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SOVIET DEFENSE EXPENDITURES, 1955-64

A Contribution to the Memorandum to Holders of NIE 11-4-65

MAIN TRENDS IN SOVIET MILITARY POLICY

CIA/RR MP 65-1

(ORR Project No. 50.6111)

2 June 1965

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FOREWORD

As approved by USIB on 14 April 1965, NIE 11-4-65: Main Trends in Soviet Military Policy stated:

The question of defense expenditures for 1964 is currently under study, and a Memorandum to Holders of this estimate, covering this subject, will be published when this analysis is completed.

This contribution, prepared to serve as a basis for such a Memorandum to Holders, consists of three sections. The first of these is a proposed draft of the Memorandum for Holders. The second section presents in some detail the basis and results of ORR's most recent study of Soviet defense expenditures upon which the proposed draft memorandum is based. The third section discusses the differences between this current series and, respectively, an earlier series used in NIE 11-4-64* and the final IAP-64 expenditure series, published in CIA/RR MR 64-1,** which was based on information current as of September 1964.

As will be seen below, a relatively brief Memorandum for Holders of NIE 11-4-65 is recommended. This proposed Memorandum and its supporting table are at about the same level of detail as past estimates in this series. The second section of the contribution includes relatively

* Main Trends in Soviet Military Policy, 22 April 1964 (SECRET/

** Soviet Defense Expenditures and Their Economic Impact Through 1970, December 1964 (SECRET,

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detailed tables on various aspects of Soviet defense expenditures which provide the data needed by the representatives in their consideration of the Memorandum for Holders. The lengthy detailed third section -- explaining the differences between the current series and earlier series -- has been included in response to several requests for a relatively detailed review of the changes that have taken place over the past year and a half.

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SOVIET MILITARY EXPENDITURES, 1955-64

I. Proposed Draft of Memorandum to Holders of NIE 11-4-65:

THE PROBLEM

To report on an analysis of trends in the level and allocation of Soviet defense expenditures implied by Soviet military programs and activities.

SCOPE NOTE

NIE 11-4-65, MAIN TRENDS IN SOVIET MILITARY POLICY, 14 April 1965, assesses the main trends in Soviet military thinking, policy, and programs. It does not contain an explicit statement of Soviet defense expenditures, because the analysis of these expenditures through 1964 had not been completed at the time of the publication of the NIE. This Memorandum supplements paragraphs 16 and 17 of the Discussion in NIE 11-4-65 by presenting the results of the analysis of this topic.

DISCUSSION

1. Our analysis indicates that annual Soviet defense expenditures have remained at about 17 billion rubles during the 1962-64 period.* Historically, however, these expenditures have shown considerable change over the past decade, declining in 1956 and 1957 and then rising from about 14 $\frac{1}{2}$ billion rubles in 1958 to slightly more than 17 billion

* If US and Soviet expenditures are adjusted to attain comparability, the 1964 level of the dollar valuation of Soviet expenditures would be about 80 percent of US expenditures.

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in 1963. As indicated in Table 1, the main impetus for the growth during this period was provided by the continuing buildup in forces for strategic attack and defense and by extensive research and development and space programs. These increases were partially offset by a continuing decrease in expenditures for general purpose forces. Although expenditures for strategic defense forces and research and development continued to increase, those for strategic attack forces decreased somewhat in 1963 and 1964, reflecting the completion of the MR/IRBM deployment programs and the pause between the end of the deployment program for second-generation ICBM's and the beginning of the new single-silo ICBM program.

Table 1 also shows a marked shift in the allocation of expenditures within the military establishment. About 30 percent of the 1955 expenditures were allocated to strategic defense and strategic attack forces and research and development; by 1964, more than 50 percent of the much larger total was allocated for these purposes.

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Table 1

Estimated Distribution of Soviet Defense Expenditures a/
Selected Years, 1955-64

	Billion 1955 Rubles				
	<u>1955</u>	<u>1958</u>	<u>1962</u>	<u>1963</u>	<u>1964</u>
Strategic Attack Forces	1.8	2.0	3.1	2.8	2.4
Strategic Defense Forces	1.8	1.9	2.6	2.6	2.8
General Purpose Forces <u>b/</u>	8.6	6.5	6.1	6.2	6.0
Command and General Support <u>c/</u>	2.7	2.4	2.1	2.1	2.1
Research and Development <u>d/</u>	1.0	1.8	3.1	3.5	3.8
Total	<u>15.9</u>	<u>14.6</u>	<u>17.0</u>	<u>17.2</u>	<u>17.1</u>
	Percent				
	<u>1955</u>	<u>1958</u>	<u>1962</u>	<u>1963</u>	<u>1964</u>
Strategic Attack Forces	11	14	18	17	15
Strategic Defense Forces	11	13	15	15	16
General Purpose Forces <u>b/</u>	54	45	36	36	35
Command and General Support <u>c/</u>	17	16	13	12	12
Research and Development <u>d/</u>	7	12	18	20	22

a. Most of the figures in this table are derived from detailed calculations of the estimated magnitude and cost to deploy and operate individual program elements of the Soviet military establishment. These calculations produce numbers which suggest a high degree of accuracy. In fact, however, these numbers are subject to considerable uncertainty and should not be considered as precise measures. The totals shown in this table are based on unrounded data; the components are also based on unrounded data but have been adjusted where necessary to add to the totals shown.

b. Including estimated expenditures for ground forces, tactical and naval aviation, military air transport, and naval forces (except ballistic-missile submarines, which are included in Strategic Attack).

c. Including estimated expenditures for reserve forces, paramilitary training, and militarized security forces in addition to command and support for the active military establishment.

d. Including estimated R and D expenditures for military equipment, nuclear energy, and all space programs. These figures are derived from analysis of published Soviet financial data and do not represent detailed calculations of R and D activities.

II. Analysis of Soviet Defense Expenditures* for NIE 11-4-65

The estimates of Soviet defense expenditures, 1955-64, presented below are the result of a continuing effort by ORR to construct and maintain an expenditure series which, on the one hand, is consistent with current estimates and, on the other, includes improvements in our understanding of historical trends in forces, programs, and activities based on accumulated information. The research effort for NIE 11-4-65 was an attempt to construct a single-valued "best" estimate of Soviet military expenditures and activities during the past decade. Evidence for the period since 1955 was systematically reviewed in order to restate, from the vantage point of April 1965, the historical pattern of Soviet defense programs (procurement, deployment, and so on). For the period 1961-64 (covered by IAP-64) an attempt was made to select the set of "most probable" programs from within the ranges of uncertainty presented there, taking into account the latest evidence and the most recent revisions of Section I, II, and III of IAP-64. Certain projections beyond 1964 were made in an effort to preclude an unrealistic sagging (a "tired-arm" effect) in the expenditure series for 1963-64 by taking the effects of longer lead times of future procurement programs into account.

Compared with IAP-64,** no significant methodological change was made. Prices and expenditure factors were reviewed and some adjustment made.

* The data on expenditures presented in this contribution conceptually include all outlays for personnel and other operating costs, procurement of all hardware used by the military establishment (including nuclear warheads), construction of facilities, military and nuclear research and development activities, and all space programs. Many of the funds required to cover these expenditures come from sources other than the budget account labeled "Defense" by the USSR.

** See MR 64-1.

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The remainder of this section is divided into three parts. The first summarizes the expenditure implications of the force structure in rubles and discusses the salient features of the constituent parts. The second presents the dollar equivalents of these expenditures and a comparison of them with US defense expenditures. The third presents the detailed data on which the discussion in this and the preceding section is based.

A. Trends in Soviet Defense Expenditures, 1955-64

1. Total Expenditures

Estimated total Soviet defense expenditures for 1955-64, as may be seen in Figure 1,* decline from a level of 15.9 billion rubles** in 1955 to a low of 14.3 billion in 1957. In 1958 these expenditures begin a climb that continues through 1963, when the level of 17.2 billion is reached. This level is essentially maintained in 1964. For the most part, throughout the entire period the changes from year to year are relatively gradual, with an increase of 21 percent from the low in 1957 to the high in 1963, an average annual rate of slightly more than 3 percent. The most dramatic change is an increase of 11 percent from 1961 to 1963.

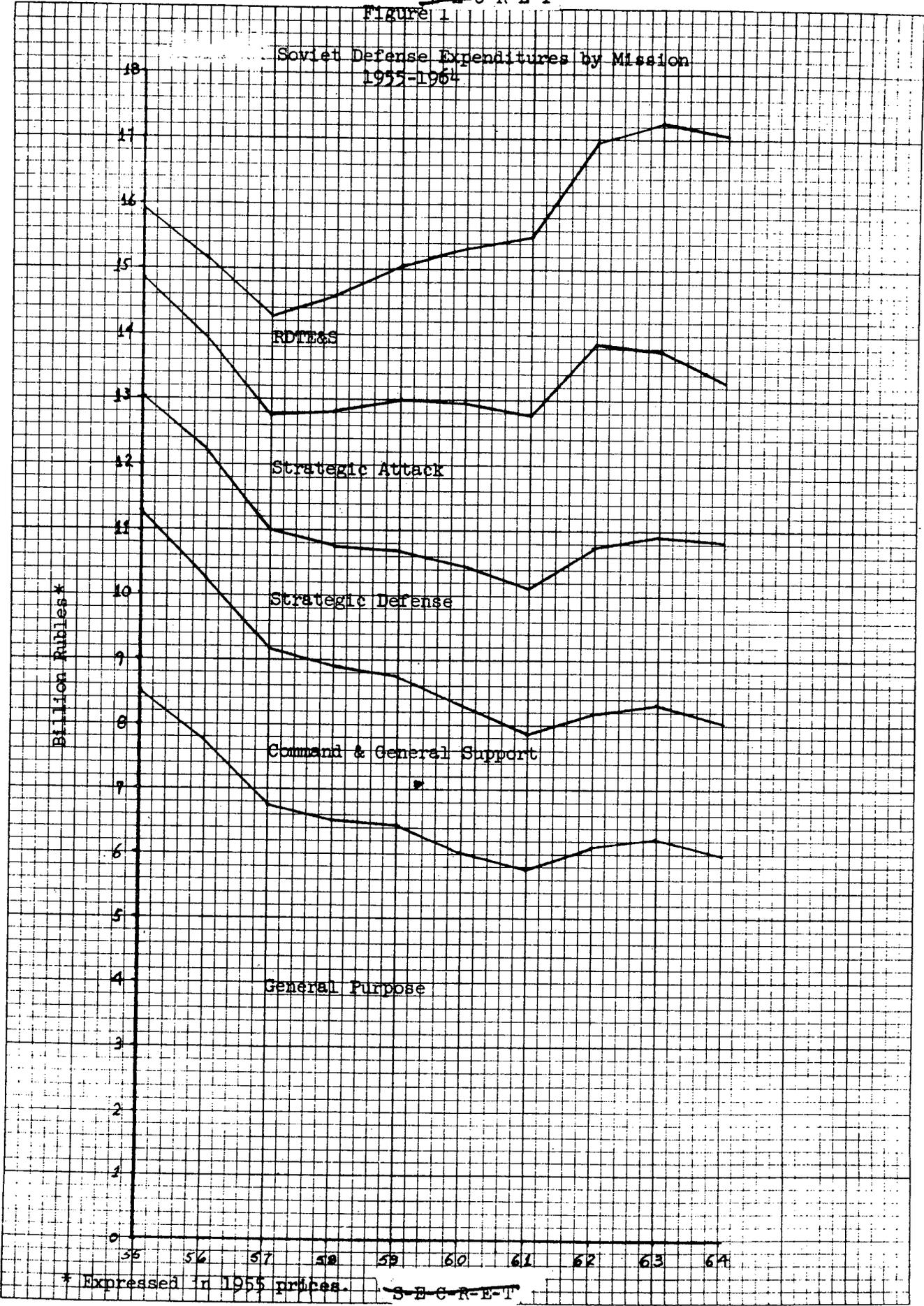
2. Composition of Expenditures, by Military Mission

a. General

As Figure 1 indicates, there have been sizable changes in the level of expenditures for the major missions over time. The

* See also Tables 2 and 3.

