry will require levels of capital investment and reforms in the economic system that the Soviets may be unable or unwilling to make. In the microelectronics industry, which the Soviets identified very early in perestroika as critical to industrial modernization, the Soviets have acknowledged that despite their efforts to date, a significant technology lag still exists with the West. If the Soviets are unable to achieve real progress in closing the gap in such a critical technology, it is unlikely that other technology gaps--many of which depend on advanced microelectronics--will narrow.

COCOM AND TECHNOLOGY TRANSFER

Question 25: In your view, have the stepped up U.S. and COCOM efforts to control exports of military and related technology, and the intensified anti-espionage efforts, slowed the undesirable transfer of technology to the Soviet Union?

Answer: It has always been difficult to measure the effects of export control actions taken in COCOM on the proscribed countries' ability to acquire Western high technology equipment. We know, however, that the Soviets continue to illegally obtain computer and other controlled equipment by avoiding COCOM controls altogether. At the same time, the proscribed countries have not been successful in acquiring the know-how necessary to build--on their own--the computers and other high technology equipment that they desperately need. We can only attribute this to COCOM's ability over the years to prevent whole turnkey plants--along with the technicians who know how to make the facility work--from reaching the proscribed countries. Without such COCOM cooperation, we believe that Western countries would have succumbed long ago to pressure from the East to sell the technology that thus far they have been unable to obtain.

LINKAGE

Question 26: There are differences of views over whether the United States and the West can exert economic leverage against the USSR to influence its economic, human rights, and foreign policies. For example, a recent report by the Trilateral Commission urges that the West follow the policy of linkage, which implies that leverage does exist. Do the facts demonstrate that economic leverage or linkage has been effective in modifying Soviet policies?

Answer: Economic leverage or linkage has been largely ineffective in altering Soviet behavior because of the failure to get wide-scale support within the Western alliance. Unilateral attempts by the US have sent strong political signals, but have had little impact because of the very small role the US plays in the Soviet economy. At best, they have proven to be minor inconveniences. There are a few key sectors--energy, agriculture, steel, and petrochemicals, for example--where Western inputs have played an important role in the pace of Soviet economic development. A concerted effort by the Western alliance to limit Soviet access in these areas could have an impact on the Soviet economy and thus potentially influence Soviet behavior.

ECONOMIC INFORMATION

Question 27: We have seen a considerable opening of Soviet society since glasnost was instituted. Is more and better quality information about the Soviet economy now available? If not, discuss briefly the major gaps in information and what statistics we would like to have access to.

Answer: Gorbachev's policy of glasnost has, on balance, had a positive impact of the availability of Soviet statistics, as the Soviets have resumed publication of data series previously withdrawn from their economic yearbooks and provided some types of information never published previously. Moscow has also begun marketing statistical data, both at home and abroad, and is developing new data series for the use of planners and managers. At the same time, though, troubling gaps and discontinuities in the statistics on monthly, quarterly, and annual economic performance continue to occur. Overall, much less economic information is released in the USSR than in Western countries.

While the quantity of Soviet statistics has improved under glasnost, the quality of Soviet measurements of economic performance continues to suffer from numerous defects. Moreover, the Soviets have done little to clarify the methodologies and definitions underlying their economic performance measurements. Thus, glasnost has not resulted in fundamental improvements in the reliability of Soviet economic performance measures.

Similarly, in the area of defense expenditures, although the Soviets have released a figure--77.3 billion rubles--which is almost four times higher than their previously published "defense budget," the new total is still only about

half the level of Intelligence Community estimates. Nor have they explained precisely what is included in this number.

ESTIMATES OF SOVIET GNP

Question 28: Some Soviet and Western economists dispute the CIA estimates as overstating the size of the Soviet economy by not taking adequate account of inflation and misreporting of economic activity. How do you respond to this criticism and what steps, if any, are you taking to obtain outside evaluations and to revise your methodology?

Answer: Under glasnost, the Soviets have published sharp criticisms of their own official statistics and have allowed some of the critics to publish alternative estimates of the USSR's past economic growth. For the most part, such criticisms have confirmed what we in the Intelligence Community have long believed: that time series of official Soviet macroeconomic statistics expressed in ruble terms--for example, on national income or GNP--exaggerate growth largely because of their failure to correct completely for inflation. Our estimates of Soviet growth are based primarily on disaggregated Soviet data expressed in physical units such as tons, kilowatt hours, and so forth. They have consistently shown that Soviet economic growth has been lower than officially claimed and have been closer to the alternative unofficial estimates published under glasnost than to official Soviet data.

In some instances the glasnost-inspired critics maintain that Soviet economic growth has been even lower than we estimate. It is possible that this indicates error on our part. If so, we believe the most likely cause would be our limited reliance on Soviet statistics expressed in ruble terms, which would impart upward bias to some parts of our estimates. In our view, however, much of the upward bias is probably offset by the downward bias

inherent in using physical measures which fail to capture improvements in the quality of goods and services and which probably lead us to underestimate the growth of some types of output. Moreover, the Soviet critics of Moscow's official statistics have not as yet been able to provide much information about the evidence on which their unofficial estimates are based and the information they have provided suggests that their estimates are rough approximations. We are prepared to revise our estimates when and if better information becomes available but so far glasnost has not provided this. Our answer, in short, is that overall we believe our estimates are adequate for the uses we make of them--the identification of general trends and emerging problems. Moreover, we believe that our past statements to this Committee have emphasized the severity of Soviet economic problems.

We would also note that our estimates of Soviet defense spending are not based on published Soviet economic statistics. Although these estimates have their own potential problems, the charges raised by glasnost-inspired critics of Soviet statistics have no relevance to them.

CIA routinely consults with academic specialists in national income accounting on the methodologies used by the Office of Soviet Analysis in measuring Soviet GNP. For example, the Office sponsored an unclassified conference featuring papers by academic specialists and CIA GNP analysts in 1987, the proceedings of which were published in The Impact of Gorbachev's Policies on Soviet Economic Statistics, SOV 88-10049, July 1988. The Office also held an unclassified conference this spring at which CIA and US academic

experts in GNP methodologies presented papers reviewing methodologies currently used in our calculations of Soviet GNP. The conference papers will be published.

PRODUCTION FOR THE SOVIET MILITARY, 1975-88, BY THE DIA

U.S. FILE DESIGNATION
U-74,523/DB-4

CONCURRENCES

DB-4G/Angie Moore/5 Oct 89/x3700/a1m/WPE

Joint Economic Committee (JEC) Soviet Weapon Production Tables

DI-3

The Enclosed table is forwarded for Senator Bingaman as requested.

1 Enclosure a/s

DAVID H. KERCHER
Colonel, USAF
Chief, Industrial Resources
and Production Division
Directorate for Research

COORD
DB ✓
DB-4
DB-4G

1 DB
2 DB-4

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DB-4G



PRODUCTION FOR THE SOVIET MILITARY 1975-1988

General Type	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	Cumulative	
														1975- 1988	1988
ICBMs	250	300	250	200	200	200	200	125	150	75	100	75	125	150	2400
IRBMs	25	50	75	100	100	100	125	125	125	125	100	25	50	50	1175
SLBMs	200	150	200	200	250	200	250	200	100	50	75	100	100	100	2175
Short-Range Ballistic Missiles	600	950	900	850	650	600	400	300	350	250	350	500	400	450	7550
Cruise Missiles	1200	1300	1300	1300	1100	1200	1200	1100	1100	1200	1300	1400	1450	1450	17600
SAMs (in thousands) *	14	13	15	13	11	11	11	10	11	11	12	13	13	13	171
Space Launch Vehicles	100	100	120	100	100	100	110	120	120	120	125	120	120	120	1675
Spacecraft	90	90	90	80	90	80	90	100	100	100	100	100	100	100	1310
Bombers	20	25	30	30	30	30	35	35	35	50	50	50	45	45	510
ASW-Reconnaissance	5	5	5	5	5	5	5	5	2	2	2	2	2	2	52
Fighters/Fighterbombers**	950	1000	1000	900	950	950	850	750	600	650	700	650	600	750	11300
Transports and other Aircraft ***	25	100	100	100	100	75	100	125	100	100	75	75	100	100	1275
Military Helicopters	900	850	600	400	350	450	450	450	500	450	400	450	400	300	6950
SSBNs	6	6	5	2	2	2	2	1	1	2	2	1	2	1	35

* Does not include man-portable models

** Includes combat capable trainers

*** Includes military transports, ANACs, and tankers



PRODUCTION FOR THE SOVIET MILITARY 1975-1988 (Continued)

General Type	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	Cumulative
															1975- 1988
Other Submarines	4	3	5	9	9	10	8	6	8	6	4	4	4	6	86
Major Surface Combatants	12	11	10	10	8	10	7	6	9	7	6	9	8	14	127
Minor Surface Combants	45	40	35	30	30	45	40	35	35	30	30	35	30	30	490
Auxiliaries	20	15	15	25	20	20	10	20	10	10	10	10	15	10	210
Tanks	2200	2300	2400	2300	2200	2600	1800	2400	2300	2500	2800	3000	3100	3300	35200
Other Armored Vehicles+	4600	4700	5100	5700	6400	7000	6300	5700	6100	6300	5200	4900	4800	5600	78400
Field Artillery++	2000	1800	1800	1800	1800	1850	1850	1950	1950	1900	1900	1850	1850	1950	26250
Radar	900	1000	750	750	750	850	800	800	750	750	900	900	1000	850	11750

+ Includes armored command vehicles and MTLBs.

++ Includes guns, howitzers, mortars, and multiple-round rocket launchers, 100-mm and larger.

ALLOCATION OF RESOURCES IN THE SOVIET UNION AND CHINA

FRIDAY, JULY 7, 1989

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

The subcommittee met, pursuant to notice, at 10:30 a.m., in executive session, in room SD-628, Dirksen Senate Office Building, Hon. Jeff Bingaman (chairman of the subcommittee) presiding.

Present: Senator Bingaman.

Also present: Richard F Kaufman, general counsel.

OPENING STATEMENT OF SENATOR BINGAMAN, CHAIRMAN

Senator BINGAMAN. This will be a hearing of the Subcommittee on Technology and National Security of the Joint Economic Committee.

I have about a page and a half statement that I will go through here, and then we'll call on the witnesses to proceed and describe the CIA report.

The recent military crackdown and tragic events in China created shockwaves in the United States and around the world. The United States announced limited sanctions which Congress may still expand.

President Bush understandably is attempting to reflect traditional American values in his reaction while not damaging our relations with China any more than is necessary.

The present situation underlines the importance of these annual hearings on China's economy. Policymakers need to follow and understand economic as well as other developments in that country. Indeed, it's not possible to appreciate events, including the present turmoil in that country without knowledge of economic conditions and policies.

Of course China occupies a huge territory with an enormous population, but its economy is weak and underdeveloped and per capita income is pathetically low. At the same time it's rich in natural resources and has the potential of becoming one of the world's great powers.

I am pleased to welcome spokespersons for the CIA who are appearing before us this morning. I understand the report you have submitted is still in draft form and that a final version will be submitted late this month. We are looking forward to the insights that

you can offer about China's recent economic performance and the prospects in light of the tumultuous events in June.

As I understand it, presenting the testimony will be Martin Petersen.

Mr. Petersen, if you could introduce your colleagues and then take whatever time you need to summarize the report, and then I'll ask you a few questions.

STATEMENT OF MARTIN PETERSEN, DEPUTY DIRECTOR, OFFICE OF EAST ASIAN ANALYSIS, CENTRAL INTELLIGENCE AGENCY

Mr. PETERSEN. Thank you very much, Mr. Chairman, and good morning.

I am Martin Petersen, and I am Deputy Director of the Office of East Asian Analysis. It's my pleasure to be here again.

With me today are Ms. Erin Endean, our Senior Trade Analyst who testified last year and [security deletion], our Senior Political Analyst. Also accompanying me are Mr. John Baskin, our specialist in Chinese Macroeconomic Policy, and four university students, who are working in the China Division of East Asian Analysis this summer as part of our minority recruitment effort. They helped write sections of the statement for the record, and we wanted them to attend today's presentation so they could see how the complete process works.

Senator BINGAMAN. Let me just ask, because it occurred to me as we were walking over, how large is your East Asian Analysis group and how large is your China section of that?

Mr. PETERSEN. [Security deletion.]

Senator BINGAMAN. OK. Thank you.

Mr. PETERSEN. The university students are Mr. George Sanker from Colgate who drafted part of the budget section; Ms. Kayla Barre from Prairie View A&M, who worked on the agricultural section; Ms. Malissia Lennox from Arizona State University, who contributed the energy and industrial portions; and Ms. Elaine Chen from Harvard who pulled together the chronology on the demonstrations that took place in China earlier this year.

