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Soviet Military Manpower: Buildup and Impending Constraints

An Intelligence Assessment

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Soviet Military Manpower: Buildup and Impending Constraints

An Intelligence Assessment

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Soviet Military Manpower: Buildup and Impending Constraints

Key Judgments

The Soviet armed forces have grown by one-third during the Brezhnev years, from 3.2 million in 1965 to 4.4 million in 1982.¹ We estimate that 650,000 were added to combat missions, while the rest of the increase went to support functions.² The deployment of nearly a half million personnel to the Sino-Soviet border dominated the buildup. In contrast, the increase of 180,000 men deployed to the NATO Guidelines Area (East Germany, Poland, and Czechoslovakia) was much smaller. As a result, Soviet combat forces opposite China are now 40 percent as large as those opposite NATO, up from 15 percent in 1965. Military manpower grew fastest during 1965-70, averaging more than 100,000 men a year; during 1975-80, net annual growth slowed to around 35,000.

On the basis of our analysis of weapons procurement and deployment, we expect only limited increases in Soviet military manpower in the near term. More substantial increases could result if reduced-strength Ground Forces units are mobilized to support operations in Afghanistan, Poland, or other problem areas and become permanent additions to the armed forces. Barring such contingencies, we expect the Soviet armed forces to increase only slightly by 1985—probably by less than 2 percent of their present size.

Further, unless the Soviet leadership dramatically revises its long-term views of national security requirements, we expect no significant change in total manpower through 1990. Several developments, however, may cause reallocations among services and missions:

- *New Soviet weapons:* The wider use of technologies such as solid fuels, computers, and solid-state electronics probably will reduce the combat manpower required to operate many weapon systems, but their complexity is likely to increase support and maintenance requirements.

¹ For comparison with the United States, we define the Soviet armed forces to include those elements which fill what the United States judges to be national security roles. This excludes approximately one and a half million men in the Construction, Railroad, Civil Defense, and Internal Security Troops. Research undertaken in the last three years has raised this estimate by approximately one million troops. However, given their noncombat roles, our better appreciation of their size does not change our estimate of the Soviet threat (see *Other Uniformed Manpower*, p. 11). The total, 5.8 million, is used when discussing Soviet conscription requirements.

² Except where stated, this assessment uses the US Defense Planning and Programming Categories (DPPC) for mission breakdowns and comparisons of US and Soviet force.

- *Soviet force structure:* We expect reorganization in the Ground Forces to absorb the bulk of the small projected overall growth. We do not expect reorganization to have an observable impact on manpower in the other Soviet services.
- *New US weapons:* If the United States develops and deploys new strategic systems during the 1980s, the Soviets may have to increase manpower in systems designed to counter these forces. The net impact is uncertain, however, since older Soviet weapons may be retired as new ones are deployed.
- *Arms control agreements:* If agreements on strategic weapons stabilize Soviet strategic offensive forces at their 1982 level, our projection of armed forces manpower would be 1 percent lower by the end of the decade. However, we believe agreements at the MBFR talks probably would cause the relocation rather than the elimination of the affected units.

The changing demographics of the Soviet population will necessitate major changes to the conscription system even if the Soviets do no more than maintain current force levels. The number of males reaching draft age annually will decline from 2.6 million in the late 1970s to 2 million by 1986. Further aggravating this situation is the shifting ethnic composition of the draft age pool. Persistently high birth rates among Muslim ethnic groups mean that the less educated, less politically reliable non-Slavic minorities will account for more than one-third of draft age youth by mid-decade, up from a one-fourth share in the late 1960s.

We expect two main responses to these demographic phenomena: an ultimately unsuccessful quest for manpower savings in support units and an overhaul of the conscription system. The 1.8 million support personnel are already the target of efficiency drives, but despite the exhortations of the 11th Five-Year Plan, the size of support units is unlikely to decline. Efficiency in combat support units is increasing, but improvement is not being converted into equivalent manpower savings. The Soviets instead have retained the manpower in those units and expanded their capability. In addition, existing manpower policies are rooted in established military priorities that the leadership will be reluctant to compromise.

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Although the conscription system will provide sufficient manpower to maintain current force levels in the short run, major changes will be necessary to keep conscription rates from rising sharply in the late 1980s. They could easily reach levels that would be difficult to support in peacetime even by further limiting medical, family hardship, and educational deferments. We therefore expect an extension of the term of service as the most likely measure to meet manpower requirements throughout the decade.

In contrast, the minorities problem has no obvious solution. Moreover, we have little insight into how the rising number of non-Slavic minorities will affect military manning practices. The foremost uncertainty is the extent to which the military can continue concentrating minorities in noncombat roles without lowering force effectiveness.

The slowdown in Soviet economic growth, caused in part by a civilian labor shortage, may bring the leadership to consider again reducing military manpower, although this in itself would do little to resolve the underlying economic constraints. As the need for a revised manpower policy mounts over the next few years, internal debate may reveal more about the approaches that are likely to be taken by the leadership. At present, we believe an extension of the term of service is more likely than absolute reductions in manpower.

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Soviet Military Manpower: Buildup and Impending Constraints

Background

The organization and manning of the Soviet military are determined by military traditions and by the leadership's perceptions of external threats. This combination of present perceptions and past experience results in a force that is large by Western standards.¹ Major considerations affecting military manpower requirements include:

- Long vulnerable borders and a history of foreign invasions and internal conquest.
- Continued tension with China, raising the possibility of two wartime fronts.
- Use of military conscription for indoctrination as well as military purposes.
- Geographic dispersal of forces.
- Limited support from allies, whose defense efforts are smaller and whose reliability is uncertain.
- A large inventory of increasingly modern equipment that requires a manpower-heavy maintenance and support contingent.
- A penchant for labor rather than capital-intensive technologies.
- Preference for military personnel over civilians in support positions as compared with Western practice.

As a result of these factors, the present size of the Soviet military is not simply a larger scale response to Western armed forces but the product of a longstanding Soviet approach to security problems.

For comparison with the United States, we define the Soviet armed forces to include those elements that fill what the United States judges to be national security roles. These elements are the Ground Forces, Air Defense Forces, Navy, Air Forces, Strategic Rocket Forces, parts of national command and support, and the Border Guards of the Committee for State Security (KGB). This definition excludes some large uniformed elements of the Ministry of Defense—the

¹ The People's Republic of China maintains the world's largest military, with 4 million in field-deployed units and an approximately equal number in support units for a total between 7 and 8 million.

Construction, Railroad, and Civil Defense Troops—and the Internal Troops of the Ministry of Internal Affairs (MVD).

The Soviets include these latter organizations in their legal definition of the armed forces and consider service in them to fulfill the military obligation imposed by the 1967 Law on Universal Military Service, although they do not have what the United States considers to be national security functions (see figure 1). These organizations are included in our analysis of conscription requirements for the 1980s, but estimates for them are presented separately.

Our manpower estimates reflect the actual peacetime manning of individual units.⁴ This approach enables the most direct use of intelligence data, which generally report existing manpower, and supports assessments of the resource implications of Soviet military programs.⁵ All manpower figures presented here are midyear estimates.

