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DEFENSE MANPOWER POLICIES IN NORTHERN AND CENTRAL EUROPEAN NATO--ETC(U)
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SECURITY CLASSIFICATION OF THIS PAGE (When Data Entered)

REPORT DOCUMENTATION PAGE		READ INSTRUCTIONS BEFORE COMPLETING FORM
1. REPORT NUMBER RAND N-1314-MRAL	2. GOVT ACCESSION NO. AD-A084342	3. RECIPIENT'S CATALOG NUMBER
4. TITLE (and Subtitle) Defense Manpower Planning in Northern and Central European NATO.		5. TYPE OF REPORT & PERIOD COVERED 9 Interim rept.
6. AUTHOR(S) Ragnhild Sohlberg		6. PERFORMING ORG. REPORT NUMBER
7. AUTHOR(S) Policies		8. CONTRACT OR GRANT NUMBER(s) MDA903-77-C-0108
9. PERFORMING ORGANIZATION NAME AND ADDRESS The Rand Corporation 1700 Main Street Santa Monica, California 90401		10. PROGRAM ELEMENT, PROJECT, TASK AREA & WORK UNIT NUMBERS
11. CONTROLLING OFFICE NAME AND ADDRESS Office of the Assistant Secretary of Defense Manpower, Reserve Affairs & Logistics Washington, D. C. 20301		12. REPORT DATE Feb 1980
14. MONITORING AGENCY NAME & ADDRESS (if different from Controlling Office) 12 38		13. NUMBER OF PAGES
		15. SECURITY CLASS. (of this report) UNCLASSIFIED
		15a. DECLASSIFICATION/DOWNGRADING SCHEDULE
16. DISTRIBUTION STATEMENT (of this Report) Approved for Public Release; Distribution Unlimited		
17. DISTRIBUTION STATEMENT (of the abstract entered in Block 20, if different from Report) No Restrictions		
18. SUPPLEMENTARY NOTES		
19. KEY WORDS (Continue on reverse side if necessary and identify by block number) Manpower Force Structure Planning Military Personnel NATO Forces Political Systems		
20. ABSTRACT (Continue on reverse side if necessary and identify by block number) See Reverse Side		

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→ This note

1 Provides a brief overview of policies and practices as observed in seven European NATO countries: Belgium, Denmark, the Federal Republic of Germany (West Germany), France, the Netherlands, Norway, and the United Kingdom. This survey of manpower force mixes (active/reserve, conscript/volunteer) and utilization policies shows that national differences tend to be reasonable responses to local conditions that are not easily altered. The observed differences in manpower procurement and utilization policies also raise doubts about how to sum the NATO parts and about the meaning attached to NATO/Warsaw Pact comparisons as they are usually presented. Current manpower procurement policies tend to reflect traditions, but the use of conscripts has adapted to military and non-military changes in the environment since World War II. Some of the adjustments reflect civilian sector developments, and others reflect military developments. 28 pp. (JM)

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SECURITY CLASSIFICATION OF THIS PAGE (When Data Entered)

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N-1314-MRAL

February 1980

DEFENSE MANPOWER POLICIES IN NORTHERN AND CENTRAL EUROPEAN NATO

Ragnhild Sohlberg

A Rand Note

prepared for the

OFFICE OF THE ASSISTANT SECRETARY OF DEFENSE/
MANPOWER, RESERVE AFFAIRS AND LOGISTICS

Rand
SANTA MONICA, CA. 90406

PREFACE

This Note was prepared as part of Rand's Manpower, Mobilization, and Readiness Program, sponsored by the Office of the Assistant Secretary of Defense (Manpower, Reserve Affairs, and Logistics)--OASD(MRA&L). Manpower issues are assuming an ever greater importance in defense planning and budgeting. This studies program is developing broad strategies and specific solutions for dealing with present and future defense manpower problems, including new methodologies for examining broad classes of manpower problems and specific, problem-oriented research. In addition to providing analysis of current and future manpower issues, this studies program will contribute to a better general understanding of the manpower problems confronting the Department of Defense.

The material contained here is Chapter II of a forthcoming Rand report on defense manpower policies as they apply to NATO Ground Forces. Chapter III, "Analysis of Ground Force Structures on NATO's Northern Flank," is also published separately as a Rand Note (N-1315-MRAL). Other sections of the report will deal with an analysis of the mobilization process, the development of a methodology for evaluating alternative manpower policies for the ground forces of individual nations, and a demonstration of the methodology for the case of Norway.

SUMMARY

The North Atlantic Treaty Organization (NATO) is an alliance lacking supranational authority, and its different systems and philosophies are reflected in differing defense policies. This Note surveys the defense manpower procurement and utilization policies in the ground forces of seven European NATO countries: Belgium, Denmark, the Federal Republic of Germany (West Germany), France, the Netherlands, Norway, and the United Kingdom of Great Britain.

An evaluation of the quantitative measures most commonly used for comparing national defense efforts is useful in understanding the complexities of manpower issues. Quantitative comparisons of NATO forces --often made to "sum the parts"--must be interpreted in the light of qualitative differences in manpower policies.

Many of these European countries have reduced military manpower and shortened obligatory first-term active duty. However, these policies have been accompanied by changes in conscript use and by an increase in the use of volunteers.

Current manpower procurement policies tend to reflect traditions, but the use of conscripts has adapted to military and nonmilitary changes in the environment since World War II. Some of the adjustments reflect civilian sector developments, and others reflect military developments.

Continued registration of ex-servicemen may provide some of these countries with significant manpower resources to draw on in case of sustained conflict. However, the earlier concept of mass armies manned by inexperienced conscripts no longer holds for Northern and Central European NATO. The conscripts are better qualified upon induction, the training period is used more efficiently, and the "life cycle" payoff to training of conscripts for their Total Force assignment is given great care. In addition, part of the conscripted component consists of "quasi volunteers"--i.e., many have either been obligated to or have volunteered for training over and above the minimum.

In general terms, these countries have apparently adapted quite well to changing circumstances. These adaptations have taken various forms depending on internal and external conditions and have resulted in diverse force structures.

ACKNOWLEDGMENTS

The research and early drafts of this Note benefited from the kind assistance of many European military and civilian defense experts who generously shared their expertise with me. Even though the list of names is too long to permit many individual mentions, I want to acknowledge Erik Himle, Secretary General of the Norwegian Defense Commission and former Permanent Under Secretary of Defense, and General (Ret.) Eigill Wolff, former Danish Joint Chief of Staff and Commander Allied Forces Baltic Approaches (COMBALTAP). Many European participants in residence at the Defense Resources Management Education Center, the Naval Postgraduate School in Monterey, California, kindly spent many hours helping me clear up ambiguities and misunderstandings. Lt. Col. G. Ludwig, Bundesminister der Verteidigung (Fü S IV 2) also deserves special mention.