Mr. Chairman, I have some very brief opening remarks after which I will turn to our political analyst and ask him to speak for about 5 minutes on the leadership situation in Beijing as we see it. After that, we would be very happy to take any questions you may have about either our draft statement or my colleague's remarks.

PREVIOUS TESTIMONY

When I testified 2 years ago, I said in my opening remarks that China's economic reform program was at a critical juncture, that the pace and direction of reform were being sharply debated within the leadership.

We pointed out that the Chinese reformers faced two major obstacles.

First, they had to convince hardline party leaders that the benefits of reform outweighed the risks and, second, they had to contend with the inflationary pressures that were building in the economy.

A year ago when we came before this subcommittee we reported that the leadership remained divided not only over the means of promoting reform, but even over the ultimate goal of reform as well.

We noted that then General Secretary Zhao remained very heavily dependent on Deng's support and was increasingly vulnerable to attacks from hardline opponents.

We also noted that Beijing was still struggling with how to control inflation and corruption and that the leadership was concerned about the possibility of serious urban unrest.

POLITICAL AND SOCIAL TENSIONS WILL CONTINUE

These fissures in the leadership and the pressures in the society exploded in full force during April and May. We believe the political and social tension that produced the events in Tiananmen Square will continue during the coming year.

Our statement for the record focuses on the background of the demonstrations and the consequences for future economic policy and performance. [Security deletion.]

We would be happy to take any questions.

[The report by the Central Intelligence Agency follows:]

"THE CHINESE ECONOMY IN 1988 AND 1989:
REFORMS ON HOLD, ECONOMIC PROBLEMS MOUNT"

A REPORT

BY THE

CENTRAL INTELLIGENCE AGENCY

PRESENTED TO THE

SUBCOMMITTEE ON TECHNOLOGY AND NATIONAL SECURITY

OF THE

JOINT ECONOMIC COMMITTEE

JULY 7, 1989



Directorate of
Intelligence

**THE CHINESE ECONOMY IN 1988 AND 1989:
REFORMS ON HOLD, ECONOMIC PROBLEMS MOUNT**

July 1989

**The Chinese Economy in 1988 and 1989:
Reforms on Hold, Economic Problems Mount**

Intelligence Assessment

This paper was prepared by the Central Intelligence Agency for submission to the Subcommittee on Technology and National Security of the Joint Economic Committee, Congress of the United States.

This report will be released to the public following the appearance of the Deputy Director of the Office of East Asian Analysis, Directorate of Intelligence, CIA. Draft not to be released without permission of the Chairman.

**The Chinese Economy in 1988 and 1989:
Reforms on Hold, Economic Problems Mount**

Preface

Information available
as of 1 August 1989
was used in this report.

China's leaders experienced the greatest challenge to the authority of the Communist Party in 40 years of rule when massive demonstrations swept China this spring. The protests were symptomatic of public dissatisfaction with the leadership because of its unwillingness to make the political system more responsive to public concerns and inability to control growing official corruption, nepotism, and inflation--which approached 30 percent in China's cities last year, the highest level since the Communists came to power.

The demonstrations sparked leadership maneuvering that toppled Zhao Ziyang, one of China's most ardent market-oriented reformers, from the party's top post. An expanded meeting of the Communist Party Central Committee in June elevated leaders who believe greater political, ideological, and social control is necessary and who generally advocate economic reform strategies that emphasize improved central planning rather than experiments with market measures.

The unrest has weakened Beijing's ability to solve the country's economic problems. The preoccupation of China's leaders with consolidating power, restoring ideological orthodoxy, and maintaining social order will probably prevent them from formulating new solutions to the country's economic problems. Consequently, China's reform program is likely to be bogged down for the next few years. Indeed, key market reforms like price decontrol and bankruptcy--which Beijing put on hold in the fall of 1988 when it began implementing an austerity program--will be postponed indefinitely.

Inflation is likely to remain a problem. With economic reforms on hold, industrial efficiency and labor productivity will lag and Beijing will have difficulty stimulating production of grain and industrial raw materials, items chronically in short supply. At the same time, pressures to increase government expenditures will probably grow in the aftermath of the demonstrations, adding to inflationary pressures. Beijing may attempt to increase food subsidies and loans to state enterprises to minimize the impact of rising prices on its restive urban labor force. To head off growing unhappiness among peasants--who are being pressed to grow more grain but are having increasing difficulty obtaining inputs and are being paid in IOUs--China's central bank may have to loosen credit restraints in the countryside. Defense expenditures also may rise because military leaders are exerting greater influence in Beijing following their suppression of the demonstrations. Persistent inflation will fuel social unrest by eroding standards of living, but rigorous enforcement of the austerity policies would probably swell the ranks of unemployed, embittered workers whose income subsidies do not keep pace with price rises, and anger farmers paid with IOUs for their crops.

Finally, Beijing's ability to draw on foreign resources to alleviate domestic shortages, promote exports, and fund infrastructure and industrial projects has been diminished by the reluctance of foreign businessmen and governments to sign new investment and loan agreements. Although China can probably weather the expected decline in tourism revenues and slower export growth this year, the downturn in China's international economic relations may dim China's long-term economic prospects. For example, industrial and export growth would probably slow if--to forestall a steep decline in its foreign exchange reserves--Beijing broadens its restrictions on imports to include capital equipment and raw materials. Moreover, if foreign businessmen choose alternative Asian sites for new technology-intensive investment projects, China will have greater difficulty competing with Asian exporters like Thailand, Malaysia, and the Philippines in the 1990s.

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Student Protests: 15 April 1989 - 3 June 1989

- 4/15 Hu Yaobang dies.
- 4/17 First student demonstration in Tiananmen Square.
- 4/20 Demonstrations spread to Nanjing, Shanghai, and Chengdu; Beijing students declare a three-day strike.
- 4/22 Hu Yaobang's official memorial service is held. Demonstrations occur in Tiananmen, Shanghai, Chengdu, Guangzhou, Xian, and Harbin.
- 4/23 General Secretary Zhao Ziyang leaves for North Korea.
- 4/24 Students in Beijing form a citywide coordinating committee and declare a class boycott.
- 4/26 *Renmin Ribao* editorial criticizes the students.
- 4/27 150,000 students and activists protest in Tiananmen in one of the largest demonstrations to date.
- 4/29 Party officials hold a televised dialogue with representatives of officially recognized student groups, later disclaimed by student leaders on Tiananmen.
- 4/30 Zhao Ziyang returns from North Korea.
- 5/2 Students threaten to march in two days if the government refuses to begin negotiations.
- 5/4 An estimated 50,000 students are joined by 250,000 other citizens in a march to protest the government's refusal to negotiate. Zhao Ziyang delivers a conciliatory speech at a conference of representatives of the Asian Development Bank.
- 5/13 An estimated 1,000 students begin a hunger strike in Tiananmen.
- 5/16 Gorbachev arrives in Beijing. Crowds in Tiananmen swell to over 1 million.
- 5/18 Li Peng participates in a televised discussion with student leaders; Gorbachev leaves China.
- 5/20 Martial law is declared in Beijing. Troops surround the city but remain behind barricades set up by protesters. Li Peng states that Tiananmen will be cleared in two days, by force if necessary.
- 5/23 Troops remain behind barricades; 1 million march in Beijing to demand Li Peng's resignation.
- 5/30 "Goddess of Democracy" is unveiled in Tiananmen.
- 6/3 Troops begin to shoot demonstrators as part of the crackdown in Beijing.

**The Chinese Economy in 1988 and 1989:
Reforms on Hold, Economic Problems Mount**

Problems of an Overheated Economy

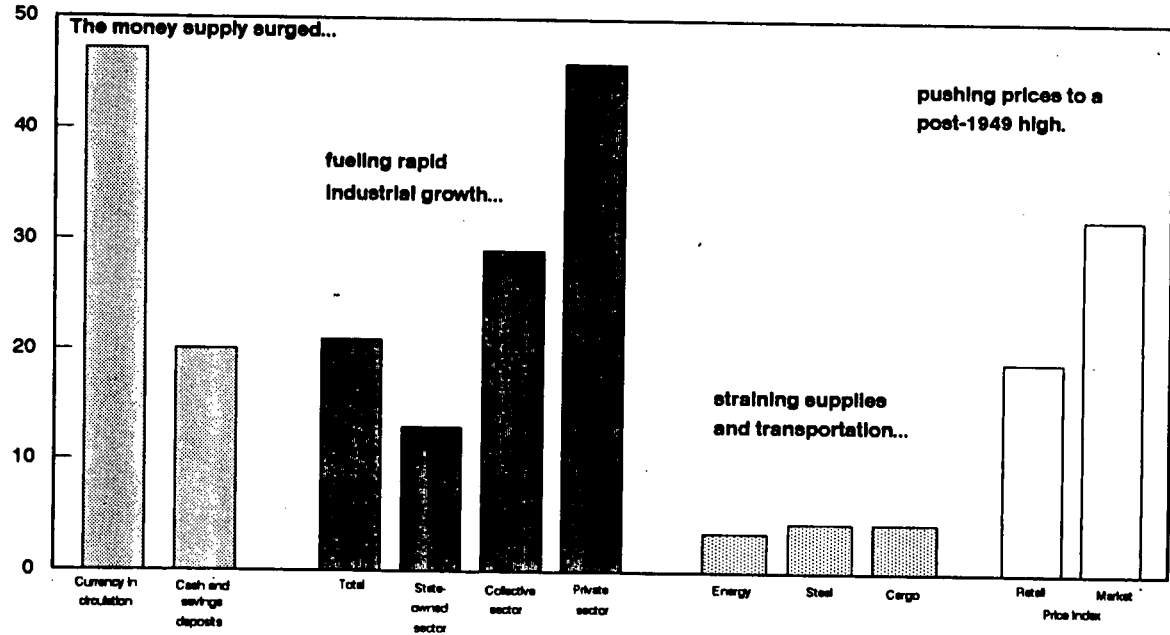
China's economic problems continued to mount in 1988 as the leadership failed to check overly rapid growth, soaring inflation, increasing official corruption, and a deteriorating trade balance. According to Chinese statistics, GNP grew by more than 11 percent in real terms and industrial output surged 21 percent, nearly three times the target rate. This intensified China's chronic energy and raw materials shortages and transportation bottlenecks and, in turn, pushed inflation to its highest level in nearly 40 years, 19 percent overall and almost 30 percent in China's cities. (See appendix A for a detailed review by sector of economic performance in 1988.)

The overheating occurred partly because Beijing relaxed credit controls in early 1988, apparently to "prime the pump" for industrial and export growth (see figure 1). China's currency in circulation increased 47 percent last year, adding to demand pressures that had been building since 1984, when Beijing sharply expanded the autonomy that industrial enterprises could exercise over investment, wages, and spending for their workers' social welfare. Urban enterprises financed these expenditures from retained earnings and by borrowing from China's central bank and from a growing number of nonbank financial institutions. In rural areas, local

Figure 1

China: Portrait of an Overheated Economy in 1988

Percent



Source: Official Chinese statistics

governments and informal credit cooperatives funded a dramatic expansion in rural industries and such commercial activities as marketing and transportation.

Inflationary pressures were intensified because of lagging agricultural production. The value of overall farm output inched up only 3 percent. Grain production actually fell 2 percent because of adverse weather, low state-set procurement prices, and rising costs of agricultural inputs like fertilizer and plastic sheeting, which is used as mulch. Sluggish production of industrial crops like sugar, ramie, and cotton caused production costs to rise in food processing and textiles industries.

The acute shortages of raw materials gave rise to increased speculation and profiteering by local officials who acquired scarce goods at low in-plan prices and resold them on the market. Profits from such activities can be substantial; market prices for steel, fertilizer, and grain are two to three times the in-plan price. The increase in profiteering diverted industrial materials earmarked for use by state-owned enterprises to the collective and private sectors, where enterprises were willing to pay higher prices. In rural areas, officials frequently charged peasants high market prices for fertilizer and other scarce agricultural inputs that Beijing had promised to make available at low, state-set rates. Consequently, peasants reduced applications of fertilizer on fields, which hurt yields.

Inflation also caused income disparities to widen. Rural entrepreneurs and urban street vendors were able to cash in on surging demand for goods because they sell their merchandise at market prices. Wages of teachers and government bureaucrats are generally fixed, however, so their incomes failed to keep up with inflation. Overall, real urban incomes rose only 1 percent, according to Chinese statistics.

