

# U.S. Air and Ground Conventional Forces for NATO: Overview

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U.S. AIR AND GROUND CONVENTIONAL FORCES FOR NATO:  
OVERVIEW

The Congress of the United States  
Congressional Budget Office

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## PREFACE

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As the Congress makes decisions on targets for the First Concurrent Resolution on the Budget for Fiscal Year 1979, the appropriate size of the defense budget will be one of the most important issues. The principal role of a large part of the U.S. air and ground forces is to participate with our allies in a defense of NATO Europe. Therefore, judgments about the requirements for that defense and the appropriate role of the United States in it will underlie Congressional budget decisions.

The series of papers on U.S. forces for NATO of which this is a part is intended to lay out the current U.S. role in NATO's defense, to relate the U.S. role to the contributions of the various NATO allies, and to present a set of alternative defense programs corresponding to different conceptions of appropriate changes in the U.S. role. The other papers in this series deal at greater length with issues in the areas of firepower, air defense, and logistics. A companion piece, Assessing the NATO/Warsaw Pact Military Balance, was published in December 1977. The series was undertaken at the request of the Senate Budget Committee.

This paper was prepared by Sheila K. Fifer of the National Security and International Affairs Division of the Congressional Budget Office, under the supervision of John E. Koehler. The author is indebted to Nancy J. Bearg, G. Philip Hughes, Marshall Hoyler, and Peggy L. Weeks, who wrote the papers which this Overview summarizes. The author also gratefully acknowledges the contributions of James R. Blaker, Carl R. Neu, Alice C. Maroni, Daniel F. Huck, and John B. Shewmaker of the National Security Division. Cost analysis was provided by Edward A. Swoboda of CBO's Budget Analysis Division. The manuscript was edited by Patricia H. Johnston and prepared for publication by Nancy J. Swope. In accordance with CBO's mandate to provide objective analysis, this paper offers no recommendations.

