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Soviet Defense Expenditures Continue To Decline

An Intelligence Assessment

CIA HISTORICAL REVIEW PROGRAM
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SOV 91-10033
July 1991
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Soviet Defense Expenditures Continue To Decline

An Intelligence Assessment

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July 1991

Soviet Defense Expenditures Continue To Decline

Key Judgments

*Information available
as of 1 June 1991
was used in this report.*

On the basis of changes in observed weapons production and in other military activities, we estimate that Soviet defense spending in 1990 declined by about 6 percent in real terms—roughly the same rate as in 1989. Spending on all services and missions continued to fall, and the cuts affected a broader array of programs than in 1989. The driving forces behind these cuts have been the poor state of the economy and Moscow's desire to both ease the budget deficit and shift resources to civilian production.

Estimated procurement outlays—which account for about 40 percent of Soviet defense spending—fell about 10 percent in each of the past two years. We estimate that procurement spending for the strategic offensive mission fell by slightly more than 20 percent over the past two years. Estimated spending for strategic defensive forces, after remaining relatively stable in 1989, declined by more than 15 percent in 1990. Ground forces procurement, after a 20-percent decline in 1989, dropped by another 10 percent in 1990. Outlays for tactical air procurement, which experienced only a modest drop in 1989, dipped almost 20 percent last year.

Expenditures for other major components of defense spending also have fallen over the past two years, although not quite as steeply as procurement. The Soviets have reduced military manpower by about 500,000 men, resulting in a drop in personnel expenditures of about 10 percent since 1988. A similar decline in operations and maintenance primarily reflects a downturn in space activity as well as a slower pace of training and exercises throughout a smaller military force. Our estimates for military research, development, testing, and evaluation are much less precise, but Soviet statements and anecdotal information on a broad sample of individual projects suggest that these expenditures also declined in 1990.

Defense spending cuts have enabled some labor and material resources to be diverted from military production to existing civil production in the defense industries, resulting in some benefit to the Soviet consumer. The payoff, however, has been much less than planned, and it has failed to offset the decline in weapons production, causing defense industry output to contract over the past two years. Although the long-awaited conversion program—originally promised by the end of 1989—reportedly has been approved by the Presidential Council, as of late May 1991 the defense industry was still awaiting Supreme Soviet ratification of implementing and funding legislation.

The announced defense budget for 1991 calls for defense spending to increase in nominal terms by one-third over the 1990 budget. The Soviets claim, however, that the new budget reflects the radically higher prices now in effect in the USSR and, if left in 1990 prices, would actually reflect a 10-percent decrease in defense spending. Analysis of force reductions and weapons production in 1991 suggests that real defense spending is continuing to fall—affecting all mission areas and resource categories—but it is too early to assess whether the drop will be as great as the Soviets claim.

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Scope Note

This Intelligence Assessment revises and updates CIA estimates of Soviet defense expenditures. It is one of a series of papers addressing our estimates, including DI Typescript Memorandum **L**

Research Paper SOV 91-10021 **L**

L May 1991, *The Soviet Release of Defense Spending Data to the United Nations: Less Than Meets the Eye.* **L** DI

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Soviet Defense Expenditures Continue To Decline (U)

Cutting Defense Spending

From his first days in office, Gorbachev argued that Soviet national security had relied too heavily on military power at the expense of political and economic development. Nevertheless, Gorbachev did not initially alter the broad-based military modernization program he inherited. In fact, we estimate that defense spending grew at an average annual rate of about 3 to 4 percent during the period 1986-88.

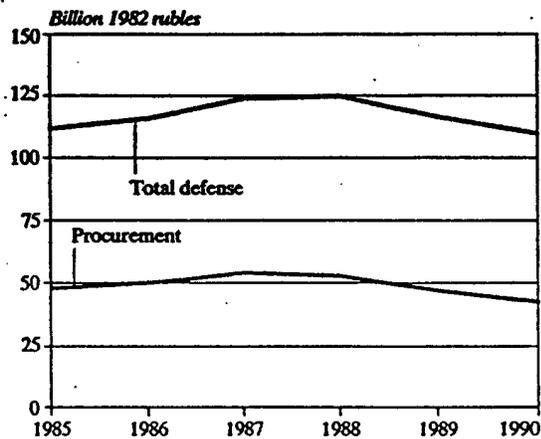
It was not until his economic program was in disarray that Gorbachev publicly committed the USSR to a program of shifting resources from defense to civil needs. At a speech to the United Nations in December 1988, Gorbachev announced a unilateral reduction of 500,000 troops and a sweeping reduction in conventional arms and force restructuring. In January 1989, Gorbachev revealed a three-year program to cut total defense expenditures by about 14 percent and military procurement and R&D expenditures by almost 20 percent.

