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**SPECIAL DEFENSE
INTELLIGENCE ESTIMATE**

**THE SHARE OF THE
SOVIET DEFENSE EFFORT
ATTRIBUTABLE TO MEETING
THE PRC THREAT (U)**

26 MAY 1977



**DIA review(s)
completed.**

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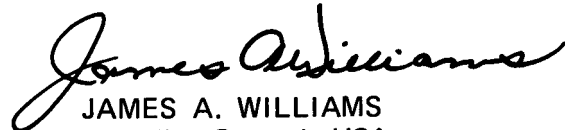
SPECIAL DEFENSE INTELLIGENCE ESTIMATE

**THE SHARE OF THE SOVIET DEFENSE EFFORT
ATTRIBUTABLE TO MEETING THE PRC THREAT**

This Estimate has been coordinated with the Intelligence Chiefs of the Army, Navy, Air Force, and Marine Corps. All concur in the Estimate as written.

Comments or questions concerning this Estimate should be referred to the author, Dr. John Ashton, Directorate for Estimates, OX4-8106.

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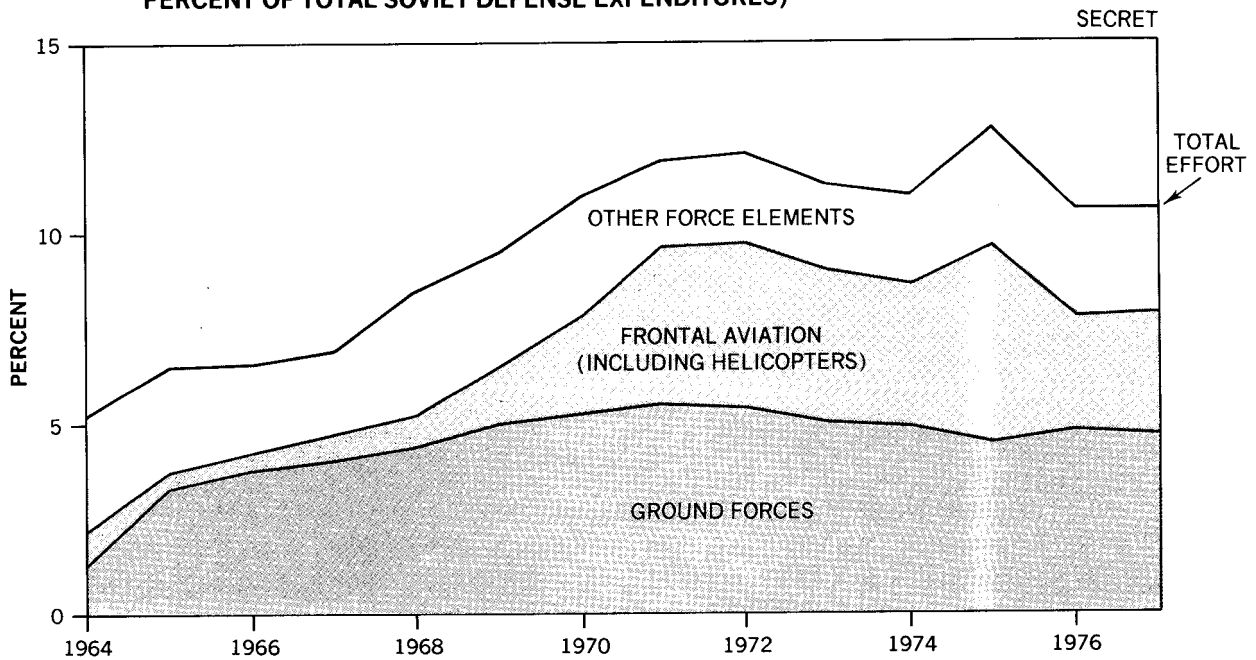
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THE SHARE OF THE SOVIET DEFENSE EFFORT
ATTRIBUTABLE TO MEETING THE PRC THREAT

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FIGURE 1. SHARE OF SOVIET DEFENSE EFFORT ATTRIBUTABLE TO MEETING THE PRC THREAT (IN PERCENT OF TOTAL SOVIET DEFENSE EXPENDITURES)



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THE SHARE OF THE SOVIET DEFENSE EFFORT
ATTRIBUTABLE TO MEETING THE PRC THREAT (U)

THE ESTIMATIVE ISSUE

(U) In the context of relating US defense expenditures to those of the USSR, a question often arises concerning the portion of Soviet defense expenditures that is directed against the PRC, and, by implication, not attributable to countering the US and its allies. The question persists in spite of the fact that, for whatever purpose raised, military forces can be used against any enemy.*

CONCLUSIONS**

A. (S) The Soviet defense effort directed against the PRC threat is estimated to have grown from about 5 percent of the total Soviet defense effort in 1964 to about 12 percent in 1971-1972, and then to have declined to about 11 percent in 1976-1977 (see Figure 1). We see the long term trend as favoring greater relative efforts against the US and NATO, and less against the PRC.

B. (S) The rapid growth in the effort against the PRC is largely a thing of the past; it accounted for about 30 percent of the growth in Soviet military expenditures 1964-1972, but less than 5 percent in the years since 1972.

C. (S) The slackening of the growth in the effort against the PRC has enabled the effort against the US and NATO to grow much more rapidly in the last five years than in the previous eight years.

D. (S) The Soviet effort against the PRC has also been a highly selective one, accounting for some 40-50 percent of the total growth in Soviet expenditures for ground forces and Frontal Aviation, but for negligible amounts of the growth in expenditures for ICBMs, SLBMs, LRA, Navy, and research and development.

*The presence of any Soviet forces in the Far East poses a threat to US bases, interests, and Asian allies, as well as to the PRC. Their mere existence would tend to pin down US forces in the Far East in the event NATO-Warsaw Pact hostilities were limited to the European theater.

**The conclusions are based on a number of calculations, judgments, and assumptions, which are set forth in detail in Annexes A and B.

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DISCUSSION

GROWTH IN THE MAJOR INDIVIDUAL FORCE ELEMENTS

1. (S) The major Soviet defensive effort opposite the PRC, as measured by estimated Soviet military expenditures, has been the buildup of ground and Frontal Aviation forces along the border. This effort is estimated to have accounted for almost all of the growth in the total effort against the PRC in the years 1964-1972, and to be equivalent to about one-half of the total growth in Soviet expenditures for those force elements. The effort levelled off in the years 1972-1977, except for a major Frontal Aviation effort in 1975. Preparation for deployment of the SS-X-20 has resulted in some growth in the effort against the PRC in the past few years. Developments in other Soviet force elements opposite the PRC have had a negligible effect on the growth in the overall Soviet defense effort (Figure 2 depicts the share of the effort in each individual force element estimated to be attributable to meeting the PRC threat.) As can be seen, over 50 percent of the Border Troops effort is against the PRC, about 25 percent of the ground and Frontal Aviation effort, and lesser shares of the effort in other force elements.

