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Briefing by the Office of Soviet Analysis to the SSCI on 8 May 1987

- I. Gorbachev's Industrial Modernization Program: Implications for Civil-Military Resource Competition
- A. Gorbachev's Challenge - As we testified a few weeks ago, the major challenge facing the Soviet leadership is to transform a system in which past progress has depended on brute force mobilization of resources into one that can generate growth through technological change and more efficient use of resources. This challenge has an important military dimension.
1. A revitalized Soviet economy would in the long-run benefit defense.
 - a. As some Soviet military leaders have argued, successful long-term competition with the West demands the development of high technology support industries, including those in the civilian sector.
 - b. A better functioning civilian economy would also protect defense production from the disruptions that have plagued it in the past.
 2. Nonetheless, Gorbachev's program may require temporary sacrifices on the defense sector's part.
 - a. Reduced to its simplest form, Gorbachev's modernization program is a master plan to retool Soviet industries with new, more capable machinery and equipment.
 - o Such equipment must come from the machine-building sector, which is also the primary source of military hardware.
 - b. More specifically, Gorbachev has singled out advanced technologies--microelectronics, advanced machine tools and robots, computer-based design and production systems, and telecommunications--as having a "revolutionary" role to play in transforming the civilian economy.
 - o These technologies are also crucial for efficient production of the new, more advanced weapon systems that the Soviets plan for their military forces.

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- o As Figure 1 illustrates, however, the Soviets lag badly in these technologies. Their system has proved particularly ill-equipped to propel the USSR into the information age.
 - c. Hence the potential for sharp competition between economic and military modernization.
- B. An Overview of Our Analysis - In the remainder of my remarks this morning I would like to explore Gorbachev's challenge in greater detail, focusing on:
- a. The specific goals he's set, his progress, and his prospects.
 - b. The degree to which military demands for resources will intrude upon this program, and
 - c. The ways in which changes in domestic policy and the international political climate could facilitate or complicate Gorbachev's task.

II. Civilian Economic Goals, Progress and Prospects

- A. Review of Gorbachev's Approach - As I noted last month, the new General Secretary has put forward the most comprehensive program for economic modernization since Khrushchev.
1. While initially taking the traditional Soviet approach to increasing productivity--enforcing greater worker discipline, strengthening Party control, and the like--the core of Gorbachev's program involves a long-term effort to "restructure" the entire economy through a combination of organizational changes, reform initiatives, and modernization of the production base.
 2. The new General Secretary has been active on all these fronts, but measures to upgrade the USSR's relatively antiquated industrial base and improve its technology are, by his own account and our analysis, the key to his entire program.
 3. In this regard, Gorbachev's modernization program has concentrated primarily on increasing the supply of more technologically advanced equipment. For example:
 - a. Production of computer equipment is slated to grow by 18 percent annually through 1990. By that time, the Soviets plan to produce 1.1 million personal computers per year, compared with almost none until the mid-1980s.
 - b. And production of robots in the 1986-90 period is to increase by 120 percent, numerically controlled machine tools by 90 percent, and machining centers by 330 percent compared with production in 1981-85.

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4. While the Soviets probably will not meet these targets, they have already taken steps to provide more and better machinery in each of these areas.
 - a. Most significantly, investment in the eleven civilian machine building ministries is to increase by 80 percent during the 1986-90 compared with the 1981-85 period and a new system of quality control--known as State Acceptance (Gospriyemka)--has been introduced to put teeth into Gorbachev's plan to improve product quality.
 - b. Meanwhile, expenditures for "science"--a rough indicator of the resources committed to R&D--is also to increase sharply--by 35%--and the USSR has created interbranch scientific and technical complexes to expedite development and incorporation of new technologies into the machine-building production base.
 - c. Finally, foreign support is to fill in the gaps that cannot be met at home.
 - o Moscow probably plans to increase the imports of capital equipment from both Eastern Europe and the developed West.
 - o Large, cooperative R&D programs have also been established with Eastern Europe in key manufacturing technologies.
- B. Economic Performance Under Gorbachev - The economy's performance over the past 15 months highlights both the strengths and weaknesses in Gorbachev's program.
 1. 1986--the first full year of Gorbachev's rule--was a good year for the Soviet economy. GNP grew at its fastest rate in a decade (about 4 percent). Figure 2 compares performance in 1986 with that in preceding years.
 - a. Industrial growth was also the highest in nearly a decade (about 3.5 percent growth) although industry's momentum slowed as the year progressed.
 - b. And in 1986, agricultural production reached a new high and the grain harvest (210 million tons) was the fourth largest on record.
 - c. Gains were also made in key consumer areas.
 - o Supplies of many quality foods increased, and the additions to the housing stock were the largest in two decades.