Although women are not subject to conscription, they may volunteer for military service. The number of such volunteers is extremely limited. However, women in certain civilian occupations, nurses or communications operators, for instance, are assigned to the reserves and are occasionally called up for military duty.

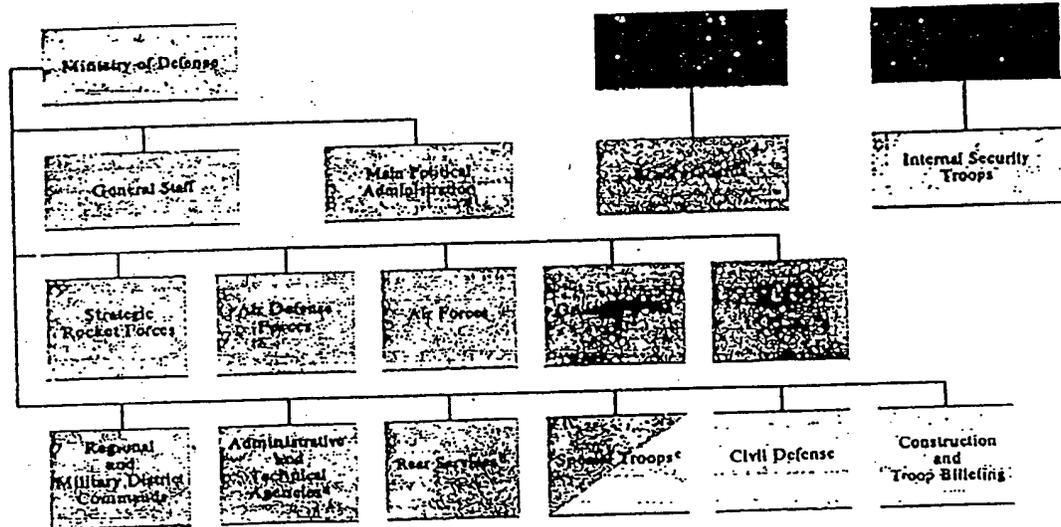
⁴ See appendix A for an elaboration of CIA manpower estimating methods.

⁵ The Soviets have two additional unit manning concepts—authorized peacetime strength and wartime manning. Authorized strengths reflect manning levels with all programmed billets filled. This includes men not serving with their units because of special duty, training, sickness, or leave and is usually higher than "current" manning. The Soviet wartime manning concept envisions filling out all understrength and cadre units with reserves. We estimate that bringing all existing units to full strength would require between 2.0 and 2.5 million reservists, mostly in the Ground Forces. (The creation of additional units would require the callup of more reservists.)

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Figure 1
Soviet Military Manpower Organization

- Included in US definition of armed forces
- Not considered to have a primary national security role



* Archives, Education, Personnel, Autotractor, Civilian Training, and Procurator.
† Finance, Food, Medical, Clothing, Fuel, Tourism, Trade, Transportation, and Administration-Management.
‡ Chemical, Railroad, Engineer, and Signal. Railroad Troops are not considered to have a national security role.

Current Force Size

We estimate that the Soviet armed forces have grown at an average annual rate of 2 percent from their 1965 level of 3.2 million men to a present size of approximately 4.4 million (see figure 2 and appendix B). Military personnel that do not have national security roles have grown more rapidly, to 1.5 million, up from about 800,000 in 1965. In addition, we estimate that

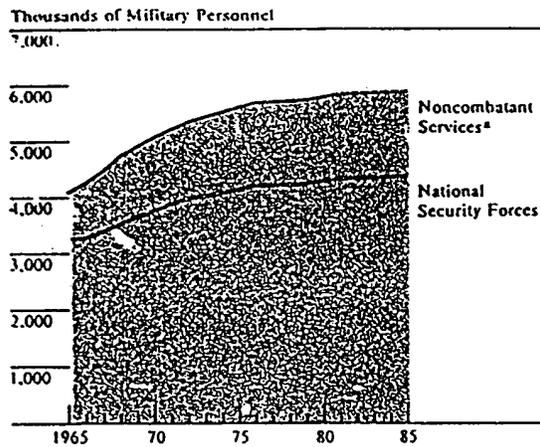
the number of civilians employed by the military has grown from approximately 640,000 in 1965 to 800,000 at present.

The increase in armed forces manpower is primarily the result of the expansion and modernization of the Ground Forces, which accounted for half of the

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Figure 2
Soviet Military Manpower



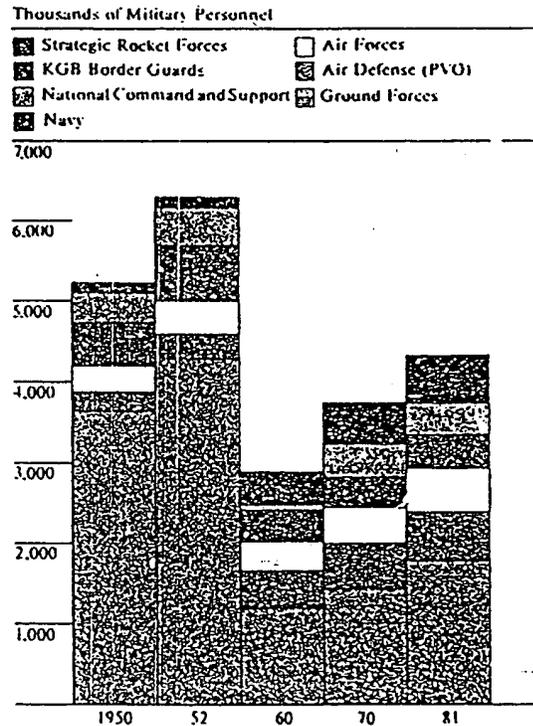
* The Construction, Railroad, Civil Defense, and Internal Security Troops are not considered to have a national security role.

growth since 1965. Each of the armed services expanded during this period, however, so that the share of men among them is relatively unchanged. The increased size of the forces without national security missions is due principally to greater numbers of construction troops, accounting for roughly two-thirds of the growth in this manpower category.

Shifting Perceptions of Military Requirements

The steady growth of the Soviet military under Brezhnev represents a major shift in strategic thinking from the Khrushchev era (see figure 3). During the Khrushchev years, Soviet doctrine held that a future war would be short and decisive, escalating almost immediately to theaterwide and intercontinental nuclear strikes. In support of these ideas, Khrushchev

Figure 3
Impact of Policy Changes on Manpower in the Soviet Armed Forces*



* Excludes units not considered by the US to have a national security mission: Construction, Railroad, Civil Defense, and Internal Security Troops (about 1.5 million men in 1981).

emphasized the development of strategic offensive and defensive forces and downplayed the role of conventional forces and large standing armies.

Hence, although manpower grew rapidly in the early 1950s as a result of the Korean conflict to 6.8 million, it declined steadily thereafter to 2.9 million men at

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midyear 1960. The last major cutback began in 1960 when Khrushchev announced plans to reduce the armed forces by an additional 1.2 million by the end of 1961.