Early Strengthening Of Border Troops

2. (S) The early Soviet reaction to the growing hostility of the PRC was to reorganize the border troops in 1962-64. The USSR has continued to strengthen the units opposite the PRC in the years since, supplying more APCs and other equipment to units opposite to the PRC than to border guards in other areas. This upgrading has in the years since been overshadowed by the effort in other force elements, particularly in ground forces.

Major Growth In Ground Forces

3. (S) Soviet line divisions along the PRC border increased from 16 in 1964 to 40 in 1972, and to 41 in 1976. (Figure 3 shows the location of ground force divisions along the border.) They now make up 24 percent of the Soviet ground force line division strength and approximately the same share of divisional manpower.

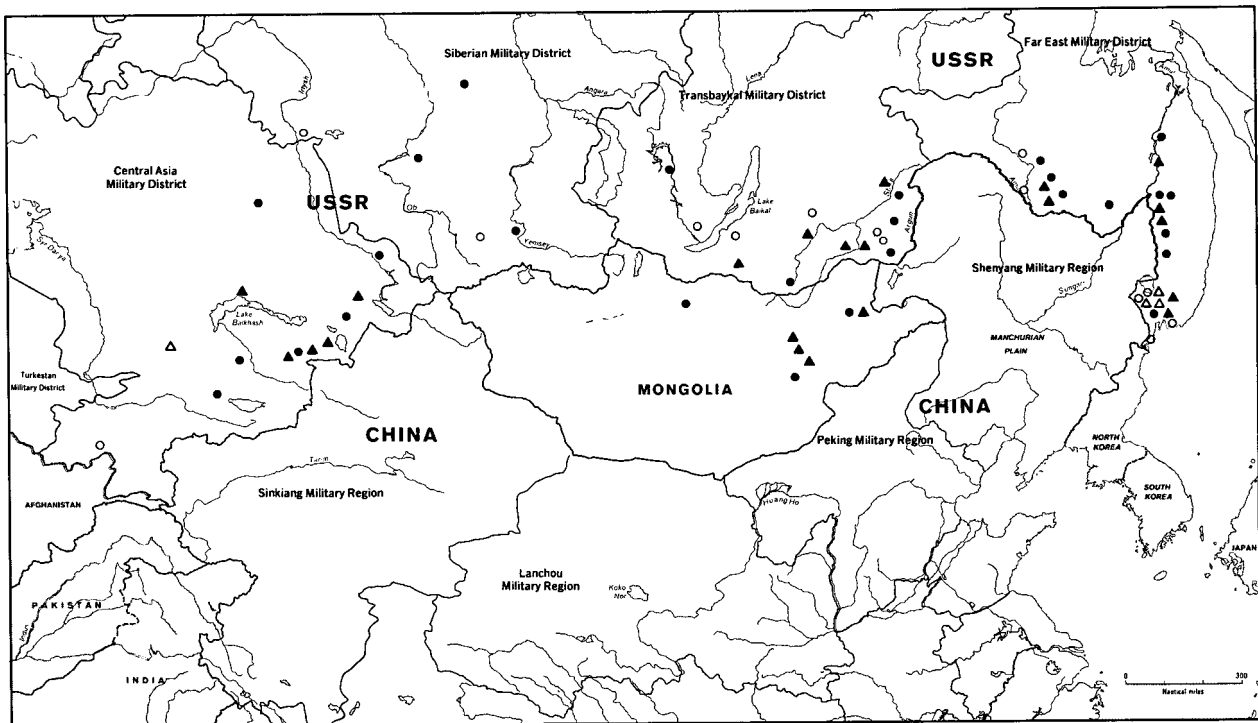
4. (S) Soviet line divisions along the PRC border tend to cost less than does the average Soviet line division, however, and thus require less than their share of resources. Although the forces along the border account for 24 percent of ground force strength, they have received only some 20 percent of new ground force armaments over the past few years, and have only 15-18 percent of ground force ammunition and petroleum storage.

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FIGURE 2. PERCENT OF INDIVIDUAL FORCE ELEMENT EFFORT THAT IS DIRECTED AGAINST THE PRC THREAT

Force Element	1964	1966	1968	1970	1972	1974	1976
Border Troops	45	50	50	55	55	55	55
Ground Forces	10	20	20	25	25	25	25
Helicopter Aviation	10	10	10	30	40	30	30
Frontal Aviation	5	5	10	20	25	25	25
Transport Aviation	15	15	15	15	15	15	15
LRA	10	10	10	10	10	5	5
SRF	-	-	10	10	Negl	5	5
Air Defense	-	-	Negl	Negl	5	5	5
Navy	5	5	5	5	5	5	5

FIGURE 3. THE SOVIET BUILDUP ALONG THE PRC BORDER



IN PLACE, 1964 ADDED SINCE 1964

GROUND FORCE DIVISION a/ ○ ●
 FRONTAL AVIATION UNITS b/ △ ▲

a/ EXCLUDES ONE DIVISION EACH IN SIBERIAN AND CENTRAL ASIA MDs WHICH WERE DROPPED SUBSEQUENT TO 1964.

b/ ACTIVE FRONTAL AVIATION BASES ARE SHOWN. USUALLY ONE REGIMENT IS ASSIGNED PER BASE.

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5. (S) In the past year, the Soviets have again increased their ground forces against the PRC, so that the share of the effort against the PRC has stopped its decline of the previous four years. In particular, the Soviets have since October 1975 expanded their ground forces in Outer Mongolia by activating an additional tank division at Bulgan. They have also introduced a mobilization division at Arvayheer and major elements of an unidentified division at Mandalgovi.

6. (S) The general upgrading of Soviet troops along the border has lagged behind that in the West, however, and new equipment has been introduced more slowly, as a substantially greater threat to the USSR emanates from NATO.

Expansion And Modernization Of Frontal Aviation

7. (S) The growth in ground forces has been paralleled by growth in Frontal Aviation forces along the border. From a force of some 200 fixed-wing aircraft in 1964, Frontal Aviation grew to strength of some 1100 aircraft in 1972, mostly through the reactivation of older aircraft. (Figure 3 shows the location of new airfields along the PRC border.) The rate of growth slowed since then. The some 1200 aircraft along the border now account for about 26 percent of total fixed-wing aircraft in Frontal Aviation.

8. (S) The modernization of Frontal Aviation opposite the PRC clearly lagged until 1975. Then for a year, forces opposite the PRC were favored and in 1975-1976 almost one-half of new aircraft went to the border. Since mid-1976, the priority has again returned to the forces opposite NATO.

9. (S) The growth in fixed-wing aircraft in Frontal Aviation along the PRC border was accompanied by a rapid growth of helicopters in Frontal Aviation. In 1965, there were only some 60 helicopters near the PRC border, out of a total of over 600. Helicopters were added rapidly in the years 1969-1971 so that almost 40 percent of the Frontal Aviation helicopter force was opposite the PRC by 1972. Since then, however, the helicopter force has grown more rapidly in the west. At present, some 30 percent of the 3,000-plus helicopters in Frontal Aviation are opposite the PRC.*

*This number includes those helicopters supporting two air mobile regiments.