Our estimates of Soviet defense expenditures indicate that the Soviet Union cut defense spending in 1989 and 1990. We estimate that Soviet defense spending declined by about 6 percent in both 1989 and 1990 (see figure 1). Reductions occurred in all major resource categories and mission areas, and a broader array of programs was affected in 1990 than in 1989.

Procurement Down

Procurement outlays dropped sharply in 1990—by about 10 percent—roughly equaling the decline in 1989, but in 1990 the cuts were broader and, in many areas, deeper than the year before. Figure 2 shows the estimated procurement expenditures by major mission area for both 1989 and 1990, as compared with 1988 levels

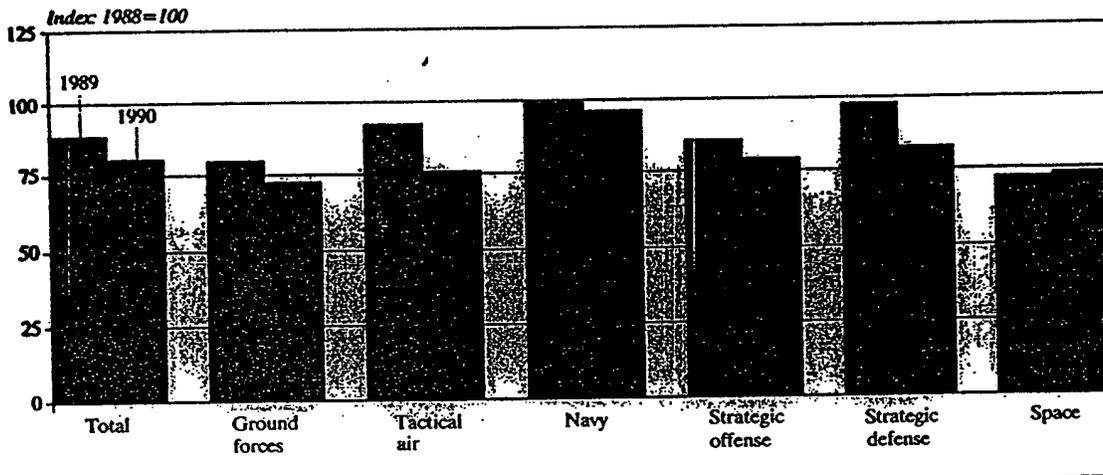
Figure 1
Estimated Soviet Spending for Defense Activities, 1985-90



Our spending estimates are built on detailed analyses of Soviet weapons production, and the spending trends mirror trends in the breadth of the Soviet weapon production base. We judge that the total number of types of major weapon systems in production has declined in the last three years (see figure 3). Moreover, in 1989-90 considerably more programs experienced cessation or significant decline in production than experienced startup or a significant increase.

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Figure 2
Estimated Soviet Spending for Military Procurement as a Share of 1988 Procurement Spending



Ground Forces. In line with the force restructuring, reductions, and withdrawals promised in 1988, the largest cuts have occurred in ground forces procurement—nearly 30 percent in real terms over the past two years (see figure 4). Procurement of tanks, light armored vehicles, and artillery—offset somewhat by outlays for expensive tactical SAM systems—has been sharply reduced:

• [both reduced tank production and consolidation of production at fewer plants. Tank procurement for the military reached only between 1,000 to 1,100 in 1990—the lowest number since World War II—as compared with about 3,000 in 1988. After closing one tank plant in late 1989, the Soviets halted production at one other and significantly decreased production at a third last year, leaving only two producing large numbers of tanks.