During the Berlin Crisis of June 1961, Khrushchev indicated publicly that the demobilization had been halted temporarily. Some Soviet writers have suggested that the planned reductions were later resumed and eventually completed. Information from other sources tends to confirm that some further demobilization eventually took place but does not verify reductions of the magnitude described by the Soviets.

In the early 1960s, interest in larger, more balanced military forces was reawakened as:

- Soviet planners reconsidered their doctrine of a short nuclear war with NATO and began to plan for a conventional war of some duration.
- Tension with China raised the specter of a second wartime front, requiring a major new commitment.
- The Berlin and Cuban missile crises strengthened Soviet resolve to redress strategic inferiority

By the time of Khrushchev's ouster in 1964, a consensus was emerging in favor of a balanced across-the-board expansion and modernization of the military. The Brezhnev regime reversed the reductions in the Ground Forces and undertook vigorous development projects for both conventional and nuclear forces. These shifts in policy, coupled with increasing tensions with China, caused increases that have continued in all the armed services through the present.

US and Soviet Comparison

The Soviet armed forces currently number more than twice those of the United States. US manning dropped from about 2.6 million in 1968 to approximately its present level of 2.1 million in 1976. In contrast, Soviet manning levels have risen each year since the early 1960s

Because the Soviet military is structured differently from that of the United States—with five major services rather than three—organizational comparisons are misleading. The allocation of manpower to military missions, however, can be roughly compared

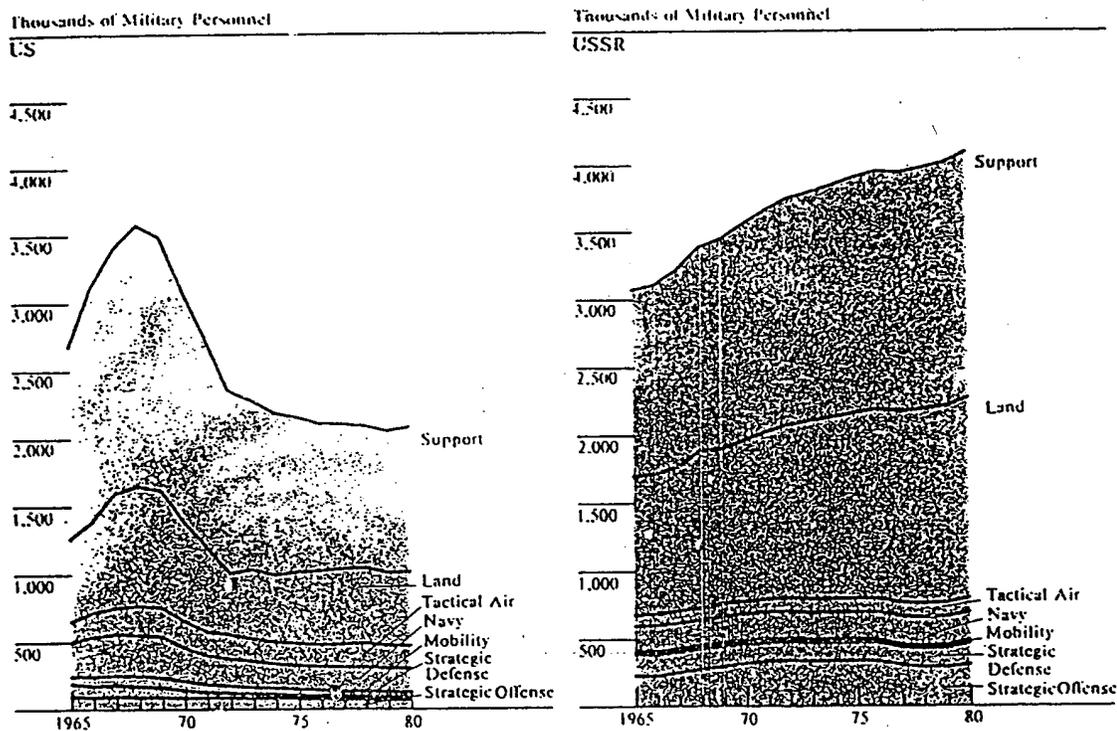
using the definitions of the US Defense Planning and Programming Categories (DPPC). These categories reaggregate the armed forces into support and a variety of combat missions. Here again, we include only those Soviet personnel who fill what in the United States are considered national security roles. On the US side, the manpower total includes all of the armed forces and the Coast Guard.*

The comparison in figure 4 highlights several differences between US and Soviet missions and how they have changed over time.

- Soviet strategic offensive manpower is larger than that of the United States because of the USSR's large peripheral force composed of medium-range bombers and ballistic missiles that would carry out strikes against Europe and Asia. Because the United States is distant from potential war theaters, it has no comparable force.
- The Soviets commit a large force to strategic defense, reflecting their concern with the US intercontinental bomber force and their proximity to potential war theaters. Because of the smaller Soviet intercontinental bomber force, the United States has only a limited strategic defense.
- The Soviet land forces, which have traditionally received heavy emphasis, grew substantially due to modernization and the Sino-Soviet buildup; they are now nearly three times as large as US land forces.
- US ground forces peaked in 1968 at about 890,000 and declined substantially as the United States withdrew from Vietnam. Since 1975 they have remained nearly stable at around 550,000.
- The support share of the Soviet military stayed unchanged at approximately 40 percent, while the US support share remained roughly 50 percent.

* This results in a slight overstatement for the United States, since only those Coast Guard personnel with a military mission should be counted.

Figure 4
US and Soviet Manpower by Mission*



*Defense Planning and Programming Categories shown here divide the armed forces into one support and six combat missions. "Other uniformed manpower" is excluded because it is not considered to have a national security role.

- The percent of armed forces personnel devoted to intercontinental offense is the same for both the United States and the USSR, about 4 percent.
- Despite the Soviet Union's larger commitment to the land forces, the US naval and tactical air forces raise the fraction of manpower devoted to general purpose forces well above the Soviets'.

Theater Distribution

The breakdown of Soviet forces by region conveys an idea of how Moscow has responded to changing perceptions of threat, particularly the increased importance of China. The two regions that we consider in this breakdown are the ones opposite NATO and

China.¹ The NATO-oriented region includes forces in the NATO Guidelines Area (Poland, Czechoslovakia, and East Germany) and forces in Hungary and the eight western military districts of the USSR.² Our definition of China-oriented forces includes those in Mongolia and the four eastern military districts less units distant from the Sino-Soviet border.³

Analysis of the allocation of men to the combat forces in these areas shows that the Soviets currently have approximately 40 percent as many men (almost 700,000) facing China as are opposite NATO (over 1.6 million). This allocation has shifted markedly since 1965, when the number of personnel facing China was only 15 percent of the NATO-oriented force (see figure 5).