** Unless otherwise noted, all ruble values in this contribution are based on the 1955 Soviet price structure but have been expressed in new ruble terms by dividing by 10. In concept, when these prices are applied to the physical quantities, the product expresses the cost of the underlying physical quantities had they been purchased in the USSR in 1955. Price information on newer military equipment is particularly sparse. Also, the extent of Soviet price movement in general is not well known. Therefore, it is incorrect in principle to compare the series in this contribution with any series of Soviet military expenditures that is based on current (as opposed to fixed year -- here 1955) prices.



* Expressed in 1955 prices.

increase in total expenditures is due to the growth of the Strategic Forces and Research, Development, Test, Evaluation, and Space (RDTE&S).* The largest increase in expenditures for Strategic Attack programs occurs from 1958 through 1962. On the other hand, those missions for which expenditures experience the largest growth -- Strategic Defense and RDTE&S -- show a steady increase throughout the entire period, with one minor exception -- a small decline in expenditures for Strategic Defense in 1957. The trends in expenditures for the remaining two missions are downward, however, with a steady decline in expenditures for General Purpose Forces, except for a slight rise in 1962 and 1963, and for Command and General Support throughout the entire period.

The most impressive change, RDTE&S aside, is in the expenditures for the Strategic Defense Forces which show an increase of nearly 60 percent, most of which occurs between 1958 and 1964. The primary reason for this growth is the extensive Soviet deployment of SAM's. The somewhat smaller increase in Strategic Attack is also of note, with the 1964 level of expenditures being some 45 percent greater than that of 1956. The MR/IRBM programs account for the largest share of expenditures in this mission through 1962; thereafter expenditures for the ICBM program are larger than for any other system in the mission.

The shares of the total expenditures devoted to the Strategic Attack and the Strategic Defense Missions are of interest. Although the shares are equal in 1955 (11 percent of the total) and only slightly different in 1964 (15 percent for Strategic Attack and 16 percent for Strategic Defense), the trends between these two points are quite different. The share devoted to Strategic Attack increases

* All expenditures for RDTE&S are included in a separate mission and no expenditures for these purposes have been allocated to any other mission.

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more rapidly to a high of 18 percent in 1962 and then declines to its 1964 level. The share devoted to Strategic Defense meanwhile experiences a relatively smooth increase from its 1955 level to its high of 16 percent which is not reached until 1964.

Expenditures for the General Purpose Forces are those that decline most rapidly during the period, as would be expected with the trend toward more sophisticated, less personnel-intensive weapon systems. Even though the General Purpose Forces experience a substantial decline in manpower (most of which occurs in the Ground Forces), they continue to account for a large share of the total expenditures. Their share of the total declines from 54 percent in 1955 to 35 percent in 1964; however, it still remains higher than the combined shares for the Strategic Attack and Strategic Defense Forces. The expenditures for Command and General Support Forces follow the same downward trend as that of the General Purpose Forces, from 17 percent of total expenditures in 1955 to 12 percent in 1964.

The RDTE&S Mission shows the steadiest, and by far the largest, increase. Its share of the total grows from 7 percent in 1955 to 22 percent in 1964. The rising expenditures for this mission reflect the dynamic technical changes which began in the 1950's. The complexity, sophistication, and quantitative requirements for testing advanced weapons systems, together with entirely new programs such as space, have multiplied the costs of RDTE&S. Development costs alone can, at times, outweigh even those of subsequent deployment. Indeed, the cumulative amount estimated to have been spent for Soviet RDTE&S

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during the period 1955-64 is as large as the cumulative expenditures for the Strategic Attack Force and larger than that for Strategic Defense Forces.

b. Strategic Attack

The estimated expenditures for the Strategic Attack Forces* in general follow the same trend as that of the total, except that the mission peaks and troughs lead those of the total expenditures by a year. The trend and composition of the expenditures for this mission may be seen in Table 4. The mission total declines slightly from 1955 to a level of 1.7 billion rubles in 1956 and then begins a steady climb to a peak of 3.1 billion rubles in 1962, after which it declines. As a share of total expenditures, those for Strategic Attack grow from about 11 percent in 1955-56 to a peak of about 18 percent in 1962.

The decline in the share of total expenditures and in the expenditures for this mission after 1962 indicates the relative importance of the expenditures for MR/IRBM's. Although the expenditures for ICBM programs in 1963 and 1964 are larger than ever before, they are not large enough to offset the decline caused by the approaching completion of the SS-4 and SS-5 MR/IRBM deployment programs. Although deployment of ICBM's is very costly, the magnitude of the Soviet MR/IRBM deployment programs is so great that the cumulative expenditures through

* The expenditures for Strategic Attack Forces comprise all expenditures for personnel, procurement, operation and maintenance, construction, and nuclear weapons for the conduct of long-range attack. All expenditures for research, development, test, and evaluation (RDT&E) are included in the RDTE&S Mission. This mission encompasses surface-to-surface missiles with a range of 600 nautical miles and more; ballistic-missile-launching submarine systems; and all heavy and medium bombers and tankers assigned to Long Range Aviation, including supporting personnel and equipment.

1964 for MR/IRBM forces exceeds those for ICBM's by about 35 percent. The further decrease in expenditures for the Strategic Attack Mission in 1964 is due to the transition from the deployment of multiple-launcher ICBM sites to single-silo launchers. The degree to which expenditures on this mission will recover previous high levels will depend primarily on the magnitude of these new ICBM deployment programs.

Although expenditures for the procurement and operation of strategic bomber forces decreased throughout the 1955-64 period, for the decade as a whole these expenditures -- mostly for medium bomber forces -- are quite large, amounting to nearly 90 percent of the expenditures for ground-launched strategic missile systems. Expenditures for submarine-launched ballistic-missile systems were about one-tenth the total expenditures on strategic missiles over the past decade.

An examination of the Strategic Attack Mission by geographic orientation reveals other useful insights. The mission total is made up of expenditures on forces for intercontinental attack,* on forces for peripheral attack,** and on nuclear weapons and joint support units.*** The allocation of expenditures between the intercontinental and peripheral sub-missions reflects both the Soviet concern with Eurasia and its periphery and the earlier development of capabilities against these areas. The allocation to peripheral attack forces during 1955-62 exceeds that to intercontinental forces. As

* Long Range Air Forces heavy bombers, Strategic Rocket Forces ICBM's, and Naval Forces ballistic-missile submarines.

** Long Range Air Forces medium bombers and Strategic Rocket Forces MR/IRBM's.

*** Long Range Air Forces headquarters and logistical support units that serve the forces of both intercontinental and peripheral attack.

capabilities for peripheral attack approach the present levels, there is a shift in the relative emphasis, and since 1963 expenditures for intercontinental forces are greater than those for peripheral forces. Nevertheless, cumulative expenditures on peripheral forces for the decade as a whole exceed those for intercontinental forces by about 4 billion rubles (more than 60 percent).

c. Strategic Defense

Expenditures for Strategic Defense Mission* rise consistently throughout the entire period, with the exception of a slight drop in 1957. The expenditures for this mission have the steadiest rate of growth and the largest percentage increase of any of the military missions other than RDTE&S. During this period the share of the total expenditures devoted to Strategic Defense increases from 11 percent in 1955 to a high of 16 percent in 1964.

Ground-based missiles and control and warning have the greatest effect on the mission total. Expenditures for ground-based missiles for 1964 are nearly four times the 1955 level, primarily reflecting the growth of the SA-2 forces. The cumulative expenditures for ground-based missile systems account for nearly one-third of the 21.7-billion-ruble cumulative total for the mission. The estimated

* The Strategic Defense expenditures comprise all expenditures for personnel, procurement, operation and maintenance, construction, and nuclear weapons primarily assigned to the defense of the USSR against air attack. All expenditures for RDT&E are included in the RDTE&S Mission. This mission encompasses the control and warning network and all SAM's, ABM's, and aircraft assigned to the PVO Strany (Air Defense of the Homeland). Personnel and equipment in direct support of these units also are included. (See Table 5.)

expenditures for control and warning increase steadily, and the level for 1964 is nearly $2\frac{1}{2}$ times higher than the 1955 level, reflecting primarily the increase in the number and complexity of Soviet ground-based radar.

Other important changes in expenditures for this mission include a decrease for interceptor aircraft (expenditures for 1964 are one-third less than those for 1955) and a phase-out of expenditures for antiaircraft artillery units in a strategic defense role.

d. General Purpose Forces

Expenditures for the General Purpose Forces Mission* are larger than for any other mission despite the fact that the share for this mission declines steadily over the period, from 54 percent in 1955 to 35 percent in 1964. Expenditures for this mission exceed those for Strategic Attack and Strategic Defense combined in each year of the period under study.

The impact of expenditures for the Ground Forces on the total expenditures for General Purpose Forces can be illustrated by noting that the Ground Forces, including their nuclear weapons, account for more than one-half of the total General Purpose Forces in every year through 1961 and are never lower than 47 percent of the total after that. The decline in expenditures for the Ground Forces, due

* Expenditures for General Purpose Forces comprise all expenditures for personnel, procurement, operation and maintenance, construction, and nuclear weapons for conducting land warfare and opposing enemy naval forces and shipping. All expenditures for RDT&E are included in the RDTE&S Mission. This mission encompasses the following: (1) theater forces, which include ground combat forces, tactical rockets and missiles, and tactical air forces plus their associated command, support, and service elements; (2) military air transport and airlift elements; and (3) naval forces, which include the Soviet naval surface fleet, the naval air forces, and the submarine fleet except the ballistic-missile submarine forces. (See Table 6.)

primarily to the reduction in military manpower, accounts for most of the decline in expenditures for the General Purpose Forces from 1955 through 1964. As shown in Table 6, the remaining elements follow a general downward trend for the period with the exception of expenditures for nuclear weapons and military air transport.

e. Command and General Support

Expenditures for the Command and General Support Mission* are made up of those for Command and Support, Civilian Defense, Reserve and Retired Personnel, and Militarized Security Forces. Considered as a whole, the mission's share of the total expenditures decreases slowly throughout the period, from a high of 17 percent in 1955 to a low of 12 percent in 1964. Within the mission, two counteracting forces are at work. The expenditures for Command and Support and the Militarized Security Forces decline steadily -- the 1964 figure being nearly 0.9 billion rubles, or more than 40 percent less than 1955 -- and expenditures for Reserve and Retired Personnel and Civilian Defense rise steadily, with the 1964 figure being nearly 0.2 billion rubles higher than that of 1955.

* Expenditures for Command and General Support comprise all expenditures for personnel, procurement, operation and maintenance, and construction for the following elements: (1) Command and Support, which is made up of units which contribute directly to the support of more than one mission, such as Ministry of Defense, major depots, hospitals and schools; military district headquarters, and the like; (2) Civilian Defense, which is the military establishment's support of DOSAFF (Voluntary Society for Cooperation with the Army, Air Force, and Navy); (3) Reserve and Retired Personnel costs; and (4) Militarized Security Forces. All expenditures for RDT&E are included in the RDTE&S Mission. (See Tables 2 and 3.)

f. Research, Development, Test, Evaluation, and Space*

The element of estimated expenditures that acts to increase the total expenditures more than any other is RDTE&S. Expenditures for RDTE&S in 1964 are estimated to be nearly 3.7 times those for 1955, or an average annual rate of growth of more than 15 percent per year over the entire period, in contrast to an average annual rate of growth of slightly over 3 percent in total expenditures from 1957 through 1963. During this time the share of total expenditures devoted to RDTE&S grows from 7 percent in 1955 to 22 percent in 1964. Thus the mission is second only to General Purpose Forces in terms of share of overall expenditures.