Trade Balance Worsens. China's trade deficit more than doubled, reaching \$7.7 billion in 1988 according to Chinese Customs statistics. Imports surged in the second half of 1988 as China turned to foreign suppliers for many of the industrial and agricultural products it could not supply domestically. In particular, China's imports of fertilizer, sugar, and cotton rose sharply. China also imported 15 million metric tons of grain.

A sharp increase in exports--a result of incentives to state trading companies introduced in early 1988--was a mixed blessing. Rapid export growth worsened domestic shortages of energy and raw materials and bid up domestic prices. Because China's skewed domestic price structure severely underprices raw materials and energy, trading companies rushed to export these commodities when Beijing eased control over the foreign trade sector. Exports of pig iron, steel, coal, nonferrous metals, raw silk, and cotton all jumped even though domestic factories were reporting shortages of the same goods. Trade corporations reaped large profits by buying these goods at low, state-set prices and exporting them at higher international prices.

Rapid export growth also widened regional income disparities, which have been a source of debate within the leadership. Coastal provinces, with relatively modern factories, a fairly skilled work force, and access to ports and rail lines that link China to the outside world, have provided more than 70 percent of China's exports in recent years. This has given them greater access to credit and foreign exchange, more rapid gains in income, and greater independence from Beijing than the inland provinces have enjoyed. The interior areas, unhappy about the growing regional income disparities last year, boosted interprovincial trade barriers to protect their supplies and prevent the

wealthier coastal provinces from bidding up prices of their industrial supplies, coal, grain, and pork.

Economic Reforms Stall as Beijing Attempts To Reassert Control

Spurred by these mounting problems, Chinese leaders announced at a party plenum in September 1988 that they would postpone key market reforms for several years and implement an austerity program to cool the economy. In particular, Beijing shelved a plan to push ahead with price decontrol, currency devaluation, and reduced state intervention in raw materials distribution, which apparently was sponsored by former party chief Zhao Ziyang. Leaders were concerned because rumors of impending price reforms, proposed by Deng Xiaoping in May 1988, prompted bank runs and panic buying sprees in July and August 1988. Continuing bank runs could have caused serious dislocations; consumers' bank accounts total 380 billion yuan (\$103 billion)--equivalent to 27% of GNP.

As part of its retrenchment plan, Beijing has issued a series of directives since September 1988 designed to slow capital construction, restrict spending, and control price hikes:

- Beijing announced it would cut state investment spending by 20 percent in 1989. The burden is to fall on nonproductive projects such as worker housing and recreational facilities.
- To discourage bank-financed investment outside of the state plan, Beijing tightened credit ceilings for its domestic banks and raised interest rates on bank loans. Chinese authorities have also called for a halt in loans to private and rural enterprises.

- China's central bank hiked interest rates on household deposits, indexing those with maturities of three years or longer to the retail price index, and imposed limits on the amounts individuals could withdraw from savings accounts.
- Beijing reduced the number of government entities authorized to borrow funds abroad from 100 to only 10 to slow the flow of credit acquired through foreign channels.
- Beijing reimposed price controls for steel, copper, aluminum, and other production materials.
- The State Council recentralized control over the production and marketing of certain steel products and nonferrous metals. The central government also reestablished its monopoly over the distribution of fertilizer, pesticides, and plastic sheeting to control speculation in farm inputs.
- To stimulate lagging agricultural production, Beijing announced an increase in the state procurement prices paid to peasants for their grain, sugar, and oil-bearing crops. Beijing also hiked the state procurement price of coal.

Since September 1988, Beijing has also reasserted central control over foreign trade. To curb exports of scarce commodities, Beijing expanded the number of products subject to export licenses, quotas, and outright bans. It also tightened control over imports by restricting the number of corporations authorized to import several products, by banning purchases of selected consumer goods and industrial inputs, and by tightening control over the use of foreign exchange retained by exporters in Bank of China accounts. In addition, Beijing reduced the share of foreign exchange that China's five Special Economic Zones (SEZs) were permitted to retain from their exports.

Government Intervention in China's Trade Sector

Chinese officials have acknowledged that Beijing plans no further progress on foreign trade reform for the next few years. Thus, extensive state controls will continue to guide China's trade. Beijing still restricts the number of entities that are authorized to conduct trade; export and import prices remain largely state-determined; and the government continues to provide financial support to unprofitable factories and trade corporations. Moreover, the value of China's nonconvertible currency is still fixed by central authorities.

Trade Subject to Plans. Roughly 70 percent of China's trade--both exports and imports--remain subject to either "mandatory" plans set by Beijing or "guidance" plans negotiated by central and local officials.

Restrictions on Authorized Traders. Few factories have authority to sign trade contracts directly with foreign firms. Beijing prohibits private enterprises and foreign-invested ventures from signing trade contracts.

Commodity-Specific Quotas and Bans. Since November 1988, Beijing has banned imports of a variety of consumer goods, including liquor, sodas, and color televisions. Beijing has added several minerals, alloys, chemicals, and consumer goods production lines to the list of prohibited exports in 1989.

Licenses. Half of China's trade is subject to import or export licenses. Trade reforms have generally shifted issuing authority from central to provincial levels without diminishing the share of trade covered by licenses.

Export and Import Pricing. Export prices on finished goods are generally set on the basis of international prices, rather than domestic costs of production. In a dozen product lines, cartel-like export associations regulate pricing to ensure that exporters do not cut prices to compete for foreign sales. Imports are generally sold in China's domestic market at state-set prices.

Subsidies. The State provides grants to state trade corporations that lose money on export or import transactions because of the gaps between China's domestic prices and prices in international markets. Export subsidies probably amounted to \$6-8 billion in 1988, equivalent to up to 15 percent of China's export earnings.

Foreign Exchange Controls. Beijing sets the official exchange rate for China's nonconvertible currency and strictly controls the use of foreign exchange. Beijing also requires export corporations to turn over to higher authorities most of the foreign exchange they earn. Central or provincial authorities monitor closely how traders use the portion they are permitted to retain.

Problems Persist in 1989

Chinese statistics for the first half of 1989 indicate that these efforts have been only partially effective. China's industrial growth rate fell by almost one-half to about 11 percent, but urban inflation continued at almost a 30-percent annual clip. Although Beijing was able to sharply slow growth in capital construction spending during early 1989, the impact seems to have hurt state enterprises more than collective or rural industries. According to Chinese statistics, rural enterprises grew three times faster than key state-dominated sectors such as energy during the first quarter. Thus, slower overall growth did not ease inflationary pressures.

Demand pressures have apparently also been sustained because of weaknesses in the enforcement of Beijing's retrenchment program. For example, Beijing apparently loosened credit restraints in March 1989 because of concern about a sharp decline in production of state-owned enterprises.¹ Meanwhile, factories were circumventing the credit controls by drawing on the resources of widespread nongovernment financial institutions. Access to financing from Hong Kong enabled many enterprises, particularly in the southern provinces closest to the territory, to ensure they would have a steady flow of monetary resources despite Beijing's attempts to rein in credit.

China's trade balance continued to worsen early this year. Imports grew five times faster than exports in the first five months of 1989; China's trade deficit grew from less than \$1 billion between January and May 1988 to nearly \$5 billion for the same period in 1989, according to official Chinese Customs statistics. Purchases of

¹ On many occasions in the past 10 years Beijing has eased credit restraints shortly after imposing them. For example, Beijing clamped down on bank credit in the second and third quarters of 1985 but removed them in the spring of 1986 when industrial growth slowed sharply.

production materials in short supply domestically--such as steel, synthetic fibers, and fertilizers--led the import surge. Meanwhile, exports apparently languished because of the slowdown in China's state-owned industrial sector.

Turmoil Worsens Economic Difficulties

The new leadership has endorsed a continuation of the austerity program, but the social and political turmoil that has gripped China since April will make it difficult for Beijing to solve its pressing economic problems. First, the preoccupation of China's leaders with consolidating power, ridding the bureaucracy of Zhao Ziyang's supporters, strengthening party control, and restoring ideological orthodoxy will prevent them from formulating new solutions to China's economic problems.

Second, pressures to increase government expenditures and expand the money supply have probably grown because of the social unrest. Beijing may attempt to increase income subsidies and loans to state enterprises enough to ensure that wages of most urban workers keep pace with inflation.

Beijing may also worry that peasants might become restive because they are being pressed to grow more grain but are having increasing difficulty obtaining inputs and payment from a financially strapped government. In a speech in June, Li Peng called for greater efforts to solve rural credit shortages that have forced state procurement agents to pay peasants with IOUs instead of cash. Beijing began issuing IOUs in the fall of 1988 when retrenchment-related credit restrictions and bank runs caused a shortage of funds in rural banks. Chinese press reports have claimed that an additional 10 billion yuan will have to be provided to local grain procurement stations to

solve the problem. Officials fear that, if peasants are forced to take IOUs again, they might simply refuse to hand their grain and other commodities over to the state. Beijing apparently hopes to tap local funds for most of the money, but these are funds that might otherwise have gone for more profitable undertakings like investment in rural industry. More likely, however, given Beijing's difficulty implementing central directives at the local level, the funds will come from short-term loans from the central bank, which will add to inflation. Chinese press reports indicate that as of mid-June, the central bank had already made more than 4 billion yuan available for this purpose.

Pressure for increased government spending may also come from China's military. After a decade of declining influence, China's military leaders probably will play a larger role in politics and in the economy in return for their support for the crackdown in Beijing. Military leaders probably will petition civilian authorities to reverse the decade-long decline in the share of the budget going to defense.

Local Resistance Remains. Beijing's preoccupation with social and political issues will probably accelerate the trend toward economic autarky at the local level in China, and increased provincial resistance to Beijing's directives will undermine the effectiveness of efforts to slow the economy. Local governments will probably strongly resist implementing austerity measures in their own areas, for example, by resuming some of the construction projects that central authorities cancelled early this year. This resistance will be especially strong in wealthy southern provinces, where reform and an open door to Western business have yielded significant economic benefits. Local governments may also heighten existing barriers to trade with other parts of China to protect their own industries, making it difficult for Beijing to implement economic policies consistently when authorities turn their attention back to economic issues.

Other Pressures To Relax Austerity. The reluctance of foreign businessmen and governments to proceed with investment, trade, and technological exchanges following the crackdown in Beijing has also weakened the authorities' ability to implement the austerity program. For example, since the start of the retrenchment program, foreign investors have complained that credit shortages have eroded their profit margins by cutting their sales within China. Beijing may now be forced to expand credit to foreign-funded ventures as part of its effort to convince foreign traders and investors that the business environment is stable and that they can make money in China.

For similar reasons, Beijing may have to back investment commitments made before the crackdown that it might otherwise have postponed. China's southern coastal provinces apparently signed many contracts in the first few months of 1989, hoping to get funds either from Hong Kong sources or from the central government for the Chinese portion of the projects before the retrenchment program really took hold. Beijing will now have to provide the money itself or ease controls on foreign borrowing to keep foreign investment levels up to lend credence to its claims that business is back to normal.

Near-Term Economic Problems Mount

Competing pressures to increase spending will probably prevent the retrenchment program from bringing inflation under control. In urban areas, inflation will probably remain above 20 percent through the end of 1990; nationwide, inflation is also likely to remain in double digits for at least the next 18 months. Blanket controls on prices could reduce the inflation rate, but would fail to reduce imbalances between demand and supply and would lead to widespread reimposition of rationing. Persistent inflation will

fuel urban unrest by eroding the living standards of a large segment of China's workers. Chinese statistics for the first half of 1989 indicate that the real incomes of state workers declined despite a nearly 19-percent increase in nominal wages and subsidies. Beijing's recent decision to force factory workers to purchase government bonds has heightened their resentment; many believe they are bearing the brunt of the austerity program.

The retrenchment policies and midyear work disruptions will slow the overheated economy somewhat, but will enlarge China's pool of unemployed. Senior Chinese officials have admitted that the slower economy will be able to absorb only half of the 10 million workers entering the urban labor force this year.

Increased spending will probably cause China's government budget deficit to grow this year. Beijing will probably have to bail out growing numbers of unprofitable state enterprises as wider price controls on finished goods prevent factory managers from recouping losses caused by work slowdowns, energy and transportation disruptions, and higher wages and bonuses for workers. Expenditures on consumer subsidies, infrastructure development, and--most likely--defense will also grow. Meanwhile, slower overall growth and declining enterprise profits will cause government revenues to stagnate.

