

SECRET

Nº 127

Economic Intelligence Report

SOVIET MILITARY EXPENDITURES BY MAJOR MISSIONS

1958-65



CIA/RR ER 61-15

April 1961

CENTRAL INTELLIGENCE AGENCY
Office of Research and Reports

SECRET

20-227918/1

SECRET

Economic Intelligence Report

SOVIET MILITARY EXPENDITURES BY MAJOR MISSIONS

1958-65

CIA/RR ER 61-15

WARNING

This material contains information affecting the National Defense of the United States within the meaning of the espionage laws, Title 18, USC, Secs. 793 and 794, the transmission or revelation of which in any manner to an unauthorized person is prohibited by law.

CENTRAL INTELLIGENCE AGENCY

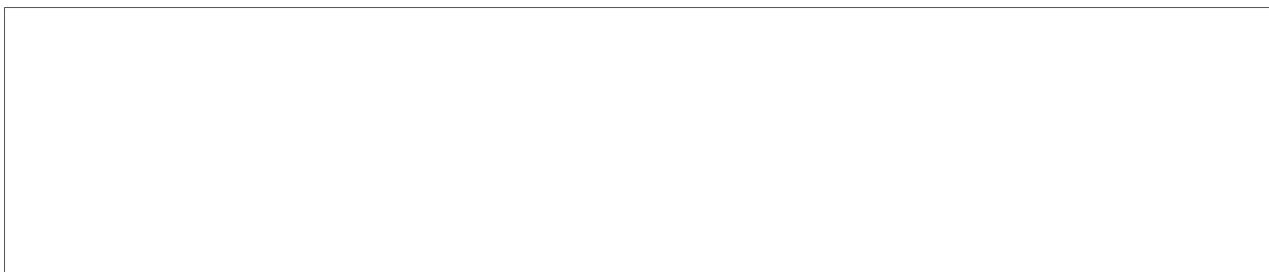
Office of Research and Reports

SECRET

S-E-C-R-E-T

FOREWORD

This report presents and discusses estimates based on a study of Soviet expenditures for major military missions prepared by this Office. The findings are the product of further development of the methodology used to derive estimates by object classification and are viewed as a first step toward further efforts to provide meaningful presentation of the cost of military programs to the USSR.



50X1

S-E-C-R-E-T

S-E-C-R-E-T

CONTENTS

	<u>Page</u>
Summary and Conclusions	1
I. Introduction	5
A. Description and Rationale of a Mission Framework	5
B. Definitions and Approach	6
C. Framework of Analysis	7
II. Findings	8
A. Comparison of Missions	8
B. Examination of Individual Missions	15
1. Ground Mission	15
2. Air Defense Mission	17
3. Strategic Attack Mission	19
4. Naval Mission	21
5. Command and Support	23
6. Residual	24

Appendixes

Appendix A. Soviet Mission Expenditures, by Element, 1958-65	25
Appendix B. Methodology	43

50X1

Tables

1. Estimated Soviet Military Expenditures, 1958-65	10
2. Percentage Distribution of Estimated Soviet Military Expenditures, by Mission, 1958-65	12
3. Estimated Soviet Mission-Related Military Expenditures, by Category, 1958-65	13

S-E-C-R-E-T

	<u>Page</u>
4. Percentage Distribution of Estimated Soviet Mission-Related Expenditures, by Category, 1958-65	14
5. Dollar Value of Estimated Soviet Military Expenditures, 1958-65	16
6. Summary of Estimated Soviet Military Expenditures, by Element, 1958-65	26
7. Estimated Expenditures for the Ground Element of the Soviet Ground Mission, 1958-65	27
8. Estimated Expenditures for the Air Element of the Soviet Ground Mission, 1958-65	28
9. Estimated Expenditures for the Fighter Aircraft Element of the Soviet Air Defense Mission, 1958-65	29
10. Estimated Expenditures for the Antiaircraft Artillery Element of the Soviet Air Defense Mission, 1958-65	30
11. Estimated Expenditures for the Surface-to-Air Missile Element of the Soviet Air Defense Mission, 1958-65	31
12. Estimated Expenditures for the Control and Warning Element of the Soviet Air Defense Mission, 1958-65	32
13. Estimated Expenditures for the Bomber Aircraft Element of the Soviet Strategic Attack Mission, 1958-65	33
14. Estimated Expenditures for the Missile Submarine Element of the Soviet Strategic Attack Mission, 1958-65	34
15. Estimated Expenditures for the Long-Range Missile Element of the Soviet Strategic Attack Mission, 1958-65	35
16. Estimated Expenditures for the Major Surface Ships Element of the Soviet Naval Mission, 1958-65	36
17. Estimated Expenditures for the Nonmissile Submarine Element of the Soviet Naval Mission, 1958-65	37

S-E-C-R-E-T

	<u>Page</u>
18. Estimated Expenditures for the Minor Surface Ships Element of the Soviet Naval Mission, 1958-65	38
19. Estimated Expenditures for the Air Element of the Soviet Naval Mission, 1958-65	39
20. Estimated Expenditures for the Joint Support Element of the Soviet Naval Mission, 1958-65	40
21. Estimated Expenditures for Command and Support for Soviet Military Programs, 1958-65	41
22. Estimated Residual Expenditures for Soviet Military Programs, 1958-65	42

Charts

	<u>Following Page</u>
Figure 1. USSR: Mission-Related Expenditures, by Mission, 1958-65	2
Figure 2. USSR: Mission-Related Expenditures, by Category, 1958-65	2
Figure 3. USSR: Ground Mission Expenditures, by Element, 1958-65	16
Figure 4. USSR: Ground Mission Expenditures, by Category, 1958-65	16
Figure 5. USSR: Air Defense Mission Expenditures, by Element, 1958-65	18
Figure 6. USSR: Air Defense Mission Expenditures, by Category, 1958-65	18
Figure 7. USSR: Strategic Attack Mission Expenditures, by Element, 1958-65	20

S-E-C-R-E-T

Following Page

Figure 8. USSR: Strategic Attack Mission Expenditures, by Category, 1958-65	20
Figure 9. USSR: Naval Mission Expenditures, by Element, 1958-65:	22
Figure 10. USSR: Naval Mission Expenditures, by Category, 1958-65	22
Figure 11. USSR: Command and Support Expenditures, by Category, 1958-65	24

S-E-C-R-E-T

SOVIET MILITARY EXPENDITURES BY MAJOR MISSIONS*
1958-65

Summary and Conclusions

Allocation of the estimated military expenditures of the USSR to the four major missions -- strategic attack, air defense, ground, and naval** -- in accordance with their requirements suggests that important changes in emphasis are occurring within the Soviet armed forces.*** The share of mission outlays (that is, the summation of all the outlays that are directly allocable to the missions) that is absorbed by the ground mission is expected to decline from 51 percent to 36 percent between 1958 and 1965.† During the same period the share for the air defense mission is expected to rise from 22 percent to 30 percent. The share allotted to the strategic attack mission also will increase, but for a limited time only -- it is expected to climb from 11 percent in 1958 to 25 percent in 1962 and then to fall back to 18 percent in 1965. The share represented by the naval mission is expected to decline only modestly, but it is estimated that by 1959-60 it was smaller than the shares going to the other missions. In 1958 this share claimed 17 percent of total mission outlays but during 1959-65 is expected to claim only 14 to 16 percent.

Total outlays for Soviet military programs during 1958-65 for these four missions, for unallocable overhead for the four missions -- command and support -- and a residual have been allocated as follows:

* The estimates and conclusions in this report represent the best judgment of this Office as of 15 March 1961.

** For definitions of the missions, see I, B, p. 6, below, and Appendix B.

*** It should be noted that the likelihood of error in the allocation of expenditures indicated in the discussion that follows is greater for 1964-65. Outlays for all missile programs could not be specified beyond 1963 in sufficient detail to assign them to individual missions. The missions most likely to be understated because of such unallocable missile expenditures (which are consigned to the residual) are air defense and strategic attack. Conceivably the decline in the later years of the period in the share absorbed by the strategic attack mission would be overcome if these missile expenditures could be allocated.

† All aggregates and percentages appearing in this report are based on unrounded figures.

S-E-C-R-E-T

S-E-C-R-E-T

	<u>Ground Mission</u>	<u>Air Defense Mission</u>	<u>Strategic Attack Mission</u>	<u>Naval Mission</u>	<u>Command and Support</u>	<u>Residual</u>
Outlays (billion 1955 ru- bles*)	302	176	139	111	111	363
Percent of total	25	15	12	9	9	30

The large size of the residual is caused primarily by the inability to allocate 239 billion rubles of expenditure for research and development for 1958-65 and 28 billion rubles for certain guided missile programs after 1962.

An analysis of the expenditures presented in the chart, Figure 1,** also shows the striking reallocation of expenditures within the mission structure. The most dramatic examples are the 34-percent decline in expenditures for the ground mission and the 127-percent increase in outlays for the strategic attack mission that are expected to occur from 1958 through 1962. Expenditures on air defense are expected to climb erratically during 1958-65, whereas expenditures for the naval mission are expected to fall slightly. As a result of these changes, by 1965 the ground mission no longer will hold its historically dominating position in the structure of Soviet military expenditures.

These developments indicate the effect that changing weapons technology may be having on Soviet military planning. Increasing expenditures on strategic attack reflect the replacement of the manned bomber by long-range missiles and missile-launching submarines. Similarly the substitution of missiles and highly sophisticated warning and control systems for fighter aircraft and antiaircraft artillery in air defense will require a growing share of total mission expenditures. Within the naval mission the introduction of missile-launching destroyers and nuclear submarines (torpedo) will keep outlays for this mission from falling too drastically.

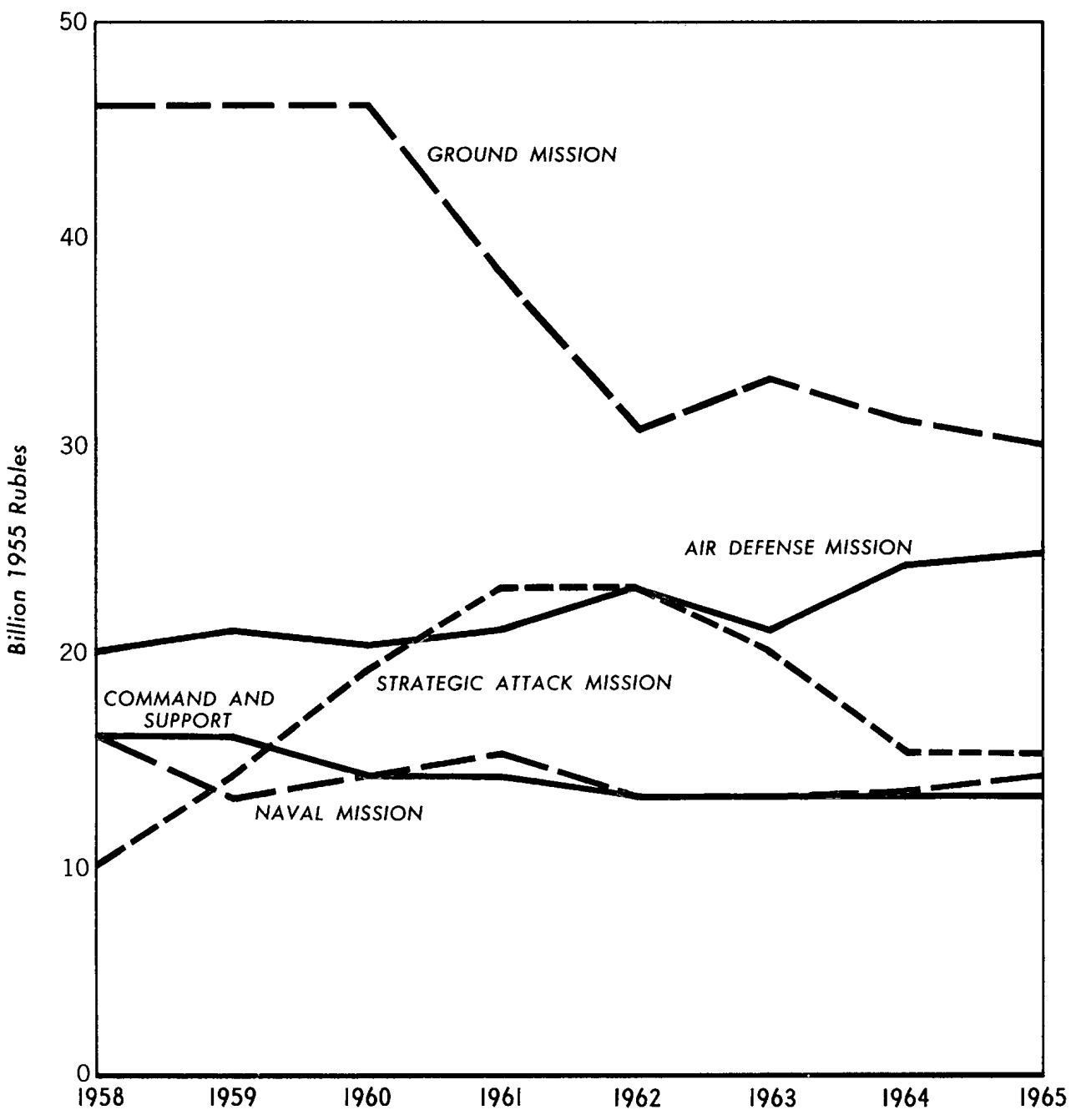
As is demonstrated in the chart, Figure 2,** there also are changes in the composition of the expenditures. In all missions except strategic attack, required outlays for personnel are expected to decline,

* All expenditures expressed in this report are in terms of 1 July 1955 rubles. From 1958 to 1965 the weighted ruble/dollar ratio for defense expenditures using Soviet weights varies between 3.6 rubles to US \$1 and 4.1 rubles to US \$1.

** Following p. 2.

Fig. 50X1

USSR MISSION RELATED EXPENDITURES BY MISSION, 1958-65

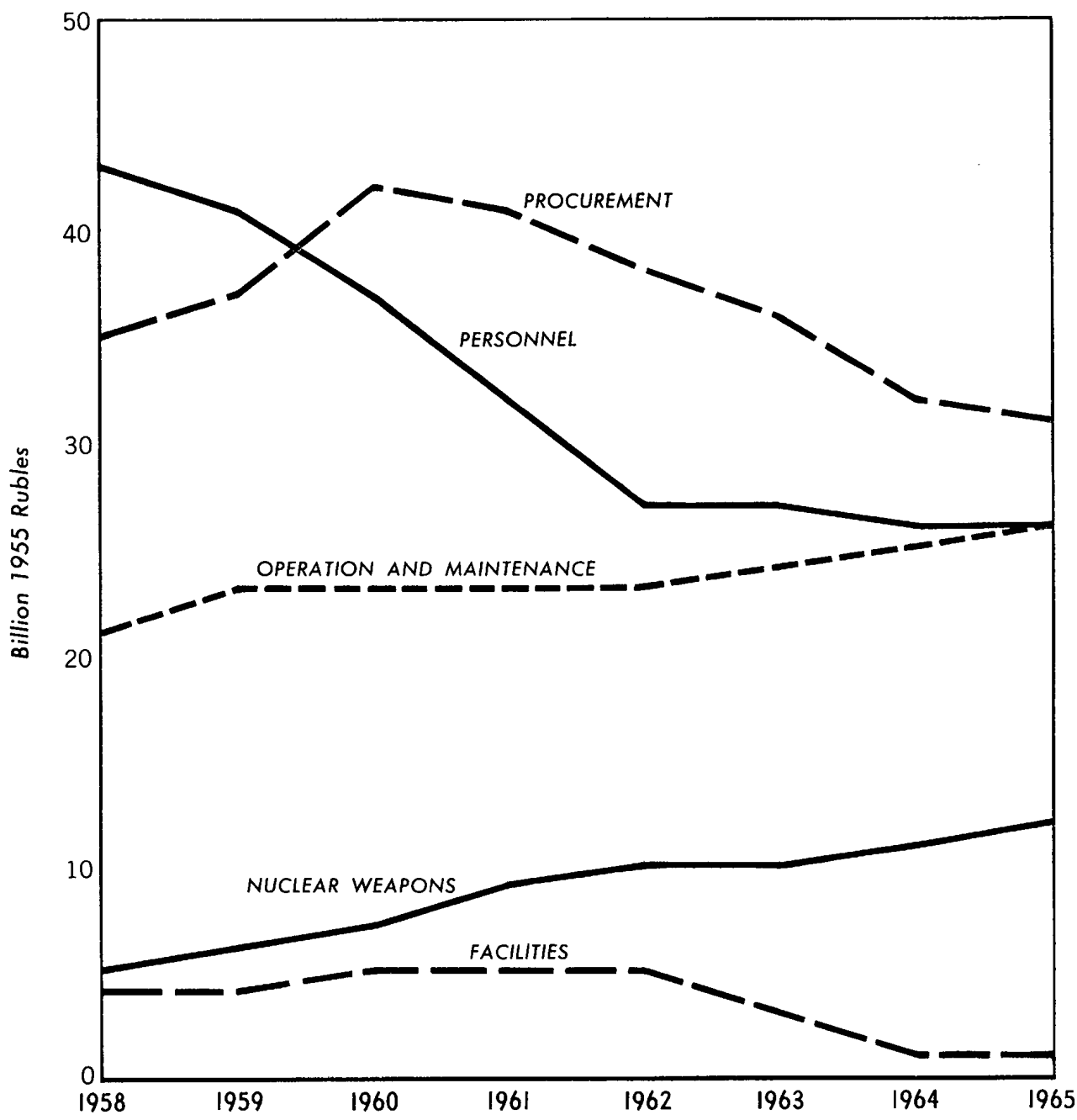


29766 2-61

50X1

Figure 50X1

USSR MISSION RELATED EXPENDITURES BY CATEGORY, 1958-65



29767 2-61

50X1

S-E-C-R-E-T

whereas expenditures for operation and maintenance will tend to increase. The changes in relative standing among the missions reinforce these trends in that the ground mission demands proportionately higher outlays for personnel and proportionately lower outlays for operation and maintenance than do the air defense and strategic attack missions. Increasing expenditures for nuclear weapons will offset a declining level of procurement for other categories of equipment.

Finally, when the programs and activities underlying the missions are expressed in 1959 US dollars (that is, what they would cost if purchased in the US at prevailing prices of 1959), they have an annual value of roughly \$30 billion during 1958-61 and some \$26 billion annually thereafter. This pattern reflects, in part, the estimated change in the composition of Soviet military expenditures toward areas that would be relatively less expensive in equivalent dollar terms -- for example, nuclear weapons as opposed to manpower. Total Soviet military programs and activities, when similarly expressed in US dollars, remain somewhat more constant, at an annual level of roughly \$40 billion.