The method used for deriving the estimated Soviet expenditures for RDTE&S is basically different from that used for deriving the expenditures for the other missions. The latter are derived from explicit assumptions as to the size of the forces and other underlying physical quantities, whereas the expenditures for RDTE&S are derived in a more general way as a monetary aggregate and are based on published Soviet data pertaining to expenditures for "Science." The estimated costs of military manpower for those personnel in the armed forces who are involved in RDTE&S projects are added to the resulting base series.

* Expenditures shown here are broader in their coverage than the expenditures for research and development reported by the US Department of Defense. To obtain comparable coverage on the US side, the expenditures for research and development of the Atomic Energy Commission and all expenditures of the National Aeronautics and Space Administration must be added to the expenditures for research and development of the Department of Defense. (See Tables 2 and 3.)

3. Composition of Expenditures, by Category of Expenditure*

As discussed above in the case of the distribution of expenditures by mission, outlays for RDTE&S** programs contribute greatly to the growth of total expenditures. Fluctuations in the estimated expenditures for investment -- procurement and construction of facilities -- are the principal reason for the fluctuations in total expenditures, while the estimated expenditures for operating costs -- personnel and operation and maintenance -- are a stabilizing influence. A large increase in RDTE&S expenditures and a modest rise in the operations and maintenance portion of operating expenditures are responsible for the increase between 1955 and 1964. Between 1958 and 1964 the trend in the personnel expenditures is the only segment operating downward in opposition to the upward trends of all the other segments of the total.

When the categories are considered in the light of their share of the total expenditures, RDTE&S expenditures account for 6 percent in 1955 and 21 percent in 1964. The share accounted for by investment fluctuates within a narrow range, decreasing from its 1955 level of 40 percent to a low of 37 percent in 1957, then rising to its highest level of 42 percent in 1962. Its share then declines to 39 percent in 1963 and continues its downward movement to its lowest level of 36 percent in 1964.

* See Tables 7 and 8.

** Although they are almost conceptually equivalent, there is a minor difference in coverage between the RDTE&S mission and the RDTE&S category. In the case of the RDTE&S mission, expenditures related to military personnel on active duty who are engaged in RDTE&S work are added to the estimated value of all RDTE&S work carried out directly for the military establishments as well as to all space programs.

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The fluctuations in investment as a share of the total are accounted for by movements in outlays for procurement because there are no significant changes in expenditures for construction of facilities. Basic changes in the composition of procurement over the past decade are more marked than the movement of the total suggest, because of divergent trends. Although the overall total for procurement is never more than 10 percent above its 1955 level, expenditures for missile systems, ground-based electronics, and nuclear warheads grow very rapidly through 1962 when they are about four times their 1955 level. Thereafter, they decline somewhat and in 1964 are more than three times their 1955 level, mainly because of a decrease in the procurement of MR/IRBM's and SAM's. In terms of their share of total procurement, these systems represent about 16 percent in 1955, but in 1964 these systems account for 56 percent of the total. Procurement of all other types of equipment in the aggregate fall during the decade to about one-half the 1955 level.

The growth of expenditures for RDTE&S together with that for the procurement of missile systems, ground-based electronics, and nuclear warheads illustrates the economic impact of advanced weapon systems. Total expenditures for these purposes in 1964 are nearly 4 times the 1955 level and 2 times the 1958 level.

The share of the total expenditures accounted for by operating costs declines gradually from a high of 54 percent in 1955 to a level of 41 percent in 1962, then increases to 43 percent in 1964. The most significant occurrence within this category is the rather steady decline in personnel costs, from 39 percent of total expenditures in 1955 to a low of 26 percent in 1962 through 1964. It should be noted

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that expenditures for operations and maintenance increase from 15 to 17 percent of the total over the same time span. This is another indication of the increased complexity of equipment within the Soviet military structure. Even though personnel costs and the overall level of manpower continue to decline, the cost of maintaining the new systems grows steadily and becomes a larger share of total operating expenditures.

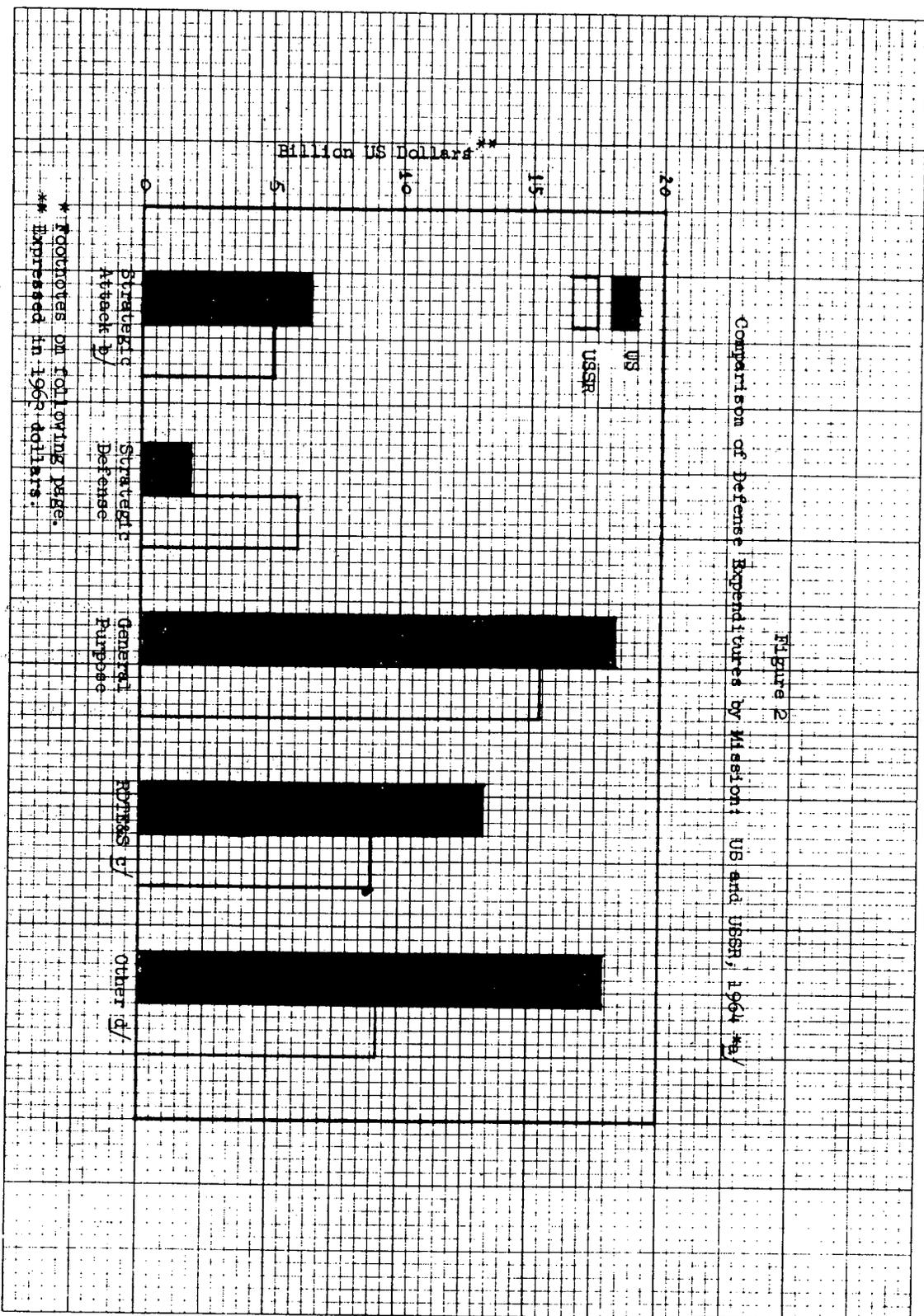
A further indication that the Soviet military establishment is becoming more hardware intensive is noted in the trend in expenditures incurred in the development, acquisition, and deployment of weapon systems -- RDTE&S, procurement, and construction of facilities. In 1955 these expenditures account for about 45 percent of the total, and the share rises steadily. By 1962 they account for nearly 60 percent and remain at about this level through the end of the period.

B. Dollar Valuations of Soviet Military Programs

Soviet defense programs for 1955-64 have also been valued in 1963 dollars* -- that is, conceptually, the dollar amounts it would have taken in the US in 1963 to purchase the goods and services required to support the military programs which have been discussed above in terms of 1955 rubles.

The results of such a comparison made for 1964 on a mission basis are shown in Figure 2. The data used for comparison apply to calendar year 1964 in the case of the USSR and to fiscal year 1964 in the case of the US. Adjustments to the accounts as presented in other

* See Tables 9 through 13.



Footnotes to Figure 2

-
- a. Because detailed expenditure data on US defense programs on a mission basis do not exist, the US side of this comparison is on the basis of planned total obligational authority. Also, in the interest of comparability, military assistance and civil defense have been excluded on both sides. It should also be noted that the US expenditures are for fiscal year 1964 and that Soviet expenditures are for calendar year 1964.
- b. "Strategic Retaliatory" is the designation used on the US side.
- c. It is not possible at this time to distribute estimated Soviet RDTE&S expenditures by mission; therefore, on the US side, all research, development, test, and evaluation (RDT&E) for the respective programs have been included in RDTE&S. Furthermore, because the Soviet nuclear energy RDT&E and space programs are covered conceptually by the estimate, actual expenditures by NASA for 1964 (\$4.17 billion) and actual US expenditures for RDT&E programs by the AEC (\$1.50 billion) have been included here.
- d. On the US side, expenditures for general support, retired pay, reserve, national guard, and the nuclear energy program (excluding RDT&E) are included. On the Soviet side, expenditures for command and general support, reserve, militarized security forces, retired pay, and the nuclear energy program (excluding RDT&E) are included.

sections of this contribution were necessary to provide as much comparability as possible.

If the Soviet military package for 1964 were to be purchased in the US, the resulting expenditures after adjusting both side to attain comparability would equal about 80 percent of the expenditures planned by the US for fiscal year 1964. The ratio for Strategic Attack Forces* expenditures is the same, Soviet expenditures being about 80 percent of those of the US. In the case of General Purpose Forces, Soviet expenditures are about 85 percent of those for the US. The largest difference occurs in Strategic Defense where the Soviet figure is more than three times as large as the US figure.

The estimated US expenditures for "Other" activities are nearly two times those of the USSR. This grouping includes expenditures for command and support forces, reserve forces, national guard (US), militarized security forces (USSR), military pensions, and nuclear energy programs. Nearly the entire difference (more than \$8 billion) between the expenditures in the US and those in the USSR may be attributed to expenditures for command and support forces. It is difficult to assess whether the actual difference is this great, because it concerns those forces and aspects of the Soviet military establishment about which the least is known and for which expenditures are most likely to be understated.

* The comparable US designation is "Strategic Retaliatory."

C. Statistical Tables

The detailed data on which the discussion in earlier parts of this section and in the previous section of this contribution is based are presented here in tabular form. The data are carried in billions to two decimal places to make it possible for the reader to get some perception of smaller movements in the underlying physical data, not to suggest that the accuracy of the data is such that significance can be attached to the second decimal place.

The tables which follow are of three types. The first describes in several levels of detail the series used in NIE 11-4-65 for Soviet defense expenditure in terms of rubles. The second expresses the salient features of these ruble values in terms of percentage distributions. The third expresses estimated Soviet defense expenditures in terms of equivalent dollars.