William A. Mauer of the Naval Postgraduate School commented on an earlier draft manuscript and led me to make many improvements. Gene H. Fisher and David Novick reviewed and edited the follow-on version, and Nancy Nimitz was the helpful final reviewer.

Laura Goeglein deserves specific mention for her excellent typing and retyping of the manuscript and for her interest in my project.

I of course bear sole responsibility for any remaining misinterpretations of these countries' manpower policies and force structures.

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DEFENSE MANPOWER POLICIES IN NORTHERN
AND CENTRAL EUROPEAN NATO

INTRODUCTION

NATO is an alliance lacking supranational authority, and its different systems and philosophies are reflected in differing defense policies. This Note surveys the defense manpower procurement and utilization policies in the ground forces of seven European NATO countries: Belgium, Denmark, the Federal Republic of Germany (or West Germany), France, the Netherlands, Norway, and the United Kingdom (U.K.).

Defense planners within NATO countries became increasingly concerned about defense manpower issues during the 1970s. The most commonly discussed reasons are (1) budgetary constraints resulting in a less than satisfactory defense effort, and (2) claims of inefficient utilization of manpower. Budgetary constraints reflect the increased competition for public resources, particularly as a result of growth in the welfare and educational sectors of European NATO since World War II. Developments in the civilian sector and in the level of technological sophistication of defense materiel have also led to an increase in the unit cost of both manpower and equipment.

A brief evaluation of some of the most common quantitative measures for comparing national defense efforts will be useful for understanding the complexities of the manpower issues to be discussed.

Table 1 compares selected quantitative measures of the defense effort in the seven European NATO countries included in this study. The countries are ranked for each measure according to their level of effort, "1" indicating the highest level and "7" the lowest. If the percentage of Gross National Product (GNP) or the per capita monetary contribution to defense is used as the measure, these countries vary only a little, but the defense share in the national budget (public expenditure) varies substantially. This is not inconsistent, because the public sector varies among these countries.

If we compare the per capita monetary contribution to the defense budget (in terms of U.S. dollars) with either the GNP or public

Table 1
SOME SELECTED QUANTITATIVE MEASURES OF THE DEFENSE EFFORT^a

Country	Defense Budget										Military Manpower ^a (1976)			
	GNP (1975)		Public Expenditure (1975)		Per Capita (1976)		At Constant Prices ^b (1975)		Total Population in Active and Reserve Forces		Active Force as % of Men Ages 18-45			
	%	Rank	%	Rank	\$	Rank	1970=100	Rank	%	Rank	%	Rank	%	Rank
Belgium	3.0	6	10.0	5	204	5	124.5	2	1.6	6	.6	6	4.7	3
Denmark	2.2	7	7.3	7	168	7	119.4	4	3.7	2	1.1	5	3.4	6
The Federal Republic of Germany	3.7	3	24.4	1	242	1	125.3	1	2.7	3	1.9	2	3.9	5
France	3.9	2	20.2	2	241	2	113.6	5	1.9	5	.8	4	4.9	2
Netherlands	3.6	4	11.0	4	205	4	121.0	3	2.2	4	1.3	3	4.0	4
Norway	3.1	5	7.6	6	223	3	110.6	7	7.2	1	4.2	1	5.2	1
U.K.	4.9	1	11.6	3	190	6	112.5	6	1.0	7	.3	7	3.3	7

SOURCE: *Military Balance 1976/77*, The International Institute for Strategic Studies, London, 1977.

^aExcluding civilians.

^bConsumer price indexes were used to estimate constant prices.

expenditure, Norway and the United Kingdom change places in the ranking system. Comparing budget increases at constant prices over the period 1970-1975, we again observe a new ranking. These apparent inconsistencies are not surprising when differences in economic conditions and economic systems of these seven countries are recognized.¹ Selecting a period other than 1970-1975 might result in a different ranking for the index measure.

In addition to the budgetary effort, it is also useful to measure the manpower effort of individual nations.² Such a measure can be obtained by calculating the ratio of military manpower to a relevant population group or the population as a whole. These manpower measures tend to reverse the rankings of the United Kingdom and Norway relative to those observed using defense budget measures. As Table 1 shows, this change results partly because Norway's conscript force is larger than the U.K. all-volunteer, expeditionary forces; furthermore, Britain has a fairly large civilian defense manpower component, but civilians are excluded from the numbers in Table 1. If reserve forces are included in military manpower, the greatest variation between the countries (a range of 1 to 7.2 percent versus 3.3 to 5.2 percent) may be found in the next to last column.

The increased unit cost of manpower may have contributed to a reduction in regular peacetime manpower strengths. Table 2 compares military manpower in the peacetime forces of the seven countries during 1972-1976. Belgium, Denmark, the Netherlands and the United Kingdom reduced their regular active forces during this period, with Denmark's

¹For example, although the defense budgets have remained fairly constant, the GNP has changed with varying rates in countries in Northern and Central Europe, the United Kingdom, for example, lagging behind the others. The rate of inflation also differs among these countries, which is not always fully reflected in the exchange rate adjustments; and exchange rates are used to attempt to make defense budgets commensurable.

²Defense budgets do not necessarily include all of the expenditures going to defense. See Abraham S. Becker, *Military Expenditure Limitation for Arms Control: Problems and Prospects*, Ballinger Publishing Company, Cambridge, Massachusetts, 1977, Ch. 2.

Table 2
COMPARISON OF MILITARY MANPOWER, 1972-76
(thousands)

Country	1972	1973	1974	1975	1976	% change 1972-76
Belgium	90.2	89.6	89.7	87.0	88.3	-2.11
Denmark	43.4	39.8	37.1	34.4	34.7	-20.05
Federal Republic of Germany	467.0	475.0	490.0	495.0	495.0	+6.00
France	500.6	503.6	502.5	502.5	512.9	+2.46
Netherlands	122.2	112.2	113.9	112.5	112.2	-8.18
Norway	35.9	35.4	34.9	35.0	39.0	+8.64
United Kingdom	372.3	361.5	354.6	345.1	344.2	-7.55

SOURCE: *The Military Balance, 1976/77*, The International Institute for Strategic Studies, London, 1977, p. 80. Military manpower includes only those in the regular armed forces--i.e., reservists and paramilitary forces are not included, nor are civilian personnel.

reduction amounting to 20 percent. However, quantitative comparisons of NATO forces--often made to "sum the parts"--must be interpreted in light of qualitative differences as well as the policies that caused the quantitative changes.

Materiel practices have received the most study to date. Less attention has been paid to the possibly more difficult problem of determining criteria for military manpower comparisons. Comparable manpower categories for individual countries should be examined. Different practices with regard to recruitment, training methods, length of service, and patterns of utilization, together with differing attitudes toward military service, make this examination both necessary and difficult.