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Adjustment Of The SRF To The PRC Challenge

10. (S) Concerned that its missile complexes near the PRC border presented too tempting a target, the SRF in 1967-1970 removed its MRBMs and IRBMs from within range of PRC weapons, and stopped construction on ICBMs in the three eastern-most complexes. In the years 1967-1971, the USSR deployed 190 SS-11 in five complexes so oriented that their area of fire could cover the PRC. Eighty of these have been modernized with SS-11 Mod 2/3. The others will probably be converted to SS-17 and SS-19, when the SS-X-20 can take over their targeting responsibilities.

11. (S) During the past year, preparations for deployment of the SS-X-20, which has the range to cover all of the PRC, have been progressing at three complexes, two opposite the PRC. We estimate that some 30 percent of the final total SS-X-20 force will be allocated against the PRC.

Other Force Elements

12. (S) There is little indication, however, that concern with the PRC has caused the USSR significantly to change the deployment of other force elements over the past decade.

-- Soviet strategic air defenses along the border have accounted for about 17 percent of PVO Strany air defense resources from the mid-1960s to the present, and have lagged air defense forces in the west in getting new equipment.

-- Soviet general purpose naval forces deployed in the Pacific Fleet have remained close to 28 percent of the total since 1964. Even this fleet is structured and trained primarily against the US. The newest ships, submarines, and aircraft have been deployed to the Northern and Black Sea fleets in the west.

-- Fixed-wing transport aircraft opposite the PRC have remained at about 14 percent of the total 1964-1976; again the newest aircraft have been deployed against the West.

-- Numbers of LRA BADGER deployed opposite the PRC (no BLINDER are so deployed) have remained at 14-15 percent of the BADGER force since 1964. BACKFIRE has been deployed only in the west, and the BEAR and BISON force was developed and deployed primarily for use against the US.

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IMPLICATIONS FOR THE FOCUS OF THE SOVIET DEFENSE EFFORT

13. (S) These force element programs against the PRC are estimated to have accounted for 30 percent of the growth in the Soviet defense effort (as measured by expenditures for defense) in the years 1964-1972. As a result, resources attributable to meeting the PRC threat are estimated to have grown from 5 percent of the total Soviet defense effort in 1964 to some 12 percent in 1972.

14. (S) During the years 1972-1974, however, the effort is estimated to have remained at about the 1972 level. The increments in the Soviet defense effort during those years were directed at meeting the US and NATO threats, and the share of the effort against the PRC declined. In 1975, however, the effort against the PRC spurted as a result of the extensive Frontal Aviation deployments mid-1975 to mid-1976. Since then, Frontal Aviation deployments have been below normal. Despite new ground force deployments, the share of the effort against the PRC has fallen to less than 11 percent.

15. (S) Figure 1 graphically shows the importance of the impetus given by expansion of Soviet ground forces and Frontal Aviation along the PRC border to the growth of the effort against the PRC in the late 1960s and the slackening of the relative effort in the 1970s.

16. (S) As the growth in the Soviet effort against the PRC has slowed in the past few years, and as the share of the Soviet defense effort attributable to meeting the PRC threat has dropped, the effort against the US and NATO has grown more rapidly and claimed an increasing share of Soviet defense resources. During the past five years, the average annual rate of growth in the cost of the effort against NATO and the US has grown over the average for the years 1964-1972. In the past five years, over 95 percent of the *growth* in the Soviet military effort is to be attributed to meeting the US and NATO threats, and less than 5 percent to meeting the threat from the PRC.

OUTLOOK

17. (S) We believe the effort against the PRC will require a decreasing share of Soviet defense resources in the future.

-- With creation of a combined arms army in Mongolia, current ground force requirements will apparently have been met.

-- Ground force and Frontal Aviation modernization will continue opposite the PRC, but, in the long run, with lower priority than opposite NATO in the west.

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-- In the next several years, deployment of the SS-X-20 opposite the PRC will require substantial resources, but not more than 10 percent of total expenditures for the SRF, whose effort will remain almost wholly to meet the US and NATO threat.

-- Some YANKEE-class SSBNs may be allotted PRC targets, but this will involve no great expenditures of resources.

-- Expensive Soviet military R&D, strategic offensive and defensive, and naval forces will continue to be preponderantly developed and maintained to meet the US and NATO threats.

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ANNEX A

METHODOLOGY

THE APPROACH TO THE PROBLEM

1. (U) A study was made of each of the force elements of the Soviet military establishment. Judgments were then reached about the share of the effort for each force that, in Soviet eyes, would reasonably be allocated to defense against the PRC rather than against US and NATO. The shares ran all the way from over a half for border troops to negligible amounts for the military RDT&E effort, which was considered to be wholly oriented against the challenge of western military technology.

2. (U) The shares for each force element were aggregated for the USSR by using ruble expenditure figures as a common denominator. In general, the share of the force element effort, in percent, was applied to CIA figures for expenditures for each force element, as measured in constant 1970 rubles, to arrive at ruble expenditures in each force element attributable to the effort against the PRC.* These force element expenditures were, in turn, summed to arrive at the total expenditures against the PRC for the force elements involved. The sum of the expenditures against the PRC, so derived, was then compared to the total expenditures for those force elements in order to arrive at a percentage of the total effort against the PRC. It was assumed that the share of expenditures for command, support, reserve and retired was probably close to the share for other force elements, taken together, and was not explicitly calculated.

3. (U) As the ruble estimates were used only as a means of aggregation, and involved no independent judgments, they are not reproduced here. The ruble figures and the calculations can be seen by arrangement with the author of this report,

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4. (U) The conclusions about the shares of the force element efforts directed against the PRC were not based only upon location of forces. The Soviet Pacific Fleet, for instance, is located so that it can attack the PRC. But its major concern remains the US Pacific Fleet; its effort cannot thus be wholly allocated against the PRC. The assumptions, estimates and calculations for each element and for the total effort are addressed in the following pages of this Annex.

*The ruble costs used in this analysis are those calculated by CIA in April 1977. These figures are considered by CIA to be subject to further revision. Later studies by CIA may thus adjust the conclusions of this paper to some degree.

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5. (FOUO) A study was also made to ascertain what regional factors should be applied to the expenditures, if any, to account for the fact that much of the buildup against the PRC was in high cost eastern areas. It was found that, because forces against the US and NATO were of higher quality and average cost and were also deployed in high cost areas, no adjustment need be made. The bases for this judgment are addressed in Annex B.

BACKUP ANALYSIS AND CALCULATIONS

6. (U) Figure A-1 summarizes the shares of the total Soviet force element effort which is estimated to be attributable to meeting the PRC threat to the USSR. The supporting data, analysis, and assumptions for the PRC-oriented share are presented in backup sections for each force element following the table. As is clear, the analytical approach to a great extent drives the answer. For this reason, the approach and the assumption have been explicitly set forth.