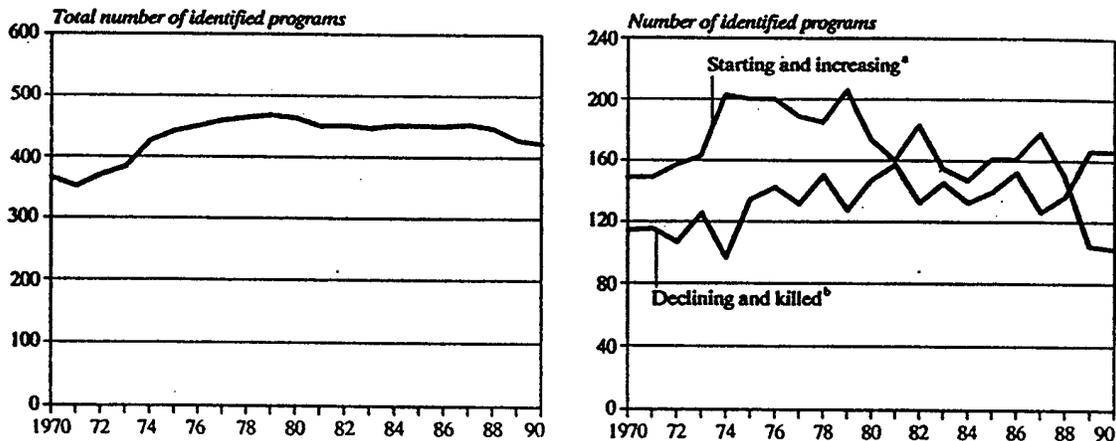
- Light armored vehicle and artillery procurement in 1990 each fell by more than 20 percent. The Kurgan wheeled tractor plant—one of three plants responsible for production of armored personnel carriers—has closed. Production of the BRDM-2 reconnaissance vehicle and the BTR-60 armored personnel carrier—both older systems—ended in 1990. Artillery procurement also has dropped substantially as the Soviets have failed to replace some systems on a one-for-one basis

The decline in ground force weapons production appears likely to continue because of reduced Soviet military demand, a weak export market, and the closing down of production at a few major facilities. Col. Gen. Nikolay Chervov, Deputy Chief of the Soviet General Staff, indicated in May 1991 that tank

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Figure 3
Soviet Weapon Production Program Activity, 1970-90

Note change of scale



^a Production items first detected in a given year and numbers produced at least 10 percent greater than the previous year.

^b Production items delivered in the previous year but never again and numbers produced at least 10 percent fewer than the previous year.

procurement, for example, would drop from the 1990 level to about 600 tanks. The relative ease of shifting its production resources from military to civilian products has made the land-arms industry a prime candidate for supporting Moscow's economic revitalization effort.¹

Tactical Air Forces. After experiencing a modest decline—about 7 percent—in 1989, outlays for tactical air procurement dropped almost 20 percent last year (see figure 5). Procurement of the Su-25 Frogfoot

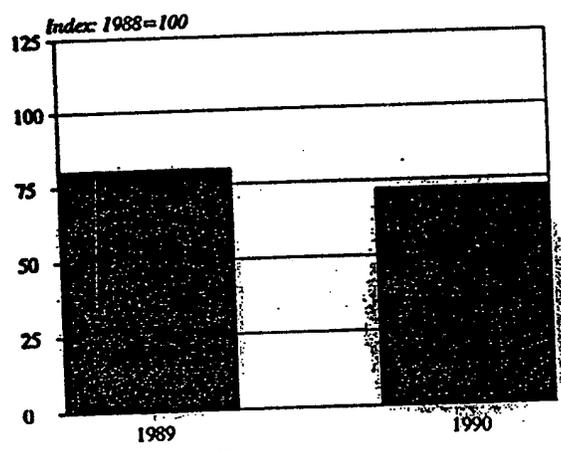
ground attack aircraft experienced the greatest slowdown, and similar declines were noted in the delivery of Su-24 Fencer light bombers and Su-27 Flanker fighters to the Soviet air forces. Reduced procurement of the Il-76 Candid transport and the Mi-24 Hind attack helicopter appears to be the result of older programs reaching their end. The Mi-28 Havoc attack helicopter will very likely replace the Mi-24, which would also have an effect on procurement requirements for Mi-24 aircraft.

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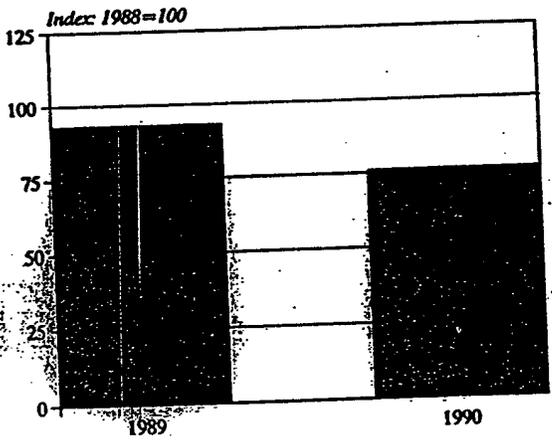
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Figure 4
Estimated Soviet Spending for Ground Forces Procurement as a Share of 1988 Procurement Spending



- During the period 1989-90:
- Tank procurement decreased by two-thirds.
 - Light armored vehicle procurement declined by 30 percent.
 - Artillery procurement dropped by 40 percent.
 - Tactical SAM procurement increased by 10 percent.