Damage to China's Foreign Economic Relations

The retrenchment program had begun to take its toll on exports and foreign investment even before the demonstrations; both had been projected to slow in 1989 and 1990. The downturn is now likely to be much sharper because of the damage to

China's economic relations with foreign businesses caused by the crackdown. Because Beijing started 1989 with about \$17 billion in foreign exchange reserves, it can probably ride out the downturn this year, but the problems will increasingly take a toll in the early 1990s.

Tourism Will Plummet. Tourism will probably remain depressed through at least the end of the year, and possibly into the early 1990s. Tourism last year earned Beijing \$2.2 billion in foreign exchange, and had been expected to generate about \$2.5 billion in 1989. Despite robust tourist travel in the first half of this year, China will probably take in only \$1.5 billion from tourism in 1989.

New Foreign Investment Contracts Will Slow. Many investors seeking low-cost Asian production sites are now looking to other countries, such as Thailand, the Philippines, and Malaysia. Moreover, investors already operating in China have, by and large, shelved expansion plans indefinitely. Hong Kong businessmen, who have provided two-thirds of China's foreign investment, will probably react especially sharply; many of the territory's wealthiest magnates are scrambling to extricate themselves from existing mainland projects while also intensifying efforts to get out of projects in Hong Kong before the territory reverts to Beijing's control in 1997. Those investors that proceed with China projects will probably focus on short-term investments that involve small capital commitments and little investment in machinery and infrastructure.

Table 1: New Foreign Investment Contracts in 1988

	Number of Projects	Value (million US\$)
TOTAL	5,890	5,180
Hong Kong	4,562	3,400
United States	269	370
Japan	235	275
Netherlands	5	150
West Germany	23	47
United Kingdom	21	41
France	12	23
Other	763	874

Source: Official Chinese statistics

For all of 1989, new investment contracts will probably fall short of the \$5.2 billion in new contracts signed last year (see table 1). Prior to the crackdown, Beijing might have expected a record \$8 billion in new contract signings on the basis of the surge in new contract signings in the first five months of 1989. Paid-in investment, which reflects contracts signed in 1988 and in early 1989, may exceed 1988's level of \$2.6 billion.

Foreign investment has a fairly limited impact on the country's economic growth in the short run; annual inflows are equivalent to roughly 2 percent of domestic investment, and foreign-invested projects last year generated only 2 percent of China's industrial output and 5 percent of its export earnings. But foreign investment has brought in crucial technical and managerial expertise and helped to improve production efficiency and quality control, especially in coastal provinces, which have drawn 90 percent of China's foreign investment.

Investors Reassess the Risks and Rewards of China Projects

Beijing is attempting to salvage its economic relations with the West in the aftermath of the crackdown. Li Peng has ordered China's "foreign investment leading group" to assure foreign investors that China remains open to the outside world. Coastal provinces and cities in southern China that have come to rely on the infusion of foreign funds, technology, and managerial and marketing expertise have also stepped up efforts to lure investors back. Along with the inducements, Beijing has made veiled threats that China will penalize foreign businessmen that pull out of existing ventures or halt negotiations on future projects.

Some foreign businessmen will no doubt be attracted by the lower taxes or greater access to China's domestic market that Beijing may offer as sweeteners. But many foreign firms had been operating on thin profit margins--and even accepting losses--in the hope that continued evolution of China's economy to a legally based, market-oriented system would ensure large profits in the long run. Beijing's crackdown and subsequent show trials of arrested workers and students, however, have probably convinced many foreign

businessmen that China's political system is not stable enough to allow any leaders to implement economic reforms consistently or to strengthen legal processes.

These doubts have probably been reinforced by the replacement of Zhao Ziyang and many of his allies in the leadership with conservative economic planners. Uncertainty about the stability of the current leadership coalition after Deng Xiaoping passes from the scene probably also adds to caution by foreign investors. In addition, although profitable niches will remain, some potential investors may be deterred by a pragmatic assessment of their ability to earn profits given China's economic problems and the leadership's public commitment to austerity.

Low-Interest Foreign Loans Have Been Postponed Indefinitely. At the request of many of the countries that donate funds to international financial institutions like the World Bank and the Asian Development Bank, billions of dollars worth of concessional financing has been placed on hold. In addition, Japan and most West European countries have delayed promised low-interest development loans to China pending the restoration of social and economic stability. Most of these loans would have gone to the energy, transportation, and telecommunications sectors. Rates on foreign commercial loans will probably be raised as banks reevaluate China's creditworthiness given the expected drop in foreign currency inflows from tourism, foreign investment, and exports.

Export Growth May Slacken. Recently released Chinese statistics suggest that China lost up to \$100 million in export revenues daily during the height of the crisis. Lost earnings probably amounted to \$1 billion in the first two weeks of June, and exports for the latter half of June were slightly lower than usual, suggesting that these losses may not be made up even though rail lines, ports, and Chinese trade offices are

back to normal operations. Foreign purchasers of Chinese manufactured goods may wonder if additional worker strikes or slowdowns will prevent China from meeting its commitments in the future; many are reported to be investigating other sources for the textiles, toys, and other labor-intensive light industrial goods they buy from China. Shortages of credit and raw materials in China--as well as rising input costs--will also slow export growth to single digits for the next few years. Exports had been growing at nearly a 20-percent annual clip for the last four years.

More Controls on Imports are Likely. Beijing's concern that China's foreign exchange reserves may drop quickly as a result of the deteriorating trade balance and sharp declines in tourism and foreign investment inflows could lead to additional controls on the use of foreign exchange for imports. Although grain and agricultural inputs will very likely remain exempt, Beijing will almost certainly tighten controls over items like consumer goods that are not in the annual import plan. Beijing might also curtail purchases of industrial equipment and scarce raw materials to conserve foreign exchange, even though reduced purchases of these items would probably slow industrial and export growth in the early 1990s. If China experiences a foreign exchange crunch, it may increase barter trade with the Soviet Union and Eastern Europe. In particular, Beijing might increase purchases of raw materials it imports from the Soviet Union, like fertilizer, iron and steel, and nonferrous metals--some of which it now uses hard currency to purchase from Western suppliers. It might also increase purchases of Soviet heavy industrial and power-generating equipment, which some Chinese leaders consider more suited to Chinese conditions than that available from Western suppliers.

Outlook for Reform

In speeches since the crackdown Deng Xiaoping has reiterated his commitment to pursue economic reform. The main elements of Beijing's market-oriented reform program, however, have been stalled for almost a year. Such key reforms as price decontrol and bankruptcy are likely to be postponed indefinitely because Beijing does not want to add to its problems by implementing measures that would raise prices or swell the ranks of the urban unemployed. Experiments with stock ownership in state enterprises--implemented by Zhao Ziyang over the strong ideological objections of hardline leaders--are certain to fall by the wayside.

Under the guise of austerity, the hardliners may try to chip away at market reforms, clamping down on previously decontrolled prices and exerting closer central control over some collective and private enterprises that compete with state factories for raw materials. They may even restrict the ability of state enterprises to sell overquota production at market prices. Hardliners, however, can turn back the clock only so far. Local officials would strongly resist efforts by Beijing to reclaim financial and planning authority. In addition, efforts to roll back reform would be strongly resisted by Deng Xiaoping, who views rapid reform-driven growth in the last decade as one of his major accomplishments.

Without further reform, however, China will be unable to alleviate the imbalances in its economy. Without price reform, for example, Beijing will continue to have problems boosting grain production, encouraging development of energy and raw material resources, and stimulating exports of labor-intensive manufactured goods rather than scarce resources. Without additional enterprise reforms, industrial efficiency

Near-Term Outlook for China's Economic Reform Program

<u>Reform</u>	<u>Major Purpose</u>	<u>Outlook</u>
Price	To make the price structure more accurately reflect relative scarcities by allowing selected prices to move to market levels.	On hold as Beijing tries to control inflation.
Wage	To link productivity and wages more closely.	Likely to continue as Beijing seeks to maintain output, but may be watered down by the need to continue subsidies and worker bonuses regardless of worker performance.
Enterprise		
Bankruptcy	To force management to employ resources more efficiently.	Not likely to rigorously enforce bankruptcy law because increased business failures would add unemployed workers to the already volatile urban population.
Stock ownership	To cut firms free from central funding by allowing up to 50 percent of stock to be owned privately	Backed mainly by Zhao, likely to remain on hold because conservatives have ideological objections to private ownership of large enterprises.
Contract system	To increase managers' responsibility for profits and losses by requiring them to adhere to financial quotas negotiated between factories and their supervisory bureaus.	Likely to be retained because it ensures the central control favored by conservatives; may be adjusted to reduce focus on negotiated quotas, faulted for favoring certain enterprises.
Foreign trade	To encourage exports by allowing exporters to retain a share of their foreign exchange earnings; preferential policies for coastal export-producing regions.	Recentralized state control over key exports and imports in late 1988 and curtailed regional incentives. Could place more products under central control, limit the number of trade corporations, and cut back further on regional incentives.
Agriculture	To encourage diversified farm output by offering farmers contracts for staples like grain in exchange for subsidized inputs, or the option of growing crops not under state control.	Beijing will probably try to steer agricultural production back to basics and limit expansion of nonstaple farm production.
Rural enterprise	To invigorate rural economy by absorbing excess farm labor, producing consumer goods and generating tax revenues for local government projects.	Beijing has already begun squeezing this profitable sector's access to credit and hiking its taxes and could also opt to channel raw materials to needy state-run firms instead of rural enterprises.

and labor productivity will lag, and Beijing will experience difficulty encouraging enterprises to make responsible decisions regarding capital investments and salary and bonus increases. Continuing economic problems will stoke social and political unrest in the 1990s.

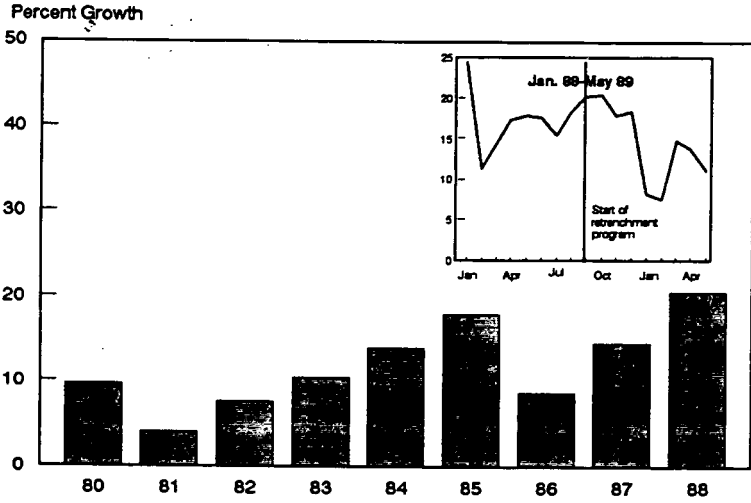
Appendix A**Economic Performance in 1988 and 1989 by Sector****Industrial Performance**

Industrial production rose at a breakneck pace of almost 21 percent in 1988 (see figure 2). State sector industrial production rose about 13 percent; the collective and private sectors grew 29 percent and 46 percent, respectively. Foreign-funded enterprises doubled their industrial output.

This rapid growth intensified China's energy deficit. Overall energy production climbed about 4 percent in 1988. Although production of electric power grew 9 percent last year, electric power shortages idled factories for several days each week. Output of coal and crude oil increased only 4.5 percent and 2 percent, respectively. Transportation bottlenecks compounded the energy shortage by delaying deliveries of coal--which accounts for more than 70 percent of China's energy supply--from mines in the northeast to power plants in southern and eastern China. Rapid growth also intensified shortages of key raw materials. Steel production, for example, increased only 5 percent in 1988.

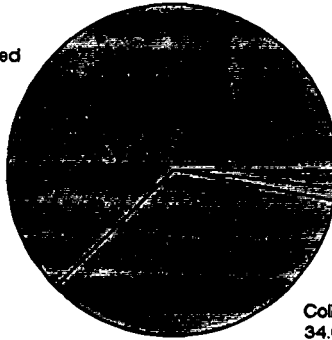
Although industrial output grew at an 11-percent annual rate through June--about half last year's rate--sharp increases in input prices at the end of 1988 caused the profits earned by China's state-run factories to decline 12 percent. Moreover, imbalances between overall industrial growth and the production of energy and raw materials persisted. Energy production grew at a 5-percent annual rate in the first four months of 1989, and output of raw materials actually fell.

Figure 2
Chinese Industrial Output



Total = 1,810 billion yuan

State-owned
62.5%



Foreign-funded
enterprises
1.7%

Private
1.2%

Collective
34.6%

Source: Official Chinese statistics

China's Energy Minister called this year for easing the energy crunch by increasing state investment in hydroelectric and nuclear power and in crude oil and natural gas extraction. Even if China's financially strapped government can come up with the funds for these projects, however, it would take years for increased energy production to come on line.