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2. On the down side, however, economic performance in 1987 is not living up to Gorbachev's hopes.
 - a. Industrial production in first quarter 1987 was 1 percent less than in first quarter 1986.
 - b. And machinery production--which is of crucial importance to the modernization program--fell by an estimated 4.5 percent.
 - c. The shortfalls in machinery production and in some other sectors appear to reflect in part the implementation of the new system of quality control.
 - o The program is causing confusion and even chaos in some facilities as state inspectors reject output that does not meet quality standards.
 - d. Finally, we have continued to receive indications that some of Gorbachev's policies are running into resistance.
 - o A plenum focusing on the economy is reportedly scheduled to convene in early June. But to this point the leadership seems to be divided over the role to be given to Gosplan in an economic reform. The future of the state supply system, and the final form of a new law on the state enterprise are also undecided.
 - o This follows other reports that some Soviet planners and factory managers are unhappy over the changes introduced by Gorbachev, claiming that they have been more harmful than helpful.
 - o While there is nothing to suggest that as a result of these difficulties Gorbachev intends to back down from his program--indeed, we think just the opposite is true--these problems indicate just how difficult it will be to overcome the inertia in the Soviet system.
- C. Prospects Through 1990 - In short, based on what we have seen of Gorbachev's program and the problems that it has encountered so far, we project growth of GNP at an annual average rate of 2 percent during the remainder of this decade. While growth could be somewhat higher during this period if the Soviets have good luck with the weather and agriculture, the downside risks are probably as great.

III. Accommodating Military Demands

Let me now turn to the issue of the military demands that Gorbachev will face during the next few years--a period that, as I've just said, will probably be one of relatively slow economic growth.

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- A. Difficulty of Maintaining Their Current Status - Under any circumstances, the Soviets face formidable costs in maintaining and modernizing the world's largest military establishment.
1. As Table 1 indicates, the Soviets maintain very large stocks of military equipment in their standing forces.
 - a. These weapons and equipment wear out and must be replaced--from every several years for trucks to every 30 years or so for major naval combatants.
 - b. Thus, simply to keep their forces at the current level requires the Soviets to procure thousands of major weapons every year.
- B. Modernizing the Forces - The Soviets, moreover, have worked hard to improve the quality of their weapons by initiating a great many new development programs.
1. During both the 1960s and 1970s the Soviets fielded about 140 major new systems and 200 to 400 major upgraded systems, and this total may be slightly higher in the 1980s.
 2. As Figure 3 illustrates, the Soviets have supported this effort with steadily growing military RDT&E expenditures that have exceeded comparable US expenditures since the early 1970s.
 3. Through these efforts the USSR has raised the average level of its military technologies considerably in some areas, narrowing the gap between them and the technologies found in deployed US systems. However, as indicated in Figure 4, this success has come at a price--markedly higher costs to procure these weapons.
- C. Defense Industrial Challenges - The military production base can manufacture large quantities of weapons, as is shown in Table 2. But Soviet defense industry has been challenged over the last decade to assimilate production of increasingly complex modern weapons.
1. Over the last 12 years, the USSR has turned out considerably more weapons than has the United States.
 - o For the most part these weapons are less capable and easier to manufacture than their US counterparts.
 - o Since the early 1970s, however, the Soviets have modified their weapon acquisition strategy, introducing a number of systems that required advanced production technology.

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2. The manufacture of these advanced systems was frequently constrained by an obsolescent industrial base. It often relied on labor-intensive production processes using simple machinery.
 3. In the early 1970s, therefore, the USSR began a comprehensive modernization of its defense industries, retooling major plants with advanced machine tools and other automated equipment. Military electronics production was also upgraded substantially.
- D. Emerging Weapons and Production Technologies - This defense-industrial modernization helped the Soviets to master the production of a number of very complex systems, like the MIG-29 fighter and T-80 tank. But it also set the stage for intensified competition with civilian interests in Gorbachev's industrial modernization program.
1. As Figure 5 suggests, Soviet weapons entering production over the next decade will demand further improvement in design and manufacturing technologies.
 2. In sum, Gorbachev is under pressure to continue the large-scale modernization of Soviet defense industry.
 - o As in the West, the Soviets will be forced to recycle industrial capital every 9 to 12 years.
 - o Thus, defense industry will demand substantial quantities of some of the best machinery and equipment.
 3. In fact, the civil-military competition is already severe for a whole range of materials, products, and manpower. We have tried in Figure 6 to highlight some of the areas where the competition is keenest.