The following sections examine the major manpower procurement policies in each country, the major policies and practices with regard to training and utilization of categories of manpower in the active and reserve forces,¹ and whether force structures reflect differences in manpower procurement and utilization policies.

¹Manpower categories include volunteers, conscripts, civilians, active, and reserves.

As will be shown, these NATO countries differ with regard to conscription and related policies and practices, reserves and mobilization policies, and in the structure of their ground forces.

MANPOWER PROCUREMENT POLICIES

Except for the United Kingdom, the countries examined have retained conscription as the major manpower procurement method for the military services. These six countries (Belgium, Denmark, the Federal Republic of Germany, France, the Netherlands, and Norway), which for centuries have served as battlegrounds, have historically relied on conscription and view this policy as natural.¹ In contrast, Britain's role, like that of the United States, has been to send expeditionary forces overseas. Only during and immediately after the two World Wars did the United Kingdom rely on conscription.

The next three subsections outline some of the factors that have influenced the decision to retain conscription, the problems associated with it, and some of the remedies applied to counter its disadvantages.

Factors Influencing the Decision to Retain Conscription

With the exception of the United Kingdom, conscription in NATO Europe has seldom been seriously challenged in peacetime and certainly not during times of war or under conditions of immediate threat of war.

The United Kingdom experienced the first prolonged peacetime conscription during the post-World War II years when the British had to fulfill their obligation to station troops in West Germany while still having significant overseas obligations in the British Empire. However, by 1960 the latter obligations were significantly reduced, and Britain returned to its tradition of an all-volunteer force (AVF). The last

¹NATO has 15 members. Of these, Iceland has no armed services and Luxembourg only has a 625-member volunteer armed force. Of the remaining 13, only Canada, the United Kingdom, and the United States currently have all-volunteer forces. These three countries have not traditionally served as battlegrounds; they are posturing their forces to be self-sufficient expeditionary forces rather than for territorial defense. *Military Balance 1977/78*, The International Institute for Strategic Studies, London, 1977, p. 16.

conscripts were dismissed in 1962. The issue of reducing or eliminating the conscripted component of military manpower has been debated in the other six countries, but the expedience of maintaining at least some degree of conscription has been argued on the following grounds:

Democratic. The West German Force Structure Commission of 1970-1972 stated, "The services demanded of the citizens of West Germany in the interest of security must not violate the fundamental rule of equality, adequacy and social justice. An inequitable conscription system undermines the credibility of our democracy."¹ "Compulsory military service . . . is an essential civic duty."²

Also, the concept of universal military service for all able-bodied men has been incorporated in the Constitution of some countries --e.g., the Danish Constitution of June 5, 1849.³ Another example is the Norwegian conscription law, which states, "It is both the *right* and the obligation of all Norwegian men to participate in the defense of their country."⁴ (Italics added.)

Integration of the Military and the Civilian Sectors. As stated in France's defense policy, "The conscripts exemplify the participation of the entire French people in the defense of their nation, and they are the means for a constant interrelation between the nation and the armed forces that serve it."⁵ This argument generally implies

¹Federal Minister of Defense, *White Paper 1971/72*. Bonn, 1971, Sec. 40.

²Federal Minister of Defense, *White Paper 1975/76*. Bonn, 1975, Sec. 280.

³Chief of Defense, *Grundbog for Menige: Haerens Historie*, No. 8, Denmark, 1975, p. 19.

⁴*Handbok for Soldaten*. UD 17-1, Defense Headquarters, Army Staff. Oslo, 1973, p. 10. None of the countries examined conscripts women for military service. Conscription of women for civil defense training is permitted, for example, in Denmark and Norway. Because of the sufficient number of male and female volunteers, this option has not been exercised.

⁵"France's Defense Policy: Report on the program for military expenditures and equipment for the Armed Force for the 1977-1982 period," Ambassade de France, Service de presse et d'information, New York, 1976, p. 12.

that conscription allows for a flow from the civilian population to the military in a quantity and form that prevent the development of an isolated military sector and the further establishment of the political power base that this might nurture. It also prevents the potentially detrimental effects on an individual often resulting from a prolonged stay in the military (the Netherlands).¹ Finally, assuming that the conscripts get an overall favorable impression of the military, the high participation rate that conscription can provide fosters necessary understanding of and support for the military.

Area Coverage and Defense in Depth. In spite of new weapon technologies that permit units to control or cover larger territories than before, these countries feel that they cannot raise sufficient troops to defend their entire territories unless they rely on conscription. For example, "Considering the geographical situation of the Federal Republic of Germany we shall, for the foreseeable time, have to rely on conscripts."² Similarly, French policy states, "Conscripts, by their number but perhaps even more by their quality, contribute to the preparedness and effectiveness of all the forces,"³ and sparsely populated countries like Norway believe that the likelihood of sustaining a professional force of military significance is very slight.

It is argued that although each soldier may be more effective under an AVF concept because of the longer active duty period,⁴ an AVF leads to a smaller force unable to defend the area in large and strategically vulnerable countries. In addition, in case of crisis,

¹Ger. Teitler, "The Successful Case of Military Unionization in the Netherlands," *The Armed Forces and Society*, Vol. 2, No. 4, August 1976, pp. 517-528.

²Federal Minister of Defense, *White Paper 1971/72*, Bonn, 1971, Sec. 40.

³"France's Defense Policy, Report on the program for military expenditures and equipment for the Armed Force for the 1977-82 period," Ambassade de France, Service de presse et d'information, New York, 1976, p. 12.

⁴This argument assumes that with an AVF the same or better quality manpower can be recruited as under a draft system.

mobilization with an AVF may not provide a sufficient number of reservists and the country will not be able to sustain a prolonged conflict. With conscription, reserve duty after active duty can be demanded. However, with voluntary enlistments alone, this policy tends to deter enlistment unless combined with sufficient compensatory measures.

Lower Defense Budget. In the six countries retaining conscription, the increased cost of incentives necessary to attract a sufficient number of volunteers are probably not offset by savings in training costs as a result of the longer active duty periods generally associated with an AVF. In West Germany, for example, it is argued that given the current attitudes toward military service, a fully professional army would cost more than the Germans are willing to allocate out of available resources. Therefore, with current budgetary restrictions, the NATO-established strengths cannot be met with volunteers alone. Similarly, France believes, "Given the volume of resources available for national defense and the priorities reserved for nuclear development, conscription is the best form of manpower procurement."¹

Given the current attitudes toward the armed services, even such countries as the Netherlands, where conscript wages tend to approach those of similar age groups in the civilian sector, will not be able to sustain the manpower quality and the size of the army if they cannot offer wages above those provided by the civilian sector.