**FIGURE A-1. SOVIET DEFENSE EFFORT AGAINST THE PRC,
AS PERCENT OF INDIVIDUAL FORCE ELEMENT EFFORT**

	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977
SRF	-	-	-	-	8	16	12	-	-	-	4	10	7	7
LRA	10	11	11	11	11	10	10	9	8	7	7	7	7	7
Air Defense	-	-	-	-	1	1	1	3	4	5	5	5	6	6
Ground Forces	10	17	19	20	21	24	26	27	26	25	25	23	25	25
Frontal Aviation	6	5	6	9	11	16	21	25	25	25	25	37	21	22
Helicopters	9	9	9	9	9	20	30	38	39	34	29	30	31	32
Transport Aviation	14	14	14	14	14	14	14	14	14	14	14	14	14	14
General Purpose Navy	5	5	5	5	5	5	5	5	5	5	5	4	4	4
Border Troops	<u>45</u>	<u>50</u>	<u>50</u>	<u>55</u>	<u>55</u>	<u>55</u>	<u>55</u>	<u>55</u>	<u>55</u>	<u>55</u>	<u>55</u>	<u>55</u>	<u>55</u>	<u>55</u>
TOTAL DEFENSE	5	6	7	7	8	10	11	12	12	11	11	13	11	11

ICBMs

7. (S) The only ICBMs specifically deployed to counter the PRC are 190 SS-11 deployed 1967-1971 with all the PRC in their sector of fire. While they could reach other targets, ability to hit the PRC was a primary consideration in their deployment. And while some other ICBMs could reach parts of the PRC, they were clearly deployed for other purposes. The silo groups involved originally contained SS-11 Mod 1, which has now been replaced by the SS-11 Mod 2/3 at two complexes. Conversion at the other complexes is moving more slowly; missiles

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oriented against the PRC will probably be replaced, after SS-X-20 IOC, by SS-17 and SS-19 deployed against the US. Although the latter missiles, and the SS-18, can hit the PRC because of their greater flexibility, they were not developed and deployed for that purpose.

MRBMs/IRBMs

8. (S) No allocation of MR/IRBM effort was made against the PRC until 1974.

- (S) The 43 MRBMs and IRBMs in the Far East, removed in 1967-1970, were deployed against US and allied forces, and were not part of the forces opposing the PRC.
- (S) Preparations for deployment of the SS-X-20 are underway to replace all or part of the MR/IRBM force. Early preparations indicate some 50 percent of the current SS-X-20 effort is against the PRC. We estimate some 30 percent of the total SS-X-20 force will eventually be deployed opposite the PRC.

SLBMs

9. (S) Soviet SLBMs were developed and deployed with the intent that they be used against the US and its allies, although they can, of course, be directed against the PRC. The SS-N-8 on DELTA-class SSBNs can hit both the US and the PRC from home bases. As YANKEE-class SSBNs took up patrol stations off the US, patrols of GOLF- and HOTEL-class submarines were limited to areas closer to the USSR. One-half of the GOLF-class SSBs in the Pacific Fleet were assumed to have attacking PRC targets as their primary mission from 1970 on; the other one-half of the GOLF-class in the Pacific Fleet were assumed to have targets of US bases in Korea, Japan, and the Pacific Islands. All HOTEL-class SSBNs are in the Atlantic or at Petropavlovsk, and were considered to be targeted primarily against peripheral targets.

10. (S) The operating expenditures for the 6 GOLF-class submarines directed against the PRC are negligible in terms of the total SLBM effort which was dominated by the cost of procuring SSBNs, SLBMs, and warheads.

LRA

11. (S) The primary mission of LRA, even in the Far East, was against the US and its allies during the period in which the present force was deployed. We have no basis upon which to judge any change in orientation, although there has certainly been greater concern with attack on the PRC since 1965.

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12. (S) In this study, all the efforts of the two bomber Corps in the western USSR were allocated against the US and its NATO allies. In the Far East Bomber Corps (FEBC), the BADGERS at Belaya were allocated against the PRC; other BADGERS in the FEBC were divided 50:50 against the PRC and against US targets in Korea, Japan, and the Islands. BEAR and BISON have exercised against the PRC; however, this is mostly reconnaissance activity (see Figure A-2).

13. (S) No BACKFIRE have been deployed to the FEBC. The costs of deployment of BACKFIRE have been attributed to meeting the US and NATO threat.

FIGURE A-2. THE SHARE OF THE LRA ORIENTED AGAINST THE PRC

	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976
PERIPHERAL BOMBERS													
BADGER vs PRC ^{a/b/}	110	105	105	105	105	95	90	90	90	90	90	90	90
Total Bombers	770	725	690	670	665	660	655	645	625	620	590	590	590
Percent vs PRC	14.3	14.5	15.2	15.7	15.0	14.4	13.7	14.0	14.4	14.5	15.3	15.3	15.3
INTERCONTINENTAL BOMBERS													
Against PRC (Reconnaissance)													
Percent of Total Effort	-	-	-	-	-	-	-	-	1	2	3	3	3

^{a/}All BADGERS at Belaya and one-half of other BADGERS in Far East

^{b/}Excludes ECM and reconnaissance

Air Defense

14. (S) Soviet strategic air defense forces were expanded during the 1950s and early 1960s when the US and NATO, not the PRC, were the threat to the USSR. The growth of a PRC nuclear-capable bomber force after the mid-1960s presented a strategic threat to the Eastern USSR, but US strategic and tactical forces still remain a much greater threat in the Far East. We have no information on how the Soviets evaluated the relative effort that should be allocated to combat these two threats. The share of air defense resources going to areas east of the Urals has not appreciably changed over the past 10 years, indicating no high Soviet air defense effort primarily against the PRC (see Figure A-3).

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	1968 ^{a/}	1969	1970	1971	1972	1973	1974	1975	1976
FIRST APPROACH									
US: SAC	648	599	565	525	517	500	500	498	498
Forward-Based	845	851	851	765	705	819	753	753	753
UK & France	<u>166</u>	<u>132</u>	<u>116</u>	<u>118</u>	<u>122</u>	<u>128</u>	<u>134</u>	<u>142</u>	<u>152</u>
Total US and NATO	1659	1582	1532	1408	1343	1447	1389	1393	1403
PRC	<u>15</u>	<u>15</u>	<u>20</u>	<u>42</u>	<u>62</u>	<u>71</u>	<u>73</u>	<u>75</u>	<u>85</u>
Total Aircraft	1674	1587	1552	1450	1405	1518	1462	1468	1488
PRC as Percent of Total Threat	0.9	0.9	1.3	3.0	4.6	4.9	5.3	5.4	6.0
SECOND APPROACH									
US Forward-Based West Pacific	293	299	299	213	201	207	207	207	207
PRC	<u>15</u>	<u>15</u>	<u>20</u>	<u>42</u>	<u>62</u>	<u>71</u>	<u>73</u>	<u>75</u>	<u>85</u>
Total Aircraft	308	314	319	255	263	278	280	282	292
PRC as Percent of Asian Threat	5	5	6	17	23	26	26	27	29
Soviet Asian Air Defense as Percent of Total Air Defense ^{b/}	16.7	16.8	16.9	17.0	17.1	17.2	17.3	17.4	17.5
PRC as Percent of Total Threat	0.8	0.8	1.1	2.8	4.0	4.4	4.5	4.6	5.1

^{a/}The PRC strategic nuclear air threat started in 1968

^{b/} 1965, 1970, and 1975 calculated. Other years interpolated or extrapolated.

