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Estimated Soviet Defense Expenditures, 1965-1984

Reference Aid

July 1986

This reference aid was prepared by [Redacted]
[Redacted] Defense Economics Division, SOVA. Data-
base support was provided by [Redacted]
[Redacted] the Defense and Economics Issues Group.

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Estimated Soviet Defense Expenditures, 1965-1984


Summary

Information available as of 18 March 1986 was used in this report.

Measured in constant 1982 prices, Soviet spending for defense increased from about 60 billion rubles in 1965 to nearly 110 billion rubles in 1984. Growth in Soviet defense spending in this period roughly paralleled that of Soviet Gross National Product (GNP), averaging almost 5 percent a year from 1965 until the mid-1970s, then slowing to an annual average of less than 2 percent through 1984.¹ The share of Soviet GNP allocated to defense remained roughly constant--at about 15 percent--throughout the twenty-year period. 

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Procurement expenditures--which historically have accounted for about half of total Soviet defense spending--grew at an average of over 5 percent a year during the late 1960s and early 1970s. We estimate that there has been little growth in procurement since the mid-1970s, and that in the early 1980s procurement expenditures have declined by nearly 1 percent each year, reflecting decreased military purchases of ships, missiles, and aircraft. Procurement expenditures in 1984 were nearly the same as in

¹ We calculate growth rates by determining the annual percent changes in the data and then taking the arithmetic mean of those changes. The resulting average annual rates of growth are slightly higher than the compound growth would be. We prefer the annual change method because it takes into account all of the year-to-year changes rather than just the difference between the first and last years. 

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1974. [Redacted]

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Although procurement expenditures have leveled off, total defense spending has continued to grow because of increasing expenditures for research, development, testing, and evaluation (RDT&E) and operations and maintenance (O&M). We estimate that spending for both of these categories has increased at an average annual rate of 4-5 percent since 1965. [Redacted]

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Scope Note

The purpose of this reference aid is to provide CIA analysts and managers with a summary of SOVA's estimates of Soviet defense expenditures. [Redacted]

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[Redacted] This report marks the first detailed release of our estimates in 1982 constant rubles and reflects the results of a multi-year effort to move from 1970 constant rubles to a more current price base. [Redacted]

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Between 1965 and 1984, the Soviets spent about 1.75 trillion rubles on defense activities and programs. Total Soviet defense spending grew at an average annual rate of 1-2 percent during the 10th and 11th FYs--1976-80 and 1981-85--compared to a rate of 4-5 percent annually during the 8th and 9th FYs--1966-70 and 1971-75. [Redacted]

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Throughout the period, total Soviet defense spending remained roughly in step with overall growth in the economy. As a result, between 1965 and 1984, Soviet defense spending accounted for a roughly constant 15 percent of GNP² (see Appendix I). [Redacted]

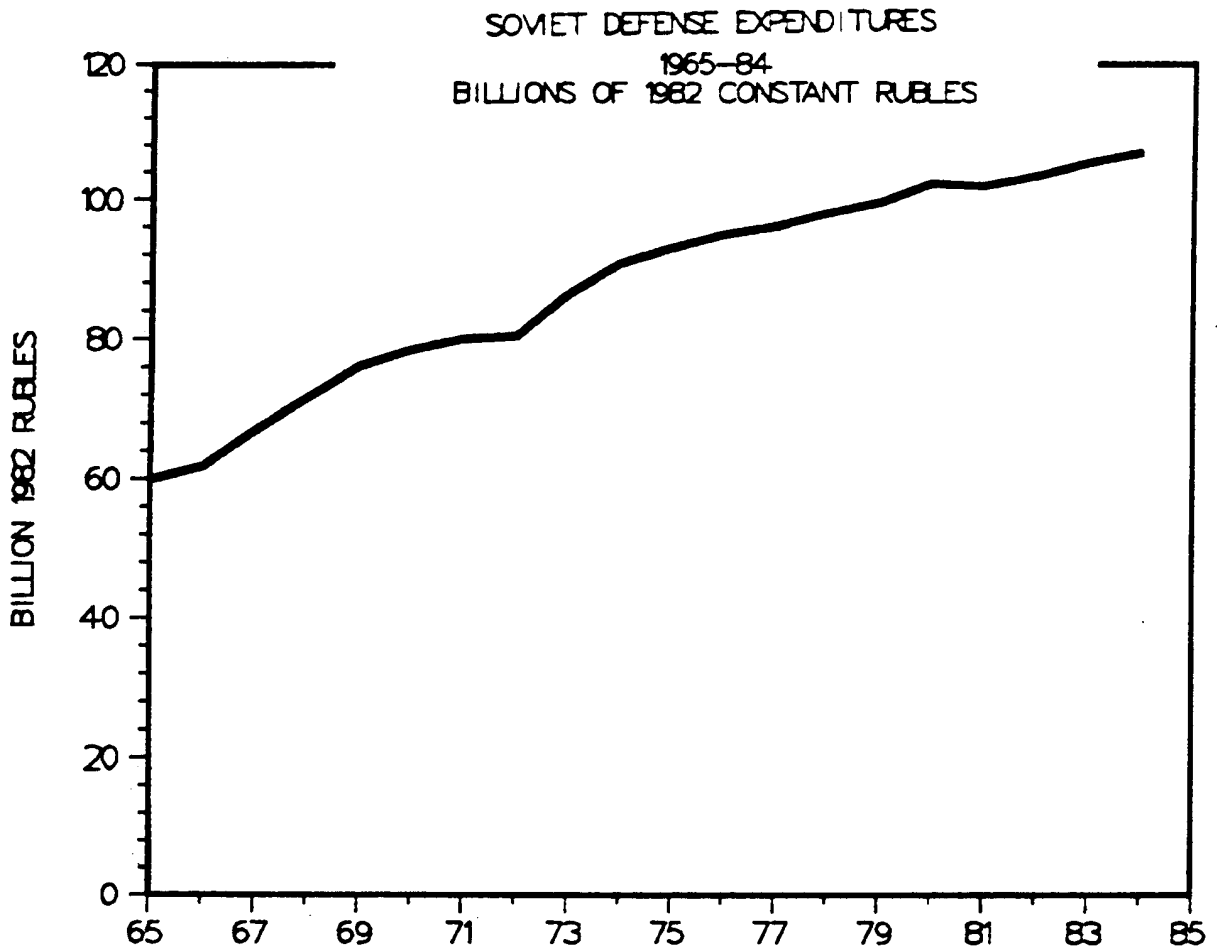
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² The estimates of Soviet defense expenditures are in established prices. To calculate the share of GNP allocated to defense, we estimate both defense spending and GNP at factor cost. In moving the estimates from established prices to factor cost, we attempt to eliminate distortions in prices which can occur when they are set administratively rather than by market forces. [Redacted]