Recruitment. It is argued in Denmark and West Germany that many of the young men choosing to volunteer for extended military service come from the ranks of conscripts. The obligatory active duty period may change the attitudes toward life in the armed services and increase understanding of the purpose of the armed services. This argument has particular significance for the Army because of the large manpower requirements and the lesser attractiveness of Army life (e.g., barracks, location of bases).

¹Michel L. Martin, "Conscription and the Decline of the Mass Army in France, 1960-1975," *Armed Forces and Society*, Vol. 3, No. 3, May 1977, p. 371.

Problems Associated with Conscription

Adherence to at least some degree of conscription certainly has disadvantages. Some of these include:

Decreased (Standing) Readiness. The training of a large number of conscripts in combat or other standing units led to decreased readiness of standing forces.

Retraining Requirements. If the conscripts are not assigned the same or similar functions during their regular active and their reserve duty periods, they must be retrained for their reserve function.

Tension in Units. Because of the difference in status, rights, standard of living, training requirements, and functional assignments between volunteers and conscripts who often belong to the same age group, the personal relationship between them tends to suffer.¹ This situation is particularly likely to arise when the conscripts are at least as well qualified as the volunteers upon enlistment.

Increased Cost of Conscription. It is argued that because of the significant improvement in compensation and standard of living of conscripts over the postwar period, the financial justification for maintaining this procurement method has diminished. The increased cost of conscription partly results from civilian sector spillovers. As the standard of living rose dramatically during the postwar period, demands for similar improvements were also made in the military sector.

Parallel costs have also increased with respect to volunteers. This argument therefore requires more detailed analysis to determine the relative cost-effectiveness of the two groups of manpower. Both the direct and the indirect compensations to volunteers have increased, while the *effective worktime* has decreased. This has contributed to an increase in the per-unit time cost of both volunteers and conscripts.

For example, in Norway the volunteers were given certain norms for work and leisure time or leaves in 1969. In 1976 the length of the workweek was reduced from 44 to 40 hours and compensation for work over

¹This argument was specifically mentioned in a Danish article more than 15 years ago. Sverre Hansen, "Kontrakt-vaernepligt" (Contract vs. Conscript), *Militaert Tidsskrift*, 1960, pp. 22-35.

40 hours and the length of leaves were increased. In addition, a new law on "worker protection and their environment" also affected the military sector and, hence, the cost of defense manpower in 1977.¹ Similar developments have taken place in other NATO nations.

Even if the conscripts are not subject to legal provisions on length of workday and workweek, leaves, etc., the cost of conscription is indirectly affected. For example, if as a result of new legal restrictions each instructor or supervisor is available fewer hours per day or week than before, either the effective worktime of conscripts or the cost per unit of their time is affected. Even though conscripts potentially are available for training for more hours, their extra time can be put to use only if additional instructors and supervisors are hired or the existing ones get overtime.

Inequities in Conscription. The inequity argument is particularly dominant in countries with very selective conscription. In the six countries retaining conscription, between one-third and two-thirds of each male age cohort actually complete first-term active duty. Universality in conscription is approached in some cases only if civil defense or other alternatives to military service are taken into account.

The inequity argument was dominant in the United Kingdom before conscription was abolished in 1960 and in Denmark before the defense reorganization in 1973.² The argument is still dominant in West Germany and in the Netherlands.

Requirements for Long-term Personnel. It is argued that modern technology requires personnel with extensive and hence expensive military training. For this training to be cost-effective, trained personnel must serve long terms.

¹*Forsvarskommissjonen av 1975*, NOU 1978: 9, Oslo, March 1978, Sec. 13.9.

²This reorganization is described in some detail in Ragnhild Sohlberg, *Analysis of Ground Force Structures on NATO's Northern Flank*, The Rand Corporation, N-1315, February 1980.

Remedies to Counter the Disadvantages of Conscription

To reduce the pressure to abolish conscription, various remedies have been applied. In some cases these remedies have alleviated the problems, and in other cases they have had offsetting disadvantages.

Increase Standing Readiness. Various attempts have been made to train conscripts outside combat units. For example, the Danish reorganization in 1973 established a separate Training Force without wartime assignment. Here the conscripts are trained for nine months, and a volunteer in Denmark is not counted as such until he has completed his initial nine months of apprenticeship in the Training Force. Those who volunteer for further military service are provided additional training in the Standing Force.

The initial West German proposal to restructure the Army included a recommendation for separate training units. Because of budget constraints, this proposal was rejected when the final decision regarding the force structure was made in October 1978. However, the initial three months of basic training takes place in less than fully manned units with a professional cadre. In case of crisis, the trainees will be replaced with fully trained and recently discharged reservists.

Increased use of long-term professionals in key positions is also observed in these countries, with the possible exception of the Norwegian Army, which employs few enlisted professionals. Conscripts, whether on active duty or in reserve status, perform simpler or lower priority functions.

Reduce Retraining Requirements. Recent changes in practices have been aimed at training the conscripts for their longer reserve assignment. This implies that the conscripts fill the same or similar functions during both the active and the reserve assignments. The return to the initial training is thereby improved.

In Denmark, the conscripts on active duty in the Training Force are trained for their functions in the reserve or augmentation units. Upon completion of active duty, the whole unit in the Netherlands is transferred to reserve status. In Norway, the conscript is assigned to a mobilization unit upon discharge from active duty, and because

the Norwegian reserve units tend to be replicas of standing units, there is generally no functional reassignment after active duty.

Decrease Tension in Units. After the Danish reorganization in 1973, separate units were established for volunteers and conscripts.¹ And as mentioned earlier, elsewhere a functional separation has taken place. The volunteers are increasingly manning the more complex tasks with a higher level of responsibility, while the conscripts man less complex and lower priority tasks.

Alleviate the Increased Cost of Conscription. Because the conscripts tend to fill less complex task positions requiring less costly training, and they are generally trained for their longer term assignment in the reserve force, the benefit-cost ratio of this group can be expected to have improved.

The aim is to assign the "right man to the right task" by taking training, education, experience and interests relevant to the military into consideration. This practice helps to reduce training requirements, hence training costs. This issue is particularly significant in Europe because civilian training and education relevant to the military have increased during the postwar period. Both the level and type of technical and other vocational training have improved significantly.

The tendency to enter vocational training at a young age has been exploited in Belgium and the United Kingdom. The military in these two countries has made a conscious effort to establish initial contact with young men two to three years before they are eligible for military service to guide them into vocations in their subsequent military duty.

The extent and the content of basic military training also has been adjusted in Europe. These changes reflect the conscious realization of the opportunity cost of some of the traditional and possibly wasteful elements of basic training (e.g., close order drill).