15. (S) In this study, it is assumed that the orientation of the Soviet strategic air defense effort can be considered to be in proportion to the threat. The threat to the USSR is defined as the numbers of strategic and nuclear-capable aircraft, in the PRC as opposed to those in US and NATO strategic nuclear forces and in forward-based US general purpose forces that can deliver a nuclear attack on the USSR from their normal bases.

16. (S) The first approach to estimating the PRC share in the strategic nuclear threat to the USSR related PRC forces to total US/NATO strategic and forward-based nuclear air forces. As a check on this approach, a second approach related PRC forces to US forward-based forces in the Far East. The results were in general agreement -- that the strategic air attack threat to the USSR from the PRC grew from about one percent of the total threat through 1969 to three percent in 1971 and six percent in 1976.

ABM

17. (S) In 1968-1969 the Soviets started construction of six BMEWs radars at two locations which could detect missiles launched from the PRC. These were operational by 1973. In 1971, a second side -- facing toward the PRC -- was started for the Chekhov radar near Moscow; it may become operational in 1977. The major expenditures were for construction of these radars, and are estimated to have required negligible percentages of the total Soviet effort.

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Ground Forces

18. (S) The major Soviet effort against the PRC was for building up the ground forces along the PRC border, backed up by reinforcing elements in the Siberian MD. Although there were forces in these areas prior to 1960, it is probable that, since the mid-1960s, the Soviets have seen those forces as primarily for PRC contingencies, and think of area force level requirements in terms of the PRC threat.

19. (S) In the calculations that follow, all Soviet divisions in the Siberian, Central Asian, Transbaikal, and Far Eastern MDs and in Mongolia are counted as opposed to the PRC, except for two divisions on Sakhalin and one division on Kamchatka. These could, of course, be used to reinforce the border, as could divisions in the western USSR, but this is unlikely. They received no augmentation in the past ten years (as did the reinforcing divisions in the Siberian MD) and are not considered to be oriented toward the PRC in Soviet force planning. The buildup opposite the PRC is shown in Figure A-4. The assumption was made that the numbers of divisions were an appropriate measure of ground force strength. Troop strength in divisions forces along the PRC border is believed to average about the same per division as in Soviet forces as a whole. It was assumed in this study that the support slice was the same for forces opposite the PRC as elsewhere. To the degree that this is not so, there is a slight bias in the results.*

FIGURE A-4. GROWTH OF SOVIET LINE DIVISIONS OPPOSITE PRC BORDER

	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976
Siberian MD	3	3	3	3	3	4	4	4	5	5	5	5	5
Central Asian MD ^{a/}	2	2	2	3	4	4	5	6	7	7	7	7	7
Transbaikal MD	5	5	5	7	9	8	8	9	10	10	10	10	10
Mongolia	-	-	1	1	1	1	2	2	2	2	2	2	3 ^{b/}
Far Eastern MD ^{c/}	6	7	8	8	9	13	15	16	16	16	16	16	16
Total	16	17	19	22	26	30	34	37	40	40	40	40	41
Added during year	-	1	2	3	4	4	4	3	3	-	-	-	1
Cumulative additions		1	3	6	10	14	18	21	24	24	24	24	25

^{a/}Numbers 1964-1968 are divisions in that portion of the Turkestan MD that became the Central Asian MD in 1969.

^{b/}Another division is in the process of formation.

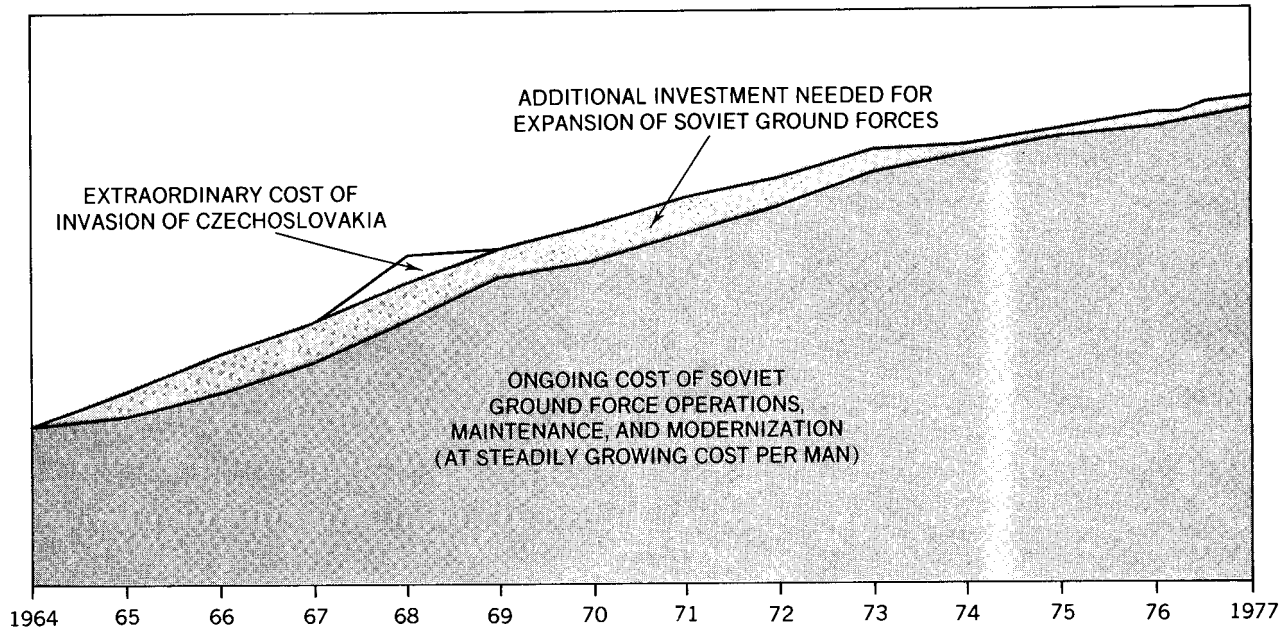
^{c/}Excludes 1 division on Kamchatka and 2 on Sakhalin

*POL and ammunition storage is in fact estimated to be less extensive along the PRC border, in relation to ground forces, than in the west. Artillery support, however, is greater.

20. (S) CIA figures indicate that Soviet expenditures for ground forces per man grew slightly from 1964 to 1975. This figure is derived by dividing the total expenditures (in constant 1970 rubles) for ground forces by the number of men in the ground forces, both before the buildup opposite the PRC (1964) and after three years of no further divisional growth (1975). This factor, applied to the growth in manpower, gives the "normal" expenditures for the ground forces. Over and above these expenditures are (1) the cost of the buildup for Czechoslovakian invasion and (2) the cost of expanding Soviet forces along the PRC border. These relationships are shown in Figure A-5.