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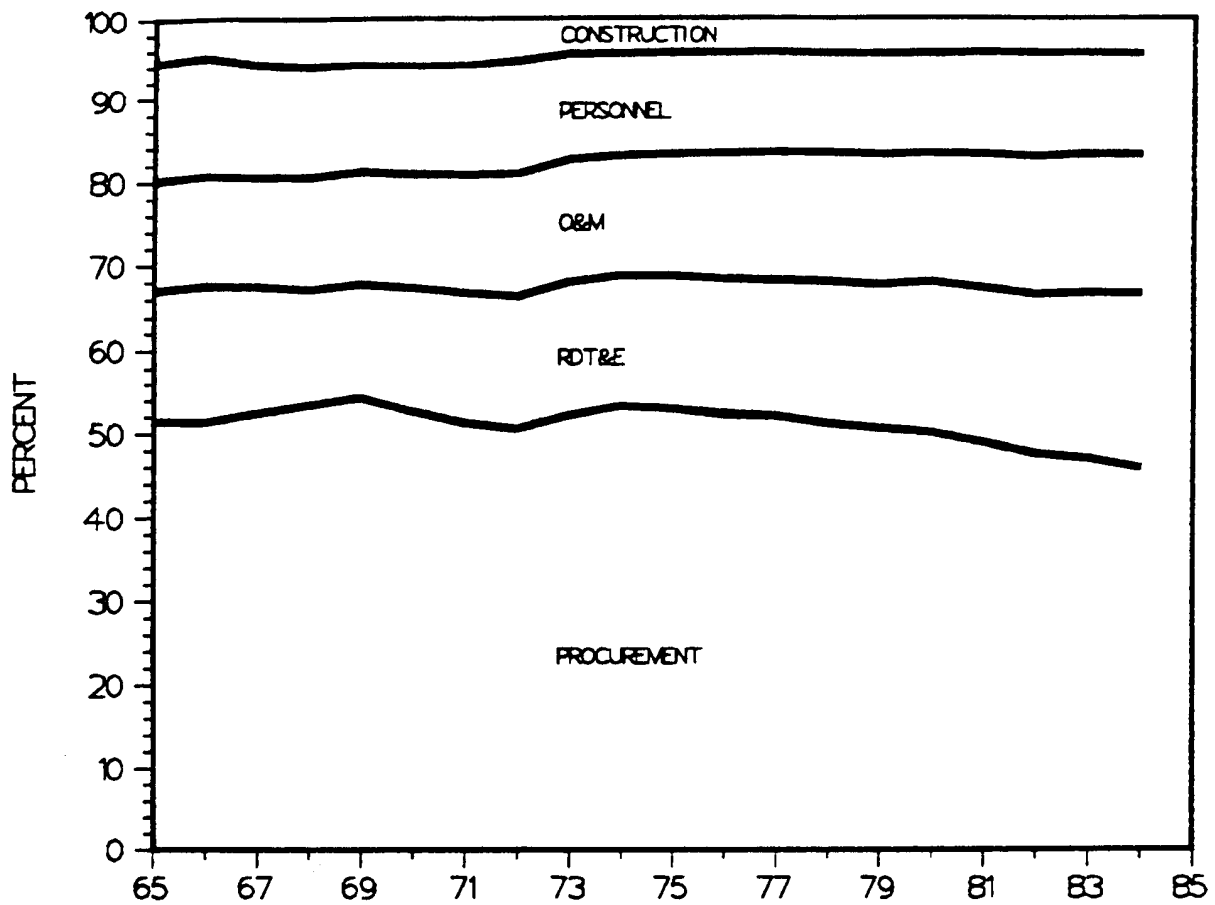
Defense expenditures can be divided into spending for three principal resource categories: investment, operating, and research, development, testing, and evaluation (RDT&E). Investment expenditures are those associated with procurement and capital (major) repair of weapons and equipment--about 50 percent of total expenditures--and the construction of military facilities, which accounts for 5 percent of the total. The operating category includes expenditures for personnel--less than 15 percent of the total--as well as for the operations and maintenance (O&M) of current forces, which comprise approximately 15 percent of the total. RDT&E expenditures--also over 15 percent of the total--are those devoted to exploring new technologies, developing new weapons, and improving existing weapons. 

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DISTRIBUTION OF SOVIET DEFENSE EXPENDITURES BY RESOURCE CATEGORY
1965-84
1982 CONSTANT RUBLES