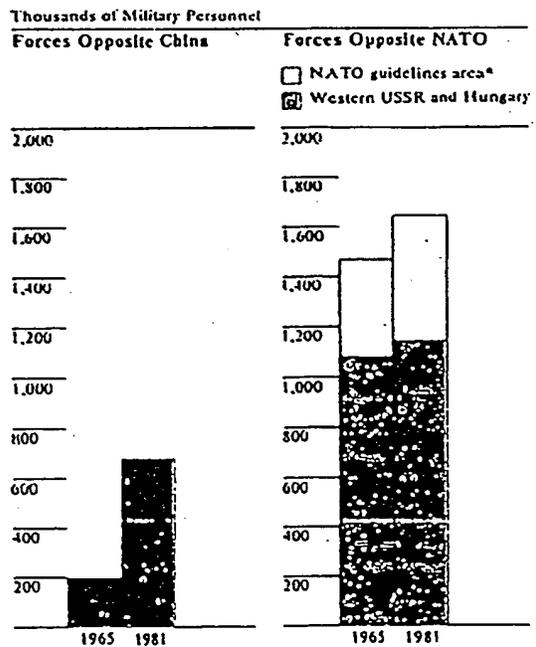
Another index of the changing priority of China in Soviet defense planning is the percentage of wartime manning levels at which units are maintained. During the 1965-81 period, the ground forces in Eastern Europe were kept at about 90 percent of wartime strength, while those in the western USSR (which would serve as the second echelon in wartime) were kept at 35 percent. Ground Forces opposite China, which in 1965 also were manned at about 35 percent, have been raised to a strength of 50 percent.

The half million soldiers added to China-oriented forces between 1965 and 1981 represent primarily increases to the Ground Forces, which account for about 300,000 of the growth. Tactical air forces and MR/IRBM forces accounted for virtually all the remainder.

Reorganization of the Ground Forces accounted for some of the manpower increases in forces opposite NATO. Further increases accompanying the adoption of helicopters and the new ground attack role of Frontal Aviation more than compensated for the decline in Strategic Rocket Forces manpower in the

¹ The remainder of Soviet manpower—national and service support, RDT&E, and the intercontinental attack forces—are not included in these regions. This also excludes units not considered to have a national security role. Hence, the regional breakdown includes primarily combat manpower.
² Leningrad, Baltic, Belorussian, Carpathian, Kiev, Odessa, North Caucasian, and Transcaucasian Military Districts.

Figure 5
Soviet Combat Manpower Opposite China and NATO



* East Germany, Poland, and Czechoslovakia.

western USSR that was associated with the retirement of some SS-3, SS-4, and SS-5 missiles and their replacement by smaller numbers of SS-20s.

Armed Services Growth

The following sections discuss important developments in each of the major services since 1965 and provide projections to 1985 for major organizational categories. Note that "support" in the discussion below consists primarily of service and national-level

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headquarters (and units directly subordinate to them), schools, and rear service units. This is not the same as the DPPC support category that is used for comparison with the United States elsewhere in this paper.

Ground Forces. The main combat element of the Soviet Ground Forces is the motorized rifle, tank, or airborne division. These divisions are subordinate to corps, army, and military district headquarters, which provide combat and logistic support. In 1981 the Ground Forces included 184 divisions, 36 corps and army headquarters, and miscellaneous command and support units.*

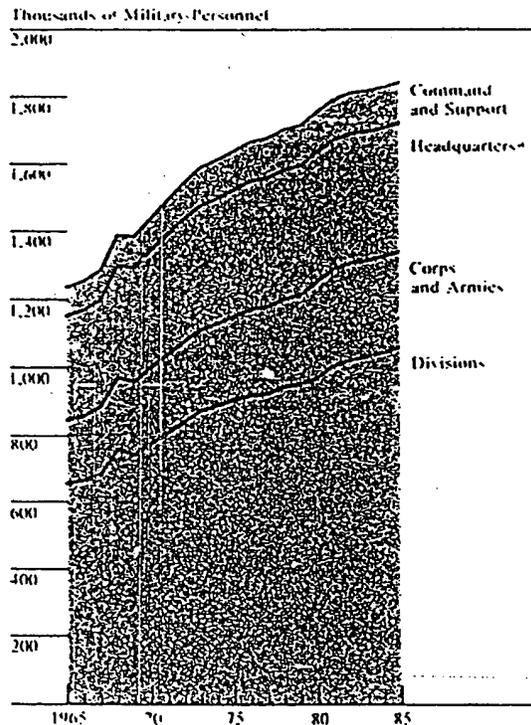
Since 1965, the Ground Forces have grown by nearly half, from about 1.2 million to nearly 1.8 million men (see figure 6). About three-fourths of this growth is in response to conflict with China, Czechoslovakia, and Afghanistan, while the rest represents long-term efforts to modernize and expand the standing force.

Expansion of the Ground Forces probably began about 1966 when corps and armies incorporated larger and more mobile artillery, engineering, and transport detachments. Divisional increases began in the late 1960s. The motorized rifle division of the late 1970s, for example, had about one-third more major weapons than that of the late 1960s. With this increase in firepower came an increase in manpower within existing divisions. In the Group of Soviet Forces in Germany, the strength of tank divisions rose from 7,800 to 10,000 and that of motorized rifle divisions from 9,700 to 12,000. For the Ground Forces as a whole, we estimate that these changes to combat units have resulted in an overall increase of at least 80,000 men.

Units created in response to problems along the Soviet borders absorbed a great deal more manpower. The buildup of ground forces opposite China involved the stationing of 300,000 more men in that area, accounting for 55 percent of ground forces growth since 1965. The legacy of the 1968 invasion of Czechoslovakia led to the addition of an estimated 50,000 men, and the

* In addition, there are 26 mobilization divisions. Each consists of a security and maintenance staff of about 200 and a divisional-size stock of equipment, which in wartime would be manned by reservists.

Figure 6
Soviet Ground Forces



*Groups of Forces and Military District Headquarters

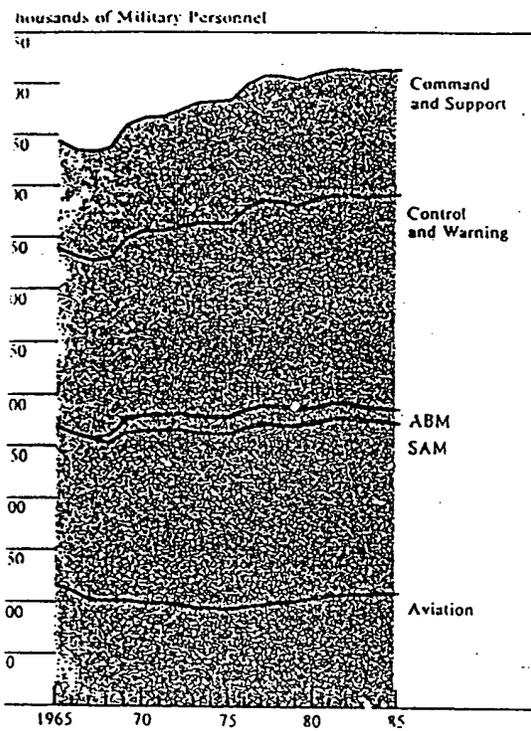
occupation of Afghanistan resulted in a now permanent increase of 30,000. (The remaining 70,000 men in Afghanistan were already in the Ground Forces prior to the 1979 invasion.)