Alice M. Rivlin  
Director

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## SUMMARY

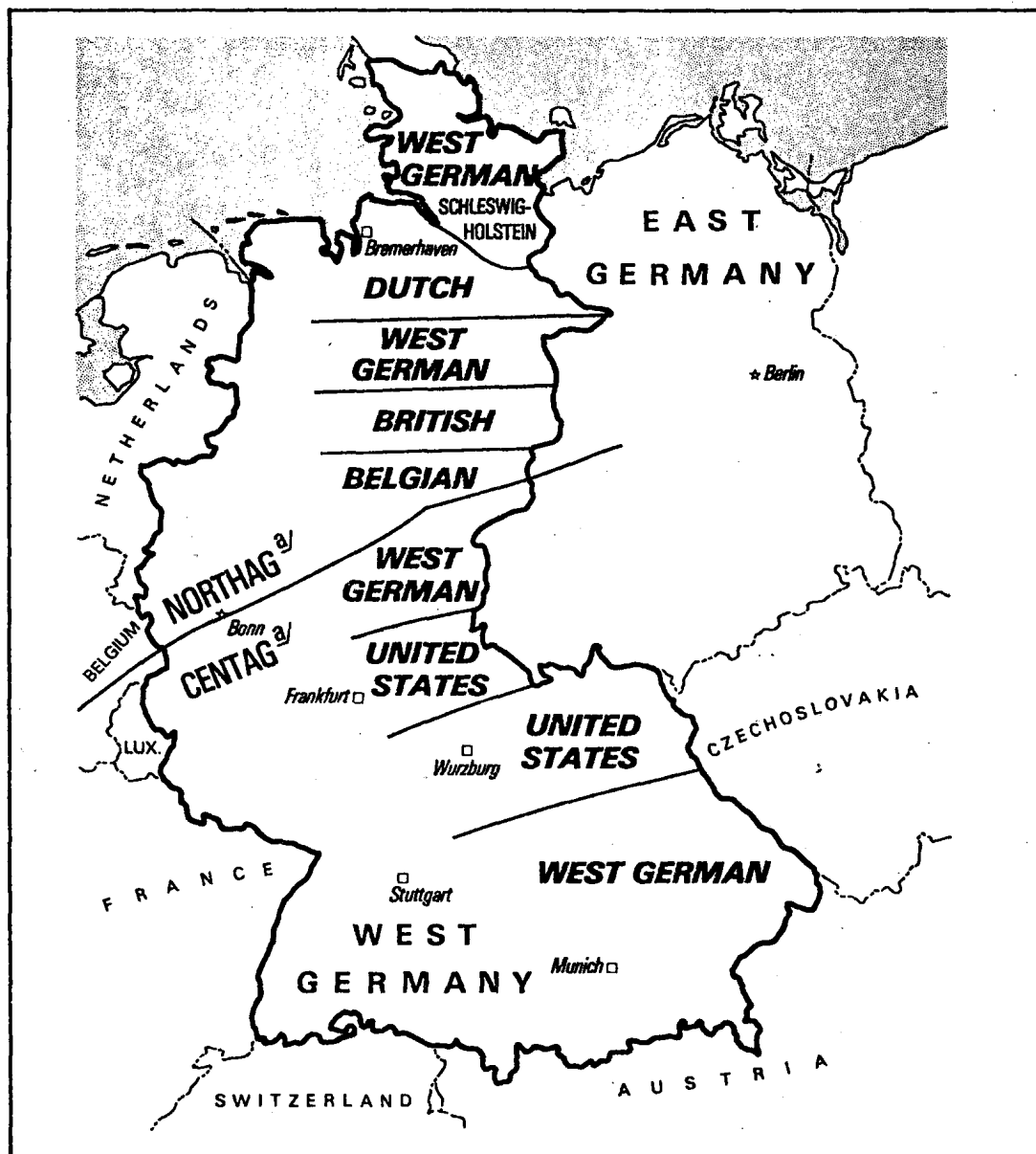
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The costs of U.S. general purpose forces are principally the costs of participating with Western European allies in the defense of NATO. U.S. ground and tactical air forces--the subjects of this study--are designed primarily for use in a NATO war. Expenditures to modernize or expand those forces are made primarily to strengthen NATO. These U.S. forces, however, comprise only about one-fourth of the NATO forces in West Germany. The strength of NATO defenses depends less on the capabilities of the U.S. forces than it does on the capabilities of the remaining three-quarters of ground and air forces which are provided by Western European allies. How well these allied forces are armed largely determines not only the strength of NATO, but also the effectiveness of further improvements in U.S. forces.

Most Western European forces are not as well provided as U.S. forces with critical weapons, equipment, and supplies. Compared with those of the United States, allied forces appear to be less able to counter improved Soviet ground and air forces or to sustain combat in the face of a very intense Warsaw Pact attack. Although Western European governments have procurement plans to strengthen their capabilities, it does not seem likely that these improvements will remove the basic discrepancies between U.S. and allied forces. Such discrepancies present a major problem for NATO defense; they also present the most difficult kind of problem for expenditures on U.S. NATO forces to correct.

The quality of allied forces is critical to NATO defense because the alliance's organization gives them important and largely independent roles to perform. Most of NATO's deployed ground and air forces are aligned along the West German border. Not only the United States, but also England, Belgium, the Netherlands, and West Germany maintain forces along that border (see map). Each of these national armies is stationed in and is responsible for defending a separate sector in what would become the central front of a European war. While the Warsaw Pact could direct its major attack against any portion of the border, the most favorable geography for an invasion is in the northern region of Germany. This region is relatively open and would provide a direct line of march to major Western European cities. It is also the area in which Western European forces are positioned

## Corps Sectors of Military Responsibility in NATO's Central Region



SOURCE: Adapted from Richard Lawrence and Jeffrey Record, *U.S. Force Structure in NATO* (Washington, D.C.: The Brookings Institution, 1974), p. 31 and also from U.S. Army materials.

a/ NORTHAG (Northern Army Group) and CENTAG (Central Army Group) are the two subdivisions of NATO forces in West Germany. The line dividing the two runs from Belgium through West Germany, just south of Bonn, and into East Germany.

and, consequently, the area in which NATO's defenses are weakest. U.S. forces are stationed in southern Germany, where geography would make a major Warsaw Pact attack less likely and where force improvements would seem less important for NATO's overall posture.