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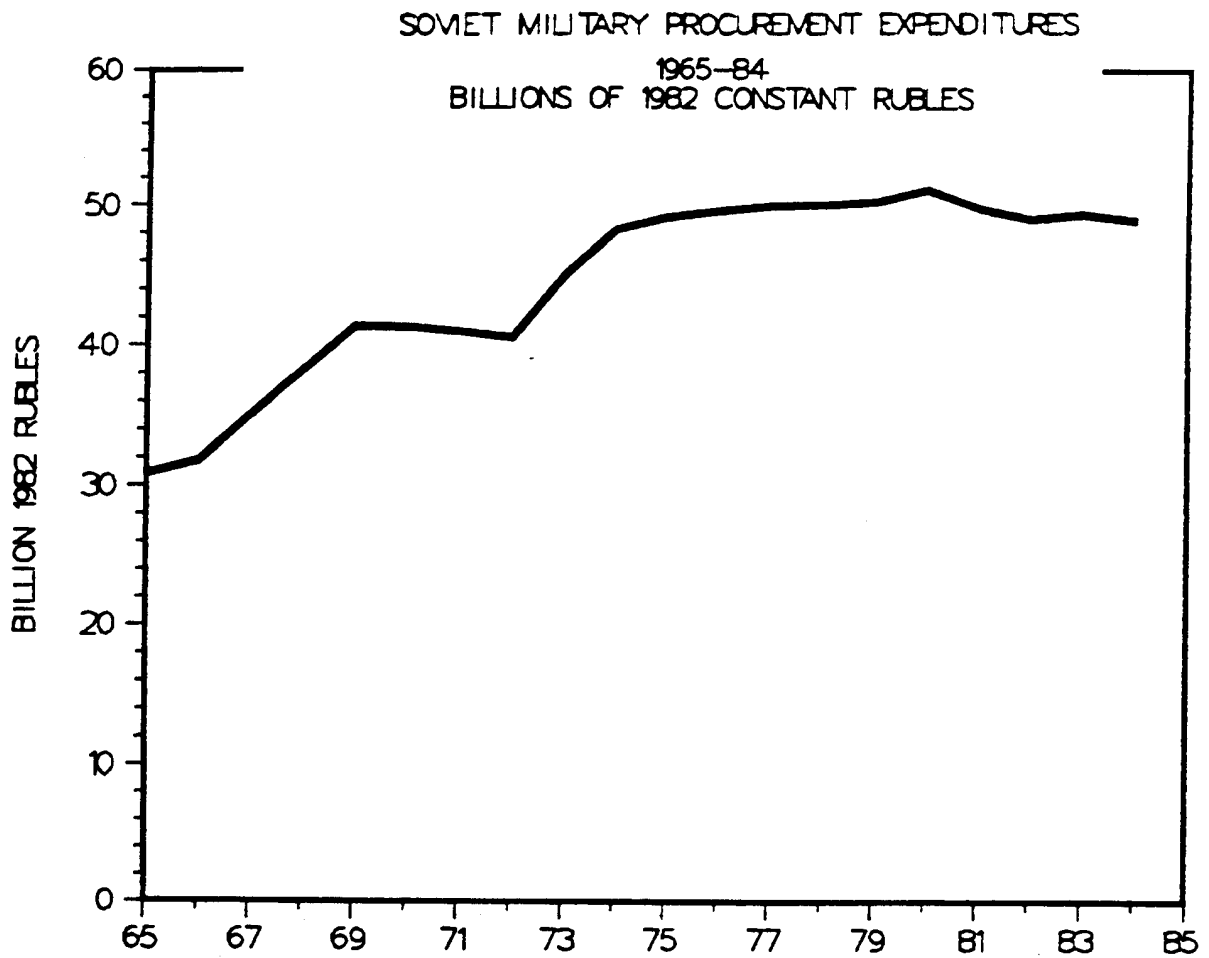
Measured in constant 1982 prices, procurement expenditures totaled almost 900 billion rubles during the past two decades, increasing from about 30 billion rubles in 1965 to almost 50 billion rubles in 1984. Spending on procurement grew at an average annual rate of 5 percent during the late 1960s and early 1970s. Our estimate shows no growth of procurement since the mid-1970s. The plateau in procurement reflects slow or negative growth in spending for three major categories of weapons--ships, missiles, and aircraft.



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Soviet spending for procurement of military aircraft--which averaged over a quarter of total procurement expenditures--rose during the late 1960s and early 1970s. In the mid-1970s, aircraft procurement spending leveled off. In the early 1980s, the Soviets began to deploy a new generation of tactical aircraft. Although these aircraft are more expensive than their predecessors on a per unit basis, the number procured each year has not been enough to increase aircraft procurement spending. [redacted]

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Procurement of missiles also comprises over one-fourth of total procurement spending. Missile procurement increased at an average of 6-7 percent per year prior to 1975, but decreased at an average of almost 3 percent a year after that. [redacted]

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Procurement of ships and boats--which accounts for over 10 percent of total procurement spending--grew at an average of 5-6 percent per year during 1966-74, primarily as a result of Soviet naval modernization. After 1974, spending for procurement of ships and boats fell almost 1 percent annually. [redacted]

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Land arms procurement rose every year during 1966-84, averaging almost 10 percent of procurement expenditures. Especially high growth in spending occurred prior to 1974. [redacted]

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Space expenditures, while a small percentage of the total, grew sharply during the entire period. This growth boosted the space share of procurement expenditures from under 10 percent in 1965 to over 15 percent in 1984. [redacted]