- 3 -

S-E-C-R-E-T

S-E-C-R-E-T

I. Introduction

In the past, estimates of Soviet military expenditures either have been organized according to a defined set of categories and accounts* or, using the same categories and accounts, allotted to the Soviet ground, naval, and air forces, respectively. Although these methods of presentation have served adequately for certain purposes, they have not satisfied all the requirements for information on military outlays.

A. Description and Rationale of a Mission Framework

In this report, Soviet military expenditures are presented on a mission basis, with the same categories and accounts for arraying detail still used. These missions are defined in terms of certain broad objectives that characterize the roles of military units. Thus organizational units are grouped according to function and then are combined into missions according to the functions subsumed under particular missions. As an illustration, the function of an infantry division might be defined as that of closing with and destroying enemy ground forces. This function, centering on close-range action against ground forces, is shared by a variety of organizations such as tank divisions and regiments of ground-attack aircraft. All of these units, therefore, could be said to have a common, major objective, or mission. This mission might be called tactical, short-range, or simply ground. After the critical questions of assigning functions to missions and identifying the relationships of organizational units to these functions are decided, expenditures attributed to these units and thus to the various missions can be aggregated.

A mission orientation of this kind has certain advantages that other compilations of military expenditures do not have. Fundamentally it helps in the analysis of changes in national strategy as they are reflected in military programs. Unless military expenditures are sorted out according to their probable role in meeting strategic objectives, the patterns that might contribute to drawing inferences as to strategic intentions are obscured. Moreover, a mission orientation helps in the estimation of the cost of assumed alternative strategies. Because the expenditures that can be traced to particular objectives are isolated, there is an opportunity to assess the impact of changes in these various objectives on projected expenditures.

* The categories are personnel, procurement, operation and maintenance, facilities, research and development, and nuclear weapons. Each of these categories is broken down into a detailed series of accounts -- for example, petroleum products for vehicles is an account within the category "operation and maintenance."

S-E-C-R-E-T

S-E-C-R-E-T

Before the missions are examined in greater detail, one important point requires emphasis. Evaluating the relative importance of the missions on a purely monetary basis cannot be more than a first step. Even when a particular mission shows little change in the expenditures allocated to it, it may be developing spectacularly in effectiveness as obsolete weapons are replaced and new ones are introduced. A monetary comparison of missions can only hope to disclose what the prevailing military goals and technological outlook have compelled in the way of budgetary allocation and perhaps resource allocation. Certainly it cannot be assumed that changes in military capabilities are proportional to changes in expenditures.

B. Definitions and Approach

In this report, total military expenditures for 1958-65 have been allocated insofar as possible to four missions -- air defense, strategic attack, ground, and naval. These missions represent combinations of units the specific functions of which fall into the general areas indicated by the mission titles. Expenditures for elements of the command and administrative structure and their associated training and support units at military district headquarters (or their equivalent) and in the Ministry of Defense contribute to more than one mission and are therefore allocated to a category labeled "command and support." Also included in command and support are expenditures of a direct support nature that cannot be attributed to one of the missions at this time. The military expenditures that could not be assigned to the missions and were not considered to be suitable components of command and support are included in a residual.

The choice of the military units to be included in a particular mission is founded primarily on the concept of weapon systems or combat units that are designed to direct force of given characteristics in given settings. Because the characteristic force applied depends on the major weapons allotted to the units, each mission can be thought of as a collection of weapons intended for use against targets to be found in a common environment. The major weapons and units were assigned to missions in the following manner*:

1. The ground mission includes the weapons used in combat between land forces and therefore includes all units associated with these weapons. In addition, aircraft used in a tactical role in support

* For a full discussion of both mission content and the allocation of expenditures not specific to given units, see Appendix B. In addition, Tables 6 through 22 in Appendix A, pp. 26 through 42, below, give a fairly complete description of the level of detail included in the compilations of mission expenditures.

S-E-C-R-E-T

of these units have been assigned to this mission along with their supporting personnel and equipment.

2. The air defense mission includes all weapons and equipment that could be used in the defense of the USSR against air attack. It contains the anti-aircraft defense (Protivovozdushnaya Oborona -- PVO) anti-aircraft artillery (AA) units, PVO surface-to-air missile (SAM) units, all other AA units outside the army field forces, the PVO control and warning network, and all fighter aircraft except those assigned to a reconnaissance or ground-attack role.

3. Similarly the strategic attack mission includes those weapons suitable for long-range attack -- long-range (700 nautical miles or more) surface-to-surface missiles (SSM's), submarine-launched SSM's, missile-launching submarines, all heavy and medium bombers and tankers assigned to Long-Range Aviation, and the nuclear bombs and warheads related to these systems.

4. The naval mission includes those surface ships, submarines, and aircraft intended for use against opposing naval forces, shore targets, or enemy shipping.

5. The command and support category includes the costs of personnel, equipment, and facilities that contribute directly to more than one mission or for which no reasonable basis for allocation exists. Examples of the latter are the pay for civilian personnel and such costs as those for transportation and printing and publishing.

The outlays not assigned to these missions are grouped as a residual. Although they are elements of a military effort, these outlays have a more distant relation to the primary missions. Examples of such expenditures are those for pensions, reserve training, the Voluntary Society for Cooperation with the Army, the Air Force, and the Navy (Vsesoyuznoye Dobrovol'noye Obshchestvo Sodeystviya Armii, Aviatsii i Flotu -- DOSAAF), security forces, and research and development.

C. Framework of Analysis

After the organizational units, chosen for their suitability in a framework based on weapon systems, have been assigned to the missions, it is necessary to select some classification of expenditures within missions that will impose order on the internal structure of the missions and therefore allow comparison among them. For this reason, the categories and accounts already cited are used. The missions, however, also are subdivided into elements that represent groupings of weapon systems within the missions -- for example, the ground

S-E-C-R-E-T

mission is made up of a ground element and an air element. In general, all programs and activities allocable to missions also are allocable to elements of the missions -- the procurement of nuclear weapons is the only exception.

Three distinct advantages derive from this method of presenting detail both by element and by category and account. First, outlays are aggregated in categories that are substantially different in the sectoral distribution of their claims on the Soviet economy. It is possible, therefore, using these groupings of outlays, to illustrate the broad changes in demand on the economy that may be required by the evolution in the mission structure of Soviet military programs. Second, the characteristics of these elements and categories are sufficiently different to allow inferences as to the future course of mission expenditures to be drawn from their trends. Third, the use of the same categories and accounts in other studies of Soviet military expenditures permits the compilation not only of aggregation by mission but also of other types of aggregation from the same underlying estimates, provides results that are consistent regardless of their orientation, and simplifies the checking of the accuracy of computations.

Using the classification of expenditures by mission, by element, and by category and account, this report first compares the importance of the missions by estimated outlays. The absolute levels of the estimated expenditures, their trends, and the relative magnitude of components within the missions are described. Following this general summary, each of the missions is examined separately. The reasons for the behavior of expenditures associated with each mission are explored through the isolation of the responsible programs or activities. The results of this analysis are used to modify the generalizations based on over-all mission outlays.

II. Findings

A. Comparison of Missions

For 1958-65 the estimates of mission-related expenditures -- those expenditures for the four primary missions and for command and support -- are expected to rise from 108 billion rubles in 1958 to 114 billion rubles in 1960, to fall sharply to 102 billion rubles by 1962, and then to climb to a level of 110 billion rubles in 1965.* This somewhat erratic behavior reflects substantial change in the composition of these outlays inasmuch as the relative importance of the individual missions, in monetary terms, fluctuates rather markedly.

50X1

S-E-C-R-E-T

With regard to 1963-65, and particularly to the last 2 years covered in this report (1964-65), it should be noted that total expenditures for missile programs are in large part the product of extrapolation. Such projection is necessary because estimates of certain types of missile systems are not available for the period beyond 1963 and because it appears reasonable to expect Soviet efforts to continue in these and related fields at a considerable level. For example, a static antiballistic missile system, which could become operational in the period 1963-66 according to current estimates, is not specifically included, because of uncertainty as to capability, configuration, timing, and deployment; and procurement of SSM systems, particularly of long and intermediate range, is not specifically accounted for after mid-1963 even to the extent of improvements in the systems as presently estimated (no second-generation systems of this type are presently projected). The extrapolation results in increments of 4 billion, 11 billion, and 13 billion rubles, respectively. Unfortunately these increments cannot be allocated to specific missions and are necessarily excluded from the detailed discussion of mission-related expenditures that follows.

Total military expenditures, total mission-related expenditures (both with and without the adjustment for 1963-65), and the expenditures associated with each mission are shown in Table 1.* In the early part of the period, mission-related expenditures are estimated to account for about 75 percent of total military expenditures but less than 70 percent after 1962. The growth of the residual -- specifically its largest element, research and development -- is the factor most responsible for this trend.

Two missions -- ground and strategic attack -- are expected to change dramatically during the period. Expenditures for the ground

50X1

* Table 1 follows on p. 10. (See also Table 6, Appendix A, p. 26, below.)

S-E-C-R-E-T

S-E-C-R-E-T

Table 1
Estimated Soviet Military Expenditures
1958-65

	Billion 1955 Rubles							
	<u>1958</u>	<u>1959</u>	<u>1960</u>	<u>1961</u>	<u>1962</u>	<u>1963</u>	<u>1964</u>	<u>1965</u>
Total	<u>143</u>	<u>147</u>	<u>153</u>	<u>150</u>	<u>144</u>	<u>149</u>	<u>155</u>	<u>161</u>
Mission related, adjusted a/	<u>108</u>	<u>111</u>	<u>114</u>	<u>110</u>	<u>102</u>	<u>104</u>	<u>107</u>	<u>110</u>
Mission related, un- adjusted b/	108	111	114	110	102	100	96	97
Ground mission	46	46	46	38	31	33	31	30
Air defense mission	20	21	21	21	23	21	24	25
Strategic attack mission	10	14	19	23	23	20	15	15
Naval mission	16	13	14	15	13	13	13	14
Mission allocable	92	95	100	96	89	87	84	84
Command and support	16	16	14	14	13	13	13	13
Residual	<u>35</u>	<u>36</u>	<u>38</u>	<u>40</u>	<u>42</u>	<u>45</u>	<u>48</u>	<u>51</u>
Of which:								
Research and development	22	24	26	28	30	33	36	39

a. The adjusted total for mission-related expenditures includes the extrapolations of outlays for missile programs (see p. 9, above). Totals were derived from unrounded data and may not agree with the sums of the rounded components.

b. The unadjusted total for mission-related expenditures includes only those outlays for missile programs for which detailed estimates are available and therefore can be allocated to specific missions.

mission are expected to drop by 16 billion rubles from 1958 to 1965. The decline is not continuous but represents a reduction of 35 percent in outlays for this mission. Equally striking is the behavior of the strategic attack mission, for which expenditures are expected to rise by 13 billion rubles, or 127 percent, during 1958-62 and then to fall 7 billion rubles by 1965, a reduction of 32 percent.

S-E-C-R-E-T

Expenditures for the air defense and naval missions are expected to change less drastically. Displaying an almost cyclical pattern, outlays for air defense will creep upward by 5.0 billion rubles between 1958 and 1965, an increase of 25 percent. This increase is partly offset by the downward trend in outlays for the naval mission. Although outlays for the naval mission will rise throughout the last 3 years of the estimate, by 1965 they still will be 1.9 billion rubles, or 12 percent, below their level in 1958. Expenditures devoted to command and support will decline from their 1958 level by 3.9 billion rubles, a drop of 24 percent.

As a result of these divergent movements, the relative standing of the missions will shift considerably. The estimated percentages of total Soviet military expenditures that are allocated to each of the missions are shown in Table 2.* The ground mission, although it will retain first place in the ranking of mission outlays, will lose the dominant position that it had in 1958, when expenditures for it were more than twice as large as those for any other mission. By 1965 the air defense mission will approach the ground mission in terms of shares of military expenditures. The naval mission and command and support both will demand about 9 percent of the expenditures or about one-half of those devoted to air defense. Expenditures for the strategic attack mission will fall between the air defense mission and the naval mission. From a low of 7 percent of aggregate expenditures in 1958, its share will more than double to 16 percent in 1962 before declining to 10 percent in 1965.

Certain qualifications should be noted when considering the relative position of the missions. First, the share accounted for by the residual, which will rise from 24 to 35 percent, is weighted heavily by expenditures for research and development. It is possible that if the origin of these expenditures were known, their allocation could affect the shares absorbed by the missions significantly. Second, the percentages after 1962 are subject to question because of the lack of detailed estimates for some missile programs. The air defense and strategic attack missions are most likely to be understated, given this situation, because no anti-intercontinental ballistic missile (AICBM) or new-generation, long-range missile (or even improvements in the present system) are included in the outlays. It is quite possible that the introduction of such programs in the later years of the period could force the outlays for air defense above those for the ground mission and eliminate the decline in outlays for strategic attack.

* Table 2 follows on p. 12.

S-E-C-R-E-T

Table 2

Percentage Distribution of Estimated Soviet Military Expenditures
by Mission ^{a/}
1958-65

	Percent							
	<u>1958</u>	<u>1959</u>	<u>1960</u>	<u>1961</u>	<u>1962</u>	<u>1963</u>	<u>1964</u>	<u>1965</u>
Ground mission	32	31	30	25	21	23	22	20
Air defense mission	14	14	13	14	16	15	16	17
Strategic attack mis- sion	7	10	13	15	16	13	11	10
Naval mission	11	9	9	10	9	9	9	9
Command and support	12	11	9	9	9	9	9	9
Residual	24	25	25	27	29	31	33	35

a. Based on expenditures estimated in 1955 rubles, excluding the extrapolations for missile programs in 1963-65. See Table 1, p. 10, above. Percentages were derived from unrounded data.

When the relative importance of the five categories of expenditure within each mission and in command and support is examined, rather startling differences appear. Table 3* shows mission-related expenditures by category, and Table 4** records the percentages that each category of expenditure represents within each mission during 1958-65. Only in the ground mission and in command and support do average expenditures for personnel exceed those for procurement -- the strategic attack and air defense missions are noteworthy for their "labor-saving" qualities. The minor importance of outlays for procurement in command and support is to be expected, whereas the relatively low percentage devoted to procurement for the strategic attack mission is explained by the disappearance of long-range missile procurement after mid-1963. With regard to operation and maintenance, it is of interest that the ground mission seemingly needs but one-sixth of its outlays for such purposes, whereas the other missions require about twice that share. The manpower intensiveness of the ground mission is, of course, at least partly the reason for this kind of distribution. The strategic attack mission stands apart from the other missions in its emphasis on the procurement of nuclear weapons and on the construction of facilities.

* Table 3 follows on p. 13.

** Table 4 follows on p. 14.

S-E-C-R-E-T

Table 3

Estimated Soviet Mission-Related Military Expenditures
by Category a/
1958-65

	Billion 1955 Rubles							
	1958	1959	1960	1961	1962	1963	1964	1965
Personnel	43	41	37	32	27	27	26	26
Procurement	35	37	42	41	38	36	32	31
Operation and maintenance	21	23	23	23	23	24	25	26
Facilities	4	4	5	5	5	3	1	1
Nuclear weapons	5	6	7	9	10	10	12	12

a. This table includes expenditures for the ground, air defense, strategic attack, and naval missions and for command and support. It does not include that part of the outlays for guided missiles that cannot be allocated to specific missions (see p. 9, above). Figures were derived from unrounded data.

Average expenditures by category, however, conceal the changes that take place in the composition of outlays within each mission and within command and support. During 1958-65, expenditures for personnel will decline as a share of the total in all missions except strategic attack. At the same time, the share of outlays for operation and maintenance will rise in every mission. The strategic attack mission is the only one for which the procurement of nuclear weapons is not estimated to increase continuously as a proportion of total expenditures. Moreover, the effect of the emphasis in the long-range missile program on procurement and the construction of facilities is so large that the patterns of expenditures for the strategic attack mission run counter to those for the other missions.* Procurement will be a relatively constant percentage of expenditures for the ground and air defense missions, an increasing percentage for command and support, and a declining percentage for the naval mission.

It would seem then that even if the relative importance (in terms of expenditures) of the individual missions were not changing, the composition of outlays for each mission would shift with respect to personnel and operation and maintenance. Moreover, the evolution in the structure of expenditures by mission reinforces the changes occurring within the missions with respect to the composition of the missions by

* See p. 11, above.

S-E-C-R-E-T

Table 4

Percentage Distribution
of Estimated Soviet Mission-Related Expenditures, by Category a/
1958-65

	Percent							
	<u>1958</u>	<u>1959</u>	<u>1960</u>	<u>1961</u>	<u>1962</u>	<u>1963</u>	<u>1964</u>	<u>1965</u>
Ground mission								
Personnel	46	43	41	40	37	34	35	36
Procurement	34	36	38	37	37	41	38	35
Operation and maintenance	16	16	15	15	17	16	17	18
Facilities	3	3	3	2	2	2	2	2
Nuclear weapons	2	2	3	5	7	7	8	9
Air defense mission								
Personnel	21	20	18	15	13	14	12	11
Procurement	44	43	44	45	47	41	44	44
Operation and maintenance	27	29	30	30	29	33	33	34
Facilities	7	7	3	1	2	1	Negl. <u>b/</u>	Negl. <u>b/</u>
Nuclear weapons	2	2	5	9	9	10	10	11
Strategic attack mission								
Personnel	9	7	5	5	5	6	7	7
Procurement	19	34	41	41	37	31	22	20
Operation and maintenance	31	22	18	20	23	31	40	39
Facilities	5	6	13	15	14	9	1	1
Nuclear weapons	35	32	23	20	22	24	31	33
Naval mission								
Personnel	28	31	29	27	25	24	24	24
Procurement	47	39	39	41	42	39	34	33
Operation and maintenance	21	26	27	27	26	27	27	27
Facilities	1	2	2	1	1	1	1	1
Nuclear weapons	2	2	3	4	5	9	13	14
Command and support								
Personnel	73	72	69	66	65	65	65	65
Procurement	9	10	11	15	16	16	15	14
Operation and maintenance	16	15	18	17	17	17	18	18
Facilities	2	2	2	2	2	2	2	2

a. Based on the unadjusted mission-related expenditures in 1955 rubles shown in Table 1, p. 10, above. Percentages were derived from unrounded data.

b. Less than 0.5 percent.

S-E-C-R-E-T

budget category. The growth of the air defense and strategic attack missions produces increased outlays for operation and maintenance and for the procurement of nuclear weapons, whereas expenditures for personnel become relatively less significant.

Some tentative generalizations can be made on the basis of these comparisons. The estimates of military expenditures for 1958-65 project a redistribution of expenditures in which the air defense and strategic attack missions gain at the expense of the ground mission. Meanwhile the naval mission and command and support are relatively stable in terms of outlays. Accompanying these changes is a shift in the composition of the outlays within missions in favor of nuclear weapons and operation and maintenance, largely at the expense of expenditures associated with personnel.