¹ According to current information, Denmark is the only country that has introduced such extensive unit separation of the two groups of manpower.

Reducing the Inequities in Conscription. Various measures aimed at reducing the inequities in conscription have been implemented. They include:

- o Reducing the duration of obligatory service;¹
- o Increasing pay and other compensation;
- o Providing training with civilian sector qualifications;
- o Giving preferences to discharged conscripts applying for civilian service jobs (West Germany);
- o Reducing work hours and granting more liberal leaves and vacation policies (the Netherlands);
- o Drafting a higher proportion of the young men than earlier but for a shorter period of time; and
- o Requiring alternative service on the part of those considered eligible but not needed by the military (West Germany).²

Requirements have also been imposed on the conscripts' civilian employers. These include:

- o Requiring the civilian employers to allow workers to continue their job tenure during obligatory service time and for up to two years of subsequent voluntary service (West Germany);
- o Requesting that the civilian employers pay full salary while the soldier is participating in reserve exercises or training (Denmark).³

¹During the immediate postwar years the length of obligatory service increased due to the various crises in Europe--e.g., the invasion of Czechoslovakia and the Berlin Blockade. However, during the last decade, the countries included in this study have all decreased the length of obligatory service.

²The 1972 Force Structure Commission in West Germany suggested in their report that the young men exempted from military service should be taxed. This policy was never implemented nor have any further references to such policy been noted. *The Force Structure in the Federal Republic of Germany: Analysis and Options*, Bonn, November 1972, Sec. 28.

³This has an analogous counterpart in the United States where the employee retains full salary while on jury duty--also a civic duty.

The inequity argument and the "solutions" applied rest on the dubious assumption that universal conscription is more equitable than selective conscription. This is denied in the Netherlands where it is explicitly argued that "fair" exemption and deferment policies may increase equity, because the cost associated with obligatory military duty is not the same for all young men.

Problems Resulting from the "Remedies"

As already indicated, some of the remedies taken to alleviate the problems associated with conscription have had adverse side effects. For example, the reduction in the length of first-term obligatory service has increased the reliance on reserve forces in some countries. This has increased uncertainties about the readiness and capabilities of the various nations' forces.

Also, regardless of the remedies used, real or perceived inequities remain when only a selected number of each male age group is called up. Selective conscription tends to be associated with more or less liberal deferment and exemption policies and rules regarding qualification for conscientious objector status; both policies will be discussed in detail.

Exemption and Deferment Policies. Depending on the manpower requirements relative to the size of the male age groups, the exemption and deferment policies vary from country to country. In Belgium, teachers and physicians, among others, can substitute three years of voluntary service in a less developed country.¹ Because the vast majority of West Germany conscripts have a vocational certificate prior to induction, the exemption policies in that country apparently favor young people continuing in higher education.²

In France, young men are given the option of being drafted between the ages of 18 and 21 years. A one year extension may be granted to

¹Eugene Keefe et al., *Area Handbook for Belgium*, Foreign Area Studies, The American University, Washington, D.C., 1974, p. 227.

²*White Paper 1975/76*, Bonn, 1975, Sec. 285.

those preparing for their entrance examination to a *grande école* (university or other institution of higher learning). A limited number studying medicine or science, or teaching or receiving training in a technical field required by the armed services, may receive further extension. When this is granted, however, they have to serve 16 months (rather than the normal 12), the last four at regular salary.¹ In addition, about 23 percent of each age group are disqualified for medical reasons, about 2 percent have applied for alternative service involving 16-24 months obligatory service, and some dispensations have been made for social or family reasons.²

Article 15 of the Dutch Conscription Act outlined the exemption policies practiced in the Netherlands generally falling into the following categories: breadwinners, those personally indispensable, those holding ecclesiastical office, brother already serving, and special cases. However, these justifications are under debate.

Liberal deferment policies can result in inequities and tend to separate the lower ranks into two distinct age groups. The advantages of using older conscripts with more education, training, and experience must be weighed against the added costs. Men in this group are more likely to have families and higher and more definite career expectations. Better housing, compensation, and fringe benefits must be provided. Also, less flexible basing policies may result. If the soldier is accompanied by his family, the base must be surrounded by sufficient socioeconomic infrastructure (schools, civilian job opportunities for the spouse, etc.). The advantages and disadvantages of moving families rather than single soldiers into a region must certainly also be considered.³

¹French White Paper on National Defense: 1972, Vol. I, p. 31.

²Martin, "Conscription and the Decline of the Mass Army in France, 1960-1975."

³These factors also apply to long-term volunteers. Norwegian estimates of 1972 indicate that volunteers on the average cost three times as much as a conscript. *Tjenestetiden i Forsvaret*, NOU 1972: 32, Oslo, April 1972, Sec. 0.11.5.

Conscientious Objector. The proportion of conscientious objectors varies among these countries. This is not only because of differences in attitudes among the young, but also because of the associated policies partly resulting from manpower requirements. The criteria for obtaining this status differ substantially from country to country (liberal in West Germany, narrow in France), and the "penalty" that accompanies this status also differs in length of alternative service, loss of prestige, less or no training opportunities, etc. The policy of requiring civilian service of conscientious objectors or military service eligibles not needed by the military results in civilian sector problems that have to be dealt with. For example, the placement of a "national service man" generally implies the displacement of a civilian worker, thereby causing problems with trade unions.

MANPOWER UTILIZATION POLICIES

Military manpower reductions and shortened obligatory first-term active duty¹ have taken place in many of these European countries. However, these policies have been accompanied by changes in the utilization of the conscripts and in an overall increase in the use of volunteers.²

The Mix of Volunteers and Conscripts

Table 3 shows the percentage of volunteers and conscripts in the peacetime military forces of the seven countries. With the exception of the United Kingdom, Belgium has the smallest proportion of conscripts (32 percent) after six months obligatory service, and Norway has the largest (64 percent).

Table 4 compares the percentage of volunteers in the peacetime armies in 1970 and 1976. Except for France, the countries retaining conscription have increased the use of volunteers over this time period.

¹First-term obligatory service is distinguished from the period when a conscript is under reserve obligation.

²Norway may be unique among the NATO countries under discussion because the policies regarding the utilization of conscripts have undergone only small changes during the postwar period.

Table 3

MILITARY MANPOWER: VOLUNTEERS VERSUS CONSCRIPTS
(All services)

Country and Year	Career and Enlisted		Conscripts		Total	
	No.	%	No.	%	No.	%
Belgium (December 1978 est.) ^a	68,079	67.9	32,200	32.1	100,279	100
Denmark (1978 est.) ^b	22,640	65.0	12,190	35.0	34,830	100
Federal Republic of Germany (1976 est.) ^c	267,795	54.1	227,205	45.9	495,000	100
France (1976 est.) ^c	233,370	45.5	279,531	54.5	512,901	100
Netherlands (1976 est.) ^c	52,734	47.0	59,466	53.0	112,200	100
Norway (1976) ^c	14,040	36.0	24,960	64.0	39,000	100
United Kingdom (1976) ^c	344,150	100.0	n.a.	n.a.	344,150	100

^a *Livre Blanc de la Défense Nationale*, Table 22, p. 110.