Figure 5
Estimated Soviet Spending for Tactical Air Forces Procurement as a Share of 1988 Procurement Spending



- During the period 1989-90:
- Su-25 Frogfoot procurement declined.
 - Su-27 Flanker procurement declined.
 - An overall downsizing of the force occurred.

Unilateral cuts of Soviet air forces have reduced the demand for replacement military aircraft. Even if production fell by as much as 50 percent, the Soviets would probably be able to modernize all their front-line units by 1995.

Naval Forces. Procurement spending for general purpose naval forces has held up best among all mission areas—declining only about 4 percent since 1988 (see figure 6). A decline in spending for surface combatants more than offset increased procurement spending for the general purpose submarine force and a buildup of naval air with procurement of the MiG-29 Fulcrum and the Su-27 Flanker. The Soviets are also realizing

savings by ending major weapons programs—such as completion of the Kirov- and Slava-class cruisers. In 1990 the Nikolayev 61 Communards, Khabarovsk, and Petrozavodsk shipyards experienced a slowdown in expenditures for construction of assembly and support facilities

We judge that recent reductions probably reflect a series of decisions—each calling for deeper cuts—initiated since the late 1980s. The impact of these decisions on naval procurement outlays was not visible until 1990 because of the long gestation period for ship construction.

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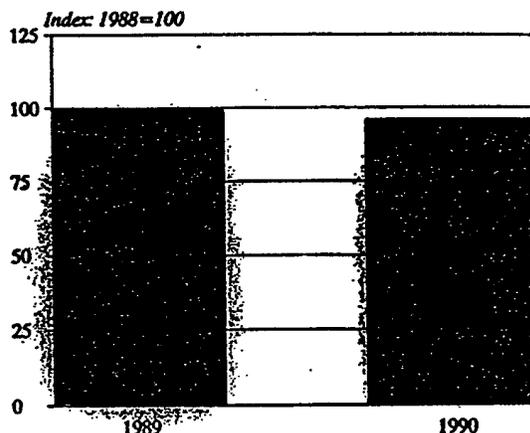
Annual Cycle for Estimating Soviet Defense Spending

Our estimating cycle begins in the late summer of each year, when we estimate Soviet procurement on a system-by-system basis, analyzing weapon production facilities and tracking equipment delivered to units in the field. We then apply prices to these physical estimates to obtain an initial estimate of total procurement expenditures. We also estimate—on a unit-by-unit basis—military manpower, order of battle, operating tempos, maintenance practices, and construction. In December and January, we review and adjust the ruble prices and wages we apply to these physical estimates. All of the components are integrated, the data are updated to take account of any new evidence, and the final estimates are reviewed and then discussed with the Defense Intelligence Agency

As we complete each year's update, we acquire evidence that is applicable to the current as well as the previous year's estimates. For example, in 1990 we applied additional evidence to our 1989 estimate, resulting in reductions that were somewhat greater than we reported last year. On the basis of a reexamination of all programs, we now estimate that defense spending declined by over 6 percent in 1989, rather than the 4 to 5 percent we initially estimated.

Strategic Offense. The strategic forces have not been exempt from the cuts. We estimate that procurement spending for the strategic offensive mission has fallen by about 20 percent over the past two years (see figure 7). Moscow ended production of the Typhoon SSBN in 1989 and in 1990 ended conversion of silo launchers for the SS-24, reflecting, in part, the Soviets' anticipation of START limits. Procurement of an older system—the Tu-95 Bear H bomber—is being

Figure 6
Estimated Soviet Spending for Naval Forces Procurement as a Share of 1988 Procurement Spending



During the period 1989-90:

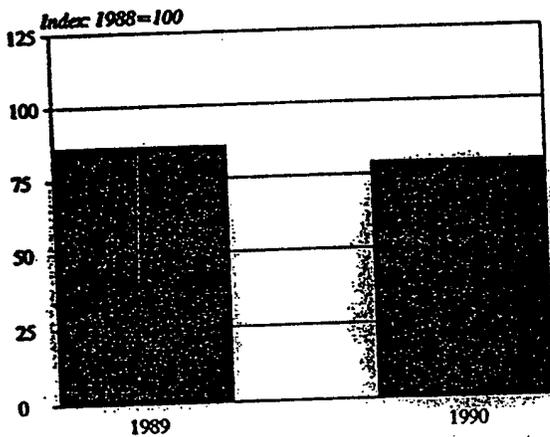
- Surface combatant procurement dropped by 20 percent.
- General purpose submarine force and Naval Aviation procurement spending increased.
- Major weapons systems programs—Kirov and Slava cruisers—ended.