FIGURE A-5. REPRESENTATION OF THE EXPENDITURES FOR THE SOVIET GROUND FORCE BUILDUP ALONG THE PRC BORDER

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21. (S) The methodology utilized DIA estimates of divisions present on the border; these estimates tend to count groups of men and equipment as active divisions sooner than do CIA estimates. Moreover, the methodology considered a division to have its complement of equipment and manpower the first year it was carried in the order of battle; this was not usually true. On both counts, the methodology used here tends to ascribe resources to support of ground forces opposite the PRC more rapidly than might have taken place, by perhaps as much as two years. On the other hand, CIA estimates that ground forces investment grew much more rapidly than DIA divisional counts in the years 1964-1966, but tended to grow at about the same pace thereafter, thereby indicating a possible two-year investment lead over division activation. Given these two possible indications of systematic error in the timing of the resource allocation, suggesting adjustment in opposite directions, the calculations were not adjusted. These

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FRONTAL AVIATION

22. (S) Before 1965 the only Frontal Aviation in the area of the PRC was an air army in the Far Eastern MD with less than 200 aircraft. By the end of 1969, there were three air armies with some 650 aircraft. By 1972 this number had grown to 1130 aircraft, and has grown relatively little since then, although the force has undergone considerable modernization with FITTER, FLOGGER, and FENCER.

23. (S) As in the case of the ground forces, although there were forces in being before the PRC became a threat to the USSR, the rapid augmentation of the forces opposite the PRC indicated the high priority put on building a Frontal Aviation capability opposite the PRC. In view of this priority, and the lack of other land threats to the USSR in the Far East, the entire Frontal Aviation force along the border was considered to be allocated to meeting the PRC threat.

24. (S) The early buildup in 1967-1969 was accomplished by bringing older FRESCO and BEAGLE out of storage, and was thus relatively inexpensive. New model aircraft started going to the border in 1970-1971, and resulted in a rapid growth in costs.

25. (S) In the year from mid-1975 to mid-1976 Frontal Aviation forces opposite the PRC received about 40 percent of the expensive new aircraft going to Frontal Aviation. These had been procured in 1975; consequently expenditures for Frontal Aviation opposite the PRC jumped in 1975. Since mid-1976, however, new aircraft deployments to the area have dropped below a proportionate level.

26. (S) The effort is calculated as a percentage of the total Frontal Aviation combat aircraft capability, as indicated in Figure A-6.

27. (S) Construction of facilities for Soviet Frontal Aviation opposite the PRC is estimated by CIA to have cost about 22 percent of total FA construction over the period 1964-75.

FIGURE A-6. CALCULATION OF THE SHARE OF FRONTAL AVIATION FIXED-WING AIRCRAFT OPPOSITE THE PRC

	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976
Combat Aircraft													
Total	3230	3280	3230	3310	3540	3780	4040	4280	4540	4590	4660	4620	4600
Border	180	160	180	300	380	605	850	1065	1130	1130	1150	1230	1210
Percent	5.6	4.9	5.6	9.1	10.7	16.0	21.1	24.9	24.9	24.7	24.7	26.6	26.3

Helicopter Aviation

28. (S) Most helicopters in Frontal Aviation are subordinate to tactical air armies in the USSR. In 1965, there was one helicopter regiment and a smaller unit near the PRC border out of a total of 16 units; the units near the border had nine percent of the helicopters. Since 1968 there has been a steady growth in the numbers of helicopters in Frontal Aviation opposite the PRC. The growth was particularly rapid in the years following the border incidents of 1969. Since 1972, however, numbers of helicopters have been growing more rapidly opposite NATO, with the result that the share opposite the PRC has declined, as shown in Figure A-7.

FIGURE A-7. HELICOPTERS IN FRONTAL AVIATION

	1967 ^{a/}	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977
Total	720	770	860	920	981	1047	1302	2313	2584	3012	3079
Opposite PRC	67	67	173	270	371	409	439	674	794	934	977
Percent	9	9	20	30	38	39	34	29	30	31	32

^{a/} There was no essential shift in the share of helicopters opposite the PRC in the years 1964-1967.

Transport Aviation

29. (S) Of all the force components, Military Transport Aviation (VTA) is best suited to rapid redeployment, and the long distances in Soviet Asia make VTA useful in Asian operations. By the end of the buildup opposite the PRC in 1973, there were some 60 medium-range transports (AN-12/CUB) of VTA in the Transbaikal and Far East MDs and 45 in the Turkestan MD, out of a total of 740 medium-range transports. In addition, there were some 20 long-range transports (An-22/COCK) in the Western USSR. About 14 percent of the VTA effort thus could be considered to be allocated to PRC defense in 1973; this portion remained the same as in 1969 and in 1965. By 1976 the total number of VTA transports had changed little. Long-range AN-22/COCK and IL-76/CANDID replaced older and medium-range CUB in the west, but the composition of the force opposite the PRC remained about the same as it had been in 1973.

General Purpose Naval Forces

30. (S) Of the four Soviet fleets, only the Pacific Fleet could, by reason of geography, be concerned with the PRC; nevertheless, the US Pacific Fleet remains its overwhelming concern. The PRC Navy is not an ocean-going force; it is primarily for defense of its own coastal waters.

31. (S) There has been no perceptible trend in the portion of general purpose naval forces allocated to the Pacific Fleet since 1964. The Pacific Fleet has held the following percentages of deployed Soviet naval forces.

	<u>1964</u>	<u>1966</u>	<u>1971</u>	<u>1973</u>	<u>1975</u>	<u>1976</u>
Total	28	27	29	27	27	27
Submarines	25	27	34	30	31	32
Major Surface	28	27	24	25	25	25
Naval Air	32	27	29	28	28	30
Small Surface	-	-	-	25	25	23

If concern for the PRC were a major force behind the planning for naval dispositions, the Pacific Fleet would have received some preference. Apparently the Soviets think they can quite handily take care of any operations they are charged with against China, and still maintain a viable capability against the US 7th Fleet with the same share of naval resources in the Pacific Fleet as in the early 1960s. It is, of course, difficult to decide the share of effort the Soviet Pacific Fleet devotes to meeting the PRC threat. For purposes of this paper, a rather arbitrary figure of one-sixth of the effort of the Pacific Fleet has been used. The Pacific Fleet has been considered to represent 27 percent of the Soviet naval effort. Thus some 4 1/2 percent of the Soviet general purpose naval effort is considered to be allocated against the PRC in this study.

32. (S) The growth of Soviet Naval expenditures in 1975 and 1976 is attributable in large part to deployment of BACKFIRE and CHARLIE II and VICTOR II submarines -- none of which were deployed to the Pacific Fleet. Therefore, no significant increase in the effort against the PRC is estimated for these years.