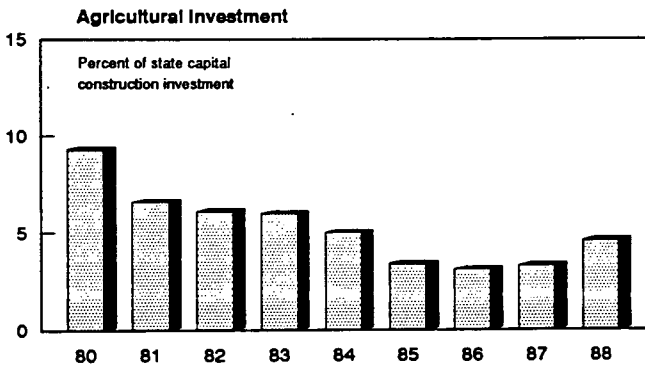
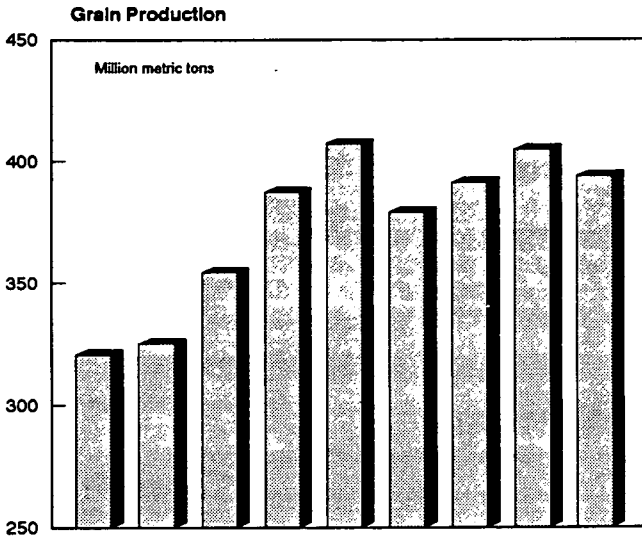
Agriculture and the Rural Economy

The value of China's agricultural output increased about 3 percent in real terms in 1988. Most of the increase was accounted for by expansion of sideline industries, like poultry and fishery operations, and a sharp increase in the production of cash crops such as tobacco and silk. Grain production fell 2 percent last year to 394 million metric tons, 16 million short of target (see figure 3). As a result, China imported 15 million metric tons of grain--primarily from Canada and the United States (see figure 4).

Meanwhile, China's rural industrial production surged 23 percent in 1988. Indeed, rural industry and commerce were among the most dynamic segments of the Chinese economy and account for more than half the value of rural output (see figure 5). They currently employ more than 85 million people, about 15 percent of China's labor force.

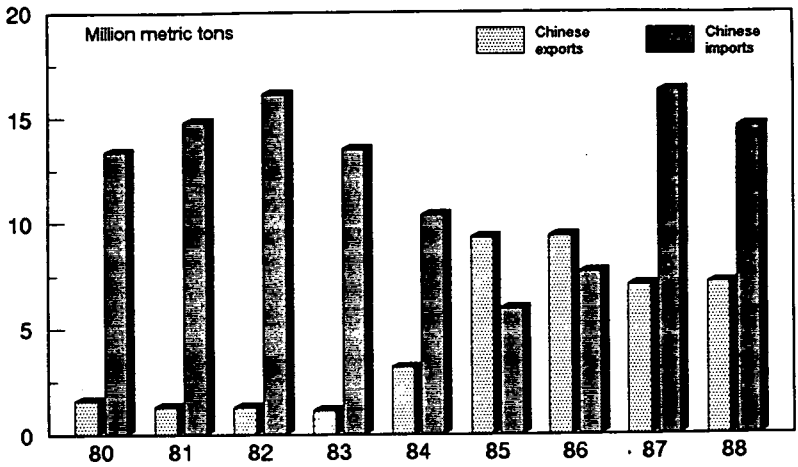
After last year's fourth consecutive disappointing harvest, a broad spectrum of China's leadership agreed that, without redressing long-term problems, the stagnant farm sector could prove a major stumblingblock to overall economic development. Premier Li Peng called agriculture the "weak link" of China's economy in his keynote address to the National People's Congress this spring, underscoring agriculture's fall from grace as a symbol of reform success. To address the problem, this year Beijing has:

Figure 3
Chinese Agricultural Production, 1980-88

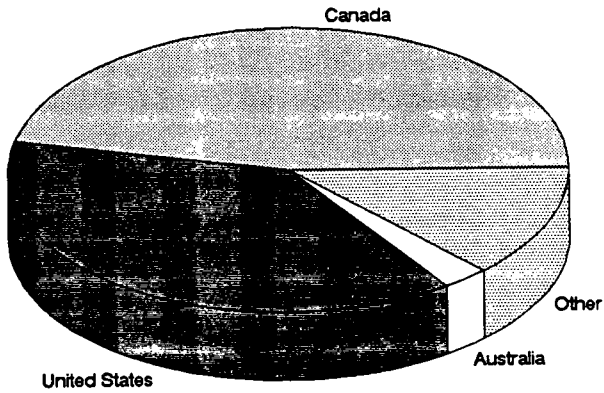


Source: Official Chinese statistics

Figure 4
Chinese Grain Trade, 1980-88



Major Grain Suppliers, 1988*

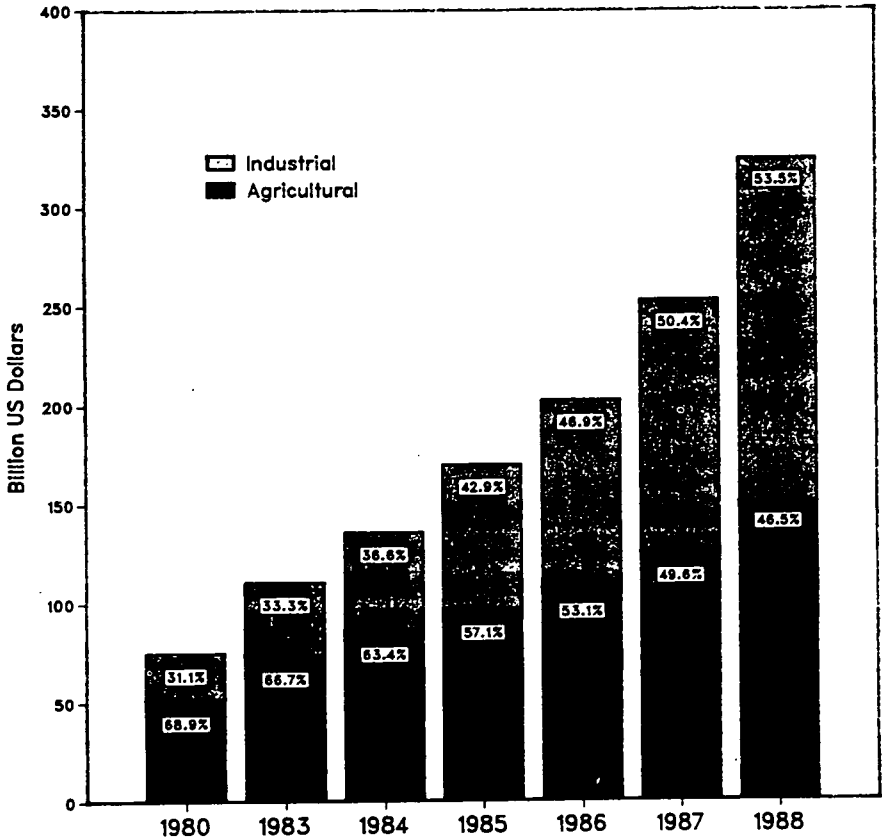


*Calculated by value of exports.

Source: Chinese Customs statistics and partner country trade statistics.

Figure 5

Gross Value of Rural Output, 1980-88*



* Data not available for 1981 and 1982.

Source: Official Chinese statistics

- Raised producer prices for government-contracted grain, cotton, sugar, and oil-bearing crops and agreed to purchase over-quota commodities at market, rather than lower, state-set prices.
- Recentralized the distribution of fertilizer, pesticides, and plastic sheeting used as mulch and agreed to supply more of these inputs at favorable prices to peasants who grow grain.
- Decided to increase government investment in agriculture by 14 percent. It will raise funds to cover increased investment by setting aside a portion of foreign loans and by increasing taxes on rural enterprises and on production of nonstaples.

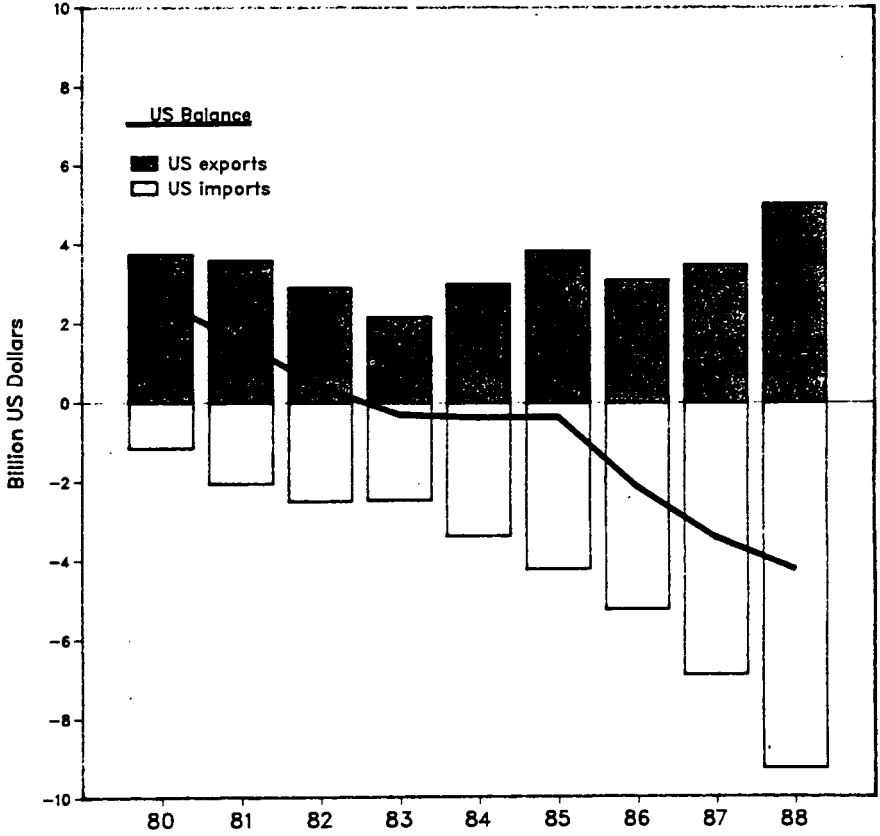
Beijing also will continue to tinker with reform experiments in a few cities. For example, one Chinese city reportedly will open a wholesale grain market to establish an institutional framework for domestic grain trade. In general, however, China's new conservative leadership will rely on administrative controls rather than strengthen the role of markets in guiding agricultural policy.

US-China Trade

In 1988 China was the United States' 13th-largest trading partner. The United States, in turn, was China's third-largest trading partner, ranking behind Hong Kong and Japan and ahead of West Germany and the Soviet Union. According to US Commerce Department statistics, US exports grew a robust 44 percent over 1987 levels, and for the first time exceeded \$5 billion. Imports from China increased by more than one third to \$9.3 billion, and the US deficit widened almost 25 percent to \$4.2 billion (see figure 6).

Figure 6

US-China Trade, 1980-88



Source: US Commerce Department

US exports to China last year benefited from strong Chinese demand for agricultural products and inputs (see table 2). US exports of grain were triple the 1987 level. Plastic sheeting, fertilizers, and pesticides also posted healthy gains. US exports to China will probably continue to show fairly strong growth in 1989; even if Chinese purchases of industrial machinery and timber decline as a result of the curbs imposed on capital construction, demand for grain and agricultural inputs is likely to remain strong. In the first five months of 1989, for example, US exports to China increased 30 percent over the same period in 1988; sales of grain, raw cotton, aircraft, and fertilizers showed especially strong growth.