phased out after a long production run. Former Foreign Minister Shevardnadze announced publicly the decision to stop production of SS-24 ICBMs for rail-mobile launchers by January 1991, and, while there have been no deployments, we cannot yet confirm whether SS-24 production has ceased

The programmatic changes that have occurred since 1988 suggest that, as the Soviets modernize their strategic offensive forces, they also are moving toward lower levels that will be consistent with the proposed START constraints of 4,900 deployed ballistic missile reentry vehicles (RVs) and a combined total of 6,000

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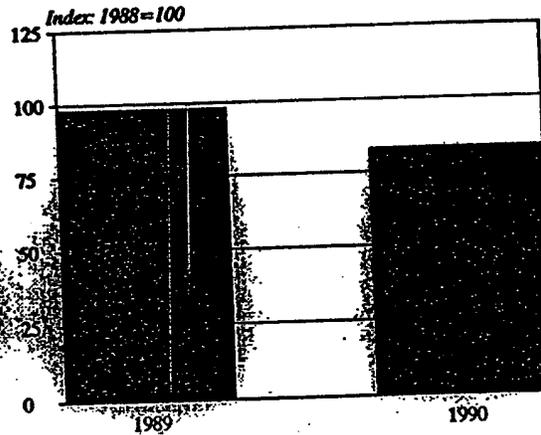
Figure 7
Estimated Soviet Spending for Strategic Offensive Forces Procurement as a Share of 1988 Procurement Spending



During the period 1989-90:

- Typhoon SSBN program ended.
- SS-24 Mod 2 conversion ceased.
- Bear H program wound down.

Figure 8
Estimated Soviet Spending for Strategic Defensive Forces Procurement as a Share of 1988 Procurement Spending



During the period 1989-90:

- SA-10 SAM deployments slowed—probably related to changeover to SA-10C variant.
- Declines in procurement of older aircraft were not offset by newer systems.

deployed RVs and accountable bomber weapons. By making these changes, the Soviets have postured themselves in a way that will allow them to meet the proposed START limits by dismantling only the older weapons in their inventory once a treaty goes into effect.² The high cost of the Blackjack—probably three to four times greater than the Bear H—technical problems, and reallocation of resources to civil aircraft production probably contributed to a decision to scale back the program below planned levels. The uncertainty of US plans to improve defenses and

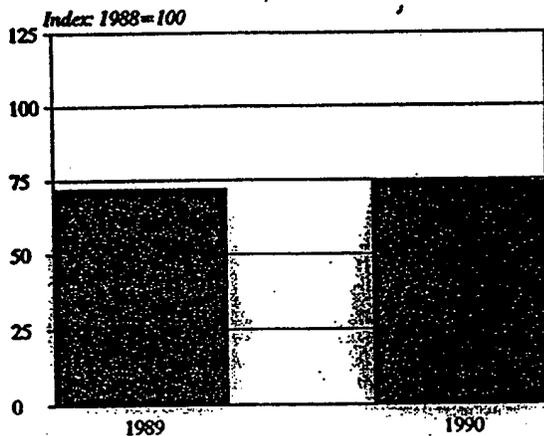
deploy mobile ICBMs may have led to a reevaluation of requirements for a penetrating heavy bomber mission

Strategic Defense. Over the past five years, the Soviets have been modernizing strategic defenses. Estimated procurement spending for strategic defensive forces, however, stabilized in 1989 and declined by more than 15 percent in 1990 (see figure 8). The decline was driven by a drop from previous years in the pace of deployment of SA-10 battalions—which may be related in part to the changeover to the

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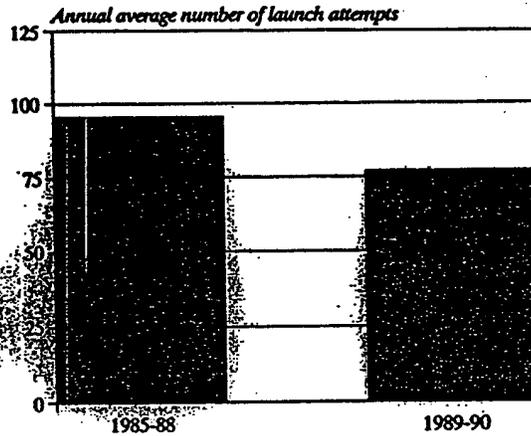
Figure 9
Estimated Soviet Spending for Space Procurement
as a Share of 1988 Procurement Spending



During the period 1989-90:

- Manned programs were scaled back.
- Fewer short-duration missions occurred.
- Fewer launches took place.