^b *Handouts on Danish Armed Forces*, Chief of Defense, Denmark.

^c *Military Balance 1976/77*, The International Institute for Strategic Studies, London, 1976.

Table 4

VOLUNTEERS IN THE PEACETIME ARMY,
1970 and 1976
(In percent)

Country	1970 ^a	1976
Belgium	53	59
Denmark	31	59
Federal Republic of Germany	40	49
France	35	35
Netherlands	30	35
Norway	17	20
United Kingdom	100	100

SOURCE: *The Military Balance 1976/77*, The International Institute for Strategic Studies, London, 1977.

^a Because the *Military Balance* did not start reporting the conscript/volunteer mix until the 1975/76 volume, the numbers for 1970 were calculated from various national sources.

The figures in Tables 3 and 4 lead to the question: "What are the various country policies relating to the utilization of the two manpower categories?"

Length of Obligatory Military Service

Table 5 shows the total length of obligatory military service in each country. Specifically, it includes available information on first-term active duty and on the reserve duty obligation.

First-term active duty varies between eight months (currently being reduced to six) in Belgium, 15 months for regulars in the West German Army, and 21 months for regulars in the Dutch Air Force. The United Kingdom generally enlists volunteers for six-year tours of duty.

The period that a conscript is assigned to reserve forces varies between five to six years in West Germany and age 44 in Norway.¹ The legal obligation, however, is often longer than what is currently practiced, but an extended option is reserved for use under conditions of greater perceived threat or for an immediate crisis.

The training pattern over the military lifetime of conscripts (shown in Table 5) varies substantially from country to country. A West German regular conscript may have up to 24 months of obligatory military service over six to seven years, and a Norwegian regular Army conscript currently has between 468 and 510 days (maximum 17 months) spread over approximately 25 years. The Dutch provide little or no refresher training. However, their conscripts are subject to immediate recall up to 18 months after discharge from active duty.

Assignment to Functions and Units

The assignment of conscripts to functions and units is given much attention in Europe. It is argued that with conscription, assignments can be "optimized" from the military's point of view; i.e., the armed forces do not have to take personal (career) wishes of conscripts into account to the same degree they must with volunteers.

¹ Reserve duty mainly applies to the ground forces.

Table 5

TOTAL LENGTH OF OBLIGATORY MILITARY SERVICE

Country	First-term, Obligatory Military Service	Reserve Duty ^a Maximum Recall ^b	Total Amount of Obligatory Service (Active Duty)
Belgium	8 mos. if stationed in FRG ^c 10 mos. if stationed in Belgium.	<u>Reserve Duty:</u> Till age 45 (conscripts and volunteers). <u>Maximum recall:</u> Enlisted men, once only. Officers, one month/year.	Equal to first-term service for conscripts, hence, 8-10 mos.
Denmark	9 mos. in the Training Force for privates; 15-18 mos. for NCOs and reserve officers.	Army: <u>Reserve Duty:</u> Max. 18 mos. in the Augmentation Force + max. 5 years in the Regular Reserve Force. (Theoretical obligation till age 50) <u>Max. recall:</u> 60 days for conscripts (70 days for NCOs and officers) during the first 9 years of service.	Max. 11 mos. within the first 9 years for privates; 17-24 mos. for NCOs and reserve officers.
Federal Republic of Germany	15 mos.; of these, basic training for 3 mos. in cadre units. ^d	Army: <u>Reserve Duty:</u> 12 mos. standby readiness + reserve duty; total max. 5 years. <u>Max. recall:</u> 9 mos. (max. 3 at any one time).	Enlisted: Max. 24 mos. (NCO: 27 mos. Officers: 30 mos.)
France ^e	12 mos.	<u>Reserve Duty:</u> Active Military Reserve: 4 years Regular " " : until age 35. <u>Max. recall:</u> No fixed rules, only for volunteers.	12 mos.
The Netherlands	Army: 14 mos. Navy and AF: 18-21 mos.	Army: <u>Reserve Duty:</u> Max. 18 mos. in RIM ^f units + max. 6 yrs. in regular reserves <u>Max. recall:</u> None in RIM-status (immediate recall status), short retraining for RIM-units in regular reserves.	Little (if any) beyond the first-term tour, hence, Army : 14 + mos. Navy & A.F.: 18-21 mos.
Norway	Army: 12 mos. (365 days) Navy and AF: 15 mos.	<u>Reserve Duty:</u> Till 44 yrs old. <u>Max. recall:</u> 103-145 days in the Army; 14-120 days in Navy and Air Force.	Army: 16-17 mos. (468-510 days) Navy & Air Force: 15-16 mos. (445-485 days)
United Kingdom	Voluntary and variable tours.	--	--

^aReserve Duty is the period after dismissal from first-term continuous service that the conscript is obliged to report for reserve training/exercise. This may be "standby readiness" (subject to immediate recall) or "regular recall" (more warning time is given).

^bMaximum recall is the maximum total amount of time that the conscript is expected to spend on reserve training/exercise during his reserve "life." The term "maximum" is used because some conscripts (reservists) qualify for exemptions or deferments, and because in times of budgetary "squeezes" the first item to suffer has tended to be the reserve force budget (training or equipment).

^cThe term of obligatory active duty service in Belgium is being gradually reduced to six months. Source: *Annuaire de l'Armée Belge*, 1977, p. 107. At the same time, the troops in FRG will mainly constitute longer term volunteers, while the conscripts will be assigned to the Territorial Forces (*Les Forces de l'Intérieur*).

^dCadre units are defined to be units that are less than fully manned in peacetime.

^eMichel L. Martin, "Conscription and the Decline of the Mass Army in France, 1960-1975," *Armed Forces and Society*, Vol. 4, No. 1, May 1977, Table 1, p. 358.

^fSee definition on p. 23.

As mentioned above, the concept of assigning "the right man to the right task" minimizes training requirements and exploits any relevant knowledge or training the conscript may have upon induction.

For a better understanding of the utilization of conscripts and volunteers within the ground force organization, we turn to the force structure. Force structure is defined here as the mix of active and reserve manpower, the allocation of functions among active and reserve manpower, and the way in which conscripts and volunteers fit into the system. According to this definition, force structures reflect manpower policies and practices, and differences in manpower policies lead to diverse force structures.