When the Soviet military programs are priced according to what they would cost in the US in 1959 dollars, the pattern of expenditures by mission is altered somewhat, as shown in Table 5.* Outlays for the ground mission decline during 1958-61 and then will remain constant at a level of 9 billion dollars. Expenditures for air defense are not expected to rise; instead, they will continue at a level of 5 billion dollars. After 1959, expenditures for the strategic attack and naval missions are expected to remain roughly the same. For both missions, the outlays will decline in the latter part of the period. Expenditures for command and support also will decline slightly, by 1 billion dollars from a level of 5 billion in 1958-60.

B. Examination of Individual Missions

To find the factors responsible for the changing pattern of Soviet military expenditures by mission or by category thereof, it is necessary to examine each mission separately. The missions are themselves groupings of elements that combine either weapons systems or units with similar characteristics. Appendix A presents in some detail the expenditures of these elements by account within each of the five categories. In the following sections the implications of specific developments within these categories and accounts are discussed in relation to their impact on mission and on total military expenditures.

1. Ground Mission**

Expenditures for both the ground and the air elements of the ground mission are expected to decline in 1958-65, but the changes

* Table 5 follows on p. 16.

** For a compilation of expenditures for the elements of the ground mission, see Tables 7 and 8, Appendix A, pp. 27 and 28, below.

S-E-C-R-E-T

S-E-C-R-E-T

Table 5

Dollar Value of Estimated Soviet Military Expenditures
1958-65

	Billion 1959 US \$							
	<u>1958</u>	<u>1959</u>	<u>1960</u>	<u>1961</u>	<u>1962</u>	<u>1963</u>	<u>1964</u>	<u>1965</u>
Total	<u>40</u>	<u>40</u>	<u>41</u>	<u>39</u>	<u>36</u>	<u>37</u>	<u>38</u>	<u>39</u>
Mission related, adjusted a/	<u>30</u>	<u>30</u>	<u>31</u>	<u>28</u>	<u>25</u>	<u>26</u>	<u>26</u>	<u>26</u>
Mission related, unadjusted a/	30	30	31	28	25	25	24	24
Ground mission	15	14	14	11	9	9	9	9
Air defense mission	5	5	5	5	5	5	5	5
Strategic attack mission	2	2	4	4	4	4	3	3
Naval mission	4	3	4	4	3	3	3	3
Command and support	5	5	5	4	4	4	4	4
Residual	<u>9</u>	<u>10</u>	<u>10</u>	<u>10</u>	<u>11</u>	<u>11</u>	<u>12</u>	<u>13</u>
Of which:								
Research and development	5	5	6	6	7	7	8	9

a. For explanations of the differences between adjusted and unadjusted totals, see the footnotes to Table 1, p. 10, above. Totals were derived from unrounded data and may not agree with the sums of the rounded components.

within the ground element are the more significant. As shown in the chart, Figure 3,* there will be a decline of 12.9 billion rubles in outlays for the ground element and, by comparison, a decrease of 5.1 billion rubles in expenditures for the air element. Outlays for nuclear weapons, which are treated separately, will increase by 1.8 billion rubles. As shown in the chart, Figure 4,* although outlays for all categories of expenditure except nuclear weapons decrease, reductions in outlays for personnel and procurement are of primary importance.

* Following p. 16.

- 16 -

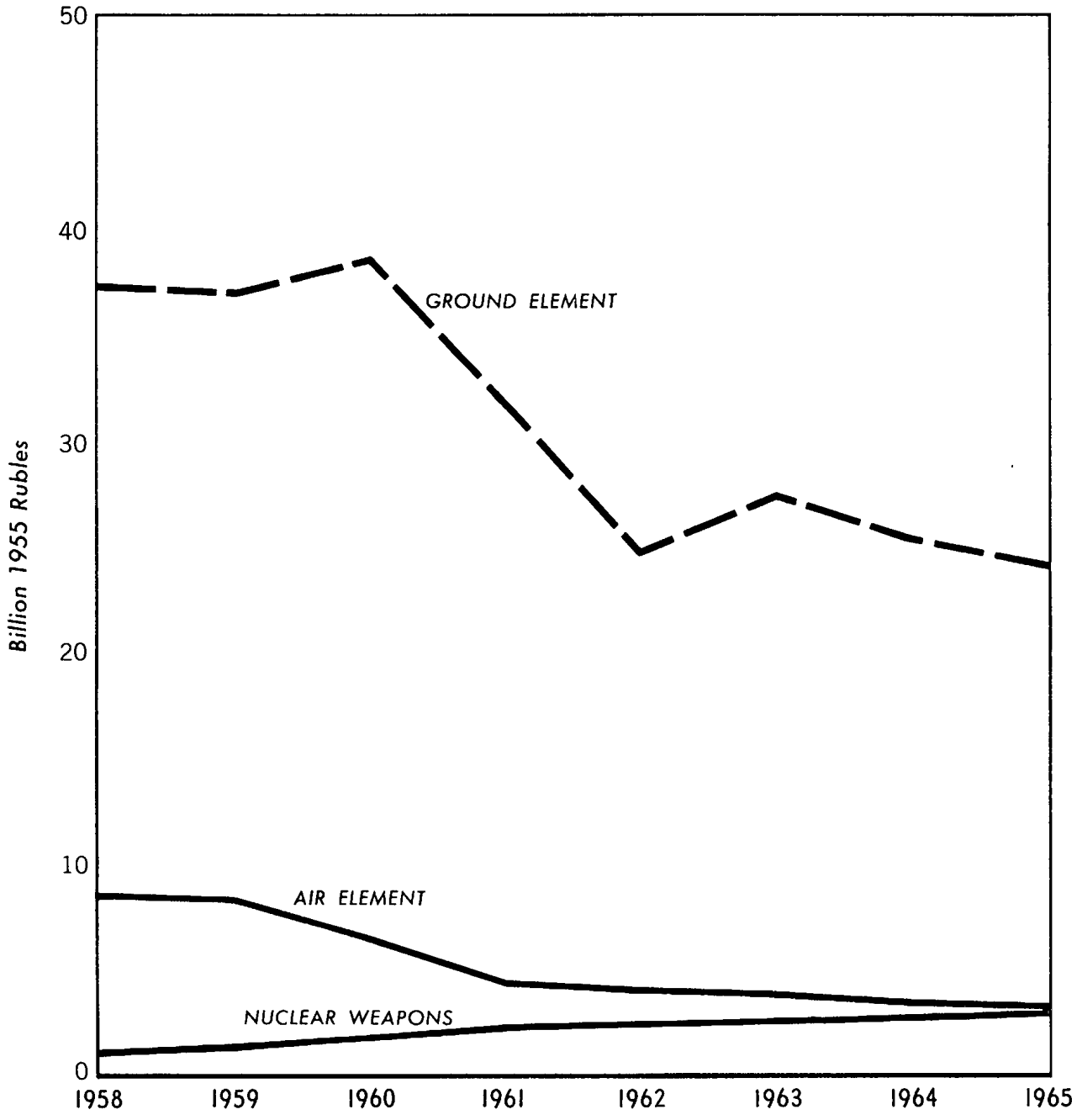
S-E-C-R-E-T

50X1



Figure 3

USSR GROUND MISSION EXPENDITURES BY ELEMENT, 1958-65

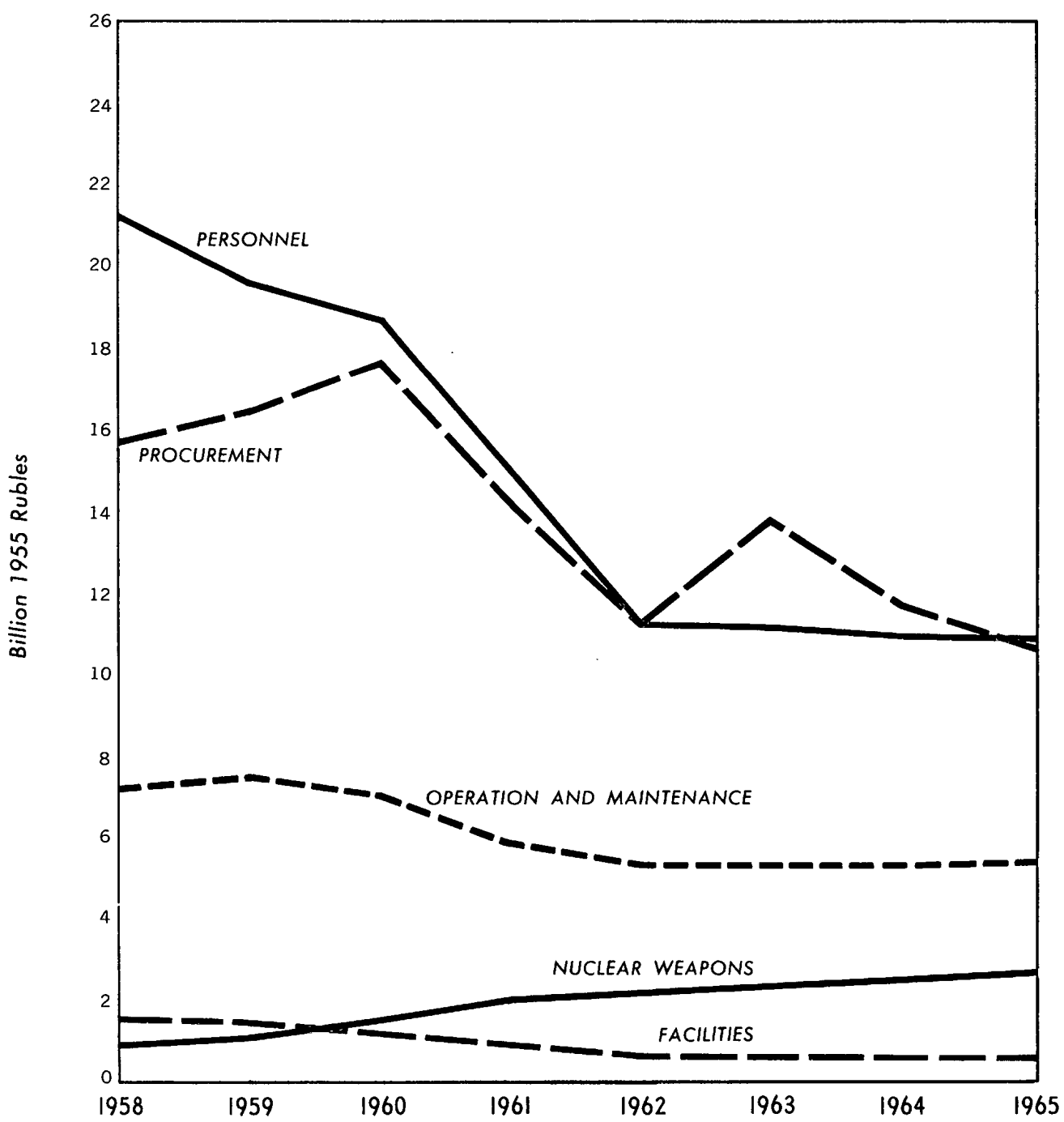


29768 2-61

50X1

50X1
Figure 4

USSR GROUND MISSION EXPENDITURES BY CATEGORY, 1958-65



29769 2-61

50X1

S-E-C-R-E-T

The responsibility for declining expenditures for the ground mission, of course, can be traced basically to declining manpower levels. Expenditures for paying, feeding, and clothing personnel will decline during the period by 8.2 billion rubles for the ground element and by 2.1 billion rubles for the air element. Moreover, the other expenditures associated with personnel account for most of the remainder of the total decline of 16.2 billion rubles. For example, it is estimated that procurement of organizational equipment will decrease by 1.9 billion rubles and the maintenance and construction of facilities for personnel by 1.3 billion rubles during 1958-65. Reductions in the level of manpower also will have a similar effect on the procurement of general-purpose vehicles and the provision for their operation and maintenance.

The projected expenditures for weapons, electronic equipment, and ammunition, which do not depend directly on estimates of manpower on active duty, show surprisingly little variation. Two exceptions are expenditures for missiles for the ground element and for aircraft for the air element. In fact, the sudden increase of 2.5 billion rubles for procurement of short-range SSM's and for SAM's partly offsets the effect of reductions in the level of manpower on expenditures for the ground mission before 1960. Outlays for the SAM programs are responsible for the temporary recovery of procurement for the ground element in 1963-64. Counteracting these effects is the reduction of 0.9 billion rubles in the procurement of aircraft for the air element during 1958-65. The increasing number of transports allotted to the air element for the support of airborne troops will not counterbalance the diminishing procurement of other aircraft. An expensive reequipment program involving amphibious tanks, some types of artillery, rocket launchers, and submachineguns will contribute to keeping outlays for the procurement of weapons from declining greatly. The estimated outlays for ammunition, however, with their apparent rigidity, clash with the behavior of the expenditures for the other accounts.

2. Air Defense Mission*

Air defense is expected consistently to rank second only to the ground mission during 1958-65. Annual outlays for this mission will advance slowly during the period, but the percentage of total military expenditures that they represent will remain much the same. This overall behavior, however, is misleading: it conceals the radical shifts in emphasis within the mission that are shown in the chart, Figure 5.** Expenditures for control and warning elements are expected to triple

* For compilations of expenditures for the elements of the air defense mission, see Tables 9 through 12, Appendix A, pp. 29 through 32, below.

** Following p. 18.

S-E-C-R-E-T

during the period, antiaircraft artillery units will disappear and consequently so will expenditures for them, outlays for the fighter aircraft element will decline by 30 percent, and expenditures for the remaining active defense element -- SAM's -- will fluctuate violently and by the end of the period will be only two-thirds of the 1958 level.

A good deal of this apparent anomaly is explained by the fact that no specific estimates of followup programs for SAM's, including an AICBM program, are available. If the air defense mission could be given a proper share of the adjustment to the guided missile programs discussed above,* it undoubtedly would represent substantially more than 17 percent of total military expenditures in 1965. The outlays and percentages attributed to air defense after 1963 should therefore be treated as conservative.

In contrast to the volatility of the expenditures for these elements of the mission, the composition of the expenditures for the mission by category will undergo more gradual evolution, as shown in the chart, Figure 6.** As expenditures for procurement, operation and maintenance, and nuclear weapons increase, those for personnel and facilities decrease. The changeover from fighter aircraft and anti-aircraft artillery to missiles has an appreciable labor-saving effect but tends to increase the outlays required for operation and maintenance as the investment in missiles and control and warning equipment accumulates. Some incremental procurement would be expected for the same reason, but in addition -- and in spite of its diminishing overall importance -- expenditures for procurement for the fighter aircraft element also rise. The causes of this increase are the introduction of air-to-air missiles (AAM's) in the first half of the period and production of substantial quantities of a new all-weather interceptor in the last 4 years of the estimate.

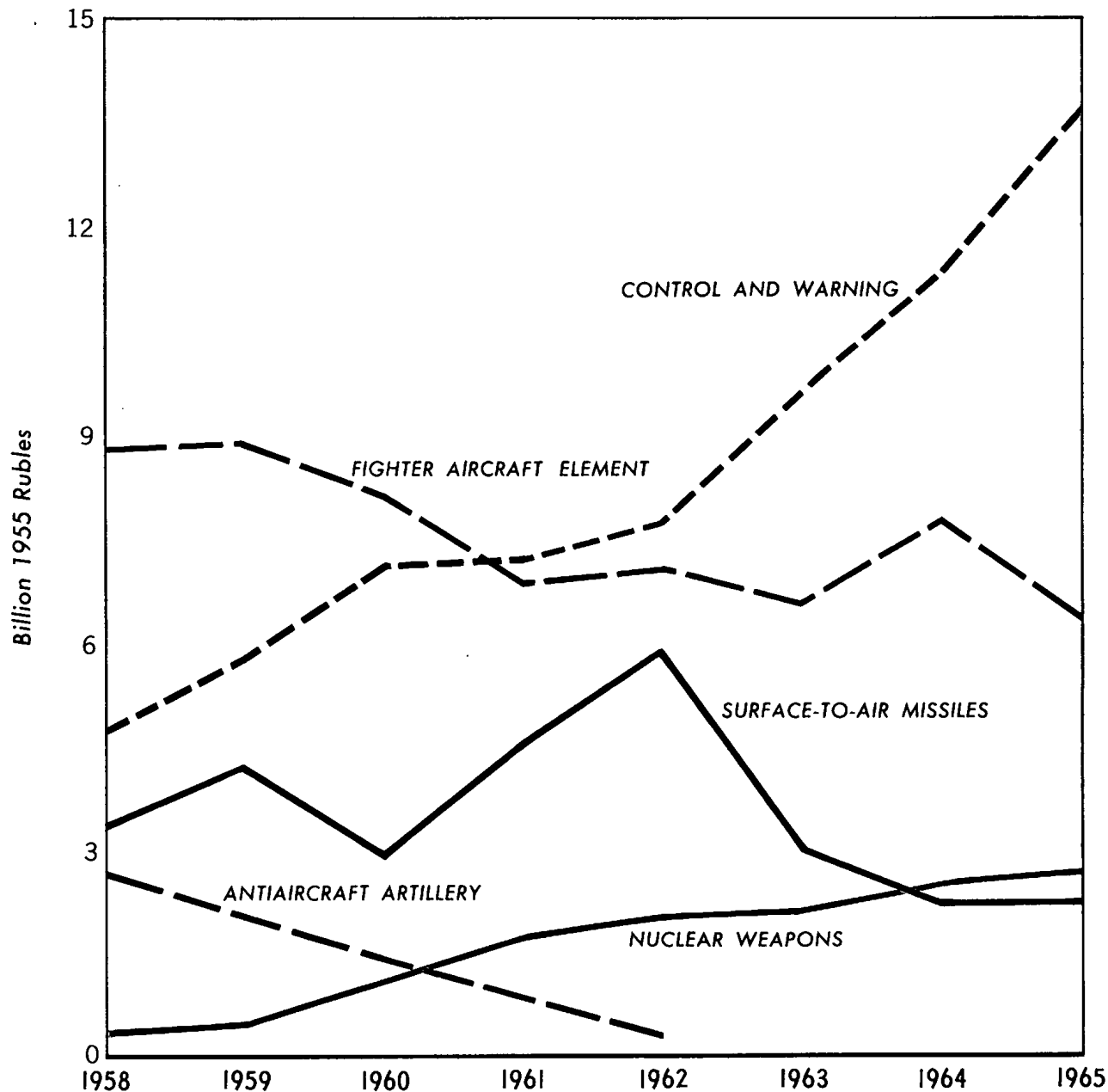
The cyclical behavior of expenditures in the air defense mission stems from the sharp cut in the number of fighter aircraft in the order of battle beginning in 1960 and the slump in estimated outlays for SAM's after 1962. At the same time, powerful growth factors will sustain the level of expenditures for this mission. Within the control and warning element, procurement of early-warning, ground-controlled intercept radar is expected to increase by 3.8 billion rubles during 1958-65 while outlays for ballistic missile early warning sites will grow by 1.5 billion rubles. Moreover, spare parts for these categories will demand 3.7 billion rubles more in 1965 than they did in 1958. Although the pattern of procurement of SAM's is uneven, the outlays required for operation and maintenance will increase by 0.9 billion rubles during the period. The increase of 2.4 billion for the

* P. 8, above.