Figure 10
Soviet Space Launch Attempts, 1985-90



SA-10C variant—and the phasing out of the SA-2 system. Reductions occurred as older, less effective SAM weapon systems were replaced on less than a one-for-one basis by newer, more advanced systems.

Space. Estimated procurement spending for space systems dropped by more than 25 percent in 1989 and remained at roughly that lower level in 1990, as the Soviets scaled back manned programs—particularly the shuttle—and conducted fewer space launches (see figure 9). The Soviets have sharply reduced their launch rate (see figure 10)—the average annual number of launches for 1989 and 1990 declined about 20 percent from the average number for the period 1985-88—and expanded operational practices that conserve

resources; for example, storing satellites on orbit and reactivating them when needed instead of launching a new system. The spending cuts, while substantial, have been implemented in ways that reduced their impact on capabilities. Changes in operations have enabled the Soviets to maintain essential capabilities at lower costs by reducing the number of short-duration missions, while maintaining roughly the same number of satellites in orbit.

Other Spending Categories Also Cut

Expenditures for the other major components of defense also have fallen over the past two years, although not as steeply as procurement. Both personnel and operations and maintenance costs are decreasing as the Soviets continue to reduce manpower and deactivate units and equipment to implement their pledged unilateral reductions.

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Figure 11
Estimated Soviet Spending for Military Personnel
as a Share of 1988 Personnel Spending

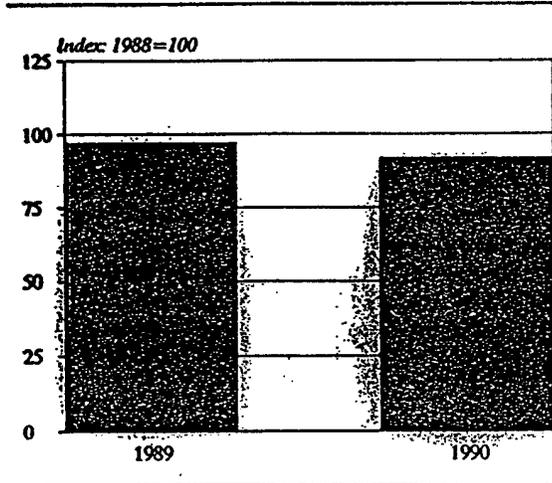


Table 1
Estimated Soviet Military
Manpower by Mission,
1988-90^a

Thousand personnel

	1988	1989	1990
Total Armed Forces^b	4,300	4,100	3,800
Mission^c			
Strategic offensive forces	300	300	300
Strategic defensive forces	550	500	500
General purpose forces			
Ground	1,600	1,500	1,300
Tactical air	400	400	400
Navy	400	400	400
Space	40	40	40
Command and support	1,000	950	850

^a All figures have been rounded to the nearest 50,000 in keeping with the inherent uncertainty of the estimate.
^b Total includes only those Soviet personnel who fill what in the United States are considered to be national security roles. Thus, it does not include military personnel assigned to the militarized security forces of the Ministry of Internal Affairs or to military construction and railroad troops.
^c Because of rounding, components may not add to the totals shown.

Personnel. The number of armed forces personnel has fallen by about 500,000 since 1988, resulting in a drop in personnel expenditures of about 10 percent (see figure 11 and table 1). The bulk of the reduction occurred in the ground forces—about 300,000 troops. Strategic forces manpower dropped about 50,000, with a majority of the cuts occurring in strategic defensive forces.