Air Defense Forces. The Air Defense Forces (PVO) is the second-largest Soviet service, reflecting the Soviet emphasis on homeland defense against air and missile

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Figure 7
Soviet Air Defense Forces



attack.¹⁰ Over the past decade and a half, PVO manpower has grown by 70,000 to its present level of 510,000 (see figure 7). Its men operate some 1,200 surface-to-air missile (SAM) sites, 2,600 interceptor aircraft, and 1,300 early warning/ground-controlled intercept (EW/GCI) sites, making it the world's most elaborate air defense system.

¹⁰ The PVO has been restructured to place it more directly under the operational control of military districts, rather than under PVO command. There is no indication that its assets or manpower have changed significantly as a result, so for convenience, this paper uses the former structure.

The major factor in PVO manpower growth is the 50-percent increase in EW/GCI sites, approximately half of which were added along the Chinese border. This growth reflects an effort to ensure more effective command and control of the defense forces. In addition, the deployment of 64 ABM launchers and associated radars began in 1966, adding a new category of approximately 15,000 men by the early 1970s.

Air defense aviation manpower changed little during most of this period. Manpower savings associated with a major reduction of nearly a third in the number of air defense forces aircraft were offset by the larger maintenance contingents required by more complex replacement aircraft.

Until 1970 SAM manpower rose as new systems more than offset phaseouts of older SA-2 sites. During the 1970s, however, manpower requirements from the continuing deployment of SA-3s and SA-5s have almost exactly offset the savings from SA-2 deactivations.

Air Forces. For this paper, we divide the Soviet Air Forces (SAF) into its three functional elements: Frontal Aviation, Long Range Aviation, and Military Transport Aviation.¹¹ Led by major expansion programs in tactical aviation, SAF manpower has grown by 40 percent to its present estimated level of 540,000 (see figure 8).

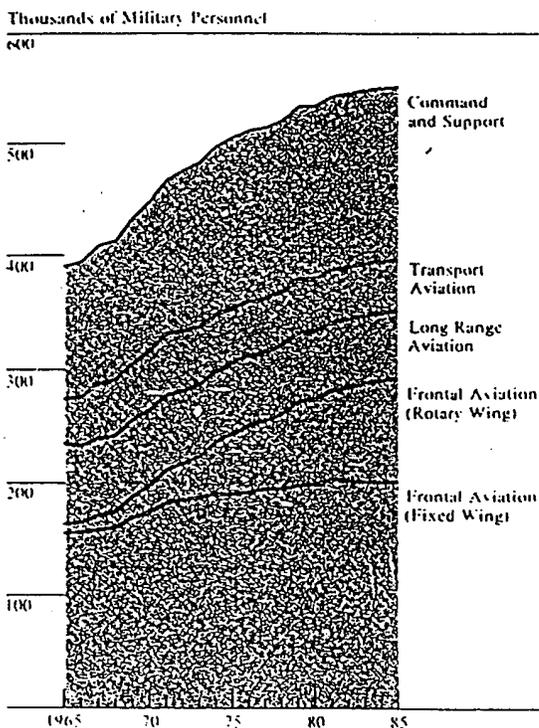
Frontal Aviation. This force provides tactical air support to the Ground Forces, and it is by far the largest of the air forces. With the large additions of rotary and fixed-wing aircraft since 1965, it has been responsible for essentially all of the SAF manpower growth during the 1965-81 period.

About three-fourths of the increase in Frontal Aviation's manpower is the result of the introduction of a large force of helicopters. With a fivefold increase in

¹¹ There is evidence that the SAF has been reorganized, and that what was formerly Frontal Aviation and Long Range Aviation have been resubordinated. There is no evidence that assets or manpower have changed significantly as a result, so for convenience, the earlier structure is used.

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Figure 8
Soviet Air Forces



numbers, helicopters have taken on a major role in ground attack and combat support. We estimate that the share of tactical aviation manpower dedicated to helicopters increased from 10 percent to over 30 percent.

The expansion of the fixed-wing aircraft inventory by 50 percent took place primarily in the late 1960s and focused mainly on units opposite China. More significant, however, was a major reequipment program beginning around 1970, which altered the mix of

aircraft types throughout the USSR. With the restructuring of the air forces for an initially conventional air offensive aimed at NATO's nuclear weapons, tactical aviation took on a new emphasis on ground attack and also obtained improved fighter capabilities. Adoption of these more capable aircraft has required an additional 30,000 men since 1970

Long Range Aviation. Intercontinental and peripheral strike bombers of the LRA are intended for strikes against theater or strategic targets in Europe, Asia, and North America. Manning has declined steadily through the mid-1970s as land- and sea-based missiles have taken over most of the strategic mission. In addition, significant reductions in medium bombers have also taken place.

Military Transport Aviation. This force provides support for airborne divisions, general logistic support both within and outside Soviet borders, and overseas delivery of economic and military assistance. Although cargo capacity in ton-miles has nearly doubled since 1965, this has been achieved with minimal impact on manpower, mainly by replacing small and medium aircraft with heavy transports. Personnel requirements rose in the early 1970s with the introduction of transport helicopters but have fallen back to about their 1965 level with the retirement of some of the smaller transports

Navy. Since the mid-1960s the Soviet Navy has been transformed from a force oriented toward defense of Soviet coastal waters to one which seeks to carry out a variety of missions, including some in open-ocean areas. One aspect of this change has been the introduction of VTOL aircraft carriers and increased numbers of major surface combatants. The newer ships, larger and more complex than their predecessors, require substantially larger numbers of ship-board and support personnel, and an additional 70,000 men have been added to the Navy as a result (see figure 9).

Strategic Rocket Forces. Established in 1959, the Strategic Rocket Forces (SRF) is the newest Soviet service. It is responsible for launching satellites and for operating nuclear-armed land-based ballistic missiles. The widespread deployment of ICBMs in the

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Figure 9
Soviet Navy

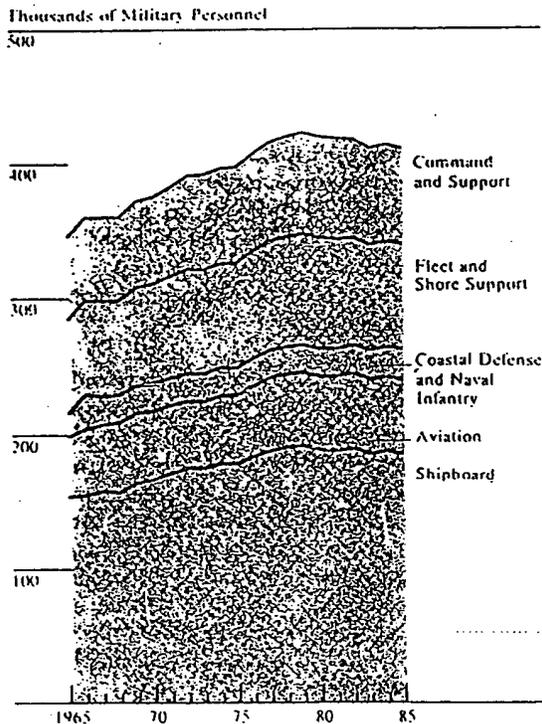
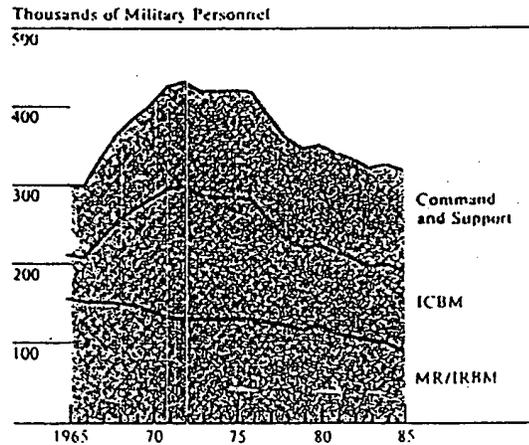