** Following p. 18.

Figure 50X1

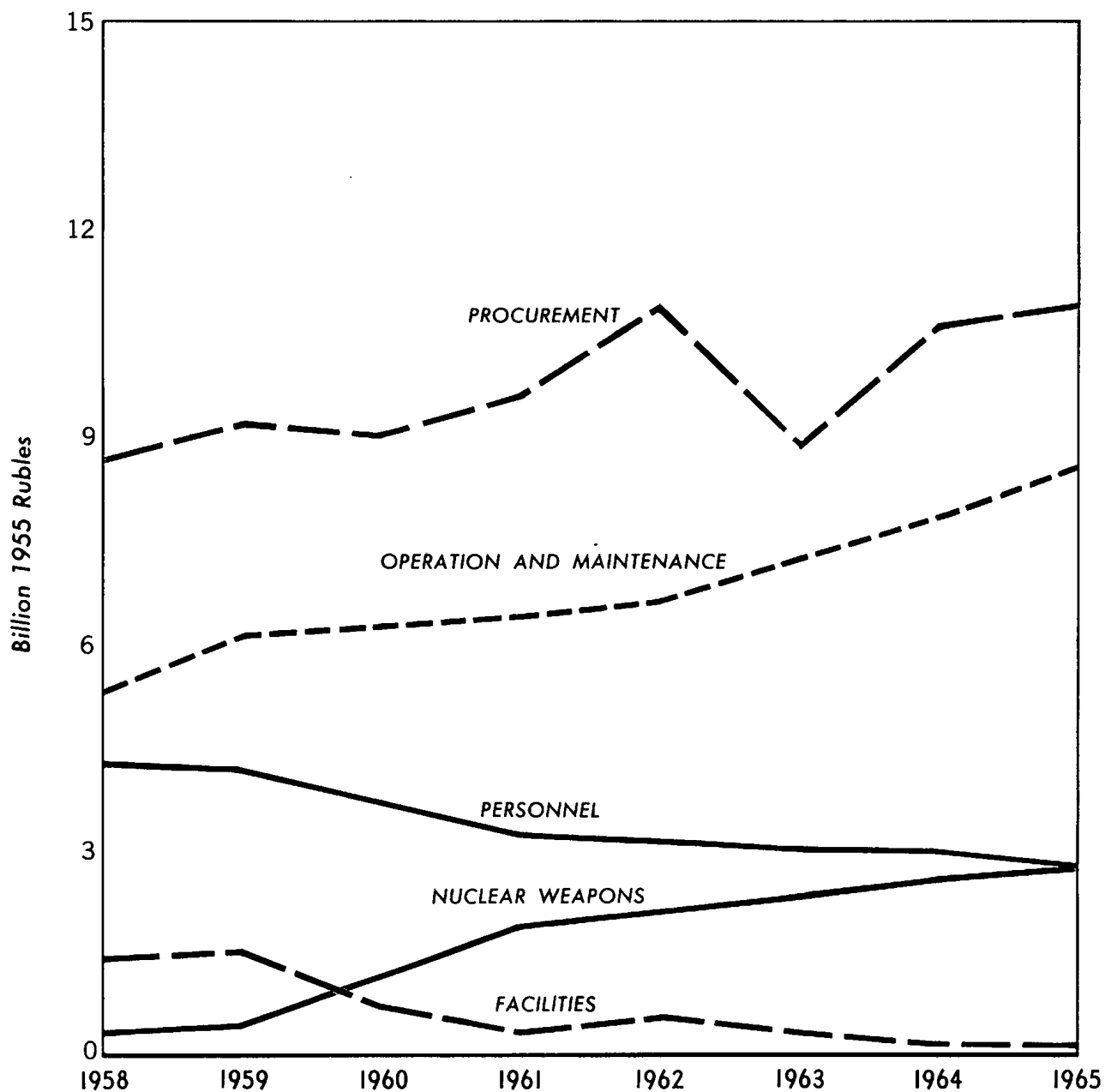
USSR AIR DEFENSE MISSION EXPENDITURES BY ELEMENT, 1958-65



29770 2-61

50X1

USSR AIR DEFENSE MISSION EXPENDITURES BY CATEGORY, 1958-65



S-E-C-R-E-T

procurement of nuclear weapons for both AAM's and SSM's is an additional, continuing factor for growth.

It is evident, therefore, that the changeover to an air defense system based increasingly on missiles and controlled by increasingly sophisticated equipment accounts primarily for the upward trends in the outlays for procurement and operation and maintenance. Very probably this changeover will allow further reductions in manpower in the future but will require increasing outlays for maintenance and procurement as more advanced weapon systems replace existing systems.

3. Strategic Attack Mission*

Expenditures on the strategic attack mission, third in magnitude within the mission framework, show the greatest relative variation. In fact, the expected decline in outlays for the ground mission during the entire period, 1958-65, will barely exceed the increase of 13 billion rubles in expenditures for the strategic attack mission between 1958 and 1962. As in the air defense mission, the projections of expenditures after 1963 are subject to question because of the absence of any specific outlays for long-range missiles.** Certainly it is not likely that outlays for the long-range missile element will decline from 50 percent of the expenditures for the mission in 1962 to 27 percent in 1965.

The expenditures for the strategic attack mission by element are shown in the chart, Figure 7.*** It is clear that the timing of the programs for long-range SSM's produces the curious behavior in total expenditures for the mission. Outlays for missile-launching submarines and nuclear weapons are expected to advance quite evenly throughout the period, increasing by 2.0 billion and 1.6 billion rubles, respectively. After 1959 the displacement of the manned bomber will have begun, and by 1965 outlays for this element are expected to fall by 2.2 billion rubles. These changes are dwarfed by the increase of 10.2 billion rubles in outlays for long-range missiles during 1958-61 and their subsequent decline of 7.1 billion rubles by 1965. Disregarding the part of the estimate after 1962 for the reasons discussed above, it appears that long-range missiles were to be dominant by 1960,

* For compilations of expenditures for the elements of the strategic attack mission, see Tables 13 through 15, Appendix A, pp. 33 through 35, below.

** See p. 11, above. Total mission-related expenditures allow for such additional expenditures. They cannot, however, be allocated to the individual missions.

*** Following p. 20.

S-E-C-R-E-T

S-E-C-R-E-T

whereas the submarine element will compete closely with the bomber element for second place by 1965. Without knowledge of the specific allocation of all expenditures for advanced missile systems after 1962, it is impossible to define the precise relation of the strategic attack mission to the air defense mission in the latter part of the estimate. Presumably, each mission would have its relative importance enlarged in the mission structure.

The strategic attack mission is expected to behave somewhat differently from the other missions with respect to its expenditures when they are arrayed by category, as shown in the chart, Figure 8.* Fluctuations are concentrated in the categories covering expenditures for procurement and facilities. Outlays for personnel will remain relatively constant, expenditures for operation and maintenance will double, and outlays for nuclear weapons will increase by nearly 50 percent. It is doubtful that the expenditures for procurement and facilities will actually follow the pattern shown in Figure 8 for 1964-65 for the same reason that a decline in total expenditures for the mission for these years is questionable. Certainly it seems unlikely that the procurement of missiles and associated facilities will disappear as indicated in the detailed estimates.

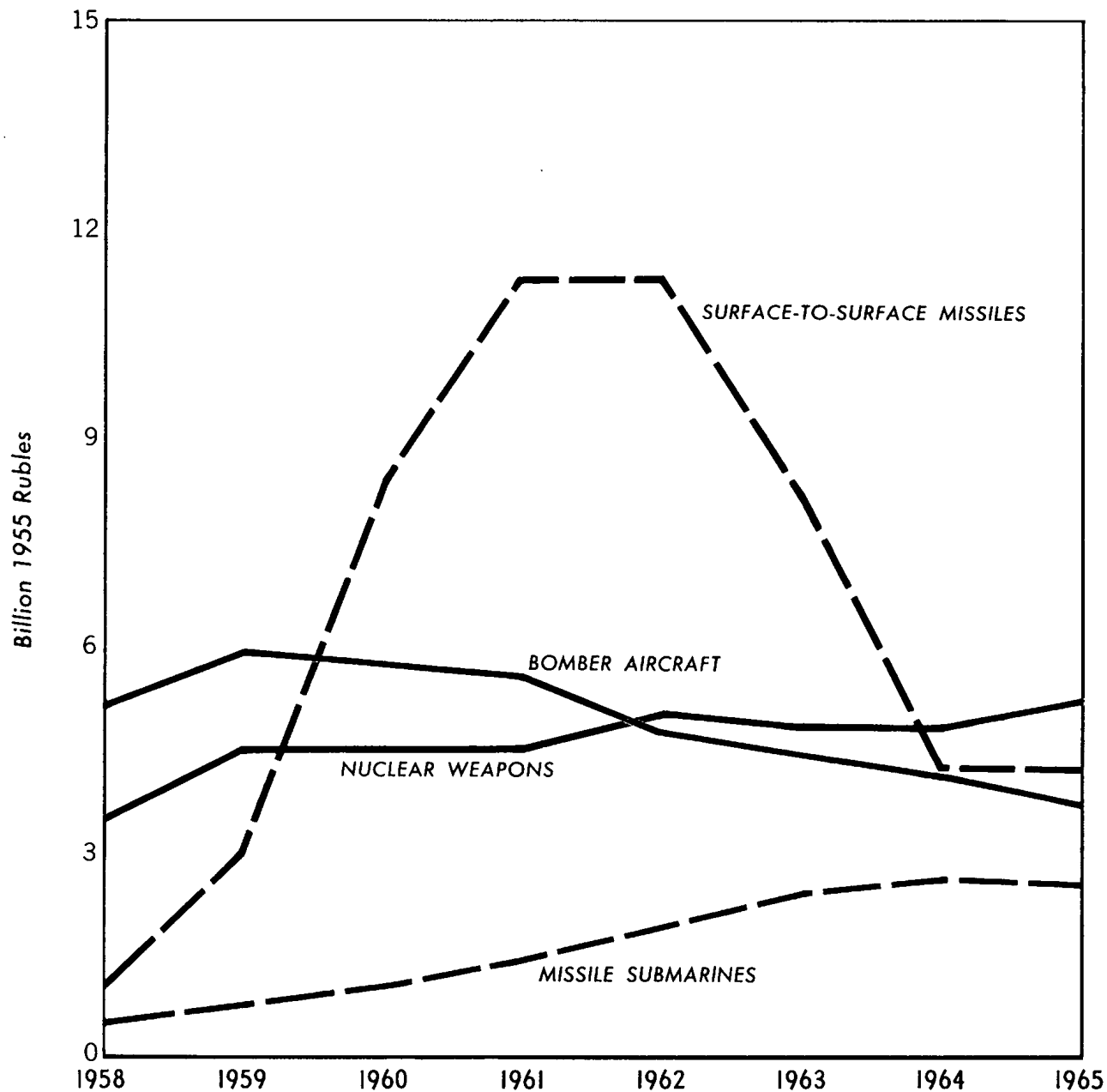
As in air defense, the aggregate expenditures by category reflect a basic shift in policy -- in this instance, from a reliance primarily on manned bomber systems to joint dependence with SSM systems of intermediate and long-range missiles and submarine-launched missiles. This realignment of weapon systems does not affect total outlays for personnel, because the requirements of the growing missile forces, land and sea based, balance the decline in personnel resulting from smaller numbers of medium and heavy bomber/tanker units in the order of battle. In other categories, however, the effects of the changeover will not offset each other. Although the reduction in the bomber order of battle will save 1 billion rubles in outlays for spare parts and petroleum products during the period, the expenditures for maintaining the long-range missile systems will rise by 3.7 billion rubles. The expenditures for maintaining submarines and their missile equipment also will increase by 0.4 billion rubles. The situation is analogous to that for operation and maintenance for air defense -- as new systems are introduced, expenditures for operation and maintenance demand an increasing proportion of the outlays for the mission.

Although expenditures for SSM's through 1963 account for the largest part of procurement for this mission, other components of procurement also are important. Expenditures for the procurement of aircraft are expected to triple between 1958 and 1961 with the introduction

* Following p. 20.

Figure 50X1

USSR STRATEGIC ATTACK MISSION EXPENDITURES BY ELEMENT, 1958-65

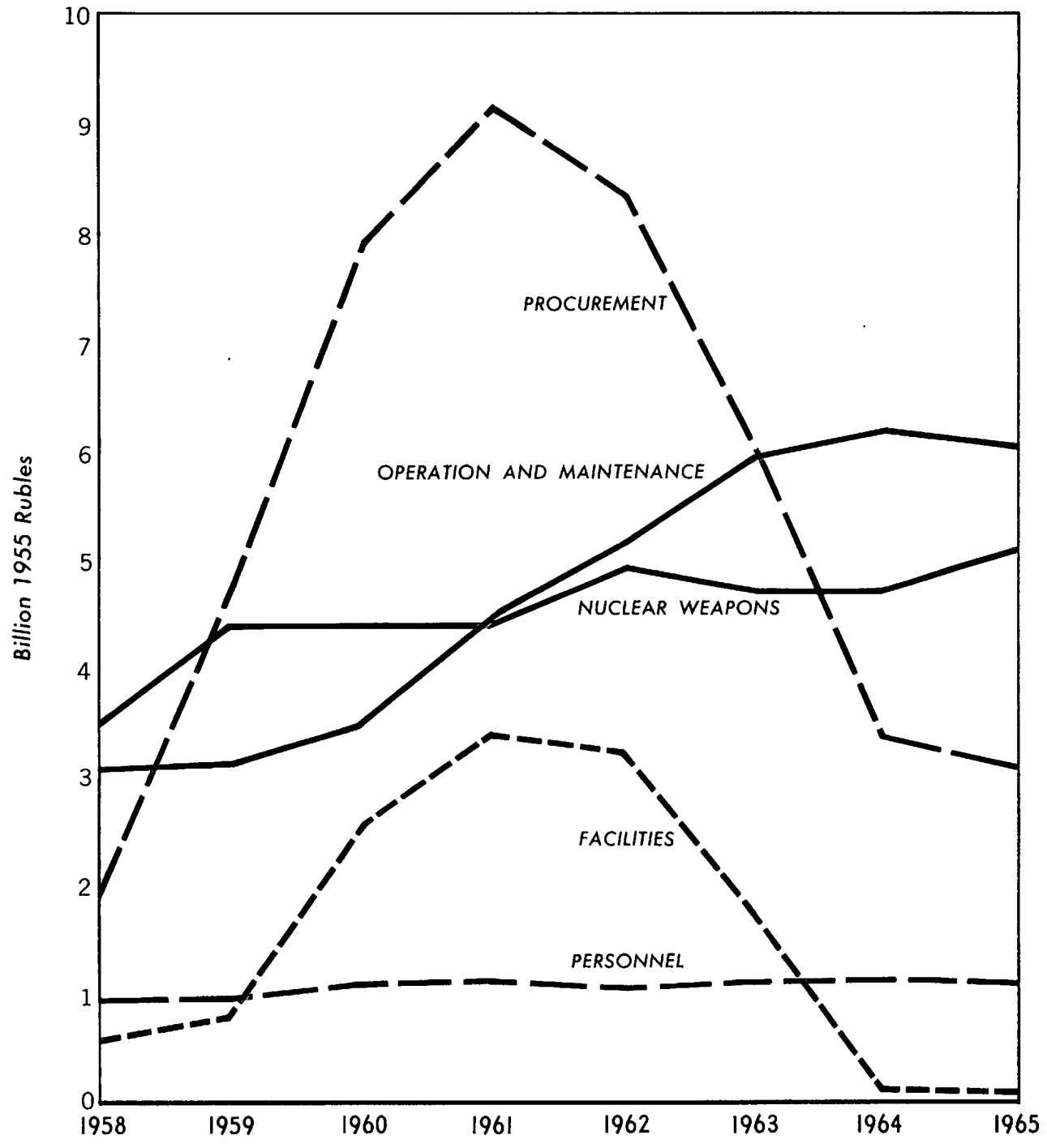


29772 2-61

50X1

Figure 50X1

USSR STRATEGIC ATTACK MISSION EXPENDITURES BY CATEGORY, 1958-65



29773 2-61

50X1

S-E-C-R-E-T

of a supersonic-dash medium bomber. Thereafter the procurement of aircraft will fall by almost 1 billion rubles by 1965. Expenditures for the procurement of air-to-surface missiles (ASM's) will reach a peak of 0.5 billion rubles in 1962 and will disappear in 1965. During the period, expenditures for the procurement of submarines will increase by 1.1 billion rubles while outlays for their associated missiles will rise by 0.4 billion rubles. With respect to expenditures for facilities, the only significant construction -- other than that which is associated with SSM facilities -- is the completion of the program for constructing bases for the long-range air force. This program was to be completed in 1960, but the disappearance of outlays for such facilities will result in a decline of 0.4 billion rubles in 1961 relative to 1958.

The programs underlying these estimates have important implications for future expenditures for the strategic attack mission. Unless some new, followup weapon system is incorporated into the mission, expenditures for procurement will continue to decline.* Outlays for personnel and for facilities will be relatively low, but requirements for operation and maintenance -- already expected to be first in terms of expenditures in 1965 -- will assume increasing importance.

4. Naval Mission**

Because total expenditures for the Soviet naval mission do not vary greatly, the complex developments within the mission tend to be obscured. The bewildering diversity of change in the six elements into which the naval mission is divided is shown in the chart, Figure 9.*** Although the maximum variation in total outlays for the mission between any 2 years of the period is 14 percent, individual elements vary much more.

By 1962, expenditures for the major surface ship element are expected to have established their primacy in the naval mission, whereas, in earlier years, outlays for the element encompassing minor surface ships and, still earlier, outlays for the naval air element were larger. From 1958 to 1965, expenditures for the major surface ships and the associated expenditures for personnel, operation and maintenance, and facilities are expected to increase by only 0.1 billion rubles. Expenditures for the naval air element declined by 50 percent from 1958 to 1959 and thereafter are expected to decline irregularly. From 1958 to 1960, outlays associated with minor surface ships

* See the discussion on pp. 11 and 12, above.

** For compilations of expenditures for the elements of the naval mission, see Tables 16 through 20, Appendix A, pp. 36 through 40, below.