The United States has, however, been making substantial improvements in its NATO forces, and further major improvements are planned. Over the past three years, real procurement costs of major weapons and items of equipment for these forces have risen at an average annual rate of 22.8 percent. Since fiscal year 1974, the Army has expanded the number of its active divisions from 13 to 16 and has also begun extensive modernization programs for this enlarged force. Programs are now underway to replace current inventories with more sophisticated systems and greatly to increase the inventories of weapons and ammunition. The trend, then, is towards both more ground forces for NATO and more expensive units. For the air forces, there is a similar trend toward more wings and more modern aircraft to replace existing fighters. Unless the Congress decided to reverse the direction of Administration policy, expenditures in these areas would continue to increase.

In order to carry out this expansion and modernization of NATO ground and air forces, the Defense Department has programmed new procurement for major items of equipment in fiscal year 1979 that would require a 16 percent real increase over expenditures in fiscal year 1978. The Congress could, however, approve only selected portions of the programmed modernization and expansion programs; there is a considerable range of choice concerning which aspects of ground and air forces could be improved and how great an increase in defense spending could be incurred.

In making these choices, the Congress may wish to take into consideration the Administration's commitment to a minimum of 3 percent real growth in defense expenditures. Along with other NATO members, the United States has agreed to increase defense spending in order to strengthen alliance defenses. It is a matter of interpretation, however, whether this agreement applies to the entire defense budget or only to that portion of the budget associated with conventional forces for NATO. The Congress has choices, then, not only of whether or not to support this policy, but also whether to interpret it as requiring a moderate or quite substantial increase in U.S. defense spending.

The range of choice available to the Congress is illustrated by the three options presented in the following table. These

COSTS OF U.S. PARTICIPATION IN NATO DEFENSE—CHANGES TO FISCAL YEARS 1978-1982 FIVE-YEAR DEFENSE PROGRAM: BY FISCAL YEAR, IN BILLIONS OF CURRENT YEAR DOLLARS

|   | 1979  | 1980  | 1981  | 1982  | 1983  |
|---|-------|-------|-------|-------|-------|
| Baseline<br>(DoD Program)   | 134.3 | 144.7 | 155.6 | 165.7 | 176.5 |
| Option I<br>Building Forces<br>to Augment<br>Allied Defenses            | -0.1  | -0.9  | -1.4  | -2.0  | -0.2  |
| Option II<br>Building Forces<br>to Reinforce<br>Allied Corps<br>Sectors | 1.0   | 1.4   | 1.6   | 2.5   | 1.8   |
| Option III<br>Modernizing<br>Smaller U.S.<br>NATO Forces                | -1.6  | -3.1  | -5.1  | -6.7  | -4.8  |

options, which deal only with ground and air conventional forces, depict procurement packages that would represent moderate, substantial, or no real growth within these selected areas. Equally important, these options illustrate different courses which, given the discrepancies between U.S. and allied forces, the Congress may wish to consider for modernizing and maintaining U.S. NATO forces. The first option would provide for a moderate increase—below that programmed by the Defense Department—in procurement spending on ground and air forces. This option would not only proceed with the basic program for modernizing U.S. forces, but would also approve additional air defense aircraft and war reserve supplies which could be used to augment allied defenses. The second option would involve a substantially greater increase in procurement spending above that programmed by the Defense Department. This course would not only modernize U.S. ground and air forces, but

would also significantly increase capabilities for providing rapid reinforcements to allied armies. A third option offers an alternative for substantially reducing the expenditures planned by the Defense Department and for reversing the trend of recent years for sharply increased procurement spending for NATO ground and air forces. This option would permit continued modernization but would reduce recent additions to ground forces and would limit planned expansions of air forces. A choice among these options is a matter not only of defense costs, but also of U.S. policy towards the alliance.