Table 2

Soviet Defense Expenditures, by Mission a/
1955-64

	Billion Rubles b/									
	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964
Major missions	12.11	11.39	10.36	10.45	10.71	10.69	10.68	11.75	11.65	11.22
Strategic Attack c/	1.81	1.69	1.76	2.04	2.30	2.48	2.66	3.11	2.85	2.45
Strategic Defense d/	1.76	1.95	1.82	1.87	1.95	2.17	2.24	2.55	2.57	2.78
General Purpose e/	8.54	7.75	6.78	6.54	6.46	6.04	5.78	6.09	6.23	5.99
Command and General Support	2.73	2.50	2.41	2.36	2.28	2.25	2.10	2.11	2.10	2.05
RDTE&S f/	1.03	1.26	1.49	1.79	2.07	2.37	2.71	3.08	3.48	3.79
Total	15.87	15.15	14.28	14.60	15.06	15.33	15.49	16.96	17.23	17.06

a. The expenditure data include all outlays for personnel and other operating costs, procurement of all hardware (including nuclear warheads), construction of facilities, military research and development activities, and all space programs. Many of the funds required to cover these expenditures come from sources other than the budget account labeled "Defense" by the USSR. Because of rounding, components may not add to the totals shown.

b. Expressed in 1955 prices.

c. For additional detail, see Table 4.

d. For additional detail, see Table 5.

e. For additional detail, see Table 6.

f. Including expenditures relating to military personnel on active duty who are engaged in RDTE&S.

Table 3

Percentage Distribution of Soviet Defense Expenditures, by Mission a/
1955-64

	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964
Major missions	76	75	73	72	71	70	69	69	68	66
Strategic Attack	11	11	12	14	15	16	17	18	17	15
Strategic Defense	11	13	13	13	13	14	15	15	15	16
General Purpose	54	51	48	45	43	40	37	36	36	35
Command and General Support	17	17	17	16	15	15	14	13	12	12
RDTE&S	7	8	10	12	14	15	17	18	20	22
Total	<u>100</u>									

a. Based on unrounded data.

b. Computed on a ruble basis expressed in 1955 prices.

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Table 4

Soviet Expenditures for Strategic Attack Forces, by Element a/
1955-64

	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964
Intercontinental attack	0.39	0.27	0.33	0.33	0.47	0.58	0.73	1.06	1.42	1.27
LRA heavy bombers	0.39	0.26	0.27	0.18	0.24	0.28	0.26	0.16	0.10	0.10
Ballistic missile submarines		0.01	0.06	0.12	0.17	0.21	0.18	0.12	0.08	0.10
ICBM's				0.03	0.06	0.09	0.29	0.78	1.24	1.07
Peripheral attack	0.97	0.93	0.93	1.12	1.17	1.26	1.34	1.51	1.05	0.92
LRA medium bombers	0.97	0.90	0.79	0.70	0.36	0.38	0.36	0.41	0.43	0.41
MRBM's and IRBM's		0.03	0.14	0.42	0.81	0.88	0.98	1.10	0.62	0.51
Joint support	0.13	0.15	0.12	0.13	0.11	0.09	0.08	0.08	0.09	0.10
Nuclear weapons	0.31	0.34	0.38	0.47	0.55	0.55	0.51	0.46	0.30	0.15
Total	<u>1.81</u>	<u>1.69</u>	<u>1.76</u>	<u>2.04</u>	<u>2.30</u>	<u>2.48</u>	<u>2.66</u>	<u>3.11</u>	<u>2.85</u>	<u>2.45</u>

a. Because of rounding, components may not add to the totals shown.

b. Expressed in 1955 prices.

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Table 5

Soviet Expenditures for Strategic Defense Forces, by Element a/
1955-64

	Billion Rubles b/									
	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964
Control and warning	0.40	0.40	0.44	0.56	0.67	0.83	0.82	0.86	0.93	0.98
Interceptor aircraft	0.73	0.87	0.83	0.70	0.61	0.55	0.52	0.52	0.42	0.49
SAM's and ABM's	0.30	0.34	0.19	0.24	0.36	0.57	0.90	1.14	1.17	1.17
AAA	0.33	0.34	0.37	0.36	0.31	0.22				
Nuclear weapons								0.03	0.05	0.14
Total strategic defense	<u>1.76</u>	<u>1.95</u>	<u>1.82</u>	<u>1.87</u>	<u>1.95</u>	<u>2.17</u>	<u>2.24</u>	<u>2.55</u>	<u>2.57</u>	<u>2.78</u>

a. Because of rounding, components may not add to the totals shown.

b. Expressed in 1955 prices.

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Table 6

Soviet Expenditures for General Purpose Forces, by Element
1955-64

	Billion Rubles ^{a/}									
	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964
Ground forces	4.58	3.84	3.70	3.42	3.32	3.21	2.75	2.54	2.42	2.29
Tactical aviation	1.14	1.10	0.91	0.90	0.73	0.54	0.56	0.70	0.72	0.71
Military transport aviation	0.26	0.41	0.45	0.51	0.60	0.63	0.68	0.72	0.71	0.63
Submarines ^{b/}	0.44	0.49	0.26	0.23	0.28	0.33	0.36	0.44	0.47	0.48
Surface ships	0.66	0.63	0.59	0.56	0.58	0.58	0.57	0.58	0.52	0.53
Naval aviation	0.93	0.74	0.26	0.28	0.33	0.18	0.14	0.17	0.19	0.22
Naval joint support	0.53	0.54	0.60	0.61	0.56	0.44	0.42	0.46	0.44	0.43
Nuclear weapons			0.01	0.03	0.06	0.13	0.30	0.48	0.76	0.70
Total	8.54	7.75	6.78	6.54	6.46	6.04	5.78	6.09	6.23	5.99

a. Expressed in 1955 prices.

b. Excluding ballistic-missile submarines, which are included with Strategic Attack Forces.

Table 7

Soviet Defense Expenditures, by Category of Expenditure a/
1955-64

	Billion Rubles b/									
	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964
RDTE&S c/	0.91	1.13	1.36	1.63	1.91	2.22	2.55	2.93	3.33	3.63
Investment expenditures	6.41	5.91	5.25	5.47	5.70	6.03	6.15	7.06	6.72	6.17
Procurement.	5.85	5.39	4.83	5.02	5.22	5.61	5.64	6.39	6.12	5.67
Land armaments	0.88	0.73	0.84	0.81	0.71	0.60	0.43	0.38	0.37	0.37
Naval ships	0.62	0.64	0.44	0.43	0.50	0.57	0.53	0.56	0.49	0.51
Aircraft	2.48	2.17	1.61	1.27	0.91	1.02	1.00	1.17	1.10	1.05
Missile systems	0.28	0.29	0.27	0.61	1.09	1.31	1.58	2.01	1.74	1.41
Electronic equipment	0.35	0.39	0.51	0.68	0.71	0.78	0.72	0.72	0.76	0.79
Nuclear weapons	0.31	0.35	0.39	0.50	0.61	0.68	0.81	0.99	1.11	1.00
Other	0.94	0.83	0.77	0.72	0.69	0.64	0.57	0.56	0.55	0.53
Facilities	0.54	0.52	0.43	0.46	0.47	0.42	0.51	0.66	0.59	0.51
Operating expenditures	8.55	8.11	7.68	7.50	7.45	7.08	6.78	6.98	7.18	7.25
Personnel	6.21	5.67	5.24	5.02	4.92	4.58	4.33	4.36	4.37	4.31
Operation and maintenance	2.35	2.44	2.44	2.49	2.54	2.49	2.46	2.63	2.81	2.93
Total	<u>15.87</u>	<u>15.15</u>	<u>14.28</u>	<u>14.60</u>	<u>15.06</u>	<u>15.33</u>	<u>15.49</u>	<u>16.96</u>	<u>17.23</u>	<u>17.06</u>

a. Because of rounding, components may not add to the total shown.

b. Expressed in 1955 prices.

c. Excluding expenditures relating to military personnel on active duty who are engaged in RDTE&S.

Table 8

Percentage Distribution of Soviet Defense Expenditures, by Category of Expenditure a/
1955-64

	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964
RDTE&S	6	7	9	11	13	15	16	17	19	21
Investment expenditures	40	39	37	38	38	39	40	42	39	36
Procurement	37	36	34	35	35	36	37	38	36	33
Facilities	3	3	3	3	3	3	3	4	3	3
Operating expenditures	54	54	54	51	49	46	44	41	42	43
Personnel	39	38	37	34	33	30	28	26	26	26
Operation and maintenance	15	16	17	17	16	16	16	15	16	17
Total	100	100	100	100	100	100	100	100	100	100

a. Based on unrounded data.

b. Computed on a ruble basis expressed in 1955 prices.

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Table 9

Dollar Valuation of Soviet Defense Expenditures, by Mission a/
1955-64

	Billion 1963 US \$									
	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964
Major missions	36.05	33.00	29.68	28.75	28.74	28.06	27.04	29.02	28.52	27.60
Strategic Attack b/	3.86	3.45	3.59	4.01	4.39	4.85	5.21	6.11	5.83	5.31
Strategic Defense c/	4.33	4.79	4.49	4.42	4.47	4.74	4.90	5.65	5.74	6.19
General Purpose d/	27.86	24.76	21.60	20.32	19.88	18.47	16.93	17.26	16.95	16.10
Command and general support	10.68	9.81	9.51	9.16	8.90	8.79	8.16	8.19	8.13	8.00
RDTE&S e/	2.39	2.94	3.48	4.18	4.84	5.57	6.37	7.26	8.21	8.94
Total	49.13	45.75	42.69	42.09	42.47	42.42	41.57	44.49	44.84	44.54

a. The expenditure data include all outlays for personnel and other operating costs, procurement of all hardware (including nuclear warheads), construction of facilities, military research and development activities, and all space programs. Many of the funds required to cover these expenditures come from sources other than the budget account labeled "Defense" by the USSR. Because of rounding, components may not add to the totals shown.

b. For additional detail, see Table 10.

c. For additional detail, see Table 11.

d. For additional detail, see Table 12.

e. Including expenditures relating to military personnel on active duty who are engaged in RDTE&S.

Table 10

Dollar Valuation of Soviet Expenditures for Strategic Attack Forces, by Element a/
1955-64

	Billion 1963 US \$									
	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964
Intercontinental attack	0.99	0.67	0.85	0.86	1.25	1.50	1.71	2.27	2.98	2.84
LRA heavy bombers	0.99	0.64	0.66	0.43	0.59	0.68	0.61	0.37	0.22	0.22
Ballistic missile submarines		0.03	0.19	0.38	0.54	0.65	0.54	0.33	0.23	0.31
ICBM's			0.05	0.05	0.12	0.17	0.56	1.57	2.53	2.31
Peripheral attack	2.29	2.13	2.14	2.44	2.39	2.64	2.85	3.23	2.38	2.16
LRA medium bombers	2.29	2.08	1.87	1.61	0.75	0.80	0.76	0.87	0.93	0.91
MRBM's and IRBM's		0.05	0.27	0.83	1.64	1.84	2.09	2.36	1.45	1.25
Joint support	0.28	0.30	0.22	0.23	0.21	0.16	0.14	0.14	0.16	0.17
Nuclear weapons	0.31	0.34	0.38	0.47	0.55	0.55	0.51	0.46	0.30	0.15
Total	<u>3.86</u>	<u>3.45</u>	<u>3.59</u>	<u>4.01</u>	<u>4.39</u>	<u>4.85</u>	<u>5.21</u>	<u>6.11</u>	<u>5.83</u>	<u>5.31</u>

a. Because of rounding, components may not add to the totals shown.