IV. Reconciling Competing Demands

This brings me to the last part of my remarks and the really critical question as far as US interests are concerned. Faced with the heavy military demands I've just described, how fast will Gorbachev be able to push his overall modernization program, not during just the rest of this FYP, but during the 1990s. While there are too many variables to allow one to predict with any certainty how the economy's going to be performing a decade from now, I will suggest some of the things that could go right for Gorbachev's modernization program, and some of the things that could go wrong. I will also briefly look at how issues such as arms control and more drastic economic reform fit into the equation.

- A. Meeting Near-Term Military Needs--At least through 1990, we see no let-up in the very high levels of weapons procurement that have

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been the hallmark of the Soviet defense effort over the last two decades. The overhaul of the defense industries carried out during the late 1970s and early 1980s should allow the Soviets to manufacture most of the weapons we expect to be delivered to the Soviet forces through 1990.

1. Nonetheless, competition for basic materials, intermediate goods, and skilled labor will probably cause the pace of production of some of these new systems to be somewhat slower and the date of introduction somewhat later than the Soviet military would prefer.
2. But, on balance, we expect that Soviet defense spending will continue to increase, as represented in Figure 7 in your package. We think total procurement spending during 1986-90 will be approximately 10 percent higher than in the preceding five years and slightly above the record level of 1976-80.

B. Longer-Term Requirements--Although procurement will probably rise at a relatively slow pace, this does not mean that we expect civil-military competition to ease. On the contrary, if the economy's strong showing in 1986 proves to be transitory, as we believe likely, then extremely difficult resource allocation decisions will have to be made between competing civilian and defense interests, as well as among competing interests within the civilian and defense sectors themselves. Over the next few years, the toughest decisions are likely to be in the investment arena.

1. Despite the high targets for investment in those branches of industry key to the modernization program, we believe achieving the production targets in critical areas like the machine-building and the energy sectors will require more investment than is currently planned for 1987-90. Investment is already being given priority, however, and finding additional resources will not be easy.
2. Moreover, a major part of Gorbachev's short-term economic strategy depends on increasing workers' incentives. The leadership has already deemed it necessary to boost investment in consumer-related areas in 1987, and further growth will probably be needed if momentum is to be maintained.
3. And, as I have already said, Soviet defense industries also will require large investment over the next few years.
 - a. Our evidence shows that new programs are in progress to update or replace older systems with improved models in every mission area, with many likely to begin series production in the mid-1990s.
 - b. The Soviets begin to prepare for weapons production during the 10 years prior to initiation of series production.

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The largest expenditures, including those to put in place most of the machinery and equipment, occur in the last half of this 10-year period.

- o This suggests that they will be allocating considerable investment in the late 1980s and early 1990s to prepare for systems entering production during the last half of the 1990s.

- C. Arms Control Issues--We do not know how Gorbachev will respond to these pressures. But in putting together the 1991-95 Five-Year Plan --which must begin in earnest over the next year or so--the state of the economy, Moscow's perceptions of the military threat, and Gorbachev's domestic political standing would all come into play.
1. Gorbachev has based much of his political future and long range plans for sustaining the USSR's superpower status on his economic agenda, and we believe that, if at all possible, he intends to give the civilian economy the investment resources it needs. To do this, he will have to constrain the growth of military demands for these same investment resources.
 2. His preferred way of accomplishing this would be to reach an arms control accord that would give him some confidence that the pace of US weapons programs would also be constrained.
 - a. In effect, he must manage the US strategic competition or he will have to deal with it in ways that could subvert his agenda.
 3. This is one of the main reasons we think he is so interested, for example, in an INF agreement.
 - a. Although the resource implications of an INF agreement by itself are at best marginal, the larger process of arms control is seen by Gorbachev as his principal means of constraining both external and internal pressures to spend more on defense--at least until he can reap the productivity gains he hopes to obtain from his industrial modernization program.
 - b. And he probably believes that a successful conclusion of a major agreement with the present US administration will provide momentum to the process and create pressure for subsequent movement toward agreements on strategic offensive and defensive forces as the United States moves into an election year.
- D. Changing Relations With the International Economic Community--While we believe an arms control agreement holds the greatest promise of easing military pressures, the USSR could also reduce

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the strains on the domestic economy by expanding its commercial ties with other countries.