#### OPTION I. BUILDING FORCES TO AUGMENT ALLIED DEFENSES

The Congress may wish to approve a defense budget with a moderate real increase in procurement for U.S. ground and air forces. The most effective use of such increased spending would appear to be for the acquisition of additional aircraft and supplies for U.S. forces in Germany. These assets could be used for the defense not only of U.S. sectors, but also of allied sectors. This would primarily mean increased procurement of aircraft, which could be distributed by the Commander of Allied Air Forces Central Europe to assist allied forces, and ammunition, which could be provided to allied armies. Total expenditures would be roughly \$3.6 billion in fiscal year 1978 dollars below those programmed by the Defense Department. A set of budget decisions that would be consistent with this policy would include:

- o Approving funds for two additional wings each of F-16 fighter and A-10 close air support aircraft, and also for additional base facilities in Europe.
- o Procuring additional interoperable ammunition and other war reserve materiel that could be provided to allied forces as their supplies were expended.
- o Denying funds for ATCA and AMST transport aircraft.

A major difficulty with this option could be that it emphasizes the substitution of mobile assets, which can be diverted from U.S. forces, for ground-based assets, in which the allied sectors are relatively weak. While U.S. mobile equipment can help to offset these weaknesses, the substitution cannot be complete. Each kind of weapon--fighters or missiles, tanks or close air support aircraft--has distinct capabilities, and building an



excess of one against a deficiency of another might not achieve an equal capability for equal costs. Aircraft are, for example, much more restricted by weather conditions than are ground weapons. The effective use of these flexible U.S. assets would, moreover, depend upon a degree of NATO command coordination that, although existing in formal alliance planning, might not be available under wartime conditions. Also, while these additional U.S. resources could be used to help strengthen NATO defenses in northern Germany, major improvement of the overall NATO defense structure would still rely primarily upon the initiatives of the Western European governments whose forces are stationed there.

#### OPTION II. BUILDING FORCES TO REINFORCE ALLIED CORPS SECTORS

If the Congress is willing to approve substantially greater increases in defense costs, then the United States can attempt to strengthen NATO defenses by expanding its reinforcement capabilities. The greatest expansion of the U.S. role in NATO defense and the greatest increase in U.S. defense costs are associated with building reinforcement capabilities. The most certain and direct improvements in the overall NATO posture could be attained by providing additional U.S. divisions for deployment to support allied sectors in northern Germany. Given this objective, the equivalent of the three divisions recently added to U.S. ground forces could be allocated for NORTHAG reinforcement. Because they are recent additions to the force structure, this commitment could presumably be made without degrading capabilities for reinforcing U.S. corps in southern Germany or for U.S. commitments elsewhere. In order for these divisions to be available in Europe from the beginning of hostilities, their weapons and equipment would be prepositioned in northern Europe, to the rear of the allied corps they would reinforce. Furthermore, to ensure that these forces would have sufficient facilities for central command and support, a U.S. corps headquarters would also be located in northern Germany. While establishing such a headquarters in the north would not involve great expenses, it would represent a very visible enlargement of the U.S. role in NATO.

Overall, this option would add at least \$6.5 billion to the expenditures programmed by the Department of Defense. The major identifiable expenditures would include:

- o Approving funds for accelerated production of the XM-1 tank.
- o Providing funds for the construction and maintenance of three centers for prepositioned weapons in northern Europe, and also for such additional procurement as may be needed for weapons and equipment to stock these centers.
- o Approving increased procurement for ammunition and other war reserves to support the three additional divisions that would be deployed in Europe from the beginning of the war, and providing funds for additional facilities to store war reserve supplies in Europe for these forces. (Because of constraints on how quickly war reserves could be purchased and on how quickly additional storage sites in Europe could be acquired, further expenditures would be required beyond the five-year period.)
- o Providing funds for one additional wing of F-16 fighters and approving programmed production for the F-15 fighter and the A-10 close air support aircraft.
- o Approving ATCA and CRAF expansion of strategic airlift programs to accelerate the deployment of U.S.-based divisions which do not have prepositioned equipment, and approving full production of the UTTAS cargo helicopter and the AMST for intra-theater airlift.

