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	<p style="text-align: right;">26 JUN 1989</p> <p style="text-align: center;">CENTRAL INTELLIGENCE AGENCY Office of Congressional Affairs Washington, D.C. 20505 Telephone: 482-6136</p>
<p>TO: Mr. Richard Kaufman Joint Economic Committee United States Congress Washington, D.C. 20510</p>	
<p>Dick:</p> <p style="text-align: center;">Per your request.</p> <div style="text-align: center; border: 1px solid black; width: 150px; height: 40px; margin: 10px auto;"></div> <p style="text-align: center;">House Liaison</p> <p>Enclosure</p>	

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RECOMMENDED FORMAT FOR INTERNATIONAL REPORTING OF MILITARY EXPENDITURES

Resource costs	Force groups										
	Strategic forces		General purpose forces		Central support, administration and command		Para-military forces	Civil defence	Military assistance		
	(1)	(2) (3) (4) (5)	(6) (7)	(8)	(9)	(10) (11)					
I. Operating costs											
1. Personnel											
(a) Civilian											
(b) Conscripts											
(c) Other military											
2. Operations and maintenance											
(a) Materials for current use (purchases of food, clothing, petroleum products, training materials, medical materials, office supplies and the like)											
(b) Maintenance and repair											
(i) Contract services for repair and maintenance of equipment and facilities											
(ii) Purchases of parts, materials and tools for repair and maintenance of equipment and facilities											
(c) Travel expenses, postal charges, printing expenses and payment for other current services											
(d) Real estate rents											
II. Procurement and construction											
1. Procurement*											
(a) Aircraft and engines											
(b) Missiles, including conventional warheads											
(c) Nuclear warheads and bombs											
(d) Ships and boats											
(e) Tanks, armoured personnel carriers and other armoured equipment											
(f) Artillery											
(g) Other ground force weapons											
(h) Ordnance and ammunition**											
(i) Electronics and communications											
(j) Vehicles											
(k) Other											
2. Construction											
(a) Airbases, airfields											
(b) Missile sites											
(c) Naval bases and facilities											
(d) Electronics, communications and related structures and facilities											
(e) Personnel facilities											
(f) Medical facilities											
(g) Warehouses, depots, repair and maintenance facilities											
(h) Command and administration facilities											
(i) Fortifications											
(j) Shelters											
(k) Other											
III. Research and development											
1. Basic and applied research											
2. Development, testing and evaluation											

Subdivision of general purpose forces

- Cols. (2) Land forces
(3) Naval forces
(4) Air forces
(5) Other combat forces

Subdivision of central support, administration and command

- (6) Central support (supply, maintenance construction, training, medical, etc.)
(7) Central administration and command, including intelligence and communications

Subdivision of military assistance

- Cols. (10) Contributions to allied forces and infrastructure
(11) Military assistance to allies and non-allies

* Subdivide by
Domestically produced vs. imported;
Allocation to forces vs. stockpiled.

** Excluding elements in (b) and (c) above.

Source: United Nations Disarmament Yearbook, UN Center for Disarmament, Department of Political & Security Council Affairs, Vol 3: 1978, UN, NY, 1979, pp 420-421.

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 rectangular box with a thin black border, used to redact the signature of George Kolt.

George Kolt
Director of Soviet Analysis, DI

Enclosure

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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.

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.

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.

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.

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.

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 target 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.

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.

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.

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.

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.

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.

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 antiaircraft 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.

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.

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.

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.

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

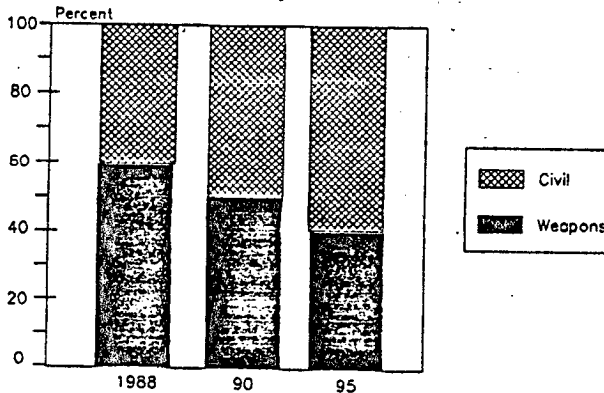
immediately whether apparent cutbacks in weapons programs are intentional and prompted by economic imperatives or whether the affected facilities are experiencing supply or technical problems.

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

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.

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.

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."

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.

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.

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.

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 perestroyka 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.

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.

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.

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.

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.