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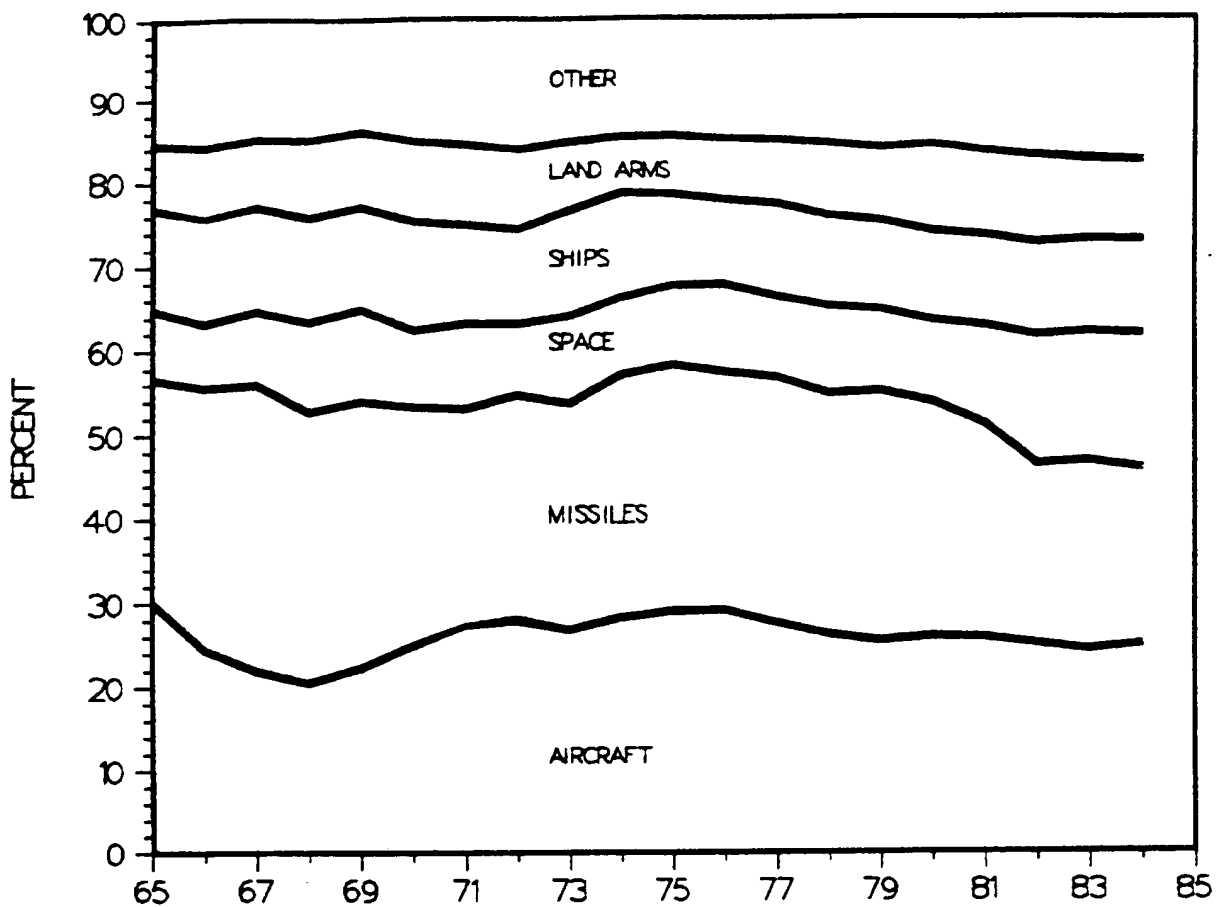
We estimate that expenditures on the other procurement categories--nuclear weapons, electronics, ammunition, and miscellaneous support equipment--grew at approximately 3 percent annually during 1966-84. This category's share of total defense spending remained fairly constant at approximately 15 percent. [redacted]

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DISTRIBUTION OF SOVIET MILITARY PROCUREMENT BY WEAPONS CATEGORY
1965-84
1982 CONSTANT RUBLES





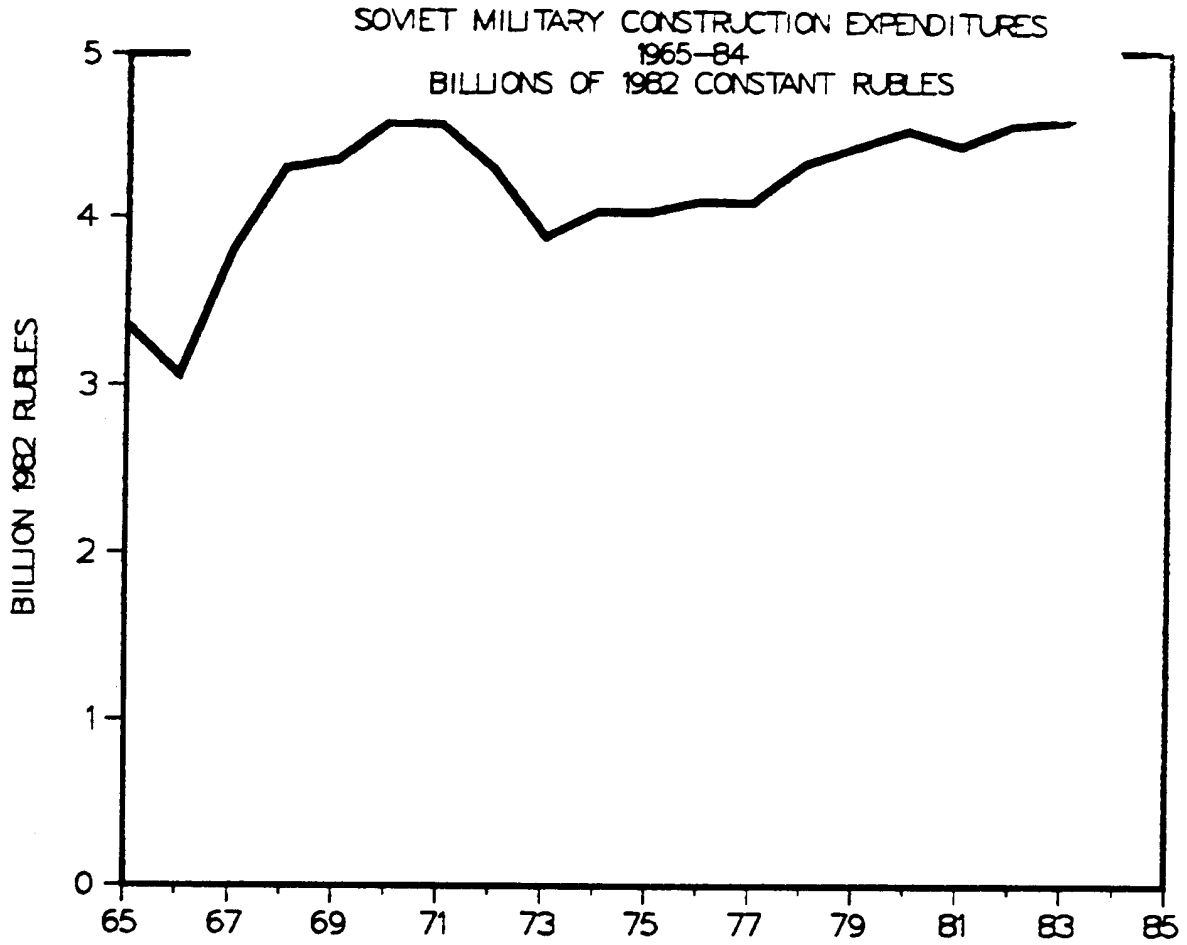
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Soviet expenditures on military construction fluctuated during the late 1960s and early 1970s, with average increases of 7 percent a year during 1966-70 and average decreases of 5 to 6 percent a year during 1971-73. After 1974, spending for military construction increased at an average annual rate of approximately 2 percent. 