Reductions in manpower have been achieved primarily in two ways. A number of units in the ground forces—where the largest cuts have occurred—have been disbanded, while other units have been “thinned out.” The two approaches have different implications for future Soviet force structure and mobilization potential. If the Soviets eliminate a large number of divisions, but continue to fully equip most of those that remain, they will have a more ready force, but one with less expansion capability. Extensive thinning

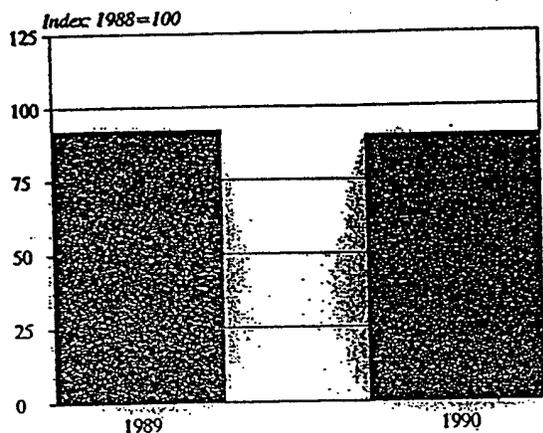
out of units without disbanding them altogether will constrain readiness and capabilities for immediate use but leave in place a structure for substantial expansion.

Soviet generals have said recently that the Armed Forces are 360,000 men short of an authorized strength of 3.8 million. Analysis

enables us to estimate the manning levels of Soviet units within a relatively broad range, but we are unable to estimate precisely the extent of thinning-out of units that we know is indeed taking place. Although our estimate captures some of the shortfall, actual or duty strength at the end of 1990 could well have been less than our estimate.

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Figure 12
Estimated Soviet Spending for Operations and Maintenance as a Share of 1988 O&M Spending



During the period 1989-90:

- Space activity decreased.
- Inventories shrunk.
- Training and exercise tempo was reduced.

Operations and Maintenance (O&M). A similar decline in O&M—about 10 percent—primarily reflects a downturn in space activity as well as shrinking inventories and a slower pace of training and exercises throughout a smaller military force (see figure 12). Since 1985, for example, Soviet naval operating tempo has declined by about one-third, and ship retirements have continued apace. The Navy may have attempted—at least initially—to meet mandated expenditure reductions by cutting back on operating tempo rather than procurement. Alternatively, if procurement cuts were seen as inevitable, reduced operating tempo may have been intended to conserve the vitality of the existing fleet.

Research, Development, Testing, and Evaluation (RDT&E). We are least certain of estimates on military RDT&E because these activities are rarely directly observable. Official Soviet statements, assessments of several hundred individual R&D programs representing a broad sample of Soviet military R&D efforts, suggest, however, that, after leveling off or falling slightly in 1989, RDT&E expenditures declined in 1990.

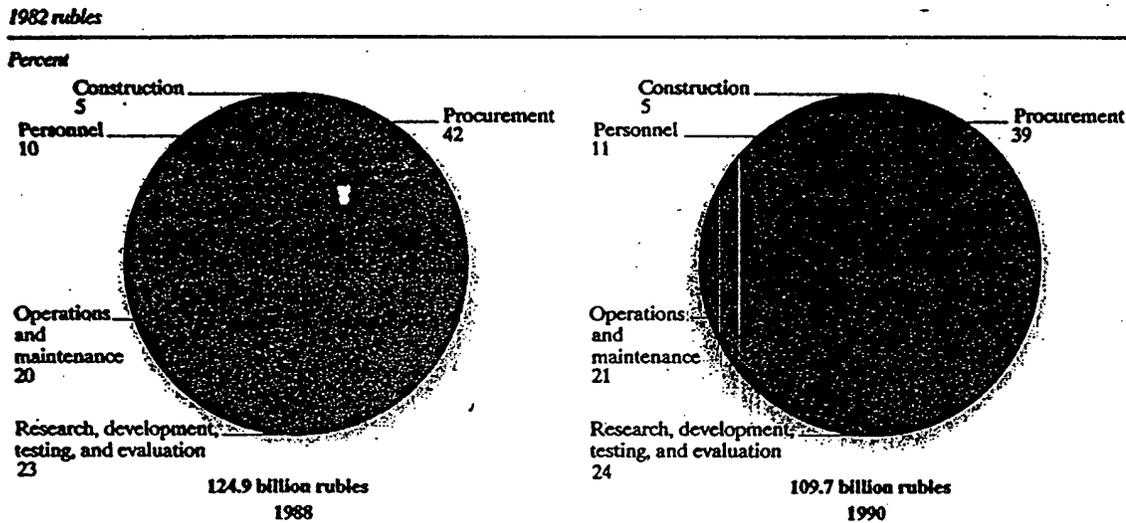
To use R&D resources more efficiently, the Soviets appear to be pursuing a number of strategies, including moving some programs back in the development cycle, using arms control agreements to constrain growth in R&D requirements, cutting out duplicative programs, and emphasizing legal and illegal acquisition of foreign technology. In line with these strategies, former Deputy Minister of Defense for Armaments Gen. Vitaliy Shabanov stated in 1990 that about 30 military development programs were shifted to the less expensive technology development phase of R&D, including:

- The follow-on to the Su-25 Frogfoot ground attack fighter aircraft.
- A new tactical reconnaissance aircraft.
- The modernization of the Soviet airborne warning and control system.
- A multipurpose light helicopter.
- Some nuclear warhead designs.