Last year manufactured goods accounted for 85 percent of US imports from China. Toys, sporting goods, radios, small electrical appliances, and travel goods have grown especially rapidly (see table 3). Textiles and apparel accounted for one third of China's US sales, but growth slowed to single digits last year, largely as a result of disruptions resulting from the decentralization of China's trade sector. Newly empowered exporters in China's interior rushed to earn foreign exchange by selling raw cotton, silk, and wool--thereby curtailing supplies available to Chinese garment manufacturers. At the same time, cutthroat pricing tactics by Chinese exporters meant that increases in the volume of exports were not always matched by increases in foreign exchange earnings. US Commerce Department statistics through May 1989 indicate that recentralization of trade has enabled China to boost growth in its earnings from textiles and apparel sales to the United States back to double digits; the most rapidly growing export products remain household electrical appliances, radios, and footwear. Consequently, the US trade deficit is likely to grow again this year, and will probably exceed \$5 billion by yearend.

Table 2: Selected US Exports to China, 1988

	Value (million US\$)	Share of Total (percent)	Growth Over 1987 (percent)
Total	5,032.9	100	44
Grain	698.9	14	199
Plastics, resins	595.9	12	134
Wood products	447.1	9	167
Fertilizers	378.7	8	40
Aircraft	341.1	7	-32
Specialized machinery	334.0	7	42
Organic chemicals	256.7	5	71
Scientific equipment	200.1	4	20
ADP equipment	200.1	4	6
General industrial machinery	171.6	3	-3

Source: US Commerce Department. Exports calculated freight on board (f.o.b.).

Table 3: Selected US Imports from China, 1988

	Value (million US\$)	Share of Total (percent)	Growth Over 1987 (percent)
Total	9,269.8	100	34
Clothing	2,212.6	24	1
Toys, sporting goods	1,838.4	20	42
Yarn, fabrics	608.0	7	9
Telecommunications equipment	528.6	6	112
Petroleum	496.7	5	-6
Household electrical appliances	465.6	5	198
Travel goods, handbags	461.9	5	45
Shellfish, seafood	331.1	4	131
Metal manufactures	266.0	3	66

Source: US Commerce Department. Imports calculated free alongside ship (f.a.s.).

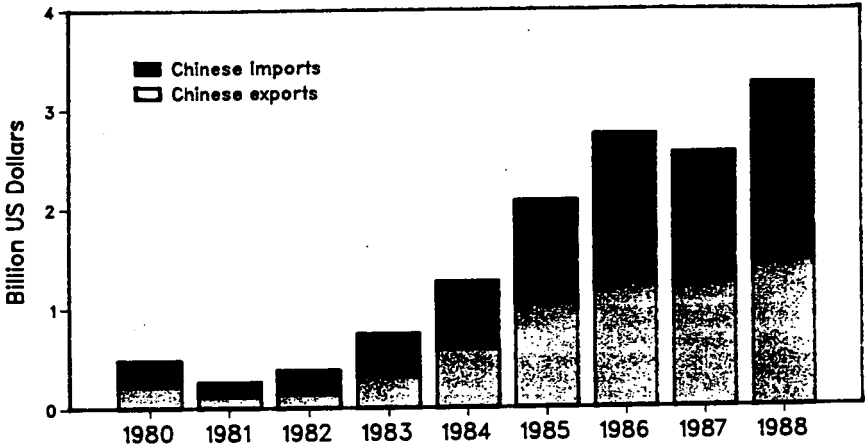
Sino-Soviet Economic Relations

Sino-Soviet trade grew 27 percent last year to almost \$3.3 billion (see figure 7). Chinese statistics for the first half of 1989 indicate even stronger growth, with Chinese imports surging 63 percent and exports up 12 percent over a year earlier. Trade along the Sino-Soviet border was the most dynamic aspect of bilateral trade last year, increasing exponentially to account for nearly 10 percent of total Sino-Soviet trade. Border trade will continue to grow in 1989. China's border provinces have enthusiastically embraced it because they lack easy access to other markets. Moreover, it frees Beijing from having to subsidize purchases of Soviet goods to induce Chinese enterprises to accept them.

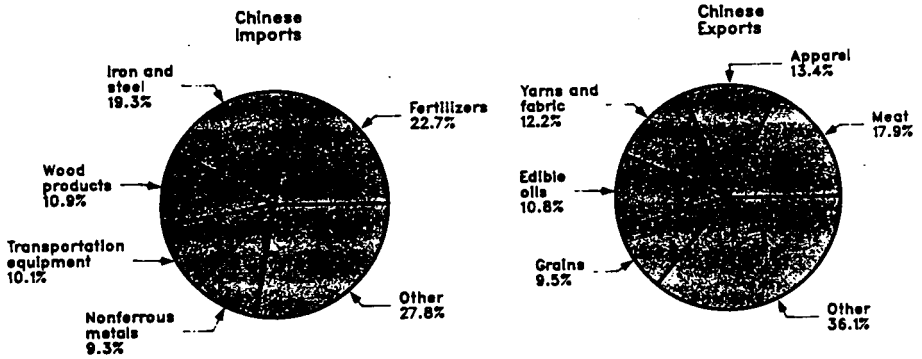
The scope of Sino-Soviet economic relations broadened last year to include some new forms of cooperation:

- Chinese laborers began working on projects in the Soviet Union under compensatory-trade arrangements that generally exchange Chinese labor services for a percentage of the goods produced. Over 8,000 Chinese workers are already in the Soviet Union with at least 5,000 more to follow this year under labor agreements signed in 1988.
- Joint ventures--particularly those combining Soviet raw materials and equipment with Chinese labor--are actively being pursued; the first are likely to begin operations this year.
- Both sides agreed to swap branch offices of their foreign exchange banks and Moscow provided more than \$400 million in trade-related credits in the form of

Figure 7
Sino-Soviet Trade



Commodity Composition in 1988



Source: Chinese Customs statistics.

low-interest government loans payable in goods and services. For the first time, the Bank of China participated in a syndicated loan--valued at \$50 million--for a Soviet bank.

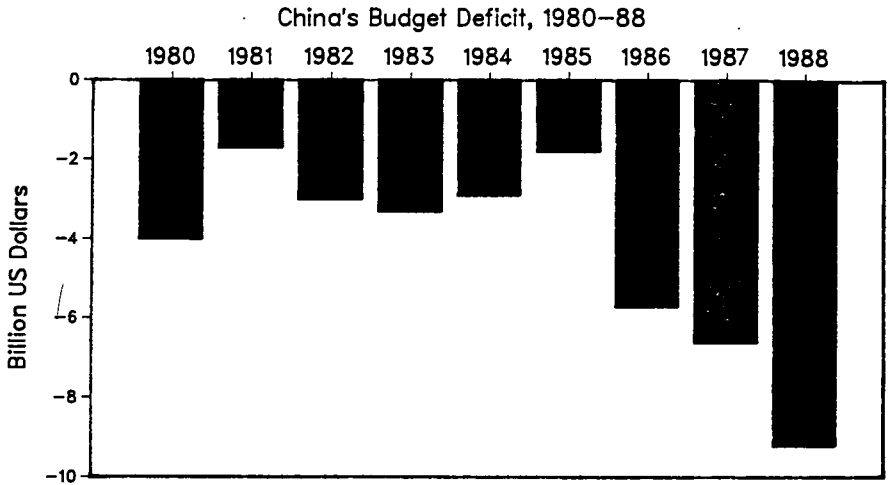
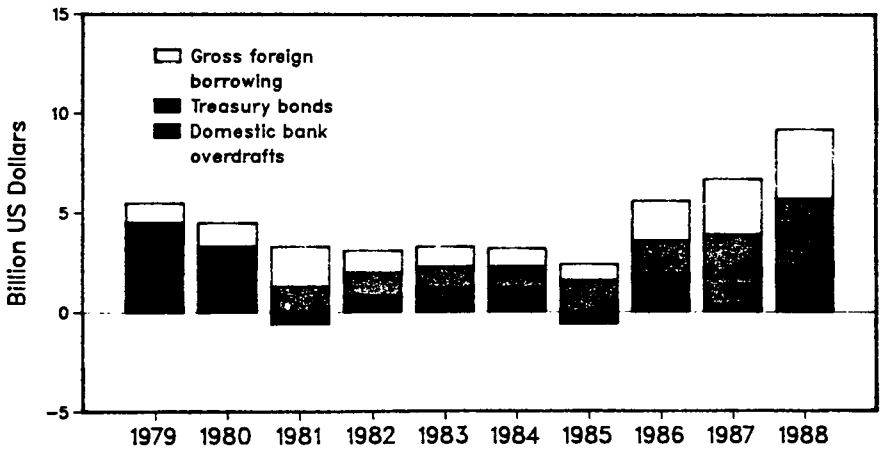
Moscow and Beijing are unlikely to be successful in expanding the range of economic relations significantly beyond their current levels despite the boost provided to bilateral relations by Gorbachev's visit to China this spring. Beijing will probably continue to favor Western technology, and Chinese trading companies will prefer to sell their output in the West for hard currency. Chinese imports of goods such as timber and fertilizer, where the quality of the Soviet commodity is comparable to that available elsewhere, will probably grow this year as Beijing turns to barter to conserve foreign exchange.

Although labor exports will continue to grow over the next year, the Soviet Union probably is reluctant to have too many Chinese laborers within its borders. Cooperative projects, particularly in the energy and heavy industry sectors, hold the greatest potential for expanded economic relations, especially if foreign investment from Hong Kong and the West slows, as anticipated.

The State Budget and Spending Priorities

China's government budget deficit grew almost 50 percent in 1988 to reach \$9.2 billion (see figure 8). Rapid growth in subsidies was largely responsible for the sharp increase. Indeed, rising raw materials prices caused losses of state enterprises to climb almost 27 percent last year.

Figure 8

**How China Pays for Its Deficit**

Source: CIA estimates based on Chinese statistics.

Beijing financed the deficit by issuing domestic bonds, taking on greater foreign debt, and printing money. In 1988 the government covered about 38 percent of its deficit by selling treasury bonds domestically and financed an equal amount through foreign loans. It made up the rest with central bank overdrafts--the equivalent of printing money.

Although China's deficit is low by international standards--it equaled about 2.5 percent of GNP in 1988--leaders are concerned about its rapid rise because it is adding to inflationary pressures and because it is increasing China's foreign indebtedness. Moreover, it is a political problem for reformers; many of China's conservative leaders view any level of government deficit as an indication of economic mismanagement and could use it as one additional argument for holding off on reforms.

Beijing is trying to solve its deficit problem by increasing tax rates, widening its tax base, and improving collection efforts. As the austerity drive slows the economy, however, growth in tax revenues is likely to slow also. Meanwhile, since inflation has not yet abated, budget subsidies will continue to skyrocket. Thus, China's deficit this year will grow, probably exceeding \$10 billion.

Defense Spending

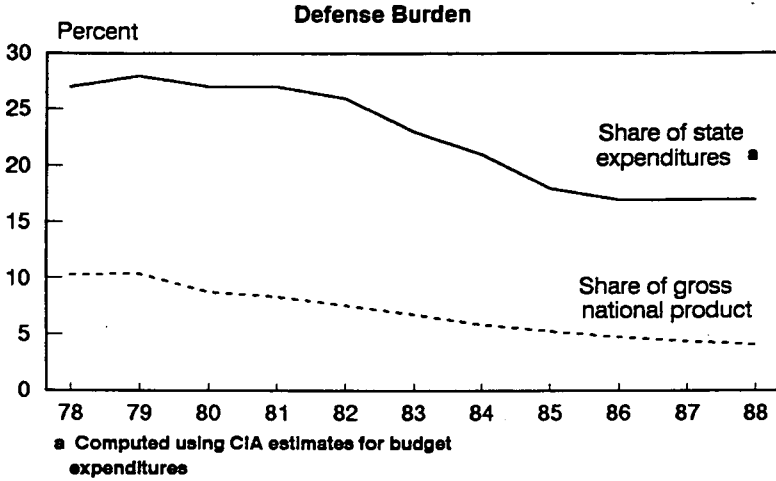
China releases statistics on national defense spending as a line item in the annual state budget, but provides neither a definition of the categories of expenditure included in the figure nor a breakdown of the total. Our estimates of Chinese defense expenditures cover spending for investment (primarily weapon procurement); operating expenses (including maintenance and personnel costs); and research, development,

testing, and evaluation (RDT&E). Using a building-block approach for valuing the costs of these various components, we estimate that China's total defense expenditures for 1988 were roughly 45 billion yuan, more than twice the announced figure. At current exchange rates, this is equivalent to \$12 billion.