*** Following p. 22.

S-E-C-R-E-T

S-E-C-R-E-T

were expected to rise by 1 billion rubles, but by 1963 they will have dropped to a level 1.6 billion rubles lower than the 1960 peak. Similarly the submarine element will enjoy increased expenditures through 1961 and then will decline slightly. Expenditures for the joint support element were relatively stable during 1958-60, will fall through 1962, and then will recover somewhat. Only the outlays for nuclear weapons will have a sustained increase -- 1.6 billion rubles during 1958-65.

In spite of the fluctuations in expenditures for the various elements of the naval mission, the outlays by category follow a relatively even course. Procurement retains its first position among mission outlays although its trend will be downward, as shown in the chart, Figure 10.* For the entire period, expenditures for personnel and for operation and maintenance will be essentially equal, but by 1961 the combination of the modest upward trend for operation and maintenance and a modest downward trend for personnel will drive expenditures for operation and maintenance above those for personnel. Changes in expenditures for facilities are negligible, and the importance of this category is slight.

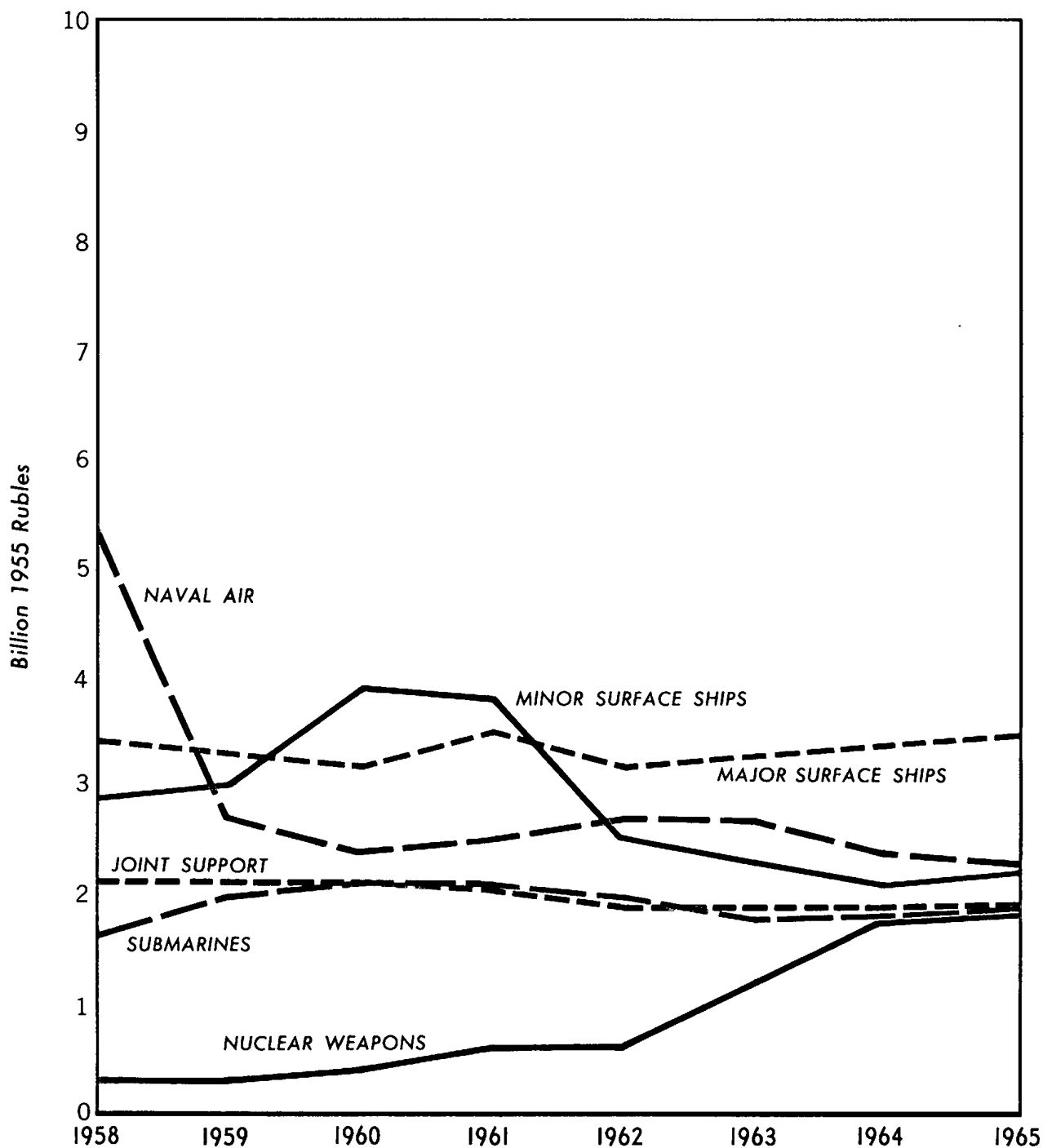
A number of factors are important in explaining the behavior of expenditures for the several elements of this mission and for the categories and accounts into which these expenditures are further subdivided. A decline in the order of battle for surface ships reduces outlays for personnel by 0.9 billion rubles. The construction program for guided missile destroyers and the procurement of missiles and missile equipment for these destroyers do not use enough expenditures to prevent a decline in procurement of all classes of surface ships. Yet the increase of 0.8 billion rubles for procurement of missile destroyers and their associated equipment is responsible for the rising trend in outlays for the major surface ship element that occurred during 1960-61. In the submarine element the critical factor is the changeover in procurement from conventional to nuclear types. Although the procurement of nuclear submarines (torpedo) increased by 0.5 billion rubles by 1961 and thereafter is expected to continue at a constant rate, the abrupt cessation of the procurement of conventional submarines in 1963 explains the peaking of expenditures during 1960-61.

A powerful factor for effecting a decline in expenditures for the naval mission in the future is the decreasing importance of minor surface ships. Through 1960, expenditures for the procurement of mine and patrol vessels and amphibious craft increased by almost 0.4 billion rubles. By 1965, however, these expenditures will have dropped below the level of 1960 by 0.7 billion rubles. At the same

* Following p. 22.

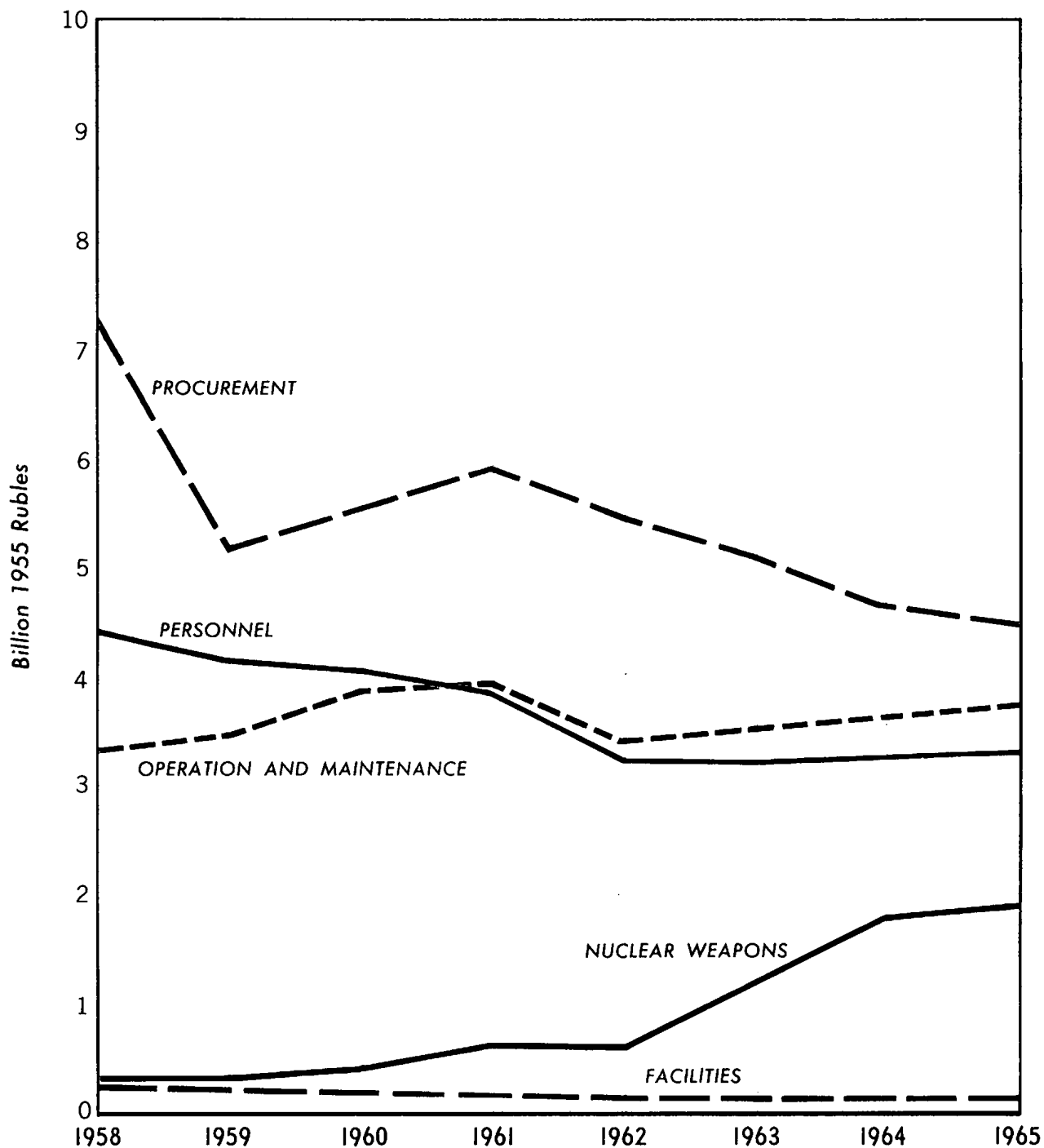
Figure 50X1

USSR NAVAL MISSION EXPENDITURES BY ELEMENT, 1958-65



50X1
Figure 10

USSR NAVAL MISSION EXPENDITURES BY CATEGORY, 1958-65



29775 2-61

50X1

S-E-C-R-E-T

time, sharp reductions in the order of battle will result in a decline in outlays of 0.5 billion rubles, or 46 percent, for alteration and maintenance for such vessels during the period 1960-65. The naval air element is not expected to be affected as greatly by the reduction in its order of battle, although outlays for personnel will decline. In this instance, changes in the procurement of aircraft and the procurement of ASM's are of primary importance to the pattern of expenditures. After 1958, expenditures for the procurement of aircraft decreased 2.6 billion rubles, then recovered briefly, and are expected to decline through 1965. Outlays for the procurement of ASM's are expected to fall irregularly throughout the period and account for the major part of the decline in outlays for the air element after 1960. There is a countervailing movement in expenditures for operation and maintenance because of the requirements for maintaining the growing inventory of Badger (Tu-16) aircraft and ASM's.

Two developments are expected to cause a sudden decline in expenditures for the joint support element. Between 1960 and 1962, both the force of auxiliary vessels and the number of coastal defense troops will be cut. As a result, expenditures for personnel will fall by 0.2 billion rubles and outlays for operation and maintenance by even less. The reduction in expenditures for procurement is relatively moderate, for expenditures for torpedoes, mines, and depth charges increase during the period and the procurement of new auxiliaries remains constant.

5. Command and Support*

The projected reductions in manpower dominate the movement of expenditures for command and support, as shown in the chart, Figure 11.** Most of the outlays for units in this component are calculated on a per capita basis, so that changes in expenditures for operation and maintenance and for facilities tend to correspond to the changes in personnel. It should be noted that the expenditures for personnel include those for civilian personnel.

The average pay of personnel in command and support is much higher than in the missions, which accounts for the high proportion of outlays for command and support that goes for personnel. Naval and air components of command and support suffer proportionately greater losses because of projected reductions in preoperational aviation training and naval general training centers. Military transport aviation, however, will have assumed a role of increasing importance by 1961.

* For a compilation of expenditures for command and support, see Table 21, Appendix A, p. 41, below.

** Following p. 24.

S-E-C-R-E-T

Although expenditures for procurement are expected to decline for most components of command and support, this decline will be more than offset in 1958-62 by the increase of 0.7 billion rubles in the procurement of transport aircraft for that part of military transport aviation included in command and support. After 1960, military transport aviation will account for one-half of the total expenditures for procurement for command and support. The reduction in outlays for operation and maintenance is weighted heavily by decreasing expenditures for transportation and medical care, which depend for the most part on force levels. The expected increase of 0.4 billion rubles in expenditures for spare parts and petroleum products for military transport aviation, however, is almost enough to be completely offsetting.

6. Residual*

A sizable and growing portion of estimated total military expenditures cannot be allotted to any of the missions or to command and support. Either the purpose served by the expenditure is paramilitary, as in the case of the militarized security forces and DOSAAF, or it is mechanically impossible to allocate the outlays among the missions. The most important example of the unallocable expenditures is the research and development account that is expected to increase by 17 billion rubles, or 78 percent, during 1958-65. This sum is the only element in the residual that could affect the mission allocation significantly. At present this estimate is made on an over-all basis and indicates only general orders of magnitude. To place it in command and support would muddle unnecessarily comparisons within the framework of mission-related expenditures.

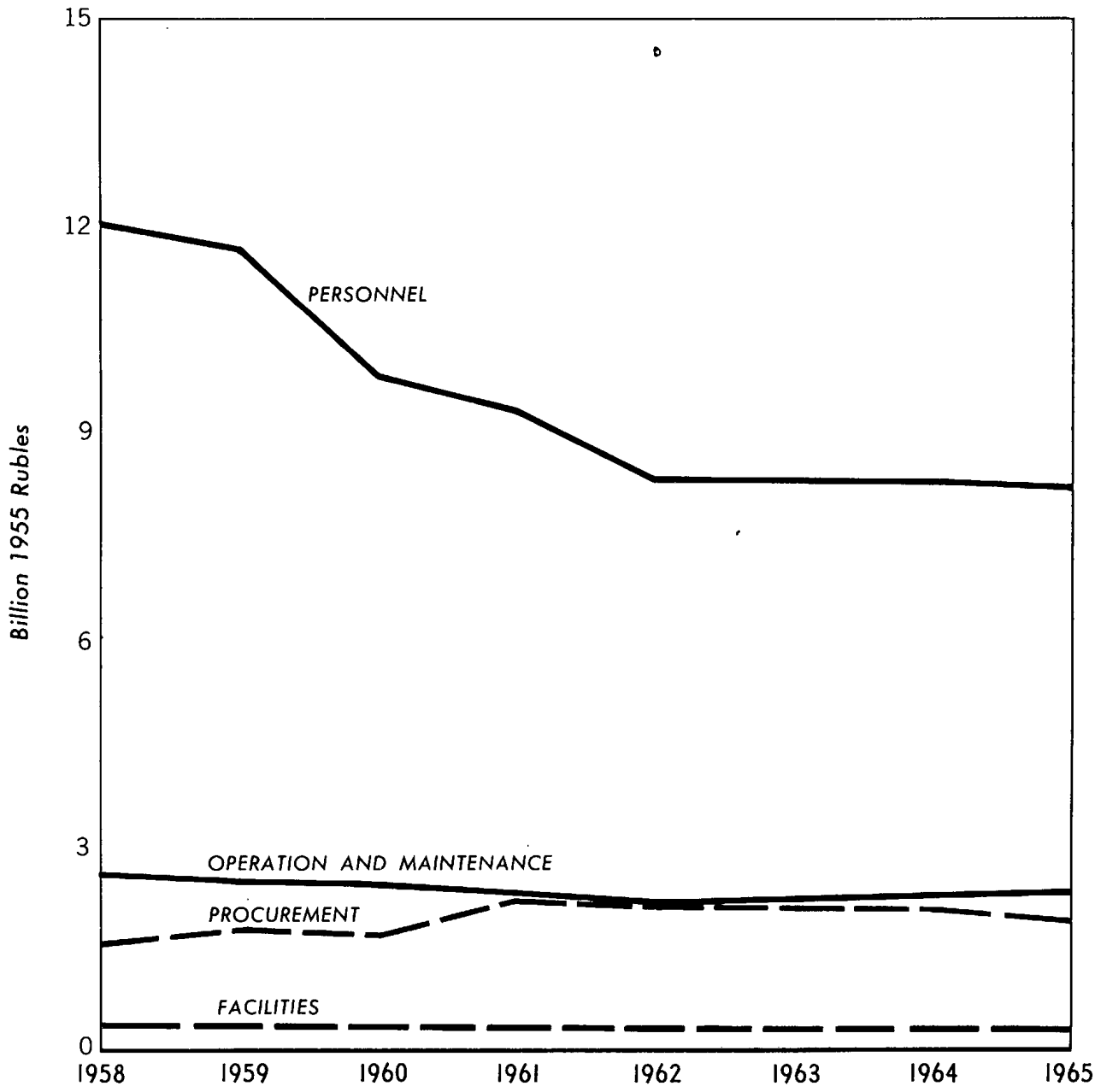
Total outlays in the residual category are expected to rise from 35 billion rubles in 1958 to 51 billion rubles in 1965. Much less important than research and development during the period are the expenditures for the military security forces, which are expected to decline from 5 billion rubles to somewhat more than 3 billion rubles. Outlays for reserve pay, reserve subsistence, and DOSAAF are estimated to continue at constant levels of 2.4 billion, 1.7 billion, and 0.5 billion rubles, respectively. Outlays for pensions are estimated to rise gradually from 3.3 billion rubles to 4.3 billion rubles.

* For a compilation of residual expenditures, see Table 22, Appendix A, p. 42, below.



Figure 50X1
11

USSR COMMAND AND SUPPORT EXPENDITURES BY CATEGORY, 1958-65



29776 2-61

50X1

S-E-C-R-E-T

APPENDIX A

SOVIET MISSION EXPENDITURES, BY ELEMENT
1958-65

The tables in this appendix present the estimated Soviet expenditures for each element in the mission framework, for the residual category, and for total military expenditures. All figures of less than five digits were rounded to two significant digits, and those of five or more digits were rounded to three significant digits.

It should be kept in mind when using these tables, however, that the expenditures reported in accounts for operation and maintenance do not include outlays for the man-hours spent in making repairs or maintaining equipment. All such expenditures are included in the category for personnel.