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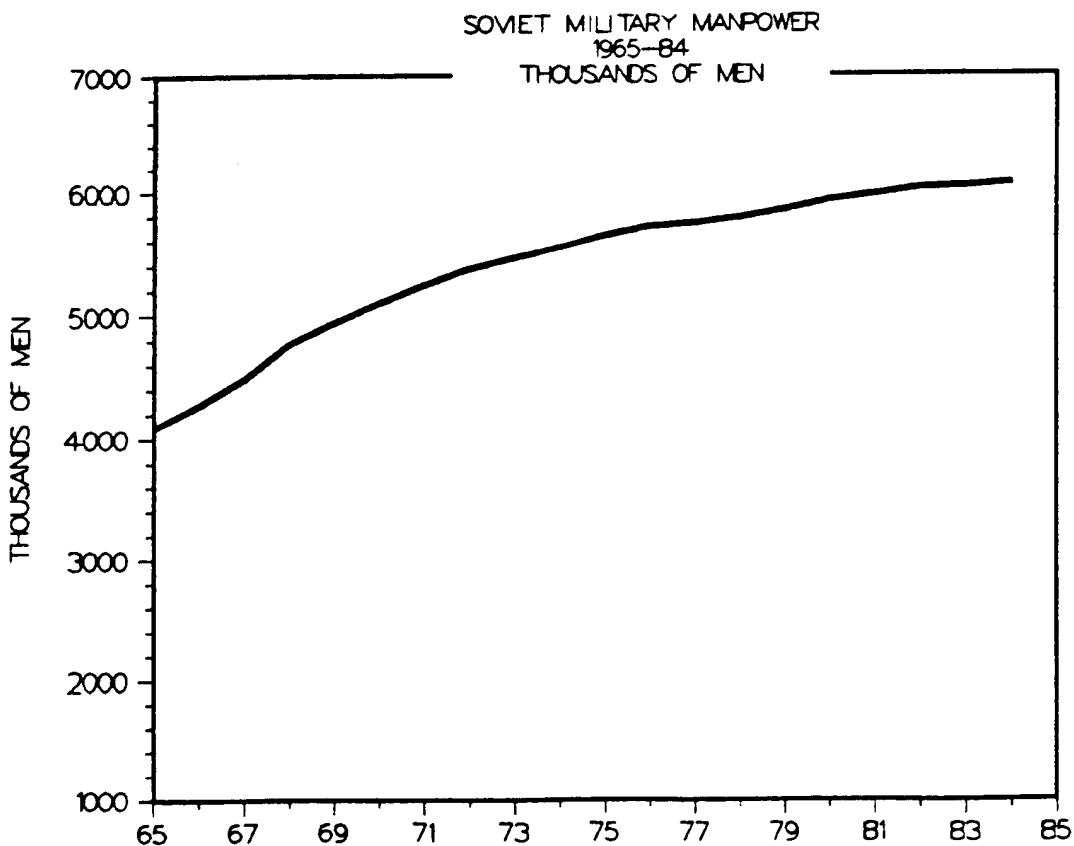
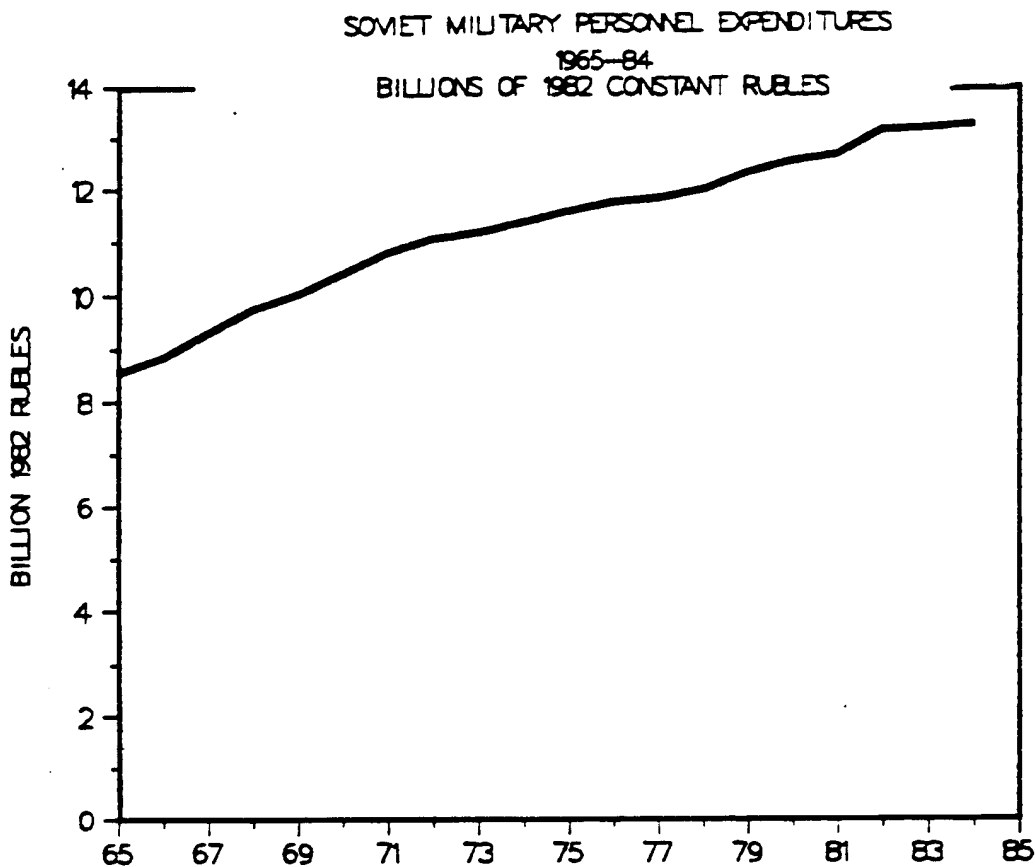
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The growth in military personnel expenditures paralleled the growth in military manpower during 1966-84, both averaging slightly over 2 percent each year (see Appendix II). There was faster growth during 1966-71--about 4 percent per year on average. Average annual growth since the early 1970s is estimated to have been considerably slower--about 1-2 percent. 