Border Troops

33. (S) While not Ministry of Defense forces, the border guards have long contributed to the defense of the PRC border. Moreover the border guards opposite the PRC were reorganized from 5 of 13 (38 percent) Districts in 1960, to 4 of 8 in 1967 (50 percent). This change largely took place 1962-1964. The number of men in border guards (along with their signal support) has not changed appreciably. The numbers of men in border units along the PRC border are estimated to be about 60,000 out of a total of 130,000 in border units. But the border units opposite the PRC are much better equipped than elsewhere. They have, for example, about three-fourths of the border guard APCs. Nevertheless, about 80 percent of border guards expenditures are manpower-related. Building upon these general considerations, the share of the resources in support of border guards opposite the PRC has been estimated as follows:

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1964	--	45 percent (manpower-related)
1968	--	50 percent
1970 and later	--	55 percent (reflecting more APCs and combat teams after border incidents)

Research, Development, Test, And Evaluation

34. (S) The technological challenge to the Soviet armed forces is from NATO and the US, not from the PRC. The entire effort of RDT&E would thus have developed such as it has even without a PRC threat. In fact, without that threat, RDT&E funds may have been larger in the years 1966-1970, when large amounts of MOD resources were being devoted to building up defenses against the PRC. In this paper, the RDT&E effort is allocated entirely against the US and NATO.

Command And Support, Reserve And Retired

35. (S) It is assumed that command and control, DOSAAF, general support, military space operations, and reserve and retired expenditures support Soviet forces across the board. Expenditures for these programs are therefore allocated in the same proportion as the total of the expenditures enumerated above.

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ANNEX B

COST DIFFERENTIALS OF SOVIET FORCES AGAINST THE PRC

1. (U) The approach used so far in this estimate attributes average cost to the Soviet forces opposite the PRC. But the border regions are higher cost areas, and the average may have to be adjusted in order to get a truer picture of the relative burden of the Soviet buildup against the PRC. This calculation involves several steps:

-- Calculation of the cost differential of forces in Siberia and the Soviet Far East, relative to central USSR (Moscow area) and other areas.

-- From this, a calculation of the average cost for all Soviet forces and the relationship of average costs to eastern area costs opposite the PRC.

-- Adjustment of these eastern area cost differentials to take account of the fact that, in some force elements, forces against the PRC have lower factor costs, relative to the average, due to peculiarities of basing.

-- Adjustment to account for the fact that forces opposite the PRC are not necessarily average forces in terms of makeup and quality, and hence of cost.

2. (U) The calculation of costs in the eastern regions relative to the central USSR was based on cost differentials for various components of military costs for these regions reported in Soviet sources, adjusted for qualitative differences, and weighted by the share of those components in total Soviet military costs. These calculations are presented in Table B-1, following.

3. (C) As these differentials relate to costs for the central USSR (Moscow area) they then have to be adjusted to arrive at their relationship to average Soviet costs. Regional construction costs, weighted by regional distribution of military manpower, indicate average national military construction costs are 15 percent above central region costs. As construction costs opposite the PRC are 24 percent above central region costs, they are thus eight percent above the national average. ($1.24 \div 1.15 = 1.08$). It has been assumed in this study that total military costs, for comparable goods and services, would be no more than eight percent above the national average, as construction costs cause the greatest upward bias (Table B-1).

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TABLE B-1

MILITARY EXPENDITURES IN THE
SOVIET EASTERN AREAS IN RELATION TO CENTRAL USSR

	Share of Total 	Factor Cost Differential Over Central USSR <u>b/</u>	Resulting Contribution
Equipment, spares	.50	1.10	.550
Food	.05	1.20	.060
Construction	.10	1.24 <u>c/</u>	.124
Fuel	.05	1.23 <u>d/</u>	.062
Clothing and Other Supplies	.15	1.08 <u>b/</u>	.162
Military Pay	.05	1.15 <u>e/</u>	.058
Other (administration overhead)	.10	1.23 <u>f/</u>	.123
TOTAL	1.00		1.139 <u>g/</u>

b/ Rand WN-9239-NA *Cost-Planning Factors for Soviet East Asia*, November 1975, (FOUO) unless otherwise indicated.

c/ See Table B-2.

d/ Average of gasoline (1.14), fuel oil (1.56) and coal (0.98). Heating fuel factors include factors for the temperature differentials. Calculations are based on data in b/ above.

f/ General cost of living factor in West Siberia, East Siberia, Far East, weighted by military manpower, for single worker, as in b/ above.

g/ By comparison, the US Alaskan Air Command found that for planning purposes a differential of 1.24 using AAC cost weights and 1.35 using DoD cost weights is applicable to Alaskan operations. As PCS adds 13 percent to the DoD-weighted cost, and PCS is a negligible added cost in the USSR, 1.22 is a more appropriate DoD-weighted factor for comparison purposes. The average Soviet base is much further north, in much harsher conditions, so the differential should be much less in the USSR. See *Air University Review* Mar-Apr 1976, pp 61-73.

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TABLE B-2

CONSTRUCTION COST DIFFERENTIALS IN SOVIET EASTERN REGIONS

(Central European USSR Equals 1.00)

	Central Asia	Siberia	Transbaikal	Far East	Weighted Total
Construction Materials <u>a/</u>	-	1.01	1.23	1.43	
Construction Cost <u>a/</u>	-	-	-	1.3-1.5 <u>b/</u>	
One M ² Living Space <u>c/</u>	-	-	1.03-1.30	1.50 <u>b/</u>	
Apartment Construction <u>c/</u>	-	-	-	1.30 <u>b/</u>	
Construction Costs in General <u>d/</u>					
a. Remote Area	1.08	1.04	1.20	1.27 <u>b/</u>	
b. Severe Climate	0.95	1.07	1.07	1.07 <u>b/</u>	
Total (a x b)	1.03	1.11	1.28	1.36	
Weights <u>e/</u>	.23	.12	.27	.38	1.00
Contribution	.24	.13	.35	.52	<u>1.24</u>

a/ Oleg Hoeffding, *The Economy of the Soviet Far East as a Base for Military Deployment*, Rand WN-9199-NA, September 1975 (U). Factors are for total region.

b/ Amur and Khabarovsk oblasts and Primorskiy Kray.

c/ Anatoli Kuprianov, *Cost-Planning Factors for Soviet East Asia*, Rand WN-9239-NA, November 1975 (FOUO).



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e/ Based on share of construction in each region.

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4. (S) The differential factor inputs, tending to make forces opposite the PRC higher in cost, also make forces arrayed against the United States and its allies higher in cost as well, as suggested below. Thus the differential may, in fact, be in favor of forces deployed against the United States and its allies.

Against the US and Allies	Against the PRC
ICBMs against the US are in higher cost eastern regions.	ICBMs against the PRC are in lower cost western regions.
Higher cost LRA Arctic basing is for use against the US.	Lower cost LRA basing against the PRC, well south of Arctic.
The higher cost fleet areas are the Northern Fleet and the Kamchatka flotilla of the Pacific Fleet, which are against the US and NATO.	Naval forces against the PRC in the southern-based Pacific Fleet are closer to average in cost.
Ground and tactical air forces opposite NATO get foreign area bonuses equating to 100 percent of position pay.	Ground and tactical air forces opposite the PRC get border area bonuses equating to 15 percent of base pay.
Air Defenses in the Far North are against the US.	Air defenses against the PRC are in Southern Siberian regions.