1. The Soviets have taken a number of initiatives in the international economic arena over the past year or two.
 - a. A reorganization of the foreign trade sector now allows over 20 ministries and 70 enterprises and production associations to deal directly with foreign businesses.
 - b. Joint ventures with Western partners may now be established on Soviet territory, with the foreign company allowed up to 49 percent equity and some expatriation of profits.
 - c. Moscow has approached a number of international economic organizations, including a request to participate in the GATT, the pursuit of closer EC-CEMA ties, and the issuance of its own international economic agenda in various UN meetings.
2. Although such measures are not radical, they are likely to yield some dividends. But taken individually or collectively, they are not likely to help Gorbachev's resource allocation problem anytime soon.
 - a. Most Soviet imports and exports still remain directly under the control of central planners.
 - b. Progress on joint ventures--the current buzzword among Soviet traders--is likely to be slow as a myriad of important questions remain unanswered. Both Soviets and Westerners alike are approaching the issue very cautiously.
3. Moscow also does not appear ready to raise its hard currency debt substantially in order to finance large imports from the West.
 - a. Despite significant borrowing during the past two years--as well as large gold sales--Moscow has been content to let hard currency imports drop by more than \$4 billion since 1984.
 - b. With net debt now nearly \$24 billion--more than double the level of two years earlier--we doubt that Moscow will keep up its recent level of borrowing for more than a year or two.
4. The USSR's approach toward trade with Eastern Europe appears in many ways to mirror its approach to trade with the West.

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- a. Trade with Eastern Europe, in particular, was quite sluggish last year and shows few signs of picking up.
 - b. Eastern Europe's contributions in science and technology, however, figure prominently in Gorbachev's plans to build up Soviet high technology industries.
 - o Although Soviet-East European cooperation in developing new technologies will ease the financial burden on the USSR, the East Europeans are not likely to provide as much support as Moscow would like.
 - o In each of the high-tech areas singled out for special emphasis, we estimate that Eastern Europe is at least five to 10 years behind the West.
 - o Furthermore, their sluggish economies, high foreign debts, and their desire to maintain control over their own S&T are likely to limit what the East Europeans are willing to do.
- E. Prospects for Economic Reform--Ultimately, under the pressure of hard decisions on resource allocation and insufficient foreign support for his modernization program, Gorbachev may decide to put more teeth into his calls for "radical reform."
- 1. Adopting some of the bolder proposals that have been put forward --such as a major decentralization of price setting or real competition among state enterprises--would be aimed at stimulating production and innovation, and would certainly be consistent with the direction in which Gorbachev is already heading.
 - 2. Still, he would have to overcome some very stubborn political and bureaucratic opposition.
 - o A broad spectrum of the party and government would probably oppose moving too far in the direction of more drastic reform on the grounds that economic decentralization would threaten a loss of political control.
 - o A major decentralization would also threaten the jobs, status, power, and privileges of thousands of officials now running the economy.
 - o The specter of unemployment, inflation, and widening class divisions within society would undermine what most Soviet citizens and leaders consider to be one of the principal advantages of socialism.
 - 3. Even if Gorbachev were able to overcome such opposition, however, the outcome of such changes probably would not be an

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unqualified success in the short run. Substantial dislocations would be likely as the economy adjusted to new conditions.

4. Nevertheless, implementation of bolder reform measures could ultimately have a substantial positive impact on economic performance, especially if the measures forced producers to respond to customer demand and allowed prices and wages to reflect both demand and resource costs.

Changing Relations with the International Economic Community

- F. Final Thoughts--In closing, let me say that even though I've been talking about things that Gorbachev could do to ease the resource allocation pressures he's under--arms control, finding additional foreign economic support, real economic reform--even if he had to increase the military budget substantially, the USSR would not be a basket case.
 1. Spending much more on defense would certainly undermine Gorbachev's program for industrial modernization and possibly forestall any appreciable gains in living standards, and leave the economy on a very slow growth path throughout the 1990s, perhaps less than two percent per year.
 2. This outcome would be unlikely to lead to economic collapse or social upheaval, however. It is worth remembering that the Soviet economy is now so large that even at "zero" growth, more than 2 trillion dollars worth of goods and services can be produced each year. Some of the economy's basic strengths are set out in Table 3.
 3. Assuming the share of GNP devoted to defense remained at today's level, about \$275 billion would be available for military programs.
 4. But the technological gap would almost certainly widen, leaving the USSR to continue playing "catch up", not only in civil technology but also in some critical military technologies.

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