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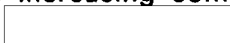


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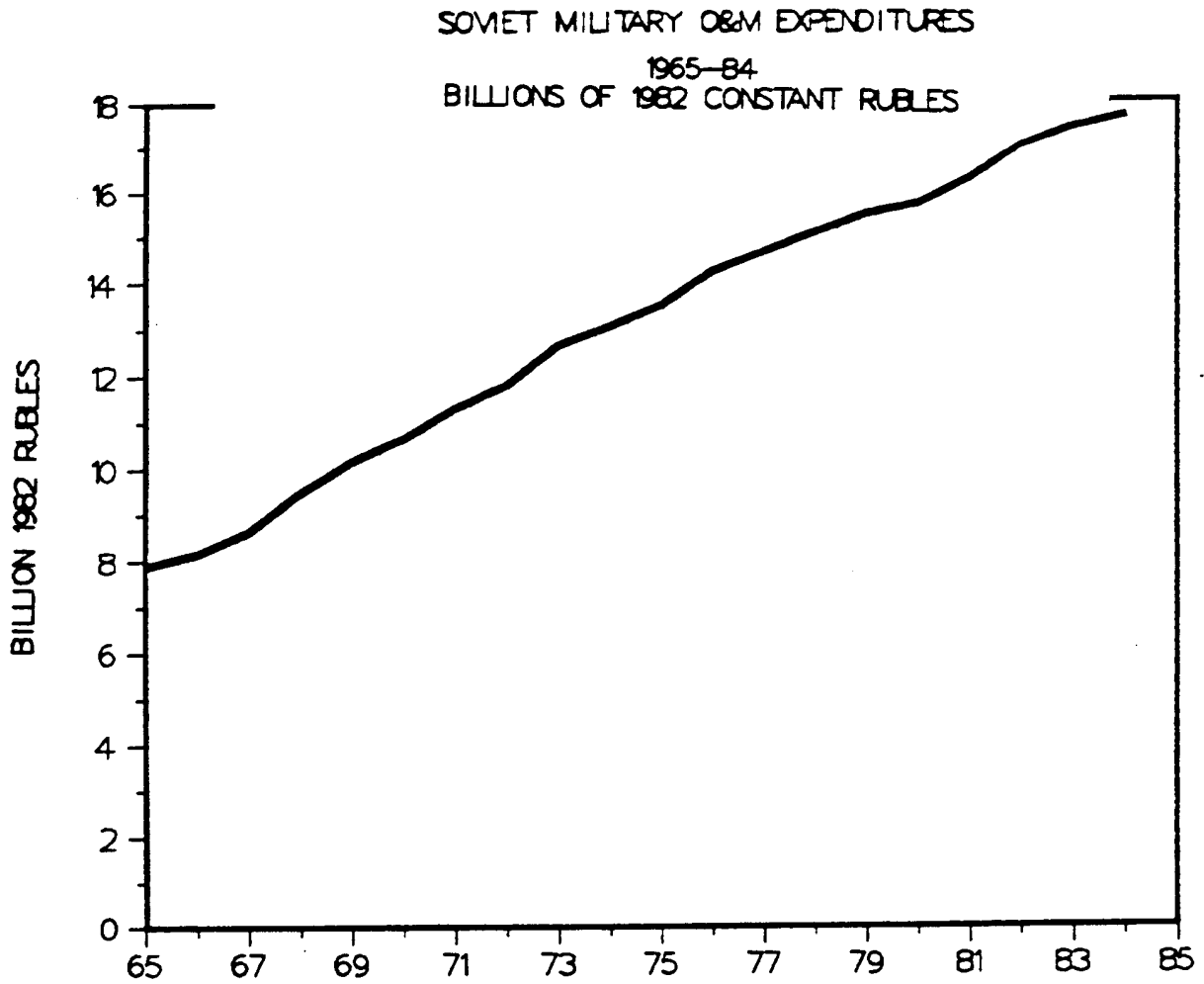
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In 1984, the Soviets spent over 15 billion rubles to operate and maintain the armed forces. Since 1965, these costs have been increasing at 4-5 percent annually, a substantially higher rate of growth than estimated for personnel costs. This trend is a result of the cautious Soviet approach to maintenance--repairing weapons on a regular schedule, rather than waiting until they break--and the increasing complexity of the advanced weapons the Soviets have deployed. 

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[Redacted] we estimate that Soviet expenditures for military RDT&E, measured in 1982 prices, rose from 9 billion rubles in 1965 to 22 billion rubles in 1984, an average annual growth rate of 4-5 percent. [Redacted]