Figure 10
Soviet Strategic Rocket Forces



intercontinental missiles. The decline is expected to continue as less manpower-intensive SS-20s replace aging missiles

KGB Border Guards. The KGB Border Guards are responsible for patrolling the USSR's 65,000 kilometers of land and sea borders and for initial border defense in case of invasion. We estimate that approximately 170,000 Border Guards are assigned to some 90 regimental-size outposts (*otryadi*) concentrated mostly along the Chinese and West European borders. Another 50,000 serve in air, sea, and signals units and in support functions. Manpower assigned to the KGB Border Guards has increased by approximately 50,000 since 1965

National Command and Support. The national command and support category includes the General Staff, the Main Political Administration, and Ministry of Defense offices. The size of these units is more a

late 1960s was behind the rapid growth of the SRF (see figure 10). In 1965 there were only 225 ICBMs, compared with the current count of approximately 1,400. The decline in ICBM manpower by 70,000 after 1972 is due mainly to the replacement of older manpower-intensive missiles with the later generations of ICBMs. Also, some of the older launchers were dismantled to comply with SALT

Until 1971, MR/IRBM manpower had declined slowly as aging missiles were gradually retired. Until the late 1970s, the steady decline in MR/IRBM manpower reflected the increasing Soviet emphasis on

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Figure 11
Soviet National Command and Support

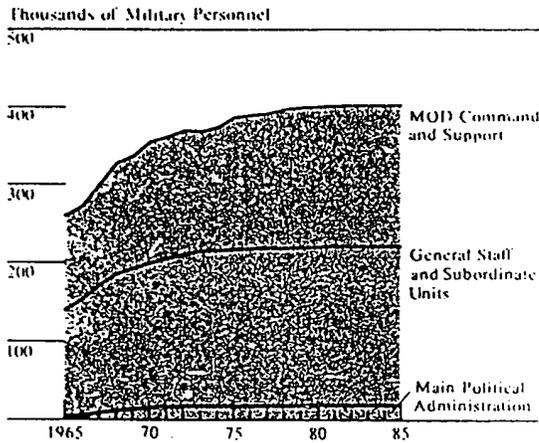
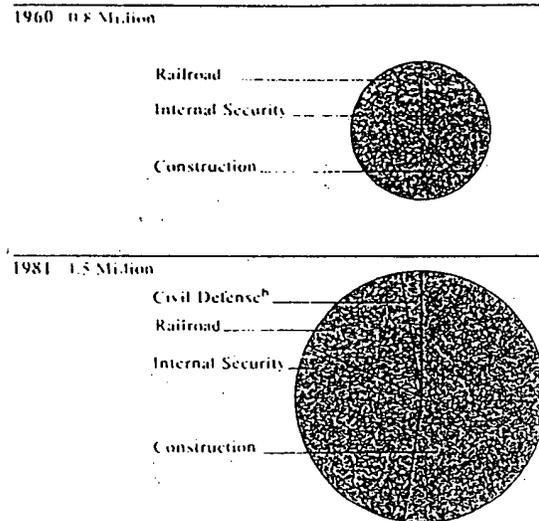


Figure 12
Other Soviet Uniformed Manpower^a



^aMen in units not considered by the US to have a national security role
^bCivil Defense Troops were first identified in 1966

function of the growth of the armed forces as a whole than a reflection of internal changes. Consequently, these units have grown at nearly the same rate as the armed services and currently account for a total of approximately 370,000 men (see figure 11);

Other Uniformed Manpower

In addition to the units with clear national security roles, the Soviets include the Construction, Railroad, Civil Defense, and MVD Internal Security Troops in their definition of military organizations. In US-Soviet comparisons, these units are excluded because either the United States has no counterpart or because their function is performed by civilians. Together, these four categories amount to 1.5 million men, one-fourth of all uniformed manpower (see figure 12). Although the size of these units in the past is uncertain, in 1960 they were probably about 800,000

Our present estimate of the size of these units is roughly 50 percent higher than we estimated in 1980.¹¹ This is primarily the result of improved analytical methods and

Research conducted over the last three years has substantially raised our estimates in them. The first major upward

¹¹ See

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revision, from approximately 500,000 to 1.0 million, took place in 1980, principally due to the findings of a study of the Construction Troops.¹¹ An update of that study and further research on the Railroad and Internal Security Troops are responsible for another increase of 500,000, bringing the current estimate to 1.5 million. Because these units do not have a national security role, our better appreciation of their size does not affect our assessment of the overall Soviet threat.

Two events facilitated a dramatic growth over the past two decades in these units. One was the rapid recovery from the severe manpower shortage of the early 1960s. By 1967 the number of persons turning 18 was twice that of 1962. The other was the change in 1968 from a three-year term of service to a two-year term. This increased the number of males conscripted each year by 50 percent. Together, these changes provided the military with abundant manpower to increase both the armed services and the non-national-security units.

Construction troops build and maintain all large military facilities. In addition, they are a key source of labor for high-priority civilian projects. They are not organized or equipped for combat, and in wartime their mission would be to build fortifications and repair battle damage behind the frontlines. Their numbers increased from around 400,000 to over 700,000 during the late 1960s in response to the large military projects then under way—missile silos, ABM and SAM sites, airfields, and Sino-Soviet border facilities. As this work was completed, effort shifted toward civilian projects on which we estimate they now spend at least half of their time.

The primary mission of the Railroad Troops is construction and maintenance of rail lines. In wartime, they would build, reconstruct, and operate rail lines as necessary to support the movement of combat troops. We believe that their numbers have remained stable at approximately 240,000 since the mid-1970s, when a new corps was formed for the construction of the Baikal-Amur Mainline.

¹¹ See
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In the event of a nuclear attack on Soviet cities, military civil defense units stationed nearby are expected to establish communications, identify and mark contaminated zones, perform decontamination, open blocked transportation routes, and assist civilian units in rescue and repair work. We believe these units were first established in the mid-1960s and grew to roughly 40,000. We have no evidence of new units being formed since 1976.