S-E-C-R-E-T

S-E-C-R-E-T

Table 6

Summary of Estimated Soviet Military Expenditures
by Element
1958-65

	Million 1955 Rubles							
	1958	1959	1960	1961	1962	1963	1964	1965
Ground mission	46,400	46,100	46,200	37,700	30,600	33,200	31,100	30,200
Ground element	37,200	36,900	38,400	31,600	24,600	27,200	25,200	24,300
Air element	8,300	8,100	6,300	4,100	3,800	3,700	3,300	3,200
Nuclear weapons	900	1,100	1,500	2,000	2,200	2,300	2,500	2,700
Air defense mission	19,800	21,200	20,600	21,200	22,900	21,400	23,800	24,800
Fighter aircraft element	8,800	8,900	8,100	6,800	7,000	6,500	7,700	6,200
Antiaircraft artillery element	2,700	2,000	1,400	850	290	0	0	0
Surface-to-air missile element	3,300	4,200	2,900	4,500	5,900	3,000	2,200	2,200
Control and warning element	4,700	5,800	7,100	7,200	7,800	9,700	11,400	13,800
Nuclear weapons	300	400	1,100	1,800	2,000	2,200	2,500	2,700
Strategic attack mission	10,000	14,000	19,300	22,500	22,700	19,500	15,400	15,400
Bomber aircraft element	5,000	5,800	5,600	5,500	4,700	4,300	4,000	3,600
Missile submarine element	450	730	1,000	1,400	1,800	2,400	2,500	2,500
Long-range missile element	1,000	3,000	8,300	11,200	11,200	8,100	4,200	4,200
Nuclear weapons	3,500	4,400	4,400	4,400	4,900	4,700	4,700	5,100
Naval mission	15,500	13,300	14,100	14,500	12,900	13,200	13,500	13,600
Major surface ships element	3,400	3,300	3,200	3,500	3,200	3,300	3,400	3,500
Nonmissile submarine element	1,600	2,000	2,100	2,100	2,000	1,800	1,800	1,900
Minor surface ships element	2,900	3,000	3,900	3,800	2,500	2,300	2,200	2,200
Air element	5,300	2,700	2,400	2,500	2,700	2,700	2,400	2,300
Joint support element	2,100	2,100	2,100	2,100	1,900	1,900	1,900	1,900
Nuclear weapons	300	300	400	600	600	1,200	1,800	1,900
Mission allocable	91,700	94,500	100,000	95,900	89,100	87,400	83,800	84,000
Command and support	16,400	16,100	14,200	13,900	12,600	12,700	12,700	12,600
Mission related, unadjusted	108,000	111,000	114,000	110,000	102,000	100,000	96,400	96,600
Mission related, adjusted a/	<u>108,000</u>	<u>111,000</u>	<u>114,000</u>	<u>110,000</u>	<u>102,000</u>	<u>104,000</u>	<u>107,000</u>	<u>110,000</u>
Residual	<u>34,700</u>	<u>36,100</u>	<u>38,300</u>	<u>40,200</u>	<u>42,200</u>	<u>44,900</u>	<u>47,900</u>	<u>51,000</u>
Total	<u>143,000</u>	<u>147,000</u>	<u>153,000</u>	<u>150,000</u>	<u>144,000</u>	<u>149,000</u>	<u>155,000</u>	<u>161,000</u>

a. The adjusted total for mission-related expenditures includes the extrapolations of outlays for missile programs (see Table 1, p. 10, above). Totals were derived from unrounded data and may not agree with the sums of the rounded components.

S-E-C-R-E-T

Table 7

Estimated Expenditures for the Ground Element
of the Soviet Ground Mission a/
1958-65

	Million 1955 Rubles							
	1958	1959	1960	1961	1962	1963	1964	1965
Personnel	<u>18,400</u>	<u>16,900</u>	<u>16,900</u>	<u>13,800</u>	<u>10,200</u>	<u>10,200</u>	<u>10,100</u>	<u>10,100</u>
Line divisions								
Pay and allowances	5,800	5,800	5,800	4,700	3,200	3,200	3,200	3,200
Other	5,500	5,500	5,500	4,200	3,000	3,000	3,000	3,000
Combat and service support								
Pay and allowances	3,400	2,700	2,800	2,300	1,900	2,000	1,900	1,900
Other	3,700	2,900	2,900	2,500	2,000	2,100	2,000	2,000
Procurement	<u>13,400</u>	<u>14,200</u>	<u>15,400</u>	<u>12,700</u>	<u>9,900</u>	<u>12,500</u>	<u>10,500</u>	<u>9,600</u>
Weapons (except anti-aircraft artillery)	950	1,000	900	720	660	650	650	650
Antiaircraft weapons	720	500	430	420	380	320	320	400
Combat vehicles	3,000	3,200	3,600	3,400	3,200	3,100	3,000	3,000
Electronic equipment	430	290	260	220	190	160	160	160
Organizational equipment	3,300	3,000	3,000	2,400	1,700	1,700	1,700	1,700
General-purpose vehicles	440	400	400	320	230	230	220	220
Surface-to-air missiles (SA-2 and SA-3)	0	0	1,200	840	97	2,800	1,000	0
Surface-to-surface missiles (SS-1, SS-2, and SS-3)	840	2,300	2,200	920	0	0	0	0
Proximity fuses	510	380	380	370	370	370	370	370
Ammunition	2,800	2,800	2,800	2,800	2,800	2,800	2,800	2,800
Tactical communications equipment	390	270	280	280	260	300	300	330
Fixed communications equipment	4	4	5	5	5	5	5	5
Operation and maintenance	<u>4,400</u>	<u>4,600</u>	<u>4,900</u>	<u>4,300</u>	<u>3,900</u>	<u>3,900</u>	<u>4,000</u>	<u>4,000</u>
Weapons	500	460	480	430	370	350	320	320
Combat vehicles	730	740	820	720	690	680	670	670
Electronic equipment	270	280	280	270	250	250	230	230
General-purpose vehicles	1,200	1,400	1,600	1,300	1,000	1,000	1,000	1,000
Tactical communications equipment	190	210	210	210	220	210	210	210
Fixed communications facilities	3	4	4	4	4	4	5	5
Personnel facilities	1,100	1,000	1,000	810	590	590	580	580
Surface-to-air missiles								
Equipment	0	0	5	15	240	300	450	470
Facilities	0	0	0	0	0	0	0	0
Surface-to-surface missiles								
Equipment	98	160	260	330	340	340	340	340
Facilities	7	12	19	25	26	26	26	26
Petroleum products	260	250	250	210	160	160	150	150
Facilities	<u>1,200</u>	<u>1,100</u>	<u>1,100</u>	<u>850</u>	<u>590</u>	<u>590</u>	<u>580</u>	<u>580</u>
Personnel	1,100	1,000	1,000	810	590	590	580	580
Surface-to-surface missiles	27	87	87	42	0	0	0	0
Total	<u>37,200</u>	<u>36,900</u>	<u>38,400</u>	<u>31,600</u>	<u>24,600</u>	<u>27,200</u>	<u>25,200</u>	<u>24,300</u>

a. Totals were derived from unrounded data and may not agree with the sums of the rounded components.

S-E-C-R-E-T

Table 8

Estimated Expenditures for the Air Element
of the Soviet Ground Mission a/
1958-65

	Million 1955 Rubles							
	<u>1958</u>	<u>1959</u>	<u>1960</u>	<u>1961</u>	<u>1962</u>	<u>1963</u>	<u>1964</u>	<u>1965</u>
Personnel	<u>2,800</u>	<u>2,700</u>	<u>1,800</u>	<u>1,200</u>	<u>1,000</u>	<u>940</u>	<u>760</u>	<u>710</u>
Pay and allowances	1,800	1,800	1,200	780	680	630	520	480
Other	930	900	610	380	330	300	240	230
Procurement	<u>2,300</u>	<u>2,200</u>	<u>2,200</u>	<u>1,400</u>	<u>1,300</u>	<u>1,300</u>	<u>1,200</u>	<u>1,100</u>
Aircraft	1,800	1,700	1,800	1,100	1,100	1,000	980	860
Organizational equipment	330	320	220	140	120	110	88	81
General-purpose vehicles	44	43	29	18	16	14	12	11
Aerial bombs	120	120	120	120	120	120	120	120
Ground-controlled approach radar	39	45	56	45	34	23	15	7
Operation and maintenance	<u>2,800</u>	<u>2,900</u>	<u>2,100</u>	<u>1,500</u>	<u>1,400</u>	<u>1,400</u>	<u>1,300</u>	<u>1,400</u>
General-purpose vehicles	33	32	22	14	12	11	9	8
Personnel facilities	120	120	82	51	44	41	33	30
Aircraft	1,300	1,300	1,000	720	680	680	640	660
Airfields	36	38	32	34	38	42	47	51
Ground-controlled approach radar	22	28	39	45	50	50	56	56
Petroleum products								
Vehicles	19	18	12	8	7	6	5	4
Aircraft	1,300	1,300	910	630	600	590	540	550
Facilities	<u>340</u>	<u>330</u>	<u>180</u>	<u>47</u>	<u>41</u>	<u>37</u>	<u>30</u>	<u>28</u>
Personnel	110	110	75	47	41	37	30	28
Airfields	220	220	100	0	0	0	0	0
Total	<u>8,300</u>	<u>8,100</u>	<u>6,300</u>	<u>4,100</u>	<u>3,800</u>	<u>3,700</u>	<u>3,300</u>	<u>3,200</u>

a. Totals were derived from unrounded data and may not agree with the sums of the rounded components.

S-E-C-R-E-T

Table 9

Estimated Expenditures for the Fighter Aircraft Element
of the Soviet Air Defense Mission a/
1958-65

	Million 1955 Rubles							
	<u>1958</u>	<u>1959</u>	<u>1960</u>	<u>1961</u>	<u>1962</u>	<u>1963</u>	<u>1964</u>	<u>1965</u>
Personnel	<u>2,200</u>	<u>2,200</u>	<u>1,700</u>	<u>1,500</u>	<u>1,500</u>	<u>1,400</u>	<u>1,300</u>	<u>1,000</u>
Pay and allowances	1,500	1,500	1,100	970	970	930	850	680
Other	740	730	570	480	480	460	430	340
Procurement	<u>3,500</u>	<u>3,600</u>	<u>4,000</u>	<u>3,500</u>	<u>3,700</u>	<u>3,400</u>	<u>5,000</u>	<u>4,000</u>
Aircraft	1,700	1,400	2,200	2,100	2,600	3,100	4,800	3,800
Organizational equipment	260	260	200	170	170	170	150	120
General-purpose vehicles	35	35	27	23	23	22	20	16
Air-to-air missiles	1,500	1,900	1,600	1,200	910	53	0	0
Ground-controlled approach radar	26	30	38	30	22	15	10	4
Operation and maintenance	<u>2,200</u>	<u>2,200</u>	<u>1,900</u>	<u>1,700</u>	<u>1,700</u>	<u>1,700</u>	<u>1,400</u>	<u>1,100</u>
General-purpose vehicles	26	26	20	17	17	17	15	12
Ground-controlled approach radar	15	18	26	30	33	33	37	37
Personnel facilities	98	98	76	65	65	62	57	46
Aircraft	940	930	740	630	640	610	550	440
Airfields	100	110	100	82	62	54	37	20
Air-to-air missiles								
Equipment	310	350	400	430	440	410	330	240
Facilities	7	8	8	7	9	9	7	5
Petroleum products								
Aircraft	680	680	550	470	470	450	400	320
Vehicles	15	15	11	10	10	9	9	7
Facilities	<u>970</u>	<u>830</u>	<u>390</u>	<u>85</u>	<u>73</u>	<u>63</u>	<u>52</u>	<u>42</u>
Personnel	90	90	70	60	60	57	52	42
Airfields	820	710	290	0	0	0	0	0
Air-to-air missile	58	38	29	25	13	6	0	0
Total	<u>8,800</u>	<u>8,900</u>	<u>8,100</u>	<u>6,800</u>	<u>7,000</u>	<u>6,500</u>	<u>7,700</u>	<u>6,200</u>

a. Totals were derived from unrounded data and may not agree with the sums of the rounded components.

S-E-C-R-E-T

Table 10

Estimated Expenditures for the Antiaircraft Artillery Element
of the Soviet Air Defense Mission a/
1958-65

	Million 1955 Rubles							
	<u>1958</u>	<u>1959</u>	<u>1960</u>	<u>1961</u>	<u>1962</u>	<u>1963</u>	<u>1964</u>	<u>1965</u>
Personnel	<u>1,200</u>	<u>890</u>	<u>600</u>	<u>370</u>	<u>150</u>	<u>0</u>	<u>0</u>	<u>0</u>
Pay and allowances	520	390	260	160	65	0	0	0
Other	670	500	340	210	84	0	0	0
Procurement	<u>660</u>	<u>410</u>	<u>290</u>	<u>85</u>	<u>34</u>	<u>0</u>	<u>0</u>	<u>0</u>
Antiaircraft weapons	210	120	92	0	0	0	0	0
General-purpose vehicles	32	24	16	10	4	0	0	0
Organizational equipment	240	180	120	75	30	0	0	0
Antiaircraft ammunition	68	37	26	0	0	0	0	0
Proximity fuses	56	24	16	0	0	0	0	0
Fire-control radar	53	24	17	0	0	0	0	0
Operation and maintenance	<u>720</u>	<u>600</u>	<u>500</u>	<u>370</u>	<u>93</u>	<u>0</u>	<u>0</u>	<u>0</u>
Antiaircraft weapons	240	190	180	120	4	0	0	0
General-purpose vehicles	24	18	12	8	3	0	0	0
Prime mover vehicles	68	58	41	29	8	0	0	0
Fire-control radar	300	260	230	180	66	0	0	0
Personnel facilities	82	62	41	26	10	0	0	0
Petroleum products	13	10	7	4	2	0	0	0
Facilities	<u>82</u>	<u>62</u>	<u>41</u>	<u>26</u>	<u>10</u>	<u>0</u>	<u>0</u>	<u>0</u>
Personnel	82	62	41	26	10	0	0	0
Total	<u>2,700</u>	<u>2,000</u>	<u>1,400</u>	<u>850</u>	<u>290</u>	<u>0</u>	<u>0</u>	<u>0</u>

a. Totals were derived from unrounded data and may not agree with the sums of the rounded components.

S-E-C-R-E-T

Table 11

Estimated Expenditures for the Surface-to-Air Missile Element
of the Soviet Air Defense Mission a/
1958-65

	Million 1955 Rubles							
	<u>1958</u>	<u>1959</u>	<u>1960</u>	<u>1961</u>	<u>1962</u>	<u>1963</u>	<u>1964</u>	<u>1965</u>
Personnel	<u>280</u>	<u>470</u>	<u>680</u>	<u>690</u>	<u>750</u>	<u>870</u>	<u>940</u>	<u>940</u>
Pay and allowances	130	220	320	320	350	410	440	440
Other	150	250	360	360	400	460	500	500
Procurement	<u>2,300</u>	<u>2,300</u>	<u>1,100</u>	<u>2,700</u>	<u>3,700</u>	<u>740</u>	<u>0</u>	<u>0</u>
Surface-to-air missiles and support equipment	2,300	2,300	1,100	2,700	3,700	740	0	0
Operation and maintenance	<u>400</u>	<u>910</u>	<u>900</u>	<u>960</u>	<u>1,000</u>	<u>1,200</u>	<u>1,300</u>	<u>1,300</u>
Surface-to-air missiles								
Equipment	320	770	690	690	740	890	910	910
Facilities	78	140	210	270	310	360	360	360
Facilities	<u>300</u>	<u>470</u>	<u>220</u>	<u>150</u>	<u>370</u>	<u>190</u>	<u>0</u>	<u>0</u>
Surface-to-air missiles	300	470	220	150	370	190	0	0
Total	<u>3,300</u>	<u>4,200</u>	<u>2,900</u>	<u>4,500</u>	<u>5,900</u>	<u>3,000</u>	<u>2,200</u>	<u>2,200</u>

a. Totals were derived from unrounded data and may not agree with the sums of the rounded components.

S-E-C-R-E-T

Table 12

Estimated Expenditures for the Control and Warning Element
of the Soviet Air Defense Mission a/
1958-65

	Million 1955 Rubles							
	<u>1958</u>	<u>1959</u>	<u>1960</u>	<u>1961</u>	<u>1962</u>	<u>1963</u>	<u>1964</u>	<u>1965</u>
Personnel	<u>530</u>	<u>610</u>	<u>660</u>	<u>670</u>	<u>700</u>	<u>700</u>	<u>700</u>	<u>700</u>
Pay and allowances	260	300	320	330	340	340	340	340
Other	270	310	340	340	360	360	360	360
Procurement	<u>2,200</u>	<u>2,800</u>	<u>3,600</u>	<u>3,200</u>	<u>3,300</u>	<u>4,700</u>	<u>5,600</u>	<u>6,900</u>
Early-warning ground-controlled intercept radar	1,100	1,900	2,600	2,000	2,000	2,700	3,500	4,900
Ballistic-missile early-warning sites	0	0	0	260	520	1,300	1,500	1,500
Other ground electronic equipment	900	720	710	640	510	380	190	99
Fixed communications equipment	93	95	120	140	160	160	190	220
Organizational equipment	98	110	120	120	130	130	130	130
General-purpose vehicles	13	15	16	16	17	17	17	17
Operation and maintenance	<u>2,000</u>	<u>2,300</u>	<u>2,800</u>	<u>3,200</u>	<u>3,700</u>	<u>4,300</u>	<u>5,100</u>	<u>6,100</u>
Early-warning ground-controlled intercept radar	1,300	1,500	1,900	2,200	2,500	2,900	3,400	4,200
Ballistic-missile early-warning sites	0	0	0	39	120	310	540	770
Other electronic equipment	490	590	680	740	770	780	800	800
General-purpose vehicles	10	11	12	12	13	13	13	13
Fixed communications equipment	74	78	86	95	110	120	130	140
Personnel facilities	33	39	41	42	44	44	44	44
Petroleum products	5	6	7	7	7	7	7	7
Leasing of fixed communications equipment	70	71	90	110	120	120	140	160
Facilities	<u>33</u>	<u>39</u>	<u>41</u>	<u>42</u>	<u>44</u>	<u>44</u>	<u>44</u>	<u>44</u>
Personnel	33	39	41	42	44	44	44	44
Total	<u>4,700</u>	<u>5,800</u>	<u>7,100</u>	<u>7,200</u>	<u>7,800</u>	<u>9,700</u>	<u>11,400</u>	<u>13,800</u>

a. Totals were derived from unrounded data and may not agree with the sums of the rounded components.