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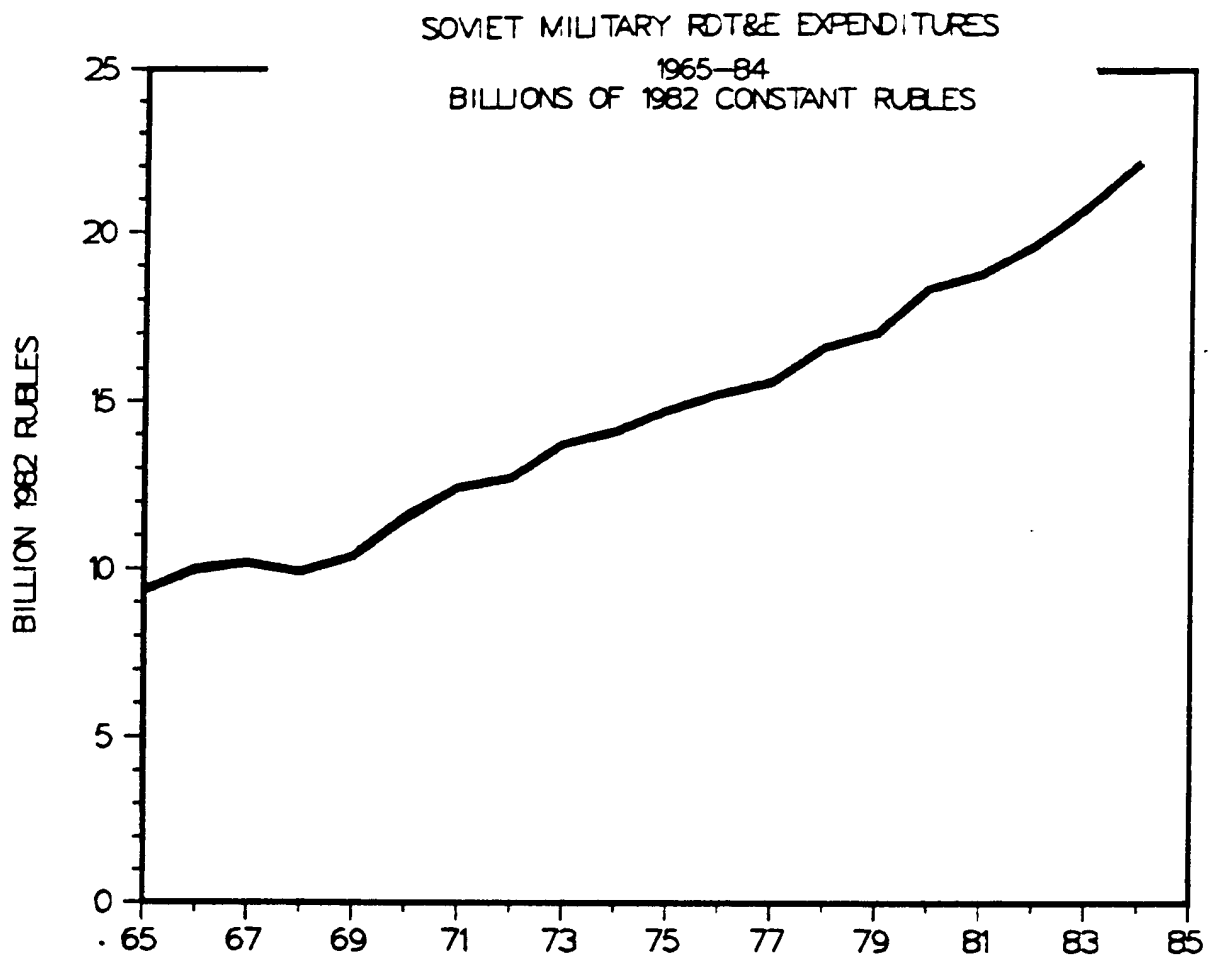
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The Soviet armed forces are organized into five services--Ground Forces, Air Forces, Naval Forces, National Air Defense Forces (PVO), and Strategic Rocket Forces (SRF). Our direct-costing approach enables us to estimate the allocation of much of defense spending among these services. [REDACTED]

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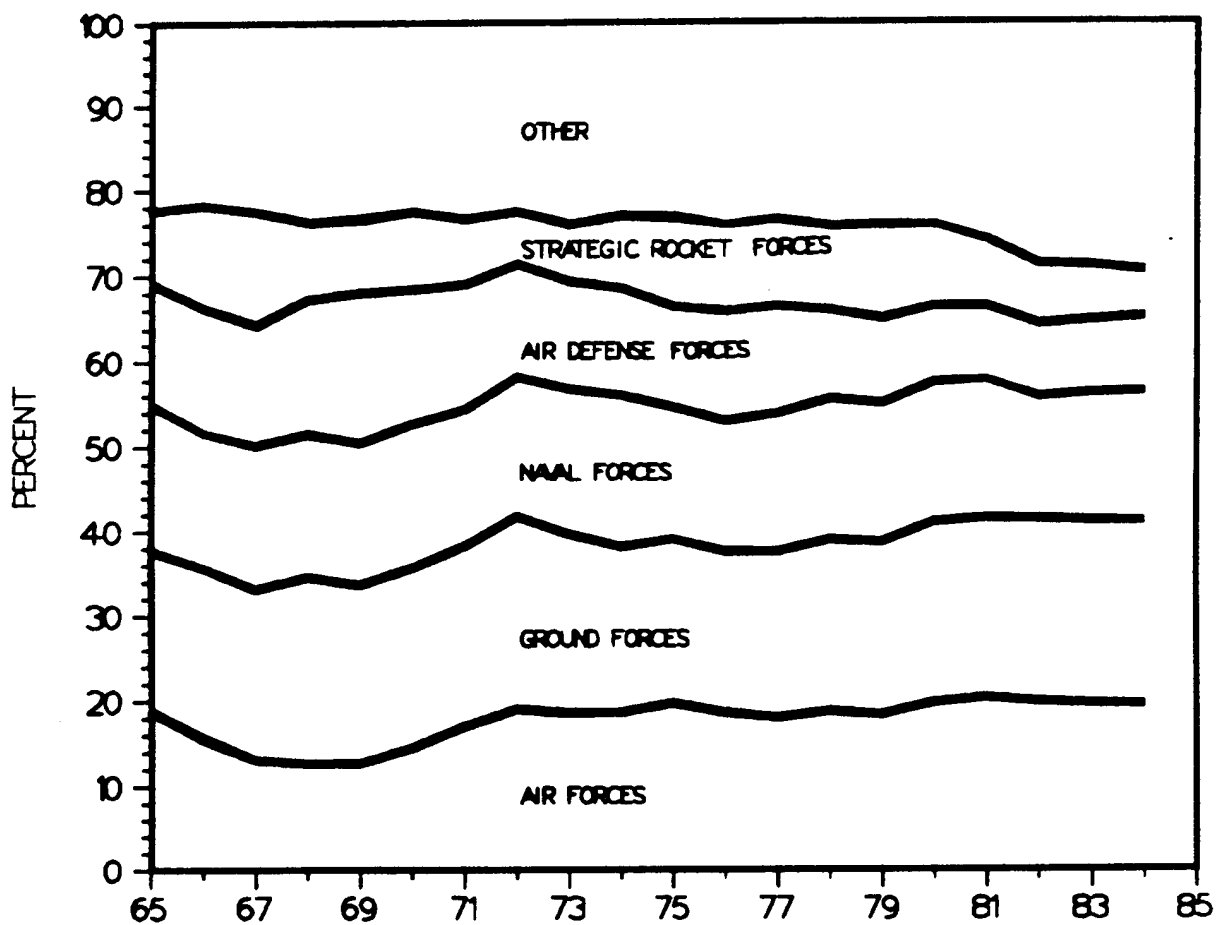
[REDACTED] RDT&E has been excluded from this discussion and the command and support functions and the space program have been assigned to a residual category. The Soviet reorganization of Air Force and PVO units complicates the presentation of these data. Still, we believe that we have a reasonable appreciation of the allocation of investment and operating resources between these two services.