Several reservations can be raised against this course. It would be expensive and would involve uncertainties about Western European responses. First, in so expanding its role in the defense of Europe, the United States could be providing a disincentive to Europeans to make improvements in their own forces. If so, not only would NATO suffer from reduced efforts of European allies to improve their own forces, but the United States might also find it very difficult to reverse the course of continually building its NATO forces to compensate for weaknesses in allied forces. Second, allied consent has not been obtained for the sites and installations necessary under this option. Approval of these large defense expenditures before arrangements have been made for carrying out the expansion of U.S. participation in NATO defense might, therefore, be premature.

### OPTION III. MODERNIZING SMALLER U.S. NATO FORCES

The Congress may, for a number of reasons, prefer to reverse the trend toward increased spending on U.S. NATO forces. This position could be associated with a desire to control U.S. defense costs until allied governments have improved their forces. It could also reflect a preference for directing increases in U.S. defense spending to capabilities for contingencies other than a European engagement, or a preference for directing increases in the U.S. budget to nondefense accounts. This position could also be adopted on the grounds that the other alternatives are unacceptable—that, under the present circumstances, small increases in U.S. forces such as proposed in Option I are too little to be effective and that large increases, while probably more effective, are too costly to be acceptable. In that case, the Congress may prefer to restrict further increases until progress has been made in institutional reforms in NATO that would permit a viable middle ground. Restricting expenditures on U.S. ground and air forces, however, would require reversing recent trends toward force expansions and increased weapons and supply requirements per unit.

Assuming that U.S. force modernizations were continued, one measure that could quickly reduce overall defense costs would be to delete the three divisions that have been added to U.S. ground forces since fiscal year 1974. These divisions might have little value during the early period of a NATO war—the phase which most planning now emphasizes as critical to the outcome of the war. For without prepositioning more equipment in Europe, the increase in overall NATO strength represented by the new divisions might occur too late to make a difference. Thus, if the Congress does not wish to approve prepositioning additional equipment, it should also look seriously at the necessity of maintaining 16 active Army divisions.

This option would delete these divisions, approve procurement for only the remaining 21 active and reserve divisions of the Army ground forces, and hold aircraft and support acquisitions to levels that would maintain but not expand the U.S. presence in Europe. These policies would result in substantial savings compared to the Defense Department's program—approximately \$16.8 billion over the next five years. Budget actions consistent with this approach would include:

- o Deleting the three recently added active divisions from U.S. ground forces.

- o Approving procurement of the XM-1 tank, and reducing purchases of ammunition and other war reserve supplies to levels appropriate to the smaller force structure.
- o Reducing production of F-15 and F-16 fighter aircraft to provide a total of five F-15 wings and eleven F-16 wings--that is, one wing each below current plans.
- o Approving procurement of the UTTAS transport helicopter in reduced proportions appropriate to the smaller force structure, but approving no other new procurement of strategic or intra-theater airlift.

This option offers a means for the United States to avoid further increases in its NATO forces and thus in the costs of its participation in NATO. What this policy does not offer, however, is assurances that overall NATO defense would, in fact, be strengthened significantly. Although U.S. forces would themselves be improved, they would not acquire substantially greater capabilities for supplementing or reinforcing allied defenses. Under this option, the United States, as one member of the NATO alliance, would not try unilaterally to strengthen NATO defense but would leave the initiative to the Western European governments, whose forces now contain the most serious weaknesses in NATO's defenses. There is, of course, no way to ensure that force improvement initiatives by the allies would result from this restraint in U.S. spending. If they did not, the current imbalance between NORTHAG and CENTAG would persist.