5. (S) It is not generally remembered that the composition and quality of Soviet forces against the United States and NATO are such that unit costs are higher than against the PRC, as suggested below:

Against the US and NATO	Against the PRC
Newer ICBMs with MIRVs.	New version of SS-11
High cost MRBMs and IRBMs.	
BACKFIRE.	No BACKFIRE; older BADGER
LRA staged and refueled.	No staging and refueling required.
Long-range bombers are oriented against the US.	Bombers against PRC are less expensive intermediate-range.
YANKEE and DELTA SSBNs.	GOLF SSBs and HOTEL SSBNs.
Tank divisions make up 50 percent of forward force and have newer tanks. Priority deployment of new equipment to West.	Tank divisions make up 5 percent of forward forces and have older tanks.

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Forward force all combat ready.

Forward force only one-third combat ready.

All heavy transports are positioned in the west.

Lighter transports in the east.

SSNs, carriers, and missile cruisers.

Older ships.

6. (U) The following table attempts to take these differentials into account, using lower factor input and composition and quality differentials for forces against the PRC, as appropriate (see Table B-3).

7. (U) As can be seen, when the average costs are adjusted in the ways indicated above, Soviet forces directed against the PRC threat are on the average, not appreciably more expensive per unit. This conclusion rests in large part on the higher quality of forces against the United States and NATO and the fact that operation in high cost areas applies to many forces against the United States and NATO, as well. While the individual figures used to arrive at these conclusions are open to debate and refinement, the general conclusion appears to be an appropriate reflection of reality.*

*These conclusions are at some variance with a differential of 50 percent used in Rand WN-9178-NA, *Extraordinary Costs of the Soviet Buildup Against China*, 19 March 1976 (U).

The differences largely lie in the facts that:

-- Rand did not allow for differences of basing and quality as indicated above.

-- Rand's 50 percent differential was derived from construction costs in the Siberian North, not along the Transsiberian RR, where most of the buildup took place.

-- Rand attributed to Soviet forces opposite the PRC greater inventories and subsidies, and lower cost effectiveness than can be supported by available analysis.

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TABLE B-3

COST DIFFERENTIALS BETWEEN SOVIET FORCES OPPOSITE
THE PRC AND THE NATIONAL AVERAGE

<u>Force Element Quality</u>	<u>Cost Differential as a result of</u>			<u>Contribution to Total Cost 1964-1976</u>	
	<u>Composition</u> ^{a/}	<u>Factor</u> ^{b/} <u>Inputs</u>	<u>Composite</u>	<u>Share of Total</u>	<u>Contribution</u>
Ground Forces	0.90	1.08	0.97	.46	.45
Helicopter Aviation	1.00	1.08	1.08	.07	.08
Frontal Aviation	1.00	1.08	1.08	.20	.22
Security Troops	1.00	1.08	1.08	.06	.07
Transport Aviation	0.90	1.08	0.97	.05	.05
Air Defense	1.00	1.08	1.08	.03	.03
Navy	0.90	1.00	.90	.06	.05
ICBMs	0.80	1.00	0.80	.03	.02
Ballistic Missile Defense	1.00	1.00	1.00	Negl	Negl
LRA	1.00	1.00	1.00	.04	.04
Total				1.00	1.01

^{a/} Quality adjustments have been made for forces opposite the PRC in those cases in which those forces are clearly of lower quality than average.

- Ground forces have fewer tanks and new equipment.
- Transport aviation has no heavy transports.
- More expensive nuclear-powered ballistic missile submarines and aircraft carriers are deployed against the US.
- More expensive SS-17, 18, 19 ICBMs are deployed against the US; less expensive SS-11 are deployed against the PRC.

^{b/} Factor inputs opposite the PRC are estimated to be 8 percent above the national average, in general. The differential has been adjusted downward for:

- ICBMs, because units targeted against the PRC are in low cost western USSR, while many of those targeted against the US are in high cost eastern areas.
- Naval forces, because many of those against US are based in more expensive Northern Fleet and Petropavlovsk areas.
- LRA, in which more expensive Arctic basing and refueling are against the US.

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U.S. NAVY

D008	NISC	1
D011	OP-09B24 MLRM	8
D150	CMC INT	5
D159	NAVAIRDEVCCEN	1
D202	NAVWARCOL	1
D204	NAVWARCOL/IO	1
D263	NOSC RES LIB	1
D496	DIR SSPO	1
D507	COMINWARCOM	1
D511	NAVAIRSYSCOM	1
D700	CGMCDEC	1
D902	NFOIO DET NPT	1
D947	NAVINTCOM-03E	1
D010	OP-00K	1

U.S. AIR FORCE

E010	AFIS/INDOC	1
E016	AFIS/INC	1
E018	AF/RDQA-C	2
E020	AFIS/INZA	1
E050	7602 AINTELG/INUA	1
E053	AF/INAKA	1
E054	AF/INAKB	1
E200	AAC	1
E252	AF/RDRE	1
E303	AF/INAP	1
E317	AF/SAMI	1
E403	AFSC/INA	1
E408	AFWL	1
E409	AMD	1
E410	ADTC	1
E411	ASD/FTD/ETID	1
E420	FTD/NICD	3
E429	SAMSO IND	1
E436	AFEWC SUR	4
E437	AFIS/INI	1
E450	AIR UNIV	1

UNIFIED AND SPECIFIED COMMANDS

G005	CINCAD	2
G120	AIR DEF WPNS CEN	1
H005	USCINCEUR	3
H101	USAFE 497RTG IRC	4

H300	USAICEUSAREUR	2
H350	SFDET ABN EUR	1
H351	10TH SFGABN1STSF	1
H500	CINCUSNAVEUR	2
J015	COMICEDEFOR	1
J037	FAISCEN OCEANA	1
J500	CINCLANTFLT	1
J502	COMSECONDFLT	1
J505	COMNAVAIRLANT	1
J515	FICEURLANT	1
J517	COMNAVSURFLANT	1
J532	COMSUBLANT	1
J575	FMFLANT/FMFEUR	4
J959	RECONATKWNGONE	1
K007	COMUSJAPAN	1
K010	UNC/USFK/EA	3
K100	PACAF 548 RTG	1
K115	5TH AF	1
K203	314 AD/IN	2
K300	IPAC CODE IC-L	1
K302	USACSG MOCG-IN	1
K313	IPAC CODE I-22	1
K315	IPAC CODE I-24	1
K320	USARJAPAN	3
K500	CINCPACFLT	1
K505	FICPAC	1
K515	COMSEVENTHFLT	1
L040	SAC 544TH ARTW	8
N005	USREDCOM	1

OTHERS

P005	FRDA	1
P055		
P085	STATE	10
P090	NSA	12
P091	NSA REP DEFENSE	1
P100	NAT SEC COUNCIL	3
P111	WH SIT ROOM	2
R010	OMB	1
R145	ACDA	3

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