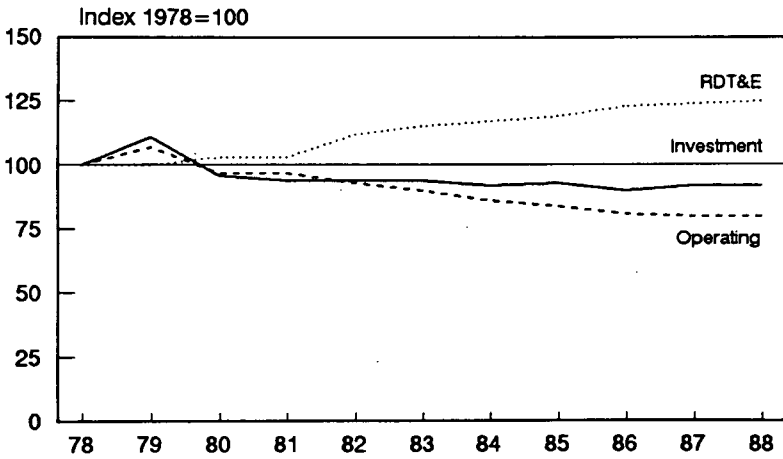
Despite the difference in absolute values, China's announced figures and the CIA estimates both show declining trends in the defense sector's share of China's budget as well as in the size of the defense budget relative to GNP (see figure 9). CIA estimates indicate that defense expenditures accounted for about one-fourth of China's total budget in 1978, but less than one-fifth of the budget in 1988. Moreover, we estimate China's defense spending dropped from 10 percent of GNP in 1978 to only 4 percent in 1988--somewhat less than the 6 percent for the United States, and significantly less than the 15 to 17 percent for the Soviet Union.

China has cut military spending by slashing personnel costs. Beijing has reduced its armed forces by about 3 million men since 1978, with most of the cuts coming from its ground forces. We believe China's military operating budget--nearly half of which goes for salaries--has declined by about one-fifth since 1978. Beijing has nearly completed its force reduction, but we believe that it may take several more years before demobilized men find civilian jobs and are moved from military posts. Expenditures on weapons procurement also declined about 10 percent in the last decade because Beijing has postponed major purchases until more technologically advanced weapons systems are available. We estimate that RDT&E expenditures have increased about 25 percent since 1978, although this category continues to account for only about one-eighth of China's defense spending.

Figure 9
Estimated Chinese Defense Expenditures, 1978-88



Spending Trends by Resource Category



Appendix B**How Reliable are Chinese Statistics?**

Official Chinese statistics often provide useful indicators of the direction and magnitude of economic growth even though collection techniques are crude and local leaders sometimes deliberately fudge data. Although local officials may be more hesitant to report unfavorable economic information in the wake of recent social unrest in China, during the decade of reform, Beijing has vastly improved the quality of its data by introducing more sophisticated sampling and estimative techniques. Moreover, the scale of its effort has grown; China's State Statistical Bureau (SSB) currently employs more than 1 million full- or part-time workers.

The reliability of Chinese statistics varies according to the category of data. Some data series--such as unemployment--are so tainted that they are virtually unusable. In rural areas, there is a tendency to count all adults of working age as employed, a remnant of past practices of classifying all adults as working members of the commune. But rural reforms over the last decade have moved as many as 100 million peasants from farm work to other occupations, and Chinese statistics may not accurately tally the number gainfully employed in small rural factories and service trades, nor account for China's large "floating population" of peasants who have been unable to find work, many of whom have migrated to urban areas. Moreover, the SSB does not account for the fact that many Chinese are employed, but do little or no work. By one estimate, one-third of state-sector employees do not contribute to production. Consequently, official statistics exaggerate the size of China's work force, understate its

unemployment problem, and make it impossible to assemble labor force statistics that are reliable in the Western sense.

Another problem with Chinese statistics is that for many years Beijing collected data within the context of socialist doctrine, which dictates that productive labor is transformed only into material goods. Consequently, statisticians did not report adequately on nonmaterial sectors such as education, passenger transport, public health, banking, and government. Although scholars have since filled these data gaps, problems remain regarding the completeness of figures on nonmaterial services where reporting systems are still relatively underdeveloped. These sectors compose a small portion of GNP, but they are the fastest growing sectors of China's economy and their mismeasurement could become a problem in the future.

Broad measures of macroeconomic performance such as total social product and national income are useful indicators of economic change, although some components are suspect. For example, many rural regions do not distinguish between real and nominal values of output, which inflates growth rates. Beijing also calculates constant price indexes in terms of a 1952 price base, which produces higher growth rates than would result if researchers used more recent base years that more accurately capture China's current economic structure. Nonetheless, these forces tend to act on the data in a uniform manner so that the general series provides a suitable gauge of the level of general economic activity.

Beijing's inflation measures are also flawed, but useful, indicators of the domestic economy. China's price indexes may underestimate the impact of inflation, which

according to official estimates vaulted to almost 20 percent last year. China's two most frequently cited price indexes are the general retail price index and the urban consumer price index. The former index is based on data from 12,380 shops and markets in urban and rural areas, and the SSB derives weights for this index from surveys of urban and rural household incomes and expenditures. Researchers separately calculate the urban consumer price index, which includes the costs of urban services. Although the SSB estimates these measures of inflation using internationally accepted sample survey techniques, we believe the indexes may understate inflation for two reasons. First, numerous regions obtain their price data from statistical reports submitted by shop owners who, because they face pressure from Beijing if their prices rise too sharply, may underreport their price increases. Second, the market basket the SSB uses to represent consumer buying patterns changes very slowly and is too heavily weighted with state-controlled goods. As Beijing has liberalized the economy, consumers have bought an increasing share of their goods on free markets at prices that exceed state levels. We report Chinese estimates of inflation, however, because they provide good qualitative indicators of price trends. Official statistics, for example, indicate that the inflation rate more than tripled in 1988.

In some instances, we have sought to improve on official figures with our own estimates. For example, we are developing an estimate of China's gross national product (GNP) to correct some of the distortions inherent in China's official GNP numbers. Chinese GNP figures may not precisely gauge all sectors of China's economy; state controls, for example, skew relative prices and prevent the price structure from reflecting underlying market costs. The methodology we employ estimates GNP on the

basis of an input/output model of the Chinese economy. The model is composed of 21 sectors, which are aggregated into three main sectors--agriculture, manufacturing, and services. The methodology generates total output estimates for each sector priced according to Chinese currency, transforms them into US dollar amounts by means of sector-specific dollar/yuan price ratios, then sums these data to obtain an estimate of Chinese GNP in US dollars.

We have estimated the cost of Beijing's national defense effort by a comparable process. We break the defense program down into its fundamental elements, calculate the cost of each part, then aggregate the individual costs. We begin by identifying the activities and physical components that constitute China's defense program for a given year and group them according to investment, operations, and research and development. Then we compare each activity or physical component with its most similar US counterpart to obtain an estimate in US dollars. This estimate reflects US production technology, prices, and profit margins, but incorporates the characteristics of the Chinese equipment. We take into account differences between US and Chinese production technology by considering different wage rates and prices of input materials. To create a cost estimate in yuan, we convert the dollar cost estimates using a series of conversion factors developed by comparing Chinese and US prices.

We also adjust the data China's Finance Ministry releases on the state budget deficit to bring it more in line with Western accounting practices. Beijing's methodology, which counts foreign borrowing and domestic sales of Chinese treasury bonds as "revenue" items, tends to understate the central government's debt obligations. Correcting the problem provides a more accurate measure of the budget's financial

burden. For example, the Chinese calculated their deficit in 1988 at \$2.2 billion, less than one-quarter of our estimate of \$9.2 billion.

Notwithstanding the potential problems with Chinese data, we frequently report official statistics. Chinese leaders probably base decisions on the official data that is released publicly. Although leaders undoubtedly receive confidential reports on economic performance, on the whole, the government probably does not have a separate data set that is markedly more accurate than the information released by the SSB.

Senator BINGAMAN. We have several questions here, and let me just go through the ones we have prepared and supplement them as we go.

CHINA'S ACCESS TO FOREIGN TECHNOLOGY

On the issue of technology and China's access to technology, it can use either for military or for economic purposes, could you generally describe how successful China has been at obtaining some of the key technologies that are needed to modernize both militarily and economically and how far along China is in obtaining those technologies and in developing them?

Who is the person that wants to respond to that?

Mr. PETERSEN. I'll ask Ms. Endean to respond to that.

Ms. ENDEAN. Over the last decade, technology has been an important part of the modernization program, and foreign technology has been key to China's scientific and technological advancement.

China has acquired through legal channels about 13 billion dollars' worth of Western civilian and dual-use high technology equipment. In recent years that has been fairly equally divided between Japan, the United States, and Western Europe as the primary suppliers. That has included a wide range of microelectronics equipment, computers, satellites, telecommunications equipment, robotics, and so on.

In addition to the civilian and dual-use technologies I just outlined, China has signed contracts to purchase a substantial amount of military-related equipment.

Senator BINGAMAN. And who are they buying that from?

Ms. ENDEAN. [Security deletion.]

ABILITY TO MONITOR CHINA'S ACQUISITION OF TECHNOLOGY

Senator BINGAMAN. How good is our ability to monitor Chinese acquisition of some of these military technologies? Do we have what we need in place to keep track of that?

Ms. ENDEAN. Yes, we do. Military technologies that are acquired from Western countries that participate in the Coordinating Committee for Multilateral Export Controls reports their proposed sales to China. So we have very good records on that. We also acquire information through other channels about shipments of goods that may not be reported through official channels.

[Security deletion.]

Senator BINGAMAN. How short range are those?

Mr. PETERSEN. [Security deletion.]

INFORMATION ABOUT MISSILE SALES CLASSIFIED

Senator BINGAMAN. Our information about their sales of missiles in the Third World, why is that so highly classified, and why is that not public information? I mean I read about it in the newspaper, maybe not in the same detail.

Mr. PETERSEN. It's a question of sources and methods, Mr. Chairman, and that's the reason it's classified at the level that it is.

Senator BINGAMAN. But I presume that when the sales actually are consummated we can obtain that information from the purchaser, or at that source?

Mr. PETERSEN. [Security deletion.]

TRANSSHIPMENTS TO SOVIET UNION

Senator BINGAMAN. What do we know about transfer of technology that goes to China and on to the Soviet Union? Do we have the ability to monitor that?

Ms. ENDEAN. [Security deletion.]

In recent years both the Soviet Union and the Chinese have decentralized the management of trade which has allowed for a rapid growth in trade that is occurring in the border regions between China and the Soviet Union. So there may be greater opportunities now than there had been when trade was more closely controlled by both Moscow and Beijing.

There are still significant restraints to the transfer of sophisticated technologies between China and the Soviet Union, however. The Soviets, for one, can obtain more sophisticated technologies from countries that are not subject to the kinds of controls on the re-export of Western technology to which China is subject. [Security deletion.]

NUCLEAR, CHEMICAL, OR BIOLOGICAL WARFARE TECHNOLOGY

Senator BINGAMAN. What about the subject of nuclear weapons, chemical and biological weapons? Do we have any evidence in addition to the delivery vehicles that they have engaged in the sale of technology and materials to actually build warheads, nuclear warheads or chemical or biological warheads?

Ms. ENDEAN. I can speak to the general question of nuclear materials sales. Some of that, of course, would not necessarily be sensitive nuclear material exports and it might be going to civilian uses. Last year they sold about 50 million dollars' worth of fissile materials or nuclear materials. Some of that probably was enriched uranium or heavy water. We don't have a breakdown on that at the unclassified level.

Senator BINGAMAN. 50 million dollars' worth?

Ms. ENDEAN. Yes, U.S. dollars.

Senator BINGAMAN. And to whom did they sell them?

Ms. ENDEAN. We also don't have, at the level of classification of this hearing, detailed information on the countries to which they were sold.

Senator BINGAMAN. Before we leave that subject, let me just ask, you're saying they sold 50 million dollars' worth of fissile materials. Is it clear that those materials were usable in bomb production or weapon production?

Ms. ENDEAN. At the unclassified level, the data that I'm giving you is simply trade data which does not give us details on the kinds of materials that are included.

Senator BINGAMAN. So you can't tell me whether it's usable?

Ms. ENDEAN. I can't tell you.

Senator BINGAMAN. How do we get that information? I think that's pretty key information.

Ms. NORRIS. [Security deletion.]

Mr. PETERSEN. [Security deletion.]

DEFENSE SPENDING

Senator BINGAMAN. Now military spending, now you suggested I guess that defense spending may now increase because of the increased role of the military in the government. Where would that money go?

Mr. PETERSEN. I will ask Mr. Baskin to address that.

Mr. BASKIN. They recently increased the incomes of the troops. Increased military spending right now probably would go to troop payments.

Senator BINGAMAN. It would go to where?

Mr. BASKIN. To paying the troops.

Senator BINGAMAN. Not increased force strength?