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## CHAPTER I. INTRODUCTION: U.S. CONVENTIONAL FORCES AND U.S. PARTICIPATION IN NATO

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The United States builds and maintains its conventional forces principally for the defense of NATO. Major improvements in U.S. conventional forces--such as those which the Congress will consider in the fiscal year 1979 defense budget--are designed primarily to strengthen NATO. NATO is, however, defended not only by U.S. forces, but also by the armies of Western European allies; they provide three-quarters of the ground and air forces in NATO's Central Region. At present, the greatest relative weaknesses in NATO's overall defenses are not in U.S. forces, but in these Western European armies. In critical weapons, equipment, and supplies, the forces of most Western European allies are not as well armed as U.S. forces. For NATO as a whole, the most important improvements would be those that would bring Western European forces to equivalent capabilities with U.S. forces.

The United States, as one member of the alliance, could respond to this problem in several ways. The United States could choose to modernize and maintain its basic NATO forces, but delay any major additions until the Western Europeans have determined what improvements they will make in their forces. Under this policy, major savings could be achieved by reducing programmed expenditures for equipping expanded U.S. ground and air forces. If the United States preferred instead to take immediate steps to strengthen NATO unilaterally, then the most effective measures would appear to involve a substantial enlargement of U.S. reinforcement capabilities. This policy would provide additional U.S. ground forces that could be rapidly deployed in support of allied forces. It would also mean continuing sharp increases--above those currently programmed--in the costs of conventional forces, as well as a clear expansion of U.S. responsibilities in NATO defense. An intermediate and less costly policy would be to acquire additional air defense and support resources which could be used to supplement allied forces. This policy would mean much smaller cost increases--below those currently programmed--and a less visible expansion of U.S. responsibilities relative to those of the NATO allies. The basic question, however, is whether the United States should now begin major improvements to expand either its ground or air forces or whether it should simply maintain

and modernize them. The choice is not only a matter of defense costs, but also one of U.S. policy towards the alliance.

This choice is in large part dictated by the structure of NATO's defense. NATO is organized so that allied armies hold separate and critical responsibilities for the defense of Western Europe. Not only the United States, but also England, Belgium, the Netherlands, and West Germany maintain forces in West Germany to defend against a Warsaw Pact invasion from Eastern Europe. Each national army is stationed in and responsible for defending a designated sector along the German border (see map on p. 10). <sup>1/</sup> While the Warsaw Pact could direct an attack against any portion of the border, the most favorable geographic conditions are in the northern region of the German border. This is the area in which Western European forces are positioned--the area in which NATO's defenses are weakest. U.S. forces are stationed in southern Germany, where a major attack seems least likely, where NATO's defenses are strongest, and where force improvements would appear to be least valuable.

Within this NATO defense structure, U.S. ground and air forces perform at least three basic roles. U.S. forces stationed in Germany are responsible for defending their assigned sectors in southern Germany. These forces, however, also possess resources--aircraft and war reserve supplies--that could be provided as needed to allied armies. In this sense, U.S. forces augment the defenses of the allied sectors. Finally, forces stationed in the United States are the major source of NATO strategic reserves. U.S. divisions are available for deployment to whichever areas of the Central Region might be most in need of reinforcement. They could most easily be sent to southern Germany, where they could be integrated with U.S. corps headquarters and support systems. The discrepancies between U.S. and allied forces, however, make it more likely that they would be used in allied-defended sectors of northern Germany. U.S. NATO forces now perform and will continue to perform all of these roles in NATO defense. In deciding which aspects of U.S. NATO forces should receive priority in spending for modernization and expansion, the Congress can, however, express its preference for which of these roles should, under the present circumstances, receive the greatest emphasis in force improvements.