Force Structure

This section discusses in very general terms the utilization of conscripts and volunteers within the Total (ground) Force (regular and reserve), first examining the mix of regular active and reserve or mobilization forces.

The Mix of Regular and Reserve Forces.¹ Table 6 indicates the relative importance of active versus reserve or mobilization forces in each of the seven countries. Even when civilians and paramilitary forces are excluded, the reserve component ranges from 39 to 81 percent of total military manpower.² The average for the seven countries is 58 percent. Table 7 gives similar numbers for the armies alone, and the active-reserve force ratios.

The active force numbers include personnel in training, transients, patients, and uniformed personnel in administrative functions. As a proportion of uniformed personnel this category varies from country to country. Therefore, the numbers shown overestimate the ready portion of the standing forces in varying degrees. The reserve force numbers

¹The terms *reserve*, *augmentation*, and *mobilization* are used interchangeably throughout to reflect the relative readiness of the components that will bring the wartime forces to full strength or sustain them over a longer period.

²The paramilitary forces often serve an important combat or support function. In some countries--e.g., Denmark and Norway--they are integrated into the Army command structure in wartime.

Table 6
MILITARY MANPOWER: ACTIVE VERSUS RESERVES^a
(All services)

Country	Active		Reserves		Total	
	No.	%	No.	%	No.	%
Belgium	88,300	61	57,600	39	145,900	100
Denmark	34,700	37	58,000	63	92,700	100
Federal Republic of Germany	495,000	30	1,181,000	70	1,676,000	100
France	512,900	53	450,000	47	962,900	100
Netherlands	112,200	38	183,300	62	295,500	100
Norway	39,000	19	170,000	81	209,000	100
United Kingdom	344,150	66	175,600	34	519,750	100
Total	1,626,250	42	2,275,500	58	3,901,750	100

SOURCE: *Military Balance 1976/77.*

^aThese figures exclude most Territorial Defense Forces, Home Guard, Gendarmerie, and civilians. The figures do not reflect the varying degrees of readiness of active and reserve manpower.

Table 7
THE ARMY^a

Country	Active	Reserve ^b	Ratio of Active to Reserve
Belgium	64,050	50,000	1.28
Denmark	21,800	45,500	0.48
Federal Republic of Germany	345,000	1,056,000	0.33
France	338,500	400,000	0.85
Netherlands	75,000	145,000	0.52
Norway	20,000	130,000	0.15
United Kingdom	177,600	108,200	1.64

SOURCE: *Military Balance 1976/77.*

^aThe numbers exclude civilian personnel employed by these armies and do not distinguish between degrees of readiness or capabilities of the forces. Active force is the reported peacetime strength and therefore includes forces also contained in the wartime force as well as those in training, administration, etc.

^bParamilitary forces under Army command in wartime are generally excluded in these figures--e.g., Home Guard.

include or exclude trained manpower *not* fully equipped and organized into units; some are intended for casualty replacements or need post-mobilization training rather than for forming additional units or bringing peacetime units to full wartime strength. Also, most paramilitary forces supporting the armed forces or under the command of armies in wartime are excluded. For these reasons the numbers indicate only the relative importance of active versus reserve components in the wartime force.

Belgium. Belgium has the highest proportion of volunteers except for the all-volunteer force of the United Kingdom. Belgium emphasizes a professional ready force for its NATO mission, the First Army Corps deployed to West Germany, with less emphasis on sustainability. Local defense tasks are expected to be taken care of by a local defense force mainly consisting of conscripts provided with only six months of training. After the reorganization is completed, the conscripts will be assigned mainly to the Interior Force. The First Army Corps will consist mainly of long-term volunteers.¹

Denmark.² Denmark's emphasis is on a professional standing force capable of resisting an initial attack. This standing army is expected to be quickly augmented by a highly ready conscript reserve support component trained in a separate Training Force. Sustainability is obtained by calling up additional substantial reserve forces composed of both conscripts and ex-service volunteers. This structure reflects Denmark's policy of "graduated response."

The Federal Republic of Germany. West Germany has a large professional component (about 54 percent all services, and about 50 percent

¹The Belgian Ground Force (*La Force Terrestre*) is actually what is reported here. *La Force Terrestre* consists of the First Army Corps (*Le Premier Corps d'Armée Belge*) and the Interior Force (*Les Forces de l'Intérieur*). Of the numbers reported, about one-third of the active and all of the reserves belong to the Interior Force. *Livre Blanc de la Défense Nationale*, 1977, pp. 52-60.

²For a detailed analysis of the Danish and Norwegian ground force structures see Ragnhild Sohlberg, *Analysis of Ground Force Structures on NATO's Northern Flank*, The Rand Corporation, N-1315-MRAL, Santa Monica, February 1980.

for the Army) in the peacetime force. This reflects the need for long-term personnel in an armed force with modern, complex equipment, the need for a sufficient number of instructors for training the large number of conscripts called up annually, the perceived need for a professional cadre in the reserve component, and certainly the proximity to potential enemy troops. Table 4 showed that West German reserve NCOs and officers in conscript status have up to 30 months of obligatory military training.

France. The French manpower force structure partly results from the desire to maintain almost total universal conscription. The volunteer component in the peacetime force is about 46 percent, and the reserve component is only slightly larger than the standing force. The reservists are provided with refresher training only on a volunteer basis and are intended to be used only as replacements.

The Netherlands. The Dutch have nearly the same proportion of conscripts in the peacetime force as the French; however, the reserve component is relatively larger and plays a more significant role. This structure reflects the new Army system introduced in the early 1970s. This system consists of a RIM-battalion concept¹ where an active unit with all its personnel is transferred to RIM or reserve status after the conscripts have completed the regular, active duty period. For approximately 18 months thereafter, the conscripts in these units are on immediate recall.

Norway. Norway has the smallest proportion of volunteers in the peacetime force (36 percent). This force structure reflects the low population density combined with a strategically vulnerable position. Both factors require that a large proportion of the male population be trained in the military. The vast majority of the ground forces is in reserve status and recalled periodically for refresher training.

Norwegian conscripts have a regular Field Army role both in the standing and in the mobilization component. After three months of basic training, they are assigned for nine months to a standing unit

¹RIM stands for "Rechtstreeks Instromende Mobilisabele Eenheden" or direct intake mobilizable units.

in Northern Norway. The active duty assignment is followed by assignments to the mobilization component of the Field Army until approximately age 35 and thereafter to the Local Defense Force until age 44. On the average, only 15 percent of the officers (all ranks) in a mobilization unit are full-time professionals. However, both because they have longer military obligation than the regulars and because they often volunteer for extra training, all conscript reserve officers have much more than 12 months of military training. Many are also former full-time professional officers who maintain conscript status upon return to civilian life if this return takes place before the legal retirement age.