S-E-C-R-E-T

Table 13

Estimated Expenditures for the Bomber Aircraft Element
of the Soviet Strategic Attack Mission a/
1958-65

	Million 1955 Rubles							
	<u>1958</u>	<u>1959</u>	<u>1960</u>	<u>1961</u>	<u>1962</u>	<u>1963</u>	<u>1964</u>	<u>1965</u>
Personnel	<u>900</u>	<u>850</u>	<u>820</u>	<u>740</u>	<u>640</u>	<u>630</u>	<u>620</u>	<u>570</u>
Pay and allowances	610	580	580	520	440	440	440	400
Other	280	270	250	220	190	190	180	170
Procurement	<u>700</u>	<u>1,800</u>	<u>2,000</u>	<u>2,300</u>	<u>1,900</u>	<u>1,600</u>	<u>1,300</u>	<u>1,100</u>
Aircraft	550	1,600	1,800	1,900	1,300	1,100	1,100	1,000
General-purpose vehicles	14	13	12	11	9	9	9	8
Organizational equipment	100	97	88	79	68	67	66	61
Air-to-surface missiles	0	0	0	200	500	410	110	0
Ground-controlled approach radar	27	31	39	31	23	15	10	4
Fixed communications equipment	4	4	4	4	4	4	4	4
Operation and maintenance	<u>3,000</u>	<u>2,800</u>	<u>2,600</u>	<u>2,400</u>	<u>2,100</u>	<u>2,100</u>	<u>2,100</u>	<u>1,900</u>
General-purpose vehicles	10	10	9	8	7	7	7	6
Ground-controlled approach radar	15	19	27	31	34	34	38	38
Personnel facilities	38	36	33	30	25	25	25	23
Aircraft	1,400	1,300	1,200	1,100	1,000	980	950	860
Airfields	210	200	200	180	160	150	130	110
Air-to-surface missiles								
Equipment	0	0	0	0	11	31	42	44
Facilities	0	0	0	0	b/	1	1	1
Fixed communications equipment	3	3	3	3	4	4	4	4
Petroleum products								
Aircraft	1,300	1,300	1,100	1,000	880	870	860	800
Vehicles	6	5	5	4	4	4	4	3
Facilities	<u>460</u>	<u>380</u>	<u>190</u>	<u>27</u>	<u>27</u>	<u>25</u>	<u>25</u>	<u>21</u>
Personnel	35	33	30	27	23	23	23	21
Air-to-surface missiles	0	0	0	0	4	2	2	0
Airfields	430	350	160	0	0	0	0	0
Total	<u>5,000</u>	<u>5,800</u>	<u>5,600</u>	<u>5,500</u>	<u>4,700</u>	<u>4,300</u>	<u>4,000</u>	<u>3,600</u>

a. Totals were derived from unrounded data and may not agree with the sums of the rounded components.

b. Less than 500,000 rubles.

S-E-C-R-E-T

S-E-C-R-E-T

Table 14

Estimated Expenditures for the Missile Submarine Element
of the Soviet Strategic Attack Mission a/
1958-65

	Million 1955 Rubles							
	<u>1958</u>	<u>1959</u>	<u>1960</u>	<u>1961</u>	<u>1962</u>	<u>1963</u>	<u>1964</u>	<u>1965</u>
Personnel	<u>2</u>	<u>11</u>	<u>26</u>	<u>35</u>	<u>42</u>	<u>52</u>	<u>63</u>	<u>74</u>
Afloat								
Pay and allowances	1	4	10	14	19	26	32	38
Other	b/	2	5	7	9	11	13	14
Shore support								
Pay and allowances	b/	2	6	8	7	8	10	11
Other	b/	2	5	7	6	8	9	10
Procurement	<u>400</u>	<u>640</u>	<u>840</u>	<u>1,200</u>	<u>1,500</u>	<u>2,000</u>	<u>2,100</u>	<u>2,000</u>
Submarines								
Conventional	170	510	510	340	170	0	0	0
Nuclear	0	0	0	330	980	1,300	1,300	1,300
Supplies and equipage	1	6	16	21	31	41	50	60
Organizational equipment	b/	b/	2	2	2	3	3	4
General-purpose vehicles	b/	b/	b/	b/	b/	b/	b/	b/
Surface-to-surface mis- siles (SS-7, SS-9, SS-11, and SS-12)	220	120	310	470	340	620	690	600
Operation and maintenance	<u>25</u>	<u>59</u>	<u>110</u>	<u>150</u>	<u>210</u>	<u>260</u>	<u>320</u>	<u>380</u>
General-purpose vehicles	b/	b/	b/	b/	b/	b/	b/	b/
Missile equipment	20	38	54	80	110	130	160	190
Missile facilities	2	3	4	6	9	12	15	18
Personnel facilities	b/	b/	1	1	1	1	1	1
Petroleum products								
Submarines	0	1	3	4	4	4	4	4
Vehicles	b/	b/	b/	b/	b/	b/	b/	b/
Alteration and mainte- nance of vessels	3	17	44	60	86	110	140	170
Facilities	<u>30</u>	<u>22</u>	<u>35</u>	<u>51</u>	<u>51</u>	<u>68</u>	<u>68</u>	<u>68</u>
Personnel	b/	b/	1	1	1	1	1	1
Missile	30	22	34	50	50	67	67	67
Total	<u>450</u>	<u>730</u>	<u>1,000</u>	<u>1,400</u>	<u>1,800</u>	<u>2,400</u>	<u>2,500</u>	<u>2,500</u>

a. Totals were derived from unrounded data and may not agree with the sums of the rounded components.

b. Less than 500,000 rubles.

S-E-C-R-E-T

Table 15

Estimated Expenditures for the Long-Range Missile Element
of the Soviet Strategic Attack Mission a/
1958-65

	Million 1955 Rubles							
	<u>1958</u>	<u>1959</u>	<u>1960</u>	<u>1961</u>	<u>1962</u>	<u>1963</u>	<u>1964</u>	<u>1965</u>
Personnel	<u>48</u>	<u>100</u>	<u>190</u>	<u>310</u>	<u>350</u>	<u>410</u>	<u>420</u>	<u>420</u>
Pay and allowances	27	59	110	170	200	230	240	240
Other	21	46	84	130	160	180	180	180
Procurement	<u>830</u>	<u>2,300</u>	<u>5,100</u>	<u>5,700</u>	<u>5,000</u>	<u>2,500</u>	<u>0</u>	<u>0</u>
Surface-to-surface missiles and missile support equip- ment (SS-4, SS-5, and SS-6)	830	2,300	5,100	5,700	5,000	2,500	0	0
Operation and maintenance	<u>68</u>	<u>220</u>	<u>720</u>	<u>1,900</u>	<u>2,800</u>	<u>3,600</u>	<u>3,800</u>	<u>3,700</u>
Missile equipment	60	200	640	1,700	2,400	3,100	3,200	3,200
Missile facilities	8	22	86	250	400	540	570	570
Facilities	<u>55</u>	<u>380</u>	<u>2,300</u>	<u>3,300</u>	<u>3,200</u>	<u>1,600</u>	<u>0</u>	<u>0</u>
Surface-to-surface missiles	55	380	2,300	3,300	3,200	1,600	0	0
Total	<u>1,000</u>	<u>3,000</u>	<u>8,300</u>	<u>11,200</u>	<u>11,200</u>	<u>8,100</u>	<u>4,200</u>	<u>4,200</u>

a. Totals were derived from unrounded data and may not agree with the sums of the rounded components.

S-E-C-R-E-T

S-E-C-R-E-T

Table 16

Estimated Expenditures for the Major Surface Ships Element
of the Soviet Naval Mission a/
1958-65

	Million 1955 Rubles							
	<u>1958</u>	<u>1959</u>	<u>1960</u>	<u>1961</u>	<u>1962</u>	<u>1963</u>	<u>1964</u>	<u>1965</u>
Personnel	<u>1,600</u>	<u>1,400</u>	<u>1,300</u>	<u>1,200</u>	<u>1,000</u>	<u>1,000</u>	<u>1,000</u>	<u>1,100</u>
Crews								
Pay and allowances	550	510	480	360	400	410	410	430
Other	330	310	290	280	240	240	250	260
Shore support								
Pay and allowances	350	320	300	290	190	190	190	200
Other	310	290	270	260	170	170	170	180
Procurement	<u>1,100</u>	<u>1,100</u>	<u>1,200</u>	<u>1,600</u>	<u>1,500</u>	<u>1,500</u>	<u>1,500</u>	<u>1,500</u>
Ships	620	410	410	820	820	820	820	820
Supplies and equipage	190	200	170	170	150	150	150	160
General-purpose vehicles	15	14	13	12	8	8	8	9
Organizational equipment	110	100	97	93	61	61	62	64
Surface-to-surface missiles and missile support equip- ment (SS-8 and SS-13)	180	410	490	520	500	490	490	480
Operation and maintenance	<u>680</u>	<u>700</u>	<u>630</u>	<u>650</u>	<u>640</u>	<u>710</u>	<u>780</u>	<u>860</u>
Vehicles	11	10	10	9	6	6	6	6
Missile equipment	3	24	53	110	170	220	280	330
Missile facilities	b/	b/	1	1	2	3	3	4
Personnel facilities	39	36	33	32	21	21	21	22
Alteration and maintenance of vessels	340	360	300	280	270	270	280	300
Petroleum products								
Ships	280	270	230	210	180	180	180	190
Vehicles	6	6	5	5	3	3	3	4
Facilities	<u>40</u>	<u>37</u>	<u>35</u>	<u>35</u>	<u>24</u>	<u>24</u>	<u>24</u>	<u>25</u>
Personnel	39	36	33	32	21	21	21	22
Missile	1	1	2	3	3	3	3	3
Total	<u>3,400</u>	<u>3,300</u>	<u>3,200</u>	<u>3,500</u>	<u>3,200</u>	<u>3,300</u>	<u>3,400</u>	<u>3,500</u>

a. Totals were derived from unrounded data and may not agree with the sums of the rounded components.

b. Less than 500,000 rubles.

S-E-C-R-E-T

Table 17

Estimated Expenditures for the Nonmissile Submarine Element
of the Soviet Naval Mission a/
1958-65

	Million 1955 Rubles							
	<u>1958</u>	<u>1959</u>	<u>1960</u>	<u>1961</u>	<u>1962</u>	<u>1963</u>	<u>1964</u>	<u>1965</u>
Personnel	<u>410</u>	<u>390</u>	<u>390</u>	<u>380</u>	<u>350</u>	<u>360</u>	<u>360</u>	<u>360</u>
Crews								
Pay and allowances	160	150	150	150	160	160	160	170
Other	84	80	79	77	79	79	78	79
Shore support								
Pay and allowances	89	85	83	82	62	62	62	62
Other	80	75	74	73	55	55	55	55
Procurement	<u>530</u>	<u>960</u>	<u>1,100</u>	<u>1,100</u>	<u>1,000</u>	<u>870</u>	<u>870</u>	<u>880</u>
Submarines								
Conventional	140	420	350	280	140	0	0	0
Nuclear	160	330	490	660	660	660	660	660
Organizational equipment	28	27	27	26	20	20	20	20
General-purpose vehicles	4	4	4	3	3	3	3	3
Supplies and equipage	190	190	200	180	190	190	200	200
Operation and maintenance	<u>620</u>	<u>600</u>	<u>630</u>	<u>570</u>	<u>590</u>	<u>600</u>	<u>600</u>	<u>600</u>
Vehicles	3	3	3	3	2	2	2	2
Personnel facilities	10	9	9	9	7	7	7	7
Petroleum products								
Ships	74	71	70	59	58	56	53	51
Vehicles	2	2	1	1	1	1	1	1
Alteration and maintenance of vessels	530	520	540	500	520	530	540	540
Facilities	<u>10</u>	<u>9</u>	<u>9</u>	<u>9</u>	<u>7</u>	<u>7</u>	<u>7</u>	<u>7</u>
Personnel	10	9	9	9	7	7	7	7
Total	<u>1,600</u>	<u>2,000</u>	<u>2,100</u>	<u>2,100</u>	<u>2,000</u>	<u>1,800</u>	<u>1,800</u>	<u>1,900</u>

a. Totals were derived from unrounded data and may not agree with the sums of the rounded components.

S-E-C-R-E-T

Table 18

Estimated Expenditures for the Minor Surface Ships Element
of the Soviet Naval Mission a/
1958-65

	Million 1955 Rubles							
	<u>1958</u>	<u>1959</u>	<u>1960</u>	<u>1961</u>	<u>1962</u>	<u>1963</u>	<u>1964</u>	<u>1965</u>
Personnel	<u>1,200</u>	<u>1,100</u>	<u>1,200</u>	<u>1,200</u>	<u>900</u>	<u>890</u>	<u>930</u>	<u>940</u>
Crews								
Pay and allowances	430	380	440	420	360	360	370	380
Other	260	230	260	250	220	210	220	230
Shore support								
Pay and allowances	270	240	280	270	170	170	180	180
Other	240	210	250	240	150	150	160	160
Procurement	<u>890</u>	<u>1,100</u>	<u>1,300</u>	<u>1,300</u>	<u>880</u>	<u>700</u>	<u>500</u>	<u>510</u>
Ships	650	910	1,000	980	710	530	330	330
Supplies and equipage	140	140	220	210	110	110	110	120
Organizational equipment	86	76	90	86	54	54	57	57
General-purpose vehicles	11	10	12	11	7	7	8	8
Operation and maintenance	<u>780</u>	<u>770</u>	<u>1,300</u>	<u>1,300</u>	<u>700</u>	<u>690</u>	<u>710</u>	<u>730</u>
General-purpose vehicles	9	8	9	9	5	5	6	6
Personnel facilities	29	26	31	29	19	19	20	20
Petroleum products								
Ships	120	110	230	220	130	130	130	140
Vehicles	5	4	5	5	3	3	3	3
Alteration and maintenance of vessels	620	620	1,000	1,000	540	540	550	570
Facilities	<u>29</u>	<u>26</u>	<u>31</u>	<u>29</u>	<u>19</u>	<u>19</u>	<u>20</u>	<u>20</u>
Personnel	29	26	31	29	19	19	20	20
Total	<u>2,900</u>	<u>3,000</u>	<u>3,900</u>	<u>3,800</u>	<u>2,500</u>	<u>2,300</u>	<u>2,200</u>	<u>2,200</u>

a. Totals were derived from unrounded data and may not agree with the sums of the rounded components.

S-E-C-R-E-T

S-E-C-R-E-T

Table 19

Estimated Expenditures for the Air Element
of the Soviet Naval Mission a/
1958-65

	Million 1955 Rubles							
	<u>1958</u>	<u>1959</u>	<u>1960</u>	<u>1961</u>	<u>1962</u>	<u>1963</u>	<u>1964</u>	<u>1965</u>
Personnel	<u>520</u>	<u>520</u>	<u>350</u>	<u>400</u>	<u>410</u>	<u>410</u>	<u>390</u>	<u>400</u>
Pay and allowances	350	350	240	270	280	280	270	270
Other	170	170	110	120	130	130	120	120
Procurement	<u>4,000</u>	<u>1,200</u>	<u>1,200</u>	<u>1,100</u>	<u>1,300</u>	<u>1,200</u>	<u>910</u>	<u>730</u>
Aircraft	3,300	700	830	890	810	750	720	680
Organizational equipment	61	60	39	44	45	45	44	44
General-purpose vehicles	8	8	5	6	6	6	6	6
Ground-controlled approach radar	10	12	15	12	9	6	4	2
Air-to-surface missiles	540	420	340	160	410	380	130	0
Operation and maintenance	<u>780</u>	<u>910</u>	<u>800</u>	<u>980</u>	<u>1,000</u>	<u>1,100</u>	<u>1,100</u>	<u>1,100</u>
Vehicles	6	6	4	4	4	4	4	4
Ground-controlled approach radar	6	7	10	12	13	13	15	15
Aircraft	360	400	330	410	430	440	440	450
Personnel facilities	23	22	15	16	17	17	16	16
Airfields	19	18	20	20	20	20	20	20
Air-to-surface missiles								
Equipment	30	55	80	94	110	150	180	180
Facilities	1	1	1	1	1	2	2	3
Petroleum products								
Vehicles	3	3	2	2	2	2	2	2
Aircraft	330	400	340	420	440	440	430	440
Facilities	<u>29</u>	<u>26</u>	<u>22</u>	<u>15</u>	<u>16</u>	<u>16</u>	<u>15</u>	<u>15</u>
Personnel	21	20	14	15	16	16	15	15
Air-to-surface missiles	8	6	8	0	0	0	0	0
Total	<u>5,300</u>	<u>2,700</u>	<u>2,400</u>	<u>2,500</u>	<u>2,700</u>	<u>2,700</u>	<u>2,400</u>	<u>2,300</u>

a. Totals were derived from unrounded data and may not agree with the sums of the rounded components.

S-E-C-R-E-T

Table 20

Estimated Expenditures for the Joint Support Element
of the Soviet Naval Mission a/
1958-65

	Million 1955 Rubles							
	<u>1958</u>	<u>1959</u>	<u>1960</u>	<u>1961</u>	<u>1962</u>	<u>1963</u>	<u>1964</u>	<u>1965</u>
Personnel	<u>750</u>	<u>750</u>	<u>760</u>	<u>720</u>	<u>560</u>	<u>560</u>	<u>560</u>	<u>560</u>
Crews (auxiliaries)								
Pay and allowances	220	220	230	210	200	200	200	200
Other	130	130	140	130	120	120	120	120
Shore support (auxiliaries)								
Pay and allowances	140	140	140	130	94	94	94	94
Other	130	130	130	120	84	84	84	84
Coastal defense								
Pay and allowances	63	63	63	63	33	33	33	33
Other	63	63	63	63	34	34	34	34
Procurement	<u>790</u>	<u>760</u>	<u>760</u>	<u>770</u>	<u>760</u>	<u>820</u>	<u>820</u>	<u>840</u>
Auxiliary ships	130	130	130	130	130	130	130	130
Supplies and equipage	250	250	260	240	230	230	230	230
General-purpose vehicles	9	9	9	9	6	6	6	6
Organizational equipment	68	68	68	65	42	42	42	42
Torpedoes, mines, and depth charges	330	300	290	320	340	400	400	430
Fixed communications equipment	6	6	6	6	6	6	6	7
Operation and maintenance	<u>450</u>	<u>450</u>	<u>480</u>	<u>450</u>	<u>420</u>	<u>420</u>	<u>420</u>	<u>420</u>
Vehicles	7	7	7	6	4	4	4	4
Fixed communications equipment	4	5	5	5	5	6	6	6
Personnel facilities	23	23	23	22	14	14	14	14
Naval bases	100	100	100	100	100	100	100	100
Alteration and maintenance of vessels	150	150	160	150	140	140	140	140
Petroleum products								
Ships	160	160	170	160	150	150	150	150
Vehicles	4	4	4	4	2	2	2	2
Facilities	<u>120</u>	<u>120</u>	<u>120</u>	<u>120</u>	<u>110</u>	<u>110</u>	<u>110</u>	<u>110</u>
Personnel	23	23	23	22	14	14	14	14
Naval bases	100	100	100	100	100	100	100	100
Total	<u>2,100</u>	<u>2,100</u>	<u>2,100</u>	<u>2,100</u>	<u>1,900</u>	<u>1,900</u>	<u>1,900</u>	<u>1,900</u>

a. Totals were derived from unrounded data and may not agree with the sums of the rounded components.