The Ministry of Internal Affairs uses troops to maintain public order in urban areas throughout the Soviet Union, to guard numerous government installations, and to guard some 2 million convicts in penal facilities. (Civilian guards provide security at other government and industrial sites.) In wartime, MVD troops would maintain order in rear areas, including occupied territory. We estimate that their numbers have increased gradually over the years to 450,000.

Civilians in Defense Activities

The Soviet use of civilians in defense differs substantially from that in the United States. The Soviets prefer to use military personnel in positions requiring *any* military skills, and the United States uses military personnel only in positions requiring *mostly* military skills. As a result, Soviet civilian defense workers tend to be in unskilled or clerical jobs. Although the total Soviet military now uses 820,000 civilians as compared with 620,000 in 1965, this is still fewer than the 990,000 in the United States. The ratio of military to civilian defense workers in the USSR is 7.1 to 1 and 2.1 to 1 in the United States.

Our estimates of civilians working for the military generally are made on the basis of less information than those for uniformed military. Several types of institutions subordinate to the Ministry of Defense—such as farms run directly by the military, military commercial and recreational services, and certain research facilities—reportedly employ civilians, but they have not been included here for lack of sufficient information to estimate their numbers. Their inclusion could substantially raise our estimate.

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Outlook to 1990

Our projections of manpower levels are based on the force levels projected in the CIA's Soviet military-economic data base (see appendix A). These force levels are the result of an annually updated all-source analysis of Soviet deployments, defense industrial production, and weapons research and development. It does not make any assumptions about whether Soviet leaders might respond to international or domestic problems by changing defense spending. In effect, then, this is a "base case" projection which is linked explicitly to forecasted deployment and procurement.

Force Size. Because much of the buildup in military manpower was due to the deployment of a larger force opposite China, we expect future manpower growth to be at much lower levels than in the past. Although the Soviets will continue producing large quantities of military equipment, most of this will go toward upgrading existing units rather than creating new units

By 1985 a continuation of Ground Forces reorganization and expansion will almost certainly increase troop strength by about 70,000 men, and the deployment of additional ground attack helicopters is expected to raise manpower requirements by 10,000. Additional reduced strength Ground Forces units could be mobilized to support Soviet operations in Afghanistan, Poland, or other problem areas. If this resulted in a long-term occupation, there might be further permanent additions to the armed forces

Recent Soviet statements express determination to respond to the expanding defense effort of the United States. Although we have not confirmed such a response, it is possible that the Soviets may have changed the 1981-85 economic plan to accommodate large increases in defense activities. If such a move occurred, it would probably include a combination of increased production for selected systems in the near term and longer term increases in investment and development.¹⁴ Until we could determine the types of new production or deployment,

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however, we would not be able to estimate the impact on military manpower.

Unless the Soviet leadership revises its views of military requirements dramatically, we expect very limited growth in the number of uniformed personnel from 1985 through 1990. There are several possible developments, however, that may cause modest reallocations of men among services and missions:

- *New Soviet weapons:* The wider use of manpower-saving technologies such as computers, solid fuels, and solid-state, modular electronics probably will reduce the numbers of men required to operate many Soviet weapon systems. On the basis of past analysis, however, we expect compensating increases in the manning of support and maintenance for these more complex weapons.
- *Soviet force structure:* As the organization of the Soviet military continues to evolve, manpower levels and distribution will change. This will be most important in the Ground Forces, where reorganization has increased overall manning by 80,000 since 1965. We do not expect reorganization in the other services to have an observable impact on overall manpower.
- *New US weapons:* If the United States develops a new strategic bomber and continues deploying cruise missiles, the Soviets will probably deploy more SAMs and interceptors, resulting in a larger air defense force and noticeably higher overall manpower levels. On the other hand, a new land-based ICBM or a larger US Navy would have little effect because the Soviet defensive forces associated with these threats are relatively small. However, the net impact of a Soviet response is uncertain because it depends on the retirement of older weapons as well as the deployment of new ones.
- *Arms control agreements:* If agreements on strategic weapons stabilized the number of Soviet ICBMs at their 1982 level, our projection of armed forces manpower would decline by 1 percent in the late

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1980s." We believe that any agreement reached through the Mutual and Balanced Force Reductions (MBFR) talks probably would cause the relocation rather than the elimination of the affected Soviet units. *

Impending Constraints. The biggest challenge ahead for the Soviet military will be changing demographics. Since 1960, the growth rate of the population has declined, and it is expected to continue declining through the end of the century. The number of males reaching draft age annually will drop from 2.6 million in the late 1970s to 2.0 million by 1986. Since the Soviet draft pool consists of males aged 18 to 26, the full impact will be delayed until the late 1980s. In addition, the 1979 census confirmed the rising proportion of the USSR's Moslem nationalities. The disparity in birth rates between Moslem and European peoples means that the proportion of Moslem minorities will approach one-third of draft-age youth while the size of the total pool is falling. We expect two developments in response: a largely unsuccessful quest for manpower savings and revamped conscription practices.

The main target for improved manpower efficiency is likely to be support personnel. We estimate their numbers at 1.8 million, over 40 percent of the armed forces. Manpower savings in this area will be difficult to achieve, however, given the need to maintain the large Soviet equipment stocks. More importantly, it will conflict with the high priority the Soviets place on materiel readiness. For example, current practice is to minimize equipment use and to rely on civilians at factories for major repair. In addition, we estimate that the 139 reduced-strength ground forces divisions are already structured to be maintained with a minimum of support personnel. Finally, past increases in support efficiency have not been used to achieve economies in manpower. Instead, support manning stayed the same, and the improvements were used to obtain greater capability. Such practices dim the prospects for saving much manpower in the support services.

* This assumes that manpower associated with strategic offensive systems stays at 1982 levels. Of course, if major reductions in strategic forces are achieved, the result would be further manpower savings.

Another area for laborsaving scrutiny is the Construction and Railroad Troops, estimated at 1 million men, or 15 percent of the Soviet military, but the prospects of reducing their strength conflict with long-established Soviet practices. Construction and Railroad Troops are key sources of labor for high-priority civilian projects, especially in remote areas, and their military discipline enables them to achieve much higher productivity than civilians. Moreover, by concentrating ethnic minorities in these units the Soviets also maintain a useful noncombat means for indoctrinating the least politically reliable and least educated members of the draft pool. The increasing numbers of draft-age minorities will make the retention of a large number of noncombat positions for assimilation even more important.

The remaining men are primarily in combat units, which by their nature offer few opportunities for manpower savings. Overall, the military will be hard pressed to achieve manpower efficiencies without compromising longstanding management policies.

We expect the Soviets to revise their conscription practices to keep conscription rates from exceeding sustainable levels. We believe the three grounds for deferment from military service—family hardship, health, and higher education—represent a ceiling that limits conscription rates to between 85 and 90 percent.¹⁴ We estimate current rates are already over 85 percent and are rising.

Evidence of a reaction to the manpower shortage is beginning to appear. Early in 1982 the Soviets eliminated educational deferments at many universities and institutes. As a result, many university-bound students will be conscripted before they complete (or even before they begin) their higher education. This action will improve the quality and number of conscripts only marginally; at most it will increase draftable youth by just 5 percent.