The United Kingdom. The United Kingdom has the highest ratio of active to reserve manpower (1.64) in their all-volunteer force. This high ratio reflects the British policy of having mobile expeditionary units ready for assignment or already stationed abroad (the British Army of the Rhine). Ex-service personnel are provided with little or no refresher training and are intended for replacements only. The British ground force reserve is composed of (1) Regular Reserves, mainly ex-service personnel; (2) Territorial Army Volunteer Reserve (TAVR), mainly without prior service experience; and (3) Ulster Defence Regiment (UDR) available for deployment to Northern Ireland.¹

CONCLUSIONS

The policies examined here relate to manpower flows through a "Total Force"--both the active and the reserve components of the ground forces. Such policies include recruitment or procurement of manpower and the associated deferment, exemption, and assignment or utilization policies; the size of the standing and the reserve components; length of regular active duty, and length of assignment to the reserve component; and the training pattern over the total period of military obligation or military "lifetime" of a soldier. This Note provides a brief overview of policies and practices as observed in

¹*Statement on the Defence Estimates, 1977*, London, February 1977, Ch. IV and Annex G.

seven European NATO countries: Belgium, Denmark, the Federal Republic of Germany (West Germany), France, the Netherlands, Norway, and the United Kingdom.

This survey of manpower force mixes (active/reserve, conscript/volunteer) and utilization policies shows that national differences tend to be reasonable responses to local conditions that are not easily altered. The observed differences in manpower procurement and utilization policies also raise doubts about how to sum the NATO parts and about the meaning attached to NATO/Warsaw Pact comparisons as they are usually presented.

Current manpower procurement policies reflect tradition. Except for Great Britain, these countries have retained conscription as the major manpower procurement method. However, the proportion of young men that actually completes first-term active duty varies considerably because of differences in deferment and exemption policies and in the rules regarding qualification for conscientious objector status.

Utilization of conscripts has changed over the postwar period. Some of the adjustments reflect civilian sector developments. First, the average conscript has received better and more relevant training and education prior to induction than ever before, and the armed services have taken explicit advantage of it. Second, the soldiers also demand better living conditions, training relevant to their return to the civilian sector, and better compensation and conditions while in the military. As a result, the cost per unit of effective time of a soldier has increased.

Other adjustments in utilization reflect military sector developments. Today's technology is more sophisticated and requires more extensive training for operation or for maintenance. This has led to an increased use of longer term volunteers who are then given the more complex tasks. In addition, "non-essential" training--training not seen as essential for performing the wartime function--has been reduced or eliminated. For example, less of the basic training period is spent on close order drills (marching etc.).

It has been suggested that West Germany, for example, has accumulated an uncommitted pool of military trained manpower in the civilian

sector. The data in this Note indicate that other Continental European nations also have such pools of trained and uncommitted manpower. Norway is exempted from this criticism because conscripts are assigned to fully equipped units and provided with intermittent training until age 44. The United Kingdom is also excepted because the average enlistee serves for six years and many have a subsequent reserve obligation. Hence, the training provided can be expected to have "paid off" during this period. In the remaining five countries, however, continued registration of ex-service men may provide the countries with significant potential manpower resources to draw on in case of sustained conflict. Alternatively, if inequity considerations could be overcome, these five countries could call up fewer conscripts annually and keep them on regular active duty for a longer period of time. If this policy results in a reduction in the annual number of conscripts entering the reserve component, the size of this component could be maintained by increasing the length of the reserve period.

It is clear that the concept of mass armies manned by inexperienced conscripts no longer holds for Northern and Central European NATO. The conscripts are better qualified upon induction, the training period is used more efficiently, and the "life cycle" payoff of training of conscripts to their "Total Force" assignment is considered. In addition, part of the conscripted component consists of "quasi volunteers"--many have either been obligated to or have volunteered for training over and above the minimum.¹

Defense planners have balanced internal conditions (geo-strategic location, topography, economic and political conditions, and tradition) and perceived external threats and military obligations in making manpower policies. Also, the Note shows that the numbers provided by current, standard comparative defense publications are insufficient

¹Data for comparing the "experience profile" of conscripts at various levels and functions in the NATO ground forces could yield additional valuable insight into differences in manpower quality in the various forces.

for a comparison of wartime force capabilities in NATO Europe.¹ Traditional "input" measures like defense budgets, aggregate manpower numbers, length of service, etc., should be interpreted in the light of qualitative differences.

In very general terms, it appears that the countries under study have adapted to changing circumstances during the postwar period.² These adaptations have taken various forms depending on the internal and external conditions and have resulted in diverse force structures.

¹This problem is recognized in *The Military Balance 1977/78*, pp. 104-105.

Indeed there is only limited utility in comparing just peacetime strengths, since in crisis or conflict, the total combat manpower that can be brought to bear in time becomes the key indicator. There are, however, acute difficulties in making a numerical comparison of anything other than the numbers of reinforcements potentially available, since there are so many variables and a good many unknowns affecting the speed with which reinforcements and reserves could or would be deployed operationally.

²The developments in the USSR are very similar to those described here. According to Herbert Goldhamer, "Cadres and Conscripts: Soviet Military Manpower Policies," *The Soviet Soldier*, Crane, Russak & Co., Inc., New York, 1975, Ch. 1, a new Law of Universal Military Service was established in 1967. This law (1) reduced the general obligatory service term for conscripts from three to two years in the Army and to one year if they have higher education, (2) reduced the call-up age from 19 to 18 years of age, (3) changed the annual call-up practice to bi-annual (spring and fall), and (4) introduced pre-induction military training and reserve training. The apparent reasons behind this law, included the improved educational and training background of young people and the costs imposed on the civilian sector by withdrawing the young men from their civilian pursuits. In spite of the reduction in the service term, only somewhat more than 50 percent of each age group (cohort) completes regular active duty in one of the services. The legal military obligation extends until 50 years of age, and the men can be given a maximum of four refresher training recalls (each up to three months long) until they are at most 35 years old. Conscript officers can be called up for three months every year, but for a total maximum (regular plus reserve training) of 30 months. These legal limitations can be changed by the Soviet Ministry of Defense, but even so, Goldhamer was unable to establish to what degree even the legal amount of recall is utilized. Also the cost of manpower has risen in the USSR because of "spillover" effects from the civilian sector. For example, the living conditions for the soldiers have significantly improved. The pros and cons of conscription as listed here seem to apply fairly well to the Soviet situation.

A related study takes a closer look at the force structures of Norway and Denmark, two small countries located on the Northern Flank of NATO.¹ Though numerically small, the forces of these two countries defend strategically critical areas, and their contrasting arrangements illustrate responses to extremely different conditions of population density, terrain, and internal communications.

¹Sohlberg, *Analysis of Ground Force Structures on NATO's Northern Flank*.