S-E-C-R-E-T

Table 21

Estimated Expenditures for Command and Support
for Soviet Military Programs a/
1958-65

	Million 1955 Rubles							
	<u>1958</u>	<u>1959</u>	<u>1960</u>	<u>1961</u>	<u>1962</u>	<u>1963</u>	<u>1964</u>	<u>1965</u>
Personnel	<u>12,000</u>	<u>11,600</u>	<u>9,800</u>	<u>9,200</u>	<u>8,300</u>	<u>8,200</u>	<u>8,200</u>	<u>8,200</u>
Military	8,600	8,400	6,700	6,600	6,100	6,100	6,100	6,100
Pay and allowances	6,000	6,000	4,500	4,500	4,200	4,200	4,200	4,200
Other	2,600	2,500	2,300	2,200	2,000	2,000	2,000	2,000
Civilian	3,400	3,200	3,100	2,600	2,100	2,100	2,100	2,100
Procurement	<u>1,500</u>	<u>1,700</u>	<u>1,600</u>	<u>2,100</u>	<u>2,000</u>	<u>2,000</u>	<u>2,000</u>	<u>1,800</u>
Organizational equipment	920	890	810	780	710	700	710	700
General-purpose vehicles	120	120	110	100	95	95	95	95
Fixed communications equipment	8	8	8	8	8	9	9	9
Ground navigational aid radar	7	0	0	0	0	0	0	0
Ground-controlled approach radar	4	4	6	4	3	2	2	1
Aircraft	460	670	660	1,200	1,200	1,200	1,100	1,000
Operation and maintenance	<u>2,600</u>	<u>2,500</u>	<u>2,500</u>	<u>2,300</u>	<u>2,100</u>	<u>2,200</u>	<u>2,200</u>	<u>2,300</u>
Vehicles	92	88	82	78	71	71	71	71
Petroleum products								
Aircraft	200	190	230	250	260	260	270	280
Vehicles	52	51	46	44	39	39	39	39
Personnel facilities	320	310	280	270	250	250	250	250
Fixed communications facilities	48	51	54	57	59	62	65	68
Leasing of fixed communications facilities	84	86	89	91	93	96	98	100
Ground navigational aid radar	79	79	79	79	79	79	79	79
Ground-controlled approach radar	2	3	4	4	5	5	6	6
Aircraft	120	120	160	200	250	300	350	410
Airfields	13	14	24	28	30	29	28	30
Transportation	510	480	460	390	310	310	310	310
Medical care	790	740	710	610	490	490	480	480
Printing and publishing	300	280	270	230	180	180	180	180
Facilities	<u>320</u>	<u>300</u>	<u>280</u>	<u>270</u>	<u>240</u>	<u>240</u>	<u>240</u>	<u>240</u>
Personnel	320	300	280	270	240	240	240	240
Total	<u>16,400</u>	<u>16,100</u>	<u>14,200</u>	<u>13,900</u>	<u>12,600</u>	<u>12,700</u>	<u>12,700</u>	<u>12,600</u>

a. Totals were derived from unrounded data and may not agree with the sums of the rounded components.

S-E-C-R-E-T

Table 22

Estimated Residual Expenditures for Soviet Military Programs a/
1958-65

	Million 1955 Rubles							
	<u>1958</u>	<u>1959</u>	<u>1960</u>	<u>1961</u>	<u>1962</u>	<u>1963</u>	<u>1964</u>	<u>1965</u>
Militarized security forces	<u>5,000</u>	<u>4,400</u>	<u>3,800</u>	<u>3,500</u>	<u>3,200</u>	<u>3,200</u>	<u>3,200</u>	<u>3,200</u>
Personnel	3,700	3,300	2,900	2,700	2,400	2,400	2,400	2,400
Procurement	640	550	470	420	380	380	380	380
Operation and maintenance	430	370	320	290	260	260	260	260
Facilities	190	170	140	130	120	120	120	120
DOSAAF support	<u>500</u>	<u>500</u>	<u>500</u>	<u>500</u>	<u>500</u>	<u>500</u>	<u>500</u>	<u>500</u>
Research and development	<u>21,800</u>	<u>23,600</u>	<u>26,300</u>	<u>28,400</u>	<u>30,500</u>	<u>33,100</u>	<u>36,000</u>	<u>38,900</u>
Pensions	<u>3,300</u>	<u>3,500</u>	<u>3,600</u>	<u>3,700</u>	<u>3,900</u>	<u>4,000</u>	<u>4,100</u>	<u>4,300</u>
Reserve pay	<u>2,400</u>	<u>2,400</u>	<u>2,400</u>	<u>2,400</u>	<u>2,400</u>	<u>2,400</u>	<u>2,400</u>	<u>2,400</u>
Reserve subsistence	<u>1,700</u>	<u>1,700</u>	<u>1,700</u>	<u>1,700</u>	<u>1,700</u>	<u>1,700</u>	<u>1,700</u>	<u>1,700</u>
Total	<u>34,700</u>	<u>36,100</u>	<u>38,300</u>	<u>40,200</u>	<u>42,200</u>	<u>44,900</u>	<u>47,900</u>	<u>51,000</u>

a. Totals were derived from unrounded data and may not agree with the sums of the rounded components.

S-E-C-R-E-T

S-E-C-R-E-T

APPENDIX B

METHODOLOGYA. Estimation of Soviet Military Expenditures

The compilation of Soviet military expenditures on a mission basis proceeds through the following three stages: (1) estimation of expenditures for specific programs and activities, (2) classification of these expenditures in a manner that is meaningful within a mission framework, and (3) allocation of these expenditures according to this classification. This Office has developed procedures for "pricing" Soviet military programs for past years that fulfill the requirements of the first stage in the compilation of outlays by mission.

Coordinated estimates of levels of manpower and orders of battle for the various branches of the Soviet armed forces provide the basis for the estimation of expenditures. These estimates are buttressed by other contributions that estimate production of weapons and equipment consistent with the order of battle and information on output by plant. To calculate the expenditures for personnel, the tables of organization associated with the orders of battle are filled and then priced in line with information on Soviet pay schedules and allowances for food and clothing. The major items of military procurement (land armaments, aircraft, ships, and electronic equipment) are priced by type through the use of Soviet prices when they were available or through the use of US analogy together with suitable ruble-dollar ratios where Soviet prices were not available. Other elements of military-related expenditures, particularly in the category of operation and maintenance, are related to the orders of battle by using factors based on known Soviet practice or derived from US experience, modified where necessary. In two important areas of expenditure, nuclear weapons and research and development, separate estimates are made on a more general level.

B. Allocation of Military Units to Missions

After the allocation of organizational units to the various missions has been decided, the compilation of Soviet military expenditures proceeds in a manner similar to that used in other reports. The problem of the distribution of organizational units to missions, therefore, deserves primary emphasis in a discussion of the methodology employed in this report. To repeat the brief, earlier explanation of the mission orientation, the determining factor in the assignment of any unit is its relation to a weapon system, for the missions are defined to be aggregations of weapon systems. A weapon system may focus on a single

S-E-C-R-E-T

S-E-C-R-E-T

weapon or it may employ a variety of weapons -- the important criterion is that the system be an organic whole from the point of view of its use in combat. Every weapon system has two essential characteristics: it is capable of combat as a unit, and it has a distinctive function within the framework of military operations.

Attached to a weapon system may be a number of units acting in a direct support role. Of the organizational units with such a role, there are some that support the activities of more than one weapon system. Where it has not been possible to associate such units with specific weapon systems, they have been assigned to command and support, or in the case of the naval mission where there are units that are closely associated with the mission but not further allocable (that is, by element), they have been grouped as a joint support element within the mission. A case in point is the class of vessels called naval auxiliaries. Some of these vessels undoubtedly are subordinate to particular types of surface vessels but must be left in the joint support category, for no defensible method of allocating them among the naval weapon systems has been found. On the other hand, the "ground elements" of the ground mission include both weapon systems and joint support units because there is no way either of isolating the procurement expenditures relating to particular weapon systems (for example, a motorized rifle division) or of allocating support units to the weapon systems.

The same sort of problem exists in the definition of command and support activities. Logically the units included here support and control the operations of more than one mission. It should be feasible, however, to allocate some of the personnel in headquarters of military districts or of the Ministry of Defense to the various missions along the lines of their functional responsibilities. Certainly, expenditures estimated for military schools should be allocated by this method. The lack of detailed information, however, prevents such a division, although the activities are clearly mission-related.

This framework was used in building up the mission tables of organization -- the definitional background and the general reasoning supporting some of the compromises. The best way to set out the results of the application of these definitions to the Soviet military structure is to present the allocation of organizational units chosen for this report.*

* In most instances the allocation of the units provides a method of allocating expenditures because many types of outlays are estimated by unit. Certain important classes of expenditure, particularly in the procurement category, however, present special problems that are discussed in C, p. 48, below.

S-E-C-R-E-T

1. Ground Mission

The ground mission is divided into ground and air elements. All the line divisions and combat support units as well as most of the service units are included in the ground element. Those service units that are considered to serve more than one mission are assigned to command and support. Examples of service units so assigned are the signal intercept regiments, decimetric signal battalions, students in advanced schools and academies, construction and railroad troops, military headquarters, and hospital and motor transport repair personnel at the major command level.

The air element includes light bombers, medium bombers, reconnaissance aircraft, transports, jet fighters, jet trainers, and helicopters that have been assigned to the ground mission out of the total of such aircraft. The ground mission's share of light bombers and light transports in 1960 is retained throughout the period, and the number of medium bombers estimated for 1960 is continued through 1965. The proportion of total fighter strength assigned to the tactical air force in 1960 is used for 1958-59 as well, but for the period after 1960 this proportion is estimated to decline, reaching 20 percent by 1965. Similarly, for medium transports and light helicopters the proportions estimated for 1960 have been used for 1958-59. For the period after 1960, however, somewhat less than one-half of the increase in medium transports (propeller-driven) is assigned to the ground mission, and by 1965 the ground mission is assumed to have one-half of all light helicopters. Thus the air element includes weapon systems such as light bombers and jet fighters and support units such as the units operating transport aircraft that serve both the ground and air elements of the ground mission. In the case of aircraft, all personnel through air army headquarters estimated to be associated with the operation of a particular aircraft are included in the respective weapon system.

2. Air Defense Mission

The air defense mission comprises four elements the responsibility of which is the defense of the USSR against attack by aircraft or missiles. Three types of weapon systems are included -- fighter aircraft, antiaircraft (AA) artillery, and SAM's. The fourth element, control and warning, supports the other three. All fighter aircraft and jet trainers not assigned to the ground mission are assigned to the fighter element of air defense. All AA units outside the army field forces -- that is, the separate AA battalions (Otdel'nyy Zenitno-Artilleriyskiy Divizion -- OZAD's) defending airfields, the naval AA regiments, and the AA divisions of air defense comprise the AA artillery element of the air defense mission. All fixed site SAM units (the SA-1 and the fixed site SA-2 and SA-3 units) are allocated to this

- 45 -

S-E-C-R-E-T

S-E-C-R-E-T

mission, whereas the mobile SA-2 and SA-3 units are included in the ground mission. All personnel assigned to units operating early warning or ground-controlled intercept radar or controlling the commitment of aircraft or missiles in an air defense role are allotted to the control and warning element.

3. Strategic Attack Mission

All the forces for long-range attack are included in the strategic attack mission. Thus the missiles with a range of 700 nautical miles or more (SS-4, SS-5, and SS-6) are assigned to the SSM element. The medium and heavy bombers of long-range aviation constitute the bomber element, and the "G," "Z," and nuclear-powered submarines that are equipped to launch missiles provide a third element. Both the bomber element and the submarine element are assigned appropriate missiles. An ASM that is designed for land targets, the AS-2, belongs to the bomber element, but several SSM's -- the SS-7, SS-9, SS-11, and SS-12 -- are launched from submarines and are included in the submarine element.

The submarine element is given its proportionate share of shore support. The bomber element includes all the personnel necessary to operate and support these aircraft through air army headquarters. It should be noted, however, that no support aircraft are included in this mission, which is consistent with the projected development of military transport aviation as a support function for all the missions except the naval mission and the airborne divisions of the ground mission.

4. Naval Mission

Although each class of vessel with a function other than direct support can be considered a separate weapon system, in order to avoid an overly detailed presentation, the ships in the naval mission designed for use against enemy shipping or naval forces are grouped into just three elements -- major surface ships (cruisers, destroyers, and destroyer escorts), conventional (torpedo) submarines, and minor surface ships (mine vessels, amphibious vessels, patrol craft, and motor torpedo boats). The major surface ship element includes the SS-8 and SS-13 destroyer-launched missiles. Each of the three elements includes personnel providing shore support.

The fourth element of the naval mission comprises the aircraft and personnel of the naval air force with the exception of fighter aircraft and associated personnel, all of which have been assigned to the air defense mission. For the entire period 1958-65, all bombers not assigned to the other missions are assigned to the naval mission.

S-E-C-R-E-T

After 1960, light transports are assigned in the same proportion as for 1960, and some medium transports are assigned to the mission during the projection period. The proportions of reconnaissance and utility/liaison aircraft in 1960 also are maintained through 1965, whereas the proportion represented by light helicopters was expected to increase to 25 percent in 1965.

In addition to the preceding elements the naval mission encompasses a joint support element. This element includes auxiliary vessels and coastal defense personnel but excludes the personnel in training and naval personnel at the Ministry of Defense level, all of whom are included in command and support.

5. Command and Support

It is clear that the mission framework described above fails to cover a substantial number of military personnel belonging to the Ministry of Defense. These personnel, who fall into three categories, work at the Ministry of Defense level, serve in specialized units that support more than one mission, or are engaged in training activities essential to the function of more than one mission. Although some of the personnel within each category undoubtedly are performing functions for a single mission, existing estimates are not sufficiently detailed to assign them to a particular mission.

These personnel, therefore, are placed in command and support, which encompasses activities closely related to all the four primary missions. Command and support includes Ministry of Defense military personnel of all services; specialized units such as military transport aviation regiments; railroad and construction troops; draft boards; depots and hospitals at major command levels; and students and faculty at schools, academies, naval general training centers, and preoperational aviation training centers. Included also are military personnel assigned to research and development projects and all civilian personnel of the Ministry of Defense except those engaged in research and development activity.

Military transport aviation is assigned all the light and medium transports and light helicopters that have not been allocated to the ground mission (for support of airborne aviation) or to the naval mission. All medium helicopters are assumed to be used in a command and support role.

6. Residual

Although the framework presented thus far covers by far the greater part of all personnel connected with Soviet military programs,

S-E-C-R-E-T

the militarized security forces, the reservists, and civilian personnel working in military research are excluded. These personnel are assigned to a residual in spite of their being theoretically allocable to missions or subject to possible inclusion in command and support. These personnel have not been so assigned, however, because there is relatively little basis for doing so and there seems to be little point in introducing items to the bases for mission-related expenditures that are subject to considerable uncertainty. The militarized security forces and the reservists are not of sufficient magnitude to alter expenditures or the relative shares that are associated with the missions. It is certainly possible, however, that an accurate allocation of outlays for research and development among the various missions could affect their relative standing significantly.

C. Allocation of Expenditures

This section is devoted to outlining those instances in which expenditures could not be attributed directly to a particular mission through association with organizational units and, therefore, had to be allocated on some other basis.

Soviet outlays for personnel and for operation and maintenance are estimated primarily on an organizational basis and, given the mission framework described above, can be allocated to the missions accordingly. There are, however, three exceptions: the maintenance of electronic equipment, the maintenance of airfields, and certain operating outlays for overhead, all of which are treated below. Outlays for the construction of facilities for personnel and missile facilities were divided simply on the basis of the allocation of the parent organizations among the missions. Expenditures for the construction of airfields cannot be so assigned. A like situation prevails for some types of procurement, expenditures for which cannot be readily assigned.

Expenditures for the procurement of ground electronic equipment is a case in point. Moreover, given the relationship between order of battle, procurement, and operation and maintenance, allocation of the estimated outlays for both procurement and operation and maintenance are affected. As a basis for assigning expenditures, all battle-field surveillance radar and ground infrared equipment were allotted to the ground element of the ground mission. The procurement of fire control radar and proximity fuses was divided between the ground element of the ground mission and the AA element of the air defense mission on the basis of the number of AA guns procured by these elements because production of these guns serves as the basis for the estimate of production of both fire control radar and proximity fuses. In turn, production of each model of AA weapons was allocated either to

S-E-C-R-E-T

S-E-C-R-E-T

the ground element of the ground mission or to the AA element of the air defense mission (air defense divisions, naval AA regiments, and OZAD's) on the basis of the relative number of each model in the inventory of these elements.

The control and warning element of the air defense mission receives and is charged with maintaining all early-warning ground-controlled intercept radar and ballistic-missile early-warning radar, as well as height finders, identification-friend-or-foe radar, electronic countermeasures equipment, and electronic computers. All ground navigational aids are assigned to the air force element of command and support, but the procurement and maintenance of ground-controlled approach radar is divided among air elements of the various missions and command and support according to the distribution of the air order of battle. Expenditures for the procurement and for the operation and maintenance of communications equipment were allocated as follows: All equipment used for communications between the Ministry of Defense and major command headquarters was assigned to command and support. All equipment used for communications between military district headquarters and major naval bases was assigned to the naval mission. All equipment used for communications between military district headquarters and long-range air force bases was assigned to strategic attack. All equipment used for communications laterally between military district headquarters and between military district headquarters and army, corps, and division headquarters was assigned to the ground mission. A separate estimate is available for the air defense mission. Clearly the division of communications equipment (and, on the same grounds, outlays for leased equipment and facilities) at best can only approximate the existing structure of command channels for communications by mission.

The allocation of outlays for the maintenance of airfields to the several missions was accomplished by assigning airfields to missions on the basis of the air order of battle and the technical requirements of the relevant aircraft. Only the ground, air defense, and strategic attack missions are considered to share in the airfield construction program that ended in 1960. Again the allocation depends on the relative requirements for airfields.

Certain overhead outlays present a special problem. It would seem desirable to charge each mission directly with the operating expenditures for medical care, transportation, and printing and publishing. At the present stage of development of these estimates, it seems better to place these outlays in command and support.

The remaining areas for which allocations had to be made with less than the desired degrees of confidence also concern procurement. Of

S-E-C-R-E-T

these areas the more important is the procurement of nuclear weapons, which is listed as a separate category, for the foundation for these estimates cannot support an allocation by element within each mission. Even the division by mission must be accepted with restraint. The procurement of aircraft was a different sort of problem. Although the trends of the air order of battle for various missions vary widely, the procurement of aircraft has been assigned, by model, to the various missions according to the relative numbers of each model estimated to be in the order of battle for each mission.

In summary, where the organizational framework of the missions fails to supply a clear-cut method, the allocation of expenditures generally follows one of two directions -- either they were placed in command and support or, more often, they were assigned on the basis of the share that each mission is thought to have of the particular item responsible for the expenditure.

S-E-C-R-E-T

Page Denied

SECRET

SECRET