Although we have been unable to reconcile Soviet claims of large numbers of program cuts, we believe the Soviets are indeed attempting to trim R&D expenses by delaying or canceling system development programs that are experiencing major technical problems or that are simply too expensive to develop in light of domestic economic problems.

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Figure 13
Share of Soviet Defense Resources by Category, 1988 and 1990



In scaling back RDT&E, the Soviets are taking greater risks than they have in the past that they will have the weapon systems, the military technologies, and the basic research they need to meet future military requirements. General Shabanov has stated that a reduction in R&D spending is very undesirable, but added that the USSR has had to revise the priorities of research and development work under way in order to focus such efforts.

Although a number of programs were moved back in the development cycle, the largest cuts have occurred in military support for basic research, with no major area being spared. The Soviets probably will finish the development of a large number of new and modified weapon and military systems, although fewer than the historical average of 350 per decade. Given the state of the Soviet economy and tight defense budget, the

Soviets will not move all of these systems into production and deployment. By completing development programs without committing to deploy, the Soviets maintain maximum flexibility for future deployment options and realize gains on past investment of R&D resources.

Little Change in Defense Resource Share Structure

The changes that have occurred in the share of resources allocated to either major missions or resource categories reflect the facts that procurement spending is declining at almost twice the rate of overall spending and that ground forces procurement is dropping at roughly twice the pace of total procurement (see figure 13 and table 2).

Table 2
Estimated Share of Soviet Defense Spending
by Service as a Percentage of Total Spending ^a

	1988	1989	1990
Ground Forces	15	13	13
Naval Forces	14	15	16
Air Forces	13	13	12
Air Defense Forces	8	8	8
Strategic Rocket Forces	3	3	3

^a Data exclude expenditures by services for space, RDT&E, and rear services.

Little Progress in Defense Industry Conversion

Thus far, conversion has had only a small impact on the Soviet economy. While the Soviets have begun to reduce weapons production—most notably land arms, but other types of weapons and equipment as well—per Gorbachev's announced plans to cut such production by 19.5 percent by 1991, they have been less successful in converting these reductions into gains in civil production. Although the output of consumer durables, many of which are produced by defense industries [], grew by 14 percent (according to official Soviet statistics) between 1988 and 1991, inflation probably accounted for more than half of this growth. In an article published in a January 1991 issue of *Kommunist*, the journal of the Communist Party, three economists criticized conversion thus far, claiming that, from the start, defense industries have been improving their consumer production statistics largely through higher prices.

Many Soviets have pointed to the need for a government conversion program to settle the debates and allow conversion efforts to move forward. After frequent revisions and considerable debate, a conversion program was reportedly approved by the government in December 1990, but its implementation awaits Supreme Soviet legislation. Although details of this

program have not been published, discussions in the Soviet press suggest that it is controlled by the defense industries and includes a slowing or mothballing of military production lines, a diversion of resources, and the complete conversion of only a handful of defense-industrial plants to civil production. Even this strategy would hurt military potential, however, as the defense industries lose disgruntled workers and component suppliers and as mothballed lines become obsolete.

Outlook for Defense Spending

The Soviets have approved a defense budget for this year of 96.6 billion rubles, up from 70.9 billion rubles in 1990. They claim that, after adjusting for planned price increases, the new budget represents a 10-percent cut in real spending—to about 64 billion rubles in 1990 prices. We believe that even after the price adjustment the Soviet budget figure will capture only about half the true cost of Soviet defense activities, as represented by our independent estimates of Soviet defense spending.

Analysis of Soviet military programs and industrial production indicates that defense spending will continue to decline in 1991. If the authorities do not implement fully the planned price increases and do not slash defense subsidies, however, the military will be at least partially protected from budget cuts.

Beyond 1991 the picture is even less settled. Ministry of Defense projections to the year 2000 indicate that the MOD hopes expenditures will roughly stabilize or increase slightly. This goal will be jeopardized by further declines in national output, a rising union budget deficit, and republic efforts to constrain defense spending.

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