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<sup>1/</sup> Canada also maintains forces in West Germany, but it does not have a designated corps sector.

This question of which roles of U.S. NATO forces should be emphasized in force improvements has seldom been addressed in official defense planning. U.S. defense planning has focused not on the NATO alliance, but on the Warsaw Pact. The key questions in defining U.S. conventional force requirements have been: What kind of NATO war would be most likely, and what weapons and equipment would best serve U.S. forces in that war? The answers to these questions--which justify expenditures on these forces--have tended to treat only one aspect of that war: the Warsaw Pact attack. Thus, the suddenness, intensity, and duration of the predicted Warsaw Pact attack have been taken as the primary standards for justifying the kinds of forces the United States should maintain for NATO. 2/

While these factors are critical considerations in determining the weapons and equipment most valuable to U.S. forces, the nature of the attack describes only one aspect of the war in which these forces are designed to fight. The nature of allied defenses also determines the conditions under which U.S. forces would fight. How quickly, how intensely, and how long they would fight are equally important considerations in defining U.S. force requirements. The known strengths and weaknesses of Western European allies have, however, been given much more limited consideration in structuring U.S. forces than have the less certain attributes of a Warsaw Pact attack. Officially at least, U.S. NATO forces have been planned, and their funding requested from the Congress, with little explanation of why they were suited to the needs of the alliance or of what roles they were intended to serve in its defense.

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2/ For a full discussion of the relationship among assumptions concerning how the nature of the Warsaw Pact attack shapes force requirements, see the CBO fiscal year 1978 budget issue paper series, Planning U.S. General Purpose Forces. This series of papers included an Overview and four studies on individual forces: The Navy (GPO Stock No. 052-070-03826-8), Army Procurement Issues (GPO Stock No. 052-070-03834-9), The Tactical Air Forces (GPO Stock No. 052-070-03847-1), and The Theater Nuclear Forces (GPO Stock No. 052-070-03846-2). (Note: Only the Overview paper is available from CBO; the other four papers should be ordered from the Government Printing Office by the GPO stock numbers in parentheses after each paper.)



As background for Congressional consideration of the fiscal year 1979 budget, this study examines U.S. contributions to NATO defense in three major areas: firepower, air defense, and logistics. 3/ These categories cut across service lines, grouping together the capabilities which operate together to perform primary functions of ground and air forces. Firepower refers to capabilities for delivering heavy ammunition against enemy forces at the forward edge of battle. The size of ground forces and the numbers and range of their heavy weaponry, such as tanks and close air support aircraft, are among the factors that determine firepower capabilities. Air defense refers to ground-based and air-borne systems that provide protection against enemy air power—those capabilities that shield ground forces and installations from air attack. Fighter aircraft, ground-based missiles, and anti-aircraft guns are important components of these capabilities. Logistics is used here as an umbrella term for the many elements that move, support, and sustain combat forces. These include mobility forces, supply systems, and stocks of reserve materiel.

Over the past several years, purchases of weapons and equipment in these areas have increased dramatically and have produced substantial real growth in procurement spending. The acquisition programs planned by the Defense Department would assure continued, sharp growth in these expenditures. As shown in Table 1, the total real increase between fiscal year 1976 and fiscal year 1978 in procurement in these areas was 60 percent. If the Defense Department program for fiscal year 1979 is approved as planned at the time of the fiscal year 1978 budget submission, the cumulative real increase in these areas since fiscal year 1976 would rise to 85 percent. 4/

In each of these areas, recent changes in technology, in Warsaw Pact capabilities, and in the methods used to determine force requirements have been used to support arguments that U.S. capabilities need further improvement. In firepower, Soviet

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3/ This overview is drawn from three forthcoming CBO companion background papers in the U.S. Air and Ground Conventional Forces for NATO series: Firepower Issues, Air Defense Issues, and Logistics Issues. They should be consulted for a more detailed explanation of the issues within each area.

4/ See explanation of the Defense Department program on p. 27.