Table 11

Dollar Valuation of Soviet Expenditures for Strategic Defense Forces, by Element ^{a/}
1955-64

	Billion 1963 US \$									
	<u>1955</u>	<u>1956</u>	<u>1957</u>	<u>1958</u>	<u>1959</u>	<u>1960</u>	<u>1961</u>	<u>1962</u>	<u>1963</u>	<u>1964</u>
Control and warning	0.82	0.82	0.89	1.09	1.27	1.53	1.50	1.56	1.67	1.75
Interceptor aircraft	1.76	2.11	1.98	1.67	1.45	1.32	1.26	1.25	1.00	1.17
SAM's and ABM's	0.71	0.79	0.49	0.60	0.87	1.35	2.14	2.81	3.01	3.13
AAA	1.04	1.07	1.13	1.05	0.87	0.54				
Nuclear weapons								0.03	0.05	0.14
Total	<u>4.33</u>	<u>4.79</u>	<u>4.49</u>	<u>4.42</u>	<u>4.47</u>	<u>4.74</u>	<u>4.90</u>	<u>5.65</u>	<u>5.74</u>	<u>6.19</u>

a. Because of rounding, components may not add to the totals shown.

Table 12

Dollar Valuation of Soviet Expenditures for General Purpose Forces, by Element
1955-64

	Billion 1963 US \$									
	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964
Ground forces	16.78	13.86	13.08	11.81	11.43	11.00	9.30	8.56	8.01	7.39
Tactical aviation	2.86	2.77	2.24	2.21	1.77	1.32	1.35	1.71	1.76	1.71
Military transport aviation	0.61	0.96	1.06	1.22	1.42	1.48	1.60	1.67	1.66	1.44
Submarines a/ Surface ships	1.38	1.52	0.77	0.71	0.86	1.03	1.11	1.36	1.46	1.51
Naval aviation	2.14	2.08	1.95	1.85	1.89	1.88	1.84	1.87	1.70	1.74
Naval joint support	2.32	1.85	0.65	0.67	0.78	0.42	0.32	0.39	0.43	0.49
Nuclear weapons	1.77	1.72	1.84	1.82	1.67	1.21	1.11	1.22	1.17	1.12
			0.01	0.03	0.06	0.13	0.30	0.48	0.76	0.70
Total	27.86	24.76	21.60	20.32	19.88	18.47	16.93	17.26	16.95	16.10

a. Excluding ballistic-missiles submarines, which are included with Strategic Attack Forces.

Table 13

Dollar Valuation of Soviet Defense Expenditures, by Category of Expenditure a/
1955-64

	Billion 1963 US \$									
	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964
RDTE&S b/	2.16	2.69	3.23	3.89	4.55	5.28	6.08	6.97	7.92	8.65
Investment expenditures	15.16	13.86	12.01	12.06	12.22	12.84	12.74	14.40	13.46	12.50
Procurement	14.20	12.94	11.26	11.26	11.36	12.07	11.83	13.21	12.40	11.59
Land armaments	2.47	2.04	2.35	2.24	1.97	1.65	1.17	1.02	1.00	1.00
Naval ships	1.99	2.05	1.41	1.40	1.61	1.84	1.71	1.82	1.59	1.65
Aircraft	6.19	5.42	4.03	3.18	2.28	2.56	2.51	2.93	2.76	2.64
Missile systems	0.57	0.61	0.58	1.27	2.22	2.67	3.22	4.06	3.50	2.86
Electronic equipment	0.56	0.60	0.79	1.07	1.12	1.25	1.14	1.14	1.21	1.25
Nuclear weapons	0.31	0.35	0.39	0.50	0.61	0.68	0.81	0.99	1.11	1.00
Other	2.11	1.86	1.70	1.60	1.55	1.42	1.28	1.26	1.24	1.19
Facilities	0.97	0.91	0.75	0.80	0.85	0.76	0.91	1.19	1.06	0.91
Operating expenditures	31.81	29.20	27.45	26.14	25.71	24.31	22.76	23.12	23.45	23.39
Personnel	25.29	22.67	20.82	19.61	19.17	17.83	16.50	16.54	16.52	16.17
Operation and maintenance	6.50	6.53	6.63	6.53	6.53	6.47	6.26	6.58	6.93	7.22
Total	49.13	45.75	42.69	42.09	42.47	42.42	41.57	44.49	44.84	44.54

a. Because of rounding, components may not add to the totals shown.

b. Excluding expenditures relating to military personnel on active duty who are engaged in RDTE&S.

III. Comparison of the Current Estimate of Soviet Defense Expenditures with Previous Estimates

A. General

The purpose of this section is to identify the major factors underlying the differences between the defense expenditures series that was prepared in support of last year's estimate (NIE 11-4-64), the two series in the final version of IAP-64,* and the current series prepared in support of this year's estimate (NIE 11-4-65). Thus this section will be dealing with four different series. In the interest of brevity these series will be identified as follows:

1. NIE-64: The series that was prepared as a contribution to NIE 11-4-64 and from which came the statements concerning 1958 and 1963 which appear in the published estimate.

2. Low IAP-64: The series that was prepared to reflect the implications of the low side of IAP-64. This series in final form was published as part of CIA/RR MR 64-1 but does not include the revisions of expenditures implied by subsequent, more recently updated versions of Sections I, II, and III of the IAP.

3. High IAP-64: Same as 2, above, except that the series reflects the high side of IAP-64.

4. NIE-65: The present series prepared by ORR as a "best" estimate to be used for NIE 11-4-65 and as such is the basis

* See CIA/RR MR 64-1.

for the proposed draft Memorandum to Holders of NIE 11-4-65 contained in Section I, above.

A general discussion of the nature of estimates of Soviet defense expenditures and the reasons for the differences among them is a necessary prerequisite to a detailed discussion of specific numerical differences. Over the past decade, Western observers of the Soviet economy have come to appreciate that the single-valued statement of expenditures for Defense announced each year by the USSR includes only some fraction of those Soviet expenditures which are generally understood to be for "defense." In order to assess the overall magnitude of the Soviet defense establishment and its programs, various methods have been developed to obtain more meaningful measures of these expenditures. The methodology used in this contribution is based on the assumption that enough is known about the underlying activities, forces, and programs to construct estimates from the component parts. As a result the ORR estimate of Soviet defense expenditures is dependent on a wide variety of other estimates to a greater degree than most quantitative estimates. Because these component estimates change as information and understanding develop, the overall estimate of defense expenditures also changes.

In compiling ORR estimates of Soviet defense expenditures, three types of subordinate estimates are used, as follows:

1. Estimates in physical terms, such as force levels, orders of battle, and production of items of military procurement.
2. Estimates of prices to be applied to these physical measures.
3. Estimates in fiscal terms of activities and programs for which information is either too fragmentary or the activities are too diverse for expression in physical terms.

A comparison of estimates of expenditures developed by ORR over the years shows some variation in the total and component parts. As in the case of other intelligence estimates, the objective behind these changes is the improvement of the estimate. The sources of these changes are varied.

The principal source of variation in expenditure estimates is the change in the physical estimates that the intelligence community makes when later information results in a revision of a previous estimate. Recent examples of such changes include revised estimates of Soviet military manpower, of the ICBM program, and of aircraft orders of battle. In this connection it should be noted that revision of an estimate for a given year may imply changes in earlier years. For

example, changes in estimates of orders of battle often imply changes in estimates of the number of weapons produced in various years, although such implications may not be treated explicitly in intelligence documents.

The pricing element by which physical estimates are converted to estimates of expenditures may change for a variety of reasons. Better estimates of the performance and physical characteristics of a weapon system may raise or lower the price assigned. Information derived from US experience with the costs of advanced weapon systems may also cause revision in the prices assigned Soviet weapon systems.

Some defense activities, by their very nature and because of the paucity of information available, defy measurement in physical terms. In order to make comprehensive estimates of defense activity, these activities must be estimated from a variety of sources in terms of fiscal series. The outstanding example of this situation is the estimate for RDTE&S. ORR analyzes Soviet announcements of what the Soviets claim to have spent or plan to spend on "Science," from both budgetary and nonbudgetary sources. Two major problems are encountered in deriving expenditures on military RDTE&S from these announcements. The first is related to whether the announced expenditures include all military RDTE&S activities or whether such items as nuclear research and hardware used in the missile test program are excluded. Soviet descriptions of the scope of the "Science" accounts, although somewhat

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ambiguous, provide the basis for the assumption that these announcements are comprehensive. The second problem relates to the determination of the share of these expenditures which is appropriate to consider as being for military, nuclear, and space activities -- that is, the share of the total to be included in total defense expenditure estimates. In this instance the assumption is based on an extrapolation of the trend in certain unexplained residuals in the Soviet "Science" accounts for 1950-57. As more is learned about these two primary factors and other relevant factors, it is hoped that the estimates of Soviet RDTE&S expenditures will improve. At this time, however, the uncertainty for this account is probably greater than that for other major components of defense expenditures. The influence of this uncertainty on the estimates of aggregate defense expenditures increases through time as the size of the RDTE&S account increases.

Efforts to improve the methodology also cause changes in the estimates of defense expenditures. Usually these changes are minor and are not significant enough to be reflected in the data presented in finished documents. However, one change in methodology made in the past year particularly affected the previous estimate for 1959-63. The change involved the way in which expenditures for some weapons systems are distributed over time. Expenditures for such weapons as ICBM's, which take more than one year to produce and deploy, are now allocated to the years in which the expenditures are estimated to have occurred, rather than solely to the year in which the weapon became operational. This kind of computation, called "spreading," lowers the

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investment expenditures in the peak year of deployment somewhat because it spreads the costs over the full span of years during which these costs would have been accrued.

One additional factor which may change estimates of defense expenditures is related to planned efforts over the next year or so to update the base-year prices being used. At present, the estimates are based on 1955 ruble prices. Although the Soviets often imply that current prices for most industrial products and other goods and services have not changed since 1955, significant changes in some products probably do occur as new products are introduced. Although the pricing of new products affects the price level in the general economy to a limited extent, the effect on the prices of military hardware is almost certain to be more significant. The effect of a shift in prices from the 1955 base to some recent base is likely to be an increase in the level of expenditures in current and future years relative to past years.

A note of caution is necessary concerning the comparability of estimates of Soviet defense expenditures and the defense expenditures announced by the USSR in its annual budgets. Not only are these announcements misleading because they do not include some expenditures that are generally included in such accounts in the West, but they also lack direct comparability with the estimates of defense expenditures presented in this contribution, because the Soviet announcements are in terms of "current" prices whereas the estimates are in terms of "constant" prices. To the extent that Soviet prices for goods and

~~S E C R E T~~

services purchased by the military have increased since 1955; the part of Soviet defense expenditures included in the budget announcements is higher than the comparable portion of the estimates of defense expenditures in 1955 prices. Ideally, estimates of defense expenditures should be made in both current and constant prices; but at present our knowledge of Soviet price movements, particularly for military items, is not sufficient for the preparation of a series in current prices. Of the two types of estimates, the one in constant prices is more useful because it is designed to measure the change over time in the quantity and quality of resources devoted to military and space purposes.

B. Comparison of the NIE-65 and NIE-64 Series

One basic difference between the NIE-65 series and the NIE-64 series is their relative timeliness. As noted above, the NIE-65 series is based on a very recent and detailed review of the historical development of Soviet military programs and the expenditures they imply. The NIE-64 series was an updating of a basic series prepared in late 1962 for NIE 11-4-63. This updating reflected an attempt to take account of only first-order effects of the major changes in the community's estimates of Soviet military programs between late 1962 and early 1964 -- many of the second-order effects were not taken into account. Thus the time difference in the basic research underlying NIE-64 and NIE-65 is greater than one year.