- Expenditures for the Air Force consistently accounted for nearly one-fifth of total investment and operating expenditures. Spending on this service leveled off after the mid-1970s, after growing at an average of about 5 percent per year during the previous ten years.
- The Ground Forces are the quickest and steadiest growing of all the services, averaging expenditure growth of 3-4 percent per year during 1966-84 and growing both before and after the mid-1970s. As a result, the share of total military operating and investment expenditures increased slightly during this period, exceeding one-fifth of total operating and investment expenditures in 1984.
- Investment and operating expenditures for the Soviet Navy comprised a fairly constant one-fifth of such spending for the military services from 1965-74. Expenditures for procurement accounted for almost three-fourths of this amount. As procurement declined in the late 1970s and early 1980s, the Navy's share of total spending dropped, falling to 12 percent in 1984.
- The PVO's share of total investment and operating expenditures averaged over 10 percent, but declined slightly during 1965-84. PVO spending exhibited the slowest growth of all the services--for 1966-84, growth averaged less than 1 percent per year.
- Spending for the SRF averaged less than ten percent of investment and operating spending during 1966-84. Spending for this service was the most volatile--the share fluctuated between 6 and 12 percent--because of the cyclical nature of missile procurement. From 1979 to 1984, SRF procurement spending plummeted over 50 percent, causing total SRF spending to decline almost as much. [REDACTED]

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DISTRIBUTION OF SOVIET MILITARY INVESTMENT AND
OPERATING EXPENDITURES BY SERVICE
1965-84
1982 CONSTANT RUBLES





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APPENDIX I

Soviet Defense Expenditures
Ruble Rules, Broad Definition
Established and Factor Cost Adjusted Prices*
Billions of 1982 Constant Rubles

	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84
Procurement	30.8	31.7	35.0	38.1	41.3	41.2	40.9	40.5	44.9	48.2	49.1	49.6	49.9	50.0	50.2	51.1	49.8	49.0	49.4	48.9
RDT&E	9.3	10.0	10.2	9.9	10.3	11.5	12.4	12.7	13.7	14.1	14.7	15.2	15.5	16.6	17.0	18.3	18.7	19.6	20.7	22.1
O&M	7.9	8.1	8.6	9.4	10.1	10.6	11.3	11.8	12.6	13.0	13.5	14.2	14.6	15.0	15.4	15.7	16.2	17.0	17.4	17.7
Personnel	8.5	8.8	9.3	9.7	10.0	10.4	10.8	11.1	11.2	11.4	11.6	11.7	11.8	12.0	12.3	12.5	12.7	13.1	13.2	13.3
Construction	3.4	3.1	3.8	4.3	4.3	4.6	4.6	4.3	3.9	4.0	4.0	4.1	4.1	4.3	4.4	4.5	4.4	4.6	4.6	4.8
Total, Established Prices	59.9	61.8	66.9	71.5	76.1	78.3	79.9	80.3	86.2	90.7	92.8	94.8	95.9	97.9	99.4	102.2	101.8	103.3	105.2	106.7

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Total, Factor Cost Adjusted Prices	61.3	63.2	68.4	73.0	77.7	80.1	81.8	82.1	88.2	92.7	94.9	97.0	98.2	100.3	101.8	104.9	104.5	106.1	108.2	109.9
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GNP	416.1	436.7	455.2	481.9	489.4	529.1	545.5	549.7	594.0	611.6	615.5	646.2	663.3	684.3	683.0	689.6	700.9	719.7	745.0	756.5
Defense Share of GNP	0.147	0.145	0.150	0.152	0.159	0.151	0.150	0.149	0.148	0.152	0.154	0.150	0.148	0.147	0.149	0.152	0.149	0.147	0.145	0.145

* Ruble Rules. The SCAM database provides output in SCAM rules, which do not reflect what we believe are Soviet accounting practices. The Soviets record capital repair costs as investment rather than operating expenses. Therefore, we adjust the SCAM estimates to "ruble rules" by including one-half of weapons maintenance--capital repair--in procurement and one-half of facilities maintenance in construction.

Broad Definition. We estimate Soviet defense spending using both a broad and a narrow definition. The narrow definition--used in our dollar estimates--corresponds to the definition of defense used in the United States. For our ruble estimates we use the broad definition, which includes additional costs the Soviets are likely to classify as spending for defense. These additional costs include expenditures for internal security troops, certain civil defense activities, and space programs that are operated by the military in the USSR but by the National Aeronautics and Space Administration in the United States.

Established Prices. Our estimates are calculated in established prices which we believe are representative of the Ministry of Defense outlays for goods and services, adjusted to reflect ruble prices of 1982. The prices are established administratively, not by market forces, and are often inaccurate reflections of the relative scarcity and value of goods and services within the country.

Factor Cost. To calculate the share of GNP allocated to defense, we estimate both defense spending and GNP at factor cost. In moving the estimates from established prices to factor cost, we are attempting to eliminate distortions in these prices which can occur when they are set administratively rather than by market forces. Turnover taxes, subsidies, widely different profit-to-capital ratios and new product price inflation all push Soviet prices away from the theoretical standard--prices which reflect the cost of the factors involved in making the product; hence the term "factor costing."



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APPENDIX II
Estimated Soviet Military Manpower Totals
Broad Definition*
Thousands of Men

	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84
Total Manpower	4094	4271	4488	4770	4936	5097	5243	5376	5464	5555	5643	5719	5744	5789	5852	5932	5980	6034	6045	6073

* Broad Definition. Manpower levels estimated using a broad definition exceed those in a narrow--dollar cost--definition by the number of personnel in construction, railroad and internal security (MVD) troops.

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