¹⁴ As used here, the conscription rate is the percentage of males who are 18 in a given year and are conscripted eventually over the following eight years of their eligibility.

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Although the Soviets will have to take additional action to deal with the manpower shortage, so far we have no indications of further changes to manpower practices. There is evidence that manning levels in some combat units have been frozen, but it is too early to establish a trend. However, the problem of the shrinking draft pool could be overcome by a six-month extension of the two-year term of service. The Soviets could also attempt to circumvent the demographic constraints by increasing the number of careerists, having more frequent reserve callups, or using greater numbers of women and civilians, but each of these actions would be more difficult and offer a much smaller payoff than extension of the term of service.

The growing number of minorities poses a dilemma for Soviet planners, who are certain to be concerned with the reliability and performance of ethnic groups. However, little can be said about how this might actually affect force effectiveness. Foremost among our uncertainties is the extent to which the Soviet military feels that its traditional practices for managing ethnic groups can absorb the larger numbers

The distribution of minorities in the Soviet military is heavily skewed away from command and combat positions. In part, lower education and linguistic problems make it difficult to obtain technical or commissioned positions, but their near total exclusion from the officer ranks suggests that political reliability is of even greater concern. Well over half of minority conscripts serve in the Construction, Railroad, or Internal Security Troops. Most of the remainder are assigned to noncombat roles in the Ground Forces or Air Defense Forces. Relatively few are assigned to the Navy, Air Forces, or Strategic Rocket Forces or are stationed outside Soviet borders. (The initial Soviet units in Afghanistan were a brief exception since many of these were composed of

reservists called up from contiguous areas. After their 90 days of reserve duty expired, they were replaced with regular conscripts.) A major cutback of Construction and Railroad troops might relieve the manpower shortage but at the cost of a marked increase in the proportion of non-Slavic minorities in the armed forces.

Worsening civilian labor shortages, responsible in part for the Soviet economic decline, may cause the leadership to consider reducing military manpower. This policy, however, would itself do little to resolve the fundamental problems underlying the slowdown in Soviet growth. The leadership is undoubtedly concerned about the low birth rates among the Slavic nationalities. At the 26th Party Congress in February 1981, Brezhnev announced a regionally differentiated policy aimed at raising the birth rate in predominately Slavic regions. However, the announced incentives are too small to have more than a minimal effect." Even if they were successful, there would be no benefits to the labor force or to the draft pool until the end of the century. Certainly, pressure will increase on the leadership to make major changes in military manpower policy, but it will be two or three years before a decision has to be made. As that point nears, the shape of the debate should become clearer. At present, we expect an increase to the term of service rather than reductions in manpower

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Appendix A

Estimating Methods and Concepts

Estimating Methods

The CIA model of Soviet military manpower is patterned after our understanding of the organization of the Soviet military. The model is part of the SOVA military-economic data base and has seven major components—the five services, national command and support (including units not considered to have a national security role), and the militarized security forces. Detailed estimates are made of the order of battle and manning levels of each of approximately 1,200 unit types and are updated annually. Estimated manpower is simply the sum of the products of order of battle and manning levels. In this way, estimated manpower is explicitly linked to the Intelligence Community's estimates and projections of Soviet forces

The quality of estimated manning levels varies greatly according to the types of data available. The evidence on which these estimates are based is often fragmentary and sometimes contradictory. Estimating manning factors is complicated by the fact that even in a full-strength unit, manning will vary as troops are rotated and training cycles are completed. In addition, units of a given type are sometimes manned at different levels. Civilians, who tend to be in support or RDT&E units, are particularly difficult to count since they are not always colocated with military units and because they have difficulty distinguishing which civilians in the work force at a given installation are employed by the military.

New Methods and Concepts

Since the publication of the CIA's previous review of Soviet manpower trends in 1977,¹⁴ numerous changes have been made to our manpower data base. Most of these have resulted from the Intelligence Community's periodic updating and refining of its Soviet order of battle and combat strength. However, the changes that tend to have a greater impact on manpower are those that reflect a better understanding of the structure and staffing of support functions. Although many changes have been made in this area, too, several stand out as most significant:

Perhaps most important for users of these estimates is the distinction now made between the armed forces and total military manpower. Since the Soviet Construction, Railroad, Civil Defense, and MVD troops perform a variety of tasks not related to the US definition of national security, it is important to separate this manpower from that with tasks more similar to the US armed forces. This is the same distinction made in CIA comparisons of US and Soviet defense costs.¹⁵ This is particularly significant

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since our present estimate for non-national-security manpower is nearly 1.5 million, 25 percent of total military manpower. (U)

The largest change occurred in our estimate of Construction Troops. Previously, we simply counted these units as they were identified []

However, this led to an underestimate because it made no allowance for units which probably existed but which were not picked up [] A better, unbiased estimate can be made by a statistical adjustment taking into account the number of units that are identified more than once. If only a few units are identified more than once, there is a good chance that our sample misses many units and that our estimate is therefore quite low. If many units come up repeatedly, our sample is likely to be missing only a few units.

Combinatorial probability theory can be used to estimate the "maximum likelihood value" for the actual but unknown number of construction battalions given the size and structure of our report sample. In our sample only 20 percent of the battalions were reported more than once, so the estimate of the total computed by this method was more than twice the number of reported battalions. []

A study of military training and schools produced a variety of changes. The net effect was to increase both military and civilian staffing. Civilian manning also increased as a result of a study of Ground Forces support units and a study of civil defense manpower subordinate to the MVD. A review of information on the KGB Border Guards produced a more disaggregated organizational structure and documented the increasing size of units in sensitive border areas.

The original basis of the estimated manpower in Military Transport Aviation was simply the number of transport aircraft in the Soviet Union. Our present estimate takes into account the fact that many of the transports are actually subordinate to individual services, not to Military Transport Aviation. Consequently, estimated manning for MTA is less than half its previous level, and the difference is now allocated to the services according to the number and types of their aircraft.

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Appendix B

Soviet Manpower Estimates, 1965-81 *

Thousands of Uniformed Personnel

	1965	1967	1969	1971	1973	1975	1977	1979	1981
National command and general support	270	300	330	340	340	360	360	370	370
Ground Forces	1,240	1,290	1,390	1,500	1,590	1,640	1,680	1,720	1,790
Air Defense Forces (PVO)	540	530	560	570	580	580	610	610	610
Air Forces	390	410	430	470	480	510	520	530	540
Navy	350	360	370	380	390	400	420	420	420
Strategic Rocket Forces	290	330	380	420	410	410	380	340	330
KGB Border Guard:	160	170	180	180	190	200	210	220	220
Armed forces	3,250	3,400	3,640	3,860	3,990	4,100	4,180	4,190	4,290
Other uniformed manpower	800	1,100	1,300	1,400	1,400	1,500	1,500	1,500	1,500
Total military	4,050	4,500	4,940	5,260	5,390	5,600	5,680	5,700	5,790

* The totals may not add because of rounding.

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