Another basic difference is the degree to which the historical period was re-examined when the two series were produced. While the NIE-64 series reflected some effort to make the estimates for the

1950's consistent with those for the 1960's, the NIE-65 series is based on an explicit, detailed review of each of the major Soviet military programs over the entire time period. Thus the new series reflects a direct effort to make an estimate of the historical developments from the vantage point of April 1965.

A third difference in the two series reflects the improvements that have been made in both the substantive inputs and the methods used in preparing estimates of military expenditures as indicated in the general remarks above.

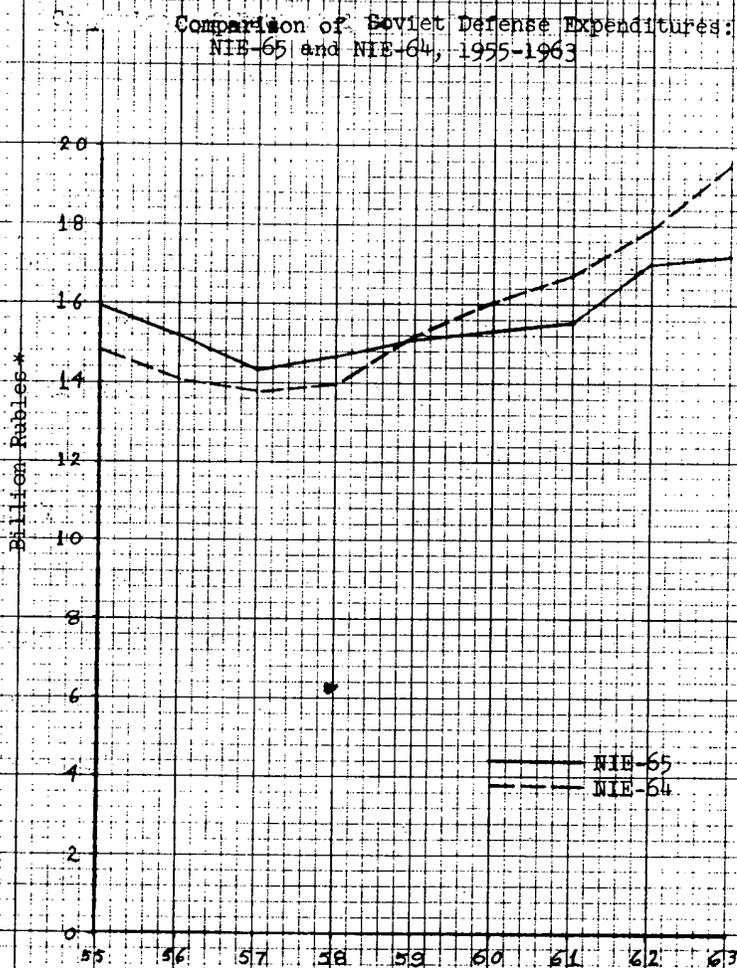
Finally, there are significant differences between current NIE's and those of the 1962-64 period concerning the size and nature of some Soviet forces and military programs. These differences in physical estimates, in turn, imply differences in military expenditures.

1. Total Expenditures

Despite differences, there is a fair degree of consonance between the two series in many of the major aggregates for the time period as a whole. The sum of the estimates of defense expenditures for the entire 1955-63 period in the NIE-65 series (140 billion rubles) is only 1.4 percent less than that for the NIE-64 series (142 billion rubles). Figure 3 reveals, however, that this small net difference is not uniformly distributed over time. The NIE-65 series is somewhat higher than the NIE-64 series for the 1955-58 period; in the later period the relationship is reversed. This flatter trend of the NIE-65 series relative to that of the NIE-64 series is the result of a combination of the basic differences outlined above.

Figure 3

Comparison of Soviet Defense Expenditures:
NIE-65 and NIE-64, 1955-1963



* Expressed in 1955 prices.

There are, of course, significant differences in the detailed composition of the estimates that do not necessarily conform to the difference in the total. A detailed comparison between the component parts of the two series is presented below, and the principal causes for the differences are discussed both by category of expenditure and by mission.

2. Expenditure by Category

a. Personnel

As shown in Table 14 the differences between the NIE-64 and the NIE-65 personnel series illustrate the way in which the various factors can influence the levels and trends of expenditure series. Although the cumulative expenditures for the two series are approximately equal (45.7 billion rubles for the NIE-64 series and 44.7 billion rubles for the NIE-65 series), the trends of the two series are quite different. The NIE-64 series decreases by 20 percent, but the NIE-65 series decreases by about 30 percent over the 1955-63 period.

These differences are the result of changes primarily in the estimated number of men in the Soviet military establishment and to a lesser extent in the average personnel expenditures per man. In the 1955-58 period the physical manpower series used for the NIE-65 series is higher (about 75,000 men per year on the average) than that used in the NIE-64 series. In the 1959-63 period the NIE-65 series is on the average more than 400,000 men per year lower. The difference for 1963 is more than one-half million men; this reflects the recent judgment of the intelligence community (NIE 11-14-64) with respect to

Table 14

Comparison of Soviet Defense Expenditures in NIE-65 and NIE-64, by Category a/
1955-63

	Billion Rubles b/									
	1955	1956	1957	1958	1959	1960	1961	1962	1963	Total 1955-63
RDTE&S										
NIE-65	0.9	1.1	1.4	1.6	1.9	2.2	2.6	2.9	3.3	17.9
NIE-64	1.0	1.2	1.6	1.8	2.0	2.6	3.0	3.5	4.0	20.7
Procurement										
NIE-65	5.9	5.4	4.8	5.0	5.2	5.6	5.6	6.4	6.1	50.0
NIE-64	5.1	4.8	4.3	4.3	5.2	5.6	6.2	6.6	7.1	49.2
Facilities										
NIE-65	0.5	0.5	0.4	0.5	0.5	0.4	0.5	0.7	0.6	4.6
NIE-64	0.5	0.4	0.3	0.4	0.4	0.4	0.3	0.4	0.6	3.7
Personnel										
NIE-65	6.2	5.7	5.2	5.0	4.9	4.6	4.3	4.4	4.4	44.7
NIE-64	6.0	5.5	5.2	5.0	5.0	4.9	4.6	4.7	4.8	45.7
Operation and Maintenance										
NIE-65	2.4	2.5	2.5	2.5	2.6	2.5	2.5	2.6	2.8	22.9
NIE-64	2.2	2.2	2.4	2.5	2.6	2.6	2.6	2.7	3.0	22.8
Total										
NIE-65	15.9	15.2	14.3	14.6	15.1	15.3	15.5	17.0	17.2	140.1
NIE-64	14.8	14.1	13.8	14.0	15.2	16.1	16.7	17.9	19.5	142.1

a. Based on unrounded data, but components where adjusted as necessary to add to the totals shown.
b. Expressed in 1955 prices.

Soviet military manpower. This large difference in the underlying physical series is partially offset, however, by an increase in the average cost per man used in the NIE-65 series. This increase is the result of the changing mix of military manpower -- a decrease in the number of men in the lower cost general purpose and support functions and an increase in the number assigned to higher cost components associated with advanced weapons systems.

b. Research, Development, Test, Evaluation, and Space

The NIE-65 RDTE&S series is lower than that used for the NIE-64 series over the entire period. In general, these differences increased throughout the period and account for a major portion of the differences in total defense expenditures in the last few years. For example, about two-thirds of the differences in total expenditures in 1962 can be explained by the differences in the two series. Like the decreased rate of growth of the NIE-65 series for personnel, the lower rate of growth in the RDTE&S series tends to lower the rate of growth of the total expenditures series. Unlike the negligible cumulative differences in the personnel series, however, the difference between the two series is about 15 percent -- the sum in NIE-64 was 20.7 billion rubles and in NIE-65, 17.9 billion rubles.

The change in the RDTE&S series is primarily the result of a revision of the basic estimate. It should be noted that for both series the basic methodology was the same -- that is, the analysis of announced Soviet budgetary and financial data. The more recent Soviet budgetary announcements pertaining to RDTE&S expenditures suggest that

our earlier projections may have been too high. Therefore, a new series was derived for the NIE-65 series to conform more closely to the later information.

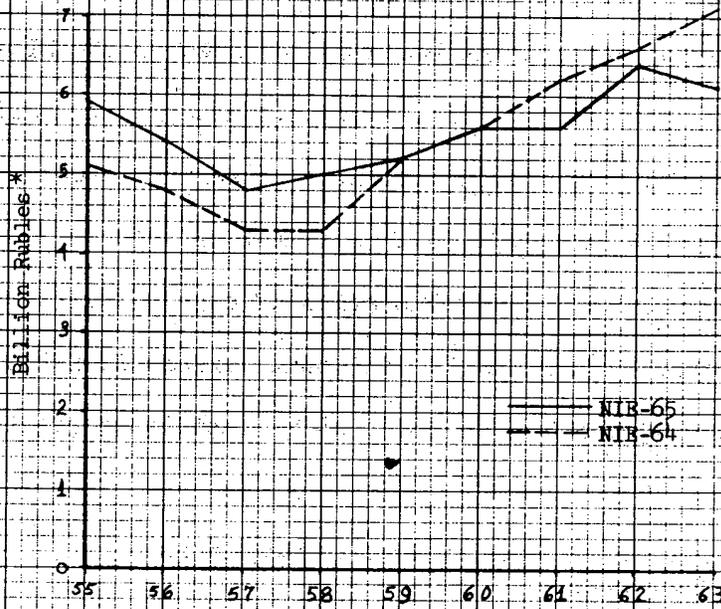
c. Procurement

The cumulative sums of the two procurement series are almost the same, 49.2 billion rubles for the NIE-64 series and 50.0 billion for the NIE-65 series. Figure 4 shows, however, that there is a significant difference in the trends of the two series which is similar to the difference in the trends of total defense expenditures shown in Figure 3. These observations suggest that the most important difference between the two procurement series is timing, but such a conclusion would be misleading. The differences in the expenditures for the various types of procurement are neither proportional to nor all in the same direction as the differences in the total procurement series. The levels and trends of expenditures for land armaments and aircraft illustrate this point.

In the case of land armaments, the NIE-65 series is consistently and appreciably below the NIE-64 series. This shift is primarily a result of the judgment that the figures for procurement underlying the NIE-64 series were substantially too high. In cumulative terms the NIE-65 procurement series is about 3.4 billion rubles, or about a third less than the NIE-64 procurement series. Furthermore, the NIE-65 procurement series decreases somewhat more rapidly than the NIE-64 procurement series and contributes to the general flattening of the total defense expenditure curve.

Figure 4

Comparison of Soviet Expenditures for Procurement:
NIE-65 and NIE-64, 1955-1963



* Expressed in 1955 prices.

The trends in the two aircraft procurement series are almost identical, but the NIE-65 series is consistently and significantly higher (about 35 percent) than the NIE-64 series. In contrast to the series for land armaments, the differences in the series for aircraft procurement are primarily due to an upward revision of the prices of certain military aircraft in order to reflect better the increased complexity of such components of the aircraft as electronic equipment and armament.

As far as the remaining elements of the procurement category are concerned, most of the annual differences are insignificant and are due to one or more of the basic differences in the NIE-65 series discussed in the beginning of this section. However, the difference in 1963 between the two missile procurement series (about one-half billion rubles) should be noted. Although part of this difference is due to some changes in price and reallocation of expenditures from 1962 to 1963, it is primarily due to the fact that various Soviet missile programs did not progress in 1963 and 1964 as rapidly as previous estimates had projected.

d. Construction of Facilities and Operations
and Maintenance

The differences between the series for construction of facilities and that of operations and maintenance have a negligible impact on the differences between the total expenditure series. Most of the differences in the facilities line are due to "spreading" of the costs to conform better to actual timing and to an upward revision of the costs of fixed missile sites. The minor changes in operations

and maintenance are basically the result of changes in the estimates of the size of some elements of Soviet military forces.