Mr. BASKIN. No. In fact, they steadily decreased the number of troops during the last decade.

Senator BINGAMAN. And they have not increased procurement of weapons?

Mr. PETERSEN. [Security deletion.]

SUBCOMMITTEE'S REQUEST FOR UNCLASSIFIED INFORMATION

Senator BINGAMAN. I guess we had asked in a letter we had sent you last month or in May to give us unclassified tables and charts showing trends in military spending, military manpower, weapons production and arms exports. There are two tables on defense spending in the draft report. Are you going to be able to give us the other items we asked for in an unclassified form?

Ms. ENDEAN. Most of the data you have requested is of such detail that we can't provide it at the unclassified level. In addition to what is in the graphics in the back of our paper, however, we can give you unclassified aggregate data on Chinese arms sales for the last decade.

Senator BINGAMAN. Richard Kaufman just pointed out we get that same information for the Soviet Union in unclassified form. Is there a reason why it couldn't be obtained for China?

Mr. PETERSEN. [Security deletion.] We will try to make available to you and to the subcommittee all the unclassified information that we can. We will go back and take a look at what we have and see what we can do for you, both in terms of aggregate data and to the degree that we can break it out any better than that.

Ms. Endean, do you have some points that you wanted to make on this?

AGGREGATE ARMS SALES DATA

Ms. ENDEAN. Well, I can give you the aggregate arms sales data right now if you would like that for the record. It's not in the paper, but I have the data with me.

Senator BINGAMAN. OK. Why don't you give it to us.

Ms. ENDEAN. In 1982 China sold 1.3 billion dollars' worth of arms. In 1983 it was \$1.5 billion. In 1984, \$1.6 billion. In 1985, \$1.1 billion. In 1986, \$1.6 billion. In 1987, \$2.4 billion. In 1988, roughly \$3 billion, and that's a preliminary figure.

ECONOMIC CONDITIONS

Senator BINGAMAN. Has the economy returned to a fairly normal operating level since the problems that they had there in Tiananmen Square or is it still in substantial turmoil as a result of that situation?

Ms. ENDEAN. The near-term problems that they experienced in early June are for the most part over. They experienced, of course, work slowdowns, transportation disruptions, port closures, and short-term credit crunches as funds were withdrawn from Bank of China branches overseas. These problems have pretty much abated by now.

EFFECTS OF TIANANMEN SQUARE TURMOIL ON ECONOMY

Senator BINGAMAN. Do you see a significant change in the gross national product for China this year as a result of this turmoil?

Mr. BASKIN. I think as a result of the turmoil and the austerity program that the growth in GNP will be less than it has been in recent years.

FOREIGN INVESTMENT

Senator BINGAMAN. What can you tell us about the extent of foreign investment and whether that will be substantially impeded. In your view, will that be substantially impeded as a result of what has happened?

Ms. ENDEAN. During the first 4 months of 1989, certainly before the disruptions, China experienced very rapid growth in the number of foreign investment contracts that were signed. Consequently, by the end of 1989, foreign investment contracts, new contracts, will probably be over \$5 billion and maybe up to \$6 billion. That's above last year's level.

We do think in the second half of the year, however, there will be fairly few new foreign investment contracts signed. If the value of new foreign investment contracts exceeds last year's level, that will largely reflect the healthy increase in contract signings in the first half of 1989.

I think new contracts that are likely to be signed will probably be in short-term projects, perhaps less technology intensive than have been signed in the past.

U.S. TRADE AND INVESTMENT

Senator BINGAMAN. What can you say about the extent of U.S. investment and U.S. trade with China? How much of China's trade do we account for?

Ms. ENDEAN. The United States accounts for about 14 percent of China's overall trade.

Senator BINGAMAN. Fourteen percent?

Ms. ENDEAN. Fourteen percent. The United States is particularly important as a market for Chinese export products. Last year we purchased over 9 billion dollars' worth of China's exports.

Senator BINGAMAN. What percent of China's exports come to the United States in dollar figures?

Ms. ENDEAN. About 19 percent.

Senator BINGAMAN. About 19 percent, and then the percent of imports into China from the United States is substantially less than 14 percent?

Ms. ENDEAN. Yes. It's about 9 or 10 percent.

Senator BINGAMAN. And then they average out at 14 percent?

Ms. ENDEAN. I would have to check on the 19 percent. That might be a little bit high, the first one I gave you.

Senator BINGAMAN. OK.

Ms. ENDEAN. It may be 15 percent.

Senator BINGAMAN. What about investment, U.S. investment in China, how much of the investment in China comes from the United States?

Ms. ENDEAN. About 10 percent of China's investment comes from the United States. Hong Kong is the largest investor in China. It provides about two-thirds of China's foreign investment.

ROLE OF HONG KONG

Senator BINGAMAN. Now when you say Hong Kong, is Hong Kong in fact the investor, or is Hong Kong the conduit for other types of foreign investment?

Ms. ENDEAN. The bulk of this investment comes directly from Hong Kong-owned firms. Hong Kong also serves as the primary conduit for investment in China that is coming from Taiwan and from South Korea, both of which tend to trade and invest with China indirectly for the most part. [Security deletion.]

JAPANESE TRADE AND INVESTMENT

Senator BINGAMAN. What about Japanese investment?

Ms. ENDEAN. The contracted value of Japanese investment last year was in the range of \$300 million and U.S. investment was about \$400 million.

Senator BINGAMAN. Now what percent of China's imports come from Japan?

Ms. ENDEAN. About 30 percent.

Senator BINGAMAN. So they are roughly equal to us?

Ms. ENDEAN. I have to check that for just a second. I think it actually is a higher percent from Japan.

Senator BINGAMAN. You think they have more trade with Japan than they have with the United States?

Ms. ENDEAN. Yes. As far as China's trade partners, Hong Kong is the most important trade partner overall. Japan is No. 2. The United States is No. 3.

Senator BINGAMAN. We are No. 3?

Ms. ENDEAN. Yes.

STANDARD OF LIVING

Senator BINGAMAN. What can you tell me about the standard of living in China and the trends there? Are people better off than they were, are they eating better, or is it stagnant, or what is the situation?

Mr. BASKIN. During the decade of reform the standard of living in China has improved. In the last year or so, because of inflation, the cost of living has gone up sharply and cut into that somewhat.

But certainly over the decade of reform the standard of living in China has improved significantly.

JAPANESE FOREIGN AID

Senator BINGAMAN. I have gotten the impression, I was in Japan about 3 months ago, and the Japanese Government seemed to have a very explicit policy of using its foreign assistance to concentrate in China and other parts of Asia, and to do it in an economic sense so that they would be helping with the development of the economic infrastructure there.

Is there a significant trend you can see there in foreign aid coming into China. Is Japan's part of that increasing substantially, and what do we do in the way of foreign assistance to China?

Ms. ENDEAN. Japan is China's largest supplier of foreign aid. It supplies close to two-thirds of China's concessional loans as well as grants.

Senator BINGAMAN. How much do we supply?

Ms. ENDEAN. A very small amount, primarily through multilateral institutions.

Senator BINGAMAN. And has that been the case for some time, that Japan has been that active in its foreign aid program in China?

Ms. ENDEAN. Yes. Japan has had an aid program in China for most of the last decade. It's a long-term aid program centered on concessional financing for infrastructural projects—such as transportation and energy projects—that are basically designed to improve China's ability to supply raw materials and energy to Japan.

TIED LOANS

Senator BINGAMAN. Now are those loans tied in the sense that Japanese firms wind up with that work?

Ms. ENDEAN. A portion of those loans are tied. Not all of them are.

Senator BINGAMAN. What do you anticipate in 1997 when Hong Kong becomes part of China officially? I think that is the right date and the right consequence. What do you see happening to Hong Kong and its traditional role as the banking center and financial center for the Far East?

SENIOR POLITICAL ANALYST. [Security deletion.] The Chinese leadership, of course, has often stated its intention to preserve Hong Kong's system, and our best information is that that statement is true.

The possibility of making big mistakes, however, unintentionally wrecking the system is there, and Hong Kong, as the last few months have shown, runs on confidence. Chinese policies that shatter Hong Kong's confidence also threaten Hong Kong's ability to function as a banking and financial center.

There are other cities in Asia that would be happy to take some of the action, and some of Hong Kong's businessmen are beginning to rethink the China investment picture.

At the same time, there is going to be some continuation of economic integration. There are now more workers in China working on Hong Kong manufacturing projects than there are in Hong

Kong. There is a great deal of that kind of investment across the border, more than could conveniently pack up and leave in 1997.

So the bottom line is that obviously Chinese policy inside China is going to very greatly affect the investment and financial picture in Hong Kong because they get the jitters so quickly. The stock market goes up and down when things happen in Beijing. But both sides recognize that they have far too much to lose to let it slide very far, and I think that we will see in the next 3 or 4 months some attempts to address the confidence issue in Hong Kong on the part of the Chinese leadership to try and do some damage control.

Senator BINGAMAN. How could they do that? What can they do to address that confidence problem?

SENIOR POLITICAL ANALYST. [Security deletion.] Just public reassurances would do a certain amount. Refraining from wholesale purges of Chinese organizations in Hong Kong, for instance, the New China News Agency and some of the other media organizations which are Chinese-owned and controlled in Hong Kong. [Security deletion.] That would be one thing. Continued Chinese investment in Hong Kong is another thing that they will do. [Security deletion.]

SUCCESSION OF POWER

Senator BINGAMAN. In the succession of power in China what can you tell me what's likely to occur there? Deng has not demonstrated a great deal of interest in addressing that problem, or at least he hasn't very successfully. What can we expect? When will we expect Deng to relinquish power and who would likely take it over?

SENIOR POLITICAL ANALYST. [Security deletion.]

ROLE OF TAIWAN

Senator BINGAMAN. What about the role of Taiwan in all of this? I mean the relations between Mainland China and Taiwan during this period of retrenchment that has gone on, or whatever you want to call it, does Taiwan play a particular new heightened role as a result of that?

Mr. PETERSEN. Taiwan has been undergoing its own reform program for the last few years and handling it rather well. They still see themselves very much in competition with the Mainland for standing in the world. The government on Taiwan has liberalized its policies on investment, contact, travel, and whatnot. They have also been far more flexible on things like names and flags in international organizations and at conferences.

I would expect Taiwan in the years ahead to continue to pursue basically the policies it is pursuing at present in an effort to expand its economic relations with as many countries in the world as it can, because it sees its economic health as a source of political influence, and to try to do what it can to gain from the setback in prestige and influence that Beijing has suffered.

So, I see Taiwan continuing to aggressively pursue expansion of its economic and political ties with nations around the world.

[Senator Bingaman confers with the general counsel.]

APPLICATION TO GATT

Senator BINGAMAN. The suggestion is that China's application to join GATT has I guess been pending now for, what, a couple of years and it recently canceled a meeting to consider that. Tell me the pros and cons of why China would want into GATT and what the obstacles are to getting that accomplished.

Ms. ENDEAN. From the economic standpoint the greatest benefit that China can derive from GATT membership is getting other GATT members to accept its export products without imposing antidumping charges or nontariff barriers on Chinese products.

The primary obstacle to GATT membership, as I'm sure you're aware, is GATT is basically designed to be a forum for market economies, and China's economy—and its trade sector in particular—is not predominantly market oriented at this point. So the contracting parties who are negotiating China's bid for GATT—which began in 1986—want to ensure that there are going to be adequate safeguards that will protect their markets from Chinese products being priced by state trading corporations and unfairly dumped in their markets.

Since the start of the retrenchment program last September, which included the imposition of greater controls over the trade sector, China's bid for GATT membership has encountered some obstacles in the accession negotiations that have taken place. Many of the trade reforms that China had embarked on over the last decade have at least stalled and in some cases been somewhat turned back by this retrenchment program.

In addition to that, the added difficulty of negotiating such an important issue for China now that many of the key players are not holding face-to-face discussions at a high level in the aftermath of the crackdown would seem to suggest that the bid for membership would be delayed.

Beijing would like to become a member by 1991, the end of the current Uruguay Round negotiations. Before the crackdown it had appeared that that was likely. The GATT meeting scheduled for next week to evaluate China's accession bid will not take place and it's hard to say at this point what likelihood there is that China's application for contracting party status will make progress over the next year.

Senator BINGAMAN. All right. Well, we look forward to getting your completed report very much.

We appreciate you coming over for the hearing, and if we think of other questions we will submit them to you. And if you could get us some of that information that we asked for, that would be great.

Thank you very much. The subcommittee stands adjourned.

[Whereupon, at 11:20 a.m., the subcommittee adjourned, subject to the call of the Chair.]