3. Expenditures, by Mission

Before making a direct comparison by mission between the NIE-64 and NIE-65 series, it should be noted that there are differences in the scope and definition of some of the missions in the two series. To the extent possible, these definitional differences have been eliminated by reclassifying the NIE-65 series to conform to the definitions used in the NIE-64 series before the comparisons were made in Table 15. It should also be noted that expenditure data on a mission basis for the NIE-64 series are available only for the 1958-63 period, so that comparisons cannot be made on a mission basis for the years 1955-57.

a. Strategic Attack

For the period 1958-63, although the differences in individual years seem significant, the cumulative expenditures for strategic attack in the two series differ only by 10 percent (see Figure 5 and Table 15). This fact taken together with the fact that the NIE-65 series exceeds the NIE-64 series in all years but 1963 suggests that changes in timing are the primary cause for the differences between the two series. The major contributing factors are (1) a more realistic allocation of expenditures to the years in which they actually occurred (spreading) and (2) an upward revision of the unit costs of certain of the strategic missile systems for the NIE-65 series as compared with the NIE-64 series. The principal reason for the negative difference

Table 15

Comparison of Soviet Defense Expenditures in NIE-65 and NIE-64, by Mission a/
1958-63

	Billion Rubles b/						
	<u>1958</u>	<u>1959</u>	<u>1960</u>	<u>1961</u>	<u>1962</u>	<u>1963</u>	<u>Total</u> <u>1958-63</u>
Strategic Attack							
NIE-65	2.0	2.3	2.5	2.7	3.1	2.8	15.4
NIE-64	1.3	2.0	2.1	2.1	2.8	3.6	13.9
Strategic Defense							
NIE-65	1.9	2.0	2.1	2.2	2.6	2.6	13.4
NIE-64	1.7	1.8	2.0	2.5	2.8	3.0	13.8
Ground Mission							
NIE-65	4.3	4.1	3.8	3.5	3.6	3.7	23.0
NIE-64	4.7	4.8	4.8	4.7	4.1	4.1	27.2
Naval Mission							
NIE-65	1.7	1.7	1.6	1.6	1.8	1.8	10.2
NIE-64	1.7	1.8	1.7	1.6	1.8	1.8	10.4
Command and General Support c/							
NIE-65	2.9	2.9	2.9	2.8	2.8	2.8	17.1
NIE-64	2.7	2.6	2.8	2.6	2.7	2.8	16.2
Research and Development							
NIE-65	1.8	2.1	2.4	2.7	3.1	3.5	15.6
NIE-64	1.9	2.2	2.7	3.2	3.7	4.2	17.9
Total							
NIE-65	<u>14.6</u>	<u>15.1</u>	<u>15.3</u>	<u>15.5</u>	<u>17.0</u>	<u>17.2</u>	<u>94.7</u>
NIE-64	<u>14.0</u>	<u>15.2</u>	<u>16.1</u>	<u>16.7</u>	<u>17.9</u>	<u>19.5</u>	<u>99.4</u>

a. Based on unrounded data, but components where adjusted as necessary to add to the totals shown.

b. Expressed in 1955 prices.

c. Including estimated expenditures for reserve training and paramilitary training and military transport aviation, in addition to command and support for the active military establishment and militarized security forces.

in 1963 is that the deployment (and therefore the procurement) of Soviet strategic missiles (both ground-based and submarine-launched) did not increase as much in 1963 and 1964 as the intelligence community had estimated previously. Another factor contributing to the shift in the timing of expenditures for this mission is the shift in the allocation of expenditures for nuclear warheads from later years to earlier years.

b. Strategic Defense

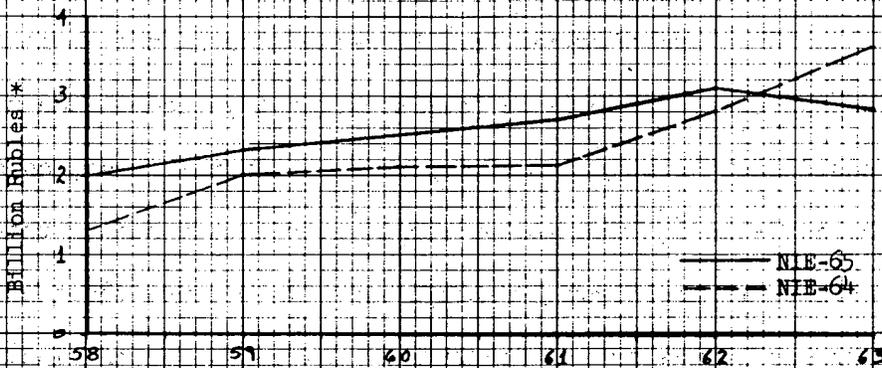
Like expenditures for strategic attack, the cumulative expenditures for strategic defense over the entire period in the two series do not differ greatly (about 3 percent). In this case, as shown in Figure 6 and Table 15, the NIE-65 series is somewhat higher than the NIE-64 series in the first 3 years, primarily because there was an upward adjustment in the prices for fighter aircraft. In the last 3 years the NIE-64 series is above the NIE-65 series because of a higher estimate for the ABM program and greater allocation of nuclear warheads to the air defense mission. The NIE-64 series also includes expenditures for the operation of a sizable conventional PVO antiaircraft artillery force through the 1961-63 period while the NIE-65 series does not.

c. Ground Mission

As shown in Table 15, expenditures for the ground mission in the NIE-65 series are lower than those in the NIE-64 series for each of the years. The principal causes for these differences, especially for the years 1960-62, are the lower estimates for the procurement of

Figure 5

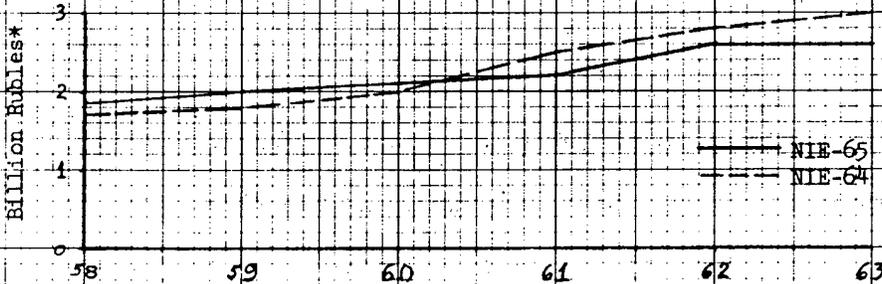
Comparison of Soviet Expenditures for Strategic Attack:
NIE-65 and NIE-64, 1958-1963



* Expressed in 1955 prices.

Figure 6

Comparison of Soviet Expenditures for Strategic Defense:
NIE-65 and NIE-64, 1958-1963



* Expressed in 1955 prices.

land armaments, tactical missiles, and the level of personnel assigned to the ground mission. Another factor to a smaller extent responsible for differences is that the NIE-64 series contains a larger allocation of nuclear warheads in the earlier years; for 1963 this allocation is larger in NIE-65 thus offsetting some of the other decreases to some extent.

d. Command and General Support

The NIE-65 series of expenditures for command and general support is somewhat higher than its NIE-64 counterpart for all but the last year (see Table 15). The major cause for these differences is that the NIE-64 series did not make adequate allowance for the procurement of military transport aircraft, especially in the earlier years.

e. Other Missions

There is no significant difference between the two naval series. The differences between the research and development series have been explained above under the discussion of expenditures by category.

C. Comparison of ORR Contribution to IAP-64
and the NIE-65 Series*

This section identifies the major factors underlying differences between the estimated expenditure implications of IAP-64 that appear in detail in CIA/RR MR 64-1 (the Low and High IAP series) and the NIE-65 series. A major cause of differences is the change over

* For comparability with the IAP-64 data, the NIE-65 data in this section excludes expenditures for militarized security forces.

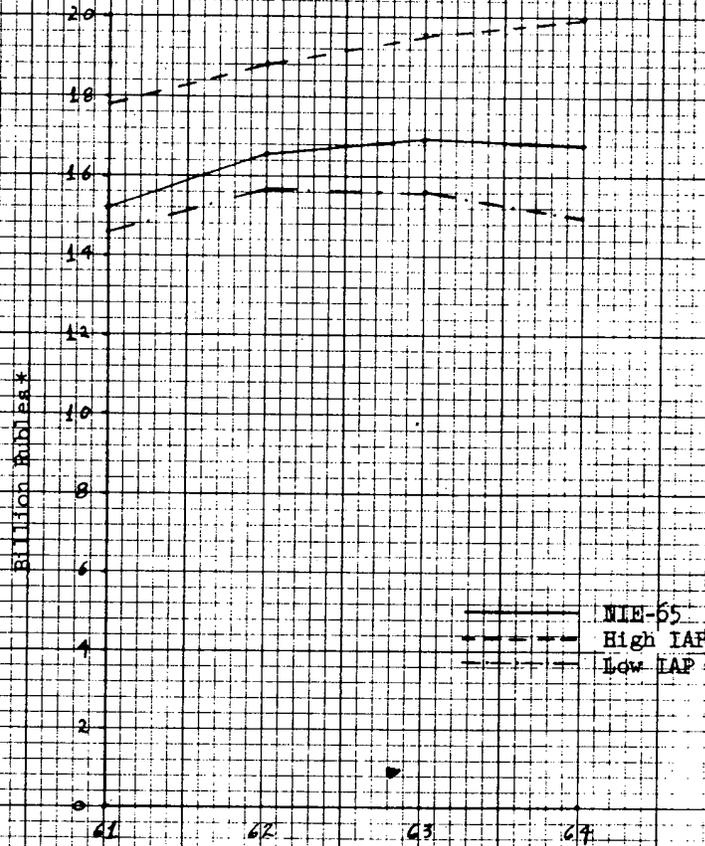
time in the underlying physical estimates -- for example, force levels, orders of battle, production, or procurement. In most cases this particular cause is the principal one, and in the present context it operates to an even greater extent than normally because of the fundamentally different way in which the physical quantities were determined. The context in which IAP-64 was prepared called for a range of physical quantities within which the actual number was believed to fall. This approach, of course, resulted in a range of expenditures. The purpose of the NIE-65 calculation on the other hand was to establish for the historical period a single-valued "best" estimate of the actual physical data and the resulting expenditures. It could be expected, therefore, that the NIE-65 series of expenditures would fall somewhere between the Low and the High IAP-64 series of expenditures, and this, with few exceptions, is the case. In some cases, ORR has improved the estimates of the prices of Soviet military equipment. The differences between the NIE-65 series and the IAP series in both total expenditures and components of expenditures, both by categories and by missions, are analyzed in detail below. Because the IAP series cover the period 1961-70 and the NIE-65 series 1955-64, the discussion here is limited to the common period 1961-64.

1. Total Expenditures

As may be seen in Figure 7 and Table 16, the NIE-65 series falls between the High and Low IAP-64 series in each of the years of

Figure 7

Comparison of Soviet Defense Expenditures:
NIE-65 and Low and High IAP-64, 1961-1964



* Expressed in 1955 prices.

Table 16

Comparison of Soviet Defense Expenditures
in NIE-65 a/ and Low and High IAP-64, by Category
1961-64

	Billion Rubles b/				
	1961	1962	1963	1964	Total 1961-64
RDTE&S					
NIE-65	2.6	2.9	3.3	3.6	12.4
IAP-64 Low-High	2.1 - 3.2	2.4 - 3.7	2.7 - 4.2	2.9 - 4.8	10.1 - 15.9
Procurement					
NIE-65	5.6	6.4	6.1	5.7	23.8
IAP-64 Low-High	5.9 - 7.0	6.3 - 7.1	5.6 - 6.9	4.8 - 6.7	22.6 - 27.7
Facilities					
NIE-65	0.5	0.6	0.6	0.5	2.2
IAP-64 Low-High	0.5 - 0.6	0.6 - 0.7	0.6	0.4 - 0.6	2.1 - 2.5
Personnel					
NIE-65	4.1	4.1	4.1	4.1	16.4
IAP-64 Low-High	4.0 - 4.6	4.1 - 4.7	4.2 - 4.8	4.2 - 4.9	16.5 - 19.0
Operations and Maintenance					
NIE-65	2.4	2.6	2.8	2.9	10.7
IAP-64 Low-High	2.1 - 2.5	2.3 - 2.7	2.5 - 2.9	2.6 - 3.0	9.5 - 11.1
Total					
NIE-65	15.2	16.6	16.9	16.8	65.5
IAP-64 Low-High	14.6 - 17.8	15.7 - 18.8	15.6 - 19.5	15.0 - 19.9	60.9 - 76.0

a. For comparability with the IAP-64 data, the NIE-65 data in this table excludes expenditures for militarized security forces. The NIE-65 expenditure totals and components are based on unrounded data, but components were adjusted as necessary to add to the totals shown.

b. Expressed in 1955 prices.

the 1961-64 period.* The NIE-65 series in 1961 is closer to the Low IAP series, being only some 4 percent above the Low, but it is 15 percent below the High IAP-64 series. For 1964; however, the NIE-65 series is closer to midway between the High and Low IAP-64 series, being about 12 percent above the Low and about 16 percent below the High. The 1964 level of expenditures for the NIE-65 series is about 10 percent greater than the 1961 level; for the High IAP-64 series the comparable figure is 21 percent and for the Low IAP-64 series, 3 percent.**

2. Expenditures by Category

a. Personnel

In marked contrast to the position of total expenditures with respect to the IAP range, Table 16 shows that expenditures for personnel in the NIE-65 series fall within the range only in 1961. For the remainder of the period, the NIE-65 series is slightly lower than the Low IAP-64 series. In percentage terms the NIE-65 series of

* There is no official IAP expenditure series for the 1955-60 period. However, in order to assess the economic impact of military programs from the mid-50's through 1970, an expenditure series designed to reflect the IAP implications back to 1955 was developed. The average annual rates of growth in defense expenditures based on this series and used in MR 64-1 are compared here with NIE-65 data, as follows:

	<u>Percent</u>	
	<u>MR 64-1</u>	<u>NIE-65</u>
1956-58	-2 $\frac{1}{2}$	-2 $\frac{1}{2}$
1959-63	5 $\frac{1}{4}$	3 $\frac{1}{4}$
1956-63	2 $\frac{1}{2}$	1 $\frac{1}{2}$

** The IAP-64 series were the only current series at the time NIE 11-5-65, Soviet Economic Problems and Prospects, 22 January 1965 (SECRET/CONTROLLED DISSEM), was prepared. Accordingly, the statements in this paragraph constitute a comparison of the series underlying the discussion in NIE 11-5-65 and the NIE-65 series.

expenditures for personnel are as much as 17 percent lower than the comparable High IAP-64 series (1964) and a minimum 11 percent lower (1961). These differences are primarily a result of different underlying physical quantities. The recent downward revision of the estimate of Soviet active military manpower suggests an average difference for the 4-year period of about one-half million men per year. In effect, the current estimate of military manpower in cumulative terms is now about equal to the low end of the IAP range.

b. Research, Development, Test, Evaluation, and Space

The NIE-65 RDTE&S series falls between the High and Low IAP series with the absolute differences reaching a high of somewhat over a billion rubles (see Table 16). These substantial differences are explained almost entirely by the difference in ground rules between IAP-64 and NIE-65 referred to above. Thus, in concept, the differences in expenditures are not the result of revised physical estimates, revised prices, or new data. The differences in expenditures are rather the result of stating a best estimate of actual expenditures as opposed to stating a range within which the actual expenditures are believed to fall.

c. Procurement

The explanation of the differences between the NIE-65 and the IAP-64 procurement series in Table 16 is more complex than is the case with either personnel or RDTE&S. Only in 1961 does the NIE-65 total for procurement fall outside of the IAP range, being about 5 percent below the Low IAP-64 figure. For 1964 the NIE-65 figure approaches

the midpoint of the IAP range, being about 18 percent above the Low and about 15 percent below the High.

There are a number of important differences which to some extent are obscured in the procurement total because of offsetting changes within the category. The three procurement accounts with the greatest differences in expenditures are Land Armaments and Ammunition, Aircraft, and Missile Systems. The differences between the NIE-65 series and the IAP-64 series -- both High and Low -- for land armaments and ammunition are pronounced. In cumulative terms the NIE-65 series equals only about 50 percent of the Low IAP-64 series and about 40 percent of the High IAP-64 series. This shift, as indicated earlier, is primarily the result of a judgment that the quantities used for procurement in the NIE-64 series were substantially too high, and these same quantities provided the basis for the quantities used in the High and Low IAP-64 series. The extent of the shift in this account is illustrated by the fact that the cumulative difference between the NIE-65 series and the High IAP-64 series is about 2.6 billion rubles, or the equivalent of about two-thirds of the total difference in procurement.

With the exception of 1961, when the NIE-65 and High IAP-64 series are about equal, the NIE-65 series for procurement of aircraft is higher and tends to offset the large differences in land armaments and ammunition. For the most part, the differences in aircraft are accounted for by the substantial price increase discussed in B, p. 39, above. In addition to price changes, however,

there are differences in the physical estimates. The total number of aircraft estimated to have been procured during the period for the NIE-65 series exceeds the numbers used for both the High and Low IAP-64. Thus the physical estimates reinforce the effect of the price change.

In the case of procurement of missile systems, the NIE-65 series starts out in 1961 below the Low IAP-64 series and in 1964 is roughly midway between the High and Low IAP-64 series. Cumulatively, the NIE-65 series is some 0.3 billion rubles (4 percent) below the Low IAP series. Lower estimates of expenditures for ICBM's and tactical cruise missiles, partly offset by higher expenditures for other missile systems, are responsible for this difference. A downward revision of SS-7 costs, resulting from improved price data on US missile costs, accounts for a large part of the difference in the ICBM programs. Similarly, the difference in expenditures for cruise missiles is attributable to a substantial downward revision in price and some program reduction. Although there are a number of minor differences for other missile systems, the only sizable difference is the result of an NIE-65 estimate for ABM programs that is about 0.1 billion rubles lower in 1964 than the High IAP-64 figure.

The differences for the two remaining major items of procurement -- nuclear weapons and ground electronic equipment -- are relatively minor. The NIE-65 series for nuclear weapons is exactly midway between the High and Low IAP-64 series. The differences for this account are entirely the result of the difference between a range and a best estimate. The differences for electronic equipment also

never exceed 0.2 billion rubles, but in this case the NIE-65 series tends to be closer to the High IAP-64 series.

Construction of facilities and operation and maintenance are the two remaining major categories of expenditure shown in Table 16. The differences in the facilities category are negligible and, therefore, will not be considered further. Expenditures for operation and maintenance deserve some mention, however, because the NIE-65 series is close to the high end of the IAP range. This is primarily because of a higher estimate of expenditures for civilian personnel than appeared in either the High or Low IAP-64 series. The estimate of civilian personnel expenditures was revised upward for the NIE-65 series to reflect more realistically what is currently believed to be the Soviet requirements for civilian employees performing direct functions for the military establishment.

3. Expenditures by Mission

a. Strategic Attack

Table 17 shows that for the years 1962-64 the NIE-65 series of expenditures for the Strategic Attack Mission fall within the IAP range. The NIE-65 figure for 1961, however, is about 5 percent below the Low IAP-64 figure and is accounted for by the differences in the missile programs discussed above.

b. Strategic Defense

As in the case of Strategic Attack, the NIE-65 series of expenditures for the Strategic Defense Mission is within the IAP range. (See Table 17.) The general tendency of the NIE-65 series to be

Table 17

Comparison of Soviet Defense Expenditures
in NIE-65 a/ and Low and High IAP-64, by Mission
1961-64

	Billion Rubles b/			
	1961	1962	1963	Total 1961-64
Major missions				
NIE-65	10.7	11.8	11.6	45.3
IAP-64 Low-High	10.6 - 12.4	11.4 - 12.9	10.9 - 12.9	43.0 - 51.0
Strategic Attack				
NIE-65	2.7	3.1	2.8	11.0
IAP-64 Low-High	2.8 - 3.2	3.0 - 3.1	2.6 - 3.0	10.4 - 12.0
Strategic Defense				
NIE-65	2.2	2.6	2.6	10.2
IAP-64 Low-High	1.8 - 2.2	2.3 - 2.8	2.1 - 2.7	8.5 - 10.7
General Purpose				
NIE-65	5.8	6.1	6.2	24.1
IAP-64 Low-High	6.0 - 7.0	6.1 - 7.0	6.2 - 7.3	24.0 - 28.4
Command and General Support				
NIE-65	1.8	1.7	1.8	7.1
IAP-64 Low-High	1.7 - 2.0	1.8 - 2.1	1.8 - 2.1	7.1 - 8.4
RDTE&S				
NIE-65	2.7	3.1	3.5	13.1
IAP-64 Low-High	2.3 - 3.4	2.5 - 3.9	2.9 - 4.4	10.8 - 16.7
Total				
NIE-65	15.2	16.6	16.9	65.5
IAP-64 Low-High	14.6 - 17.8	15.7 - 18.8	15.6 - 19.5	60.9 - 76.0

a. For comparability with the IAP-64 data, the NIE-65 data in this table excludes expenditures for militarized security forces. The NIE-65 expenditure totals and components are based on unrounded data, but components where adjusted as necessary to add to the totals shown.

b. Expressed in 1955 prices.

closer to the High IAP series than to the Low is the result of the higher prices of aircraft referred to above and a substantial increase in the estimate of personnel associated with SAM units plus some increase in SA-2 and SA-3 missile requirements. Factors that tend to offset these increases are the exclusion of the Fiddler aircraft from the NIE-65 series on fighter production and some reduction in the estimates of production of air-to-air missiles.

c. General Purpose Forces

Expenditures for General Purpose Forces in the NIE-65 series follow the general pattern set by Strategic Attack in that they fall within the IAP range of expenditures in all years except 1961. A comparison of the data in Table 17 reveals that for General Purpose Forces the level of expenditures in the NIE-65 series is some 2 percent below the Low IAP figure in 1961 and thereafter is within the IAP range, but in this case the level remains closer to the Low IAP-64 series. The major factors that tend to restrict the level of expenditures for General Purpose Forces in NIE-65 are the new lower estimate of military manpower, which is reflected primarily in the NIE-65 expenditures for General Purpose Force personnel; the substantially lower estimate of Soviet production of land armaments; and the lower estimate for the tactical cruise missile system referred to above. Tending to offset the impact of these factors are the higher estimates for aircraft procurement -- both fighter and transport aircraft -- resulting from the higher prices and production estimates in NIE-65.

d. Command and General Support

The NIE-65 series of expenditures for Command and General Support functions is close to the Low IAP-64 series. The differences between the NIE-65 and High and Low IAP-64 series for this mission, shown in Table 17, are primarily the result of the reduced estimate of total military manpower. Although most of the impact of the new estimate of military manpower falls on the Ground Forces, it also has a significant effect on the command and support structure of the Soviet military establishment. The full effect of the reduced estimate of military manpower is not evident in Table 17, however, because the increased expenditures for civilian personnel, referred to above, are included in this mission and these increased expenditures tend to offset the lower expenditures for active military personnel.