

**COSTS OF MANNING
THE ACTIVE-DUTY MILITARY**

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May 1980



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COSTS OF MANNING THE ACTIVE-DUTY MILITARY

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PREFACE

In recent months the military has encountered difficulty in recruiting and retaining active-duty personnel, particularly enlisted personnel. These problems have led to a number of proposals to increase military pay and benefits which, in turn, have led to concern about the costs of sustaining the all-volunteer military. This study estimates the likely costs and effects of some of the proposals over the next few years, in the context of sustaining an all-volunteer military. The study was done as part of an overall review of defense costs requested by the House and Senate Budget Committees. In accordance with CBO's mandate to provide objective analysis, it makes no recommendations.

The study was prepared by Robert F. Hale and Joel N. Slackman of the National Security and International Affairs Division of the Congressional Budget Office, under the general supervision of David S.C. Chu. The authors gratefully acknowledge the contributions of John Enns, Andrew Hamilton, Alice Hughey, Michael Miller, and Nancy Swope. Francis Pierce edited the manuscript; Nancy Brooks and Janet Stafford typed the various drafts; Nancy Brooks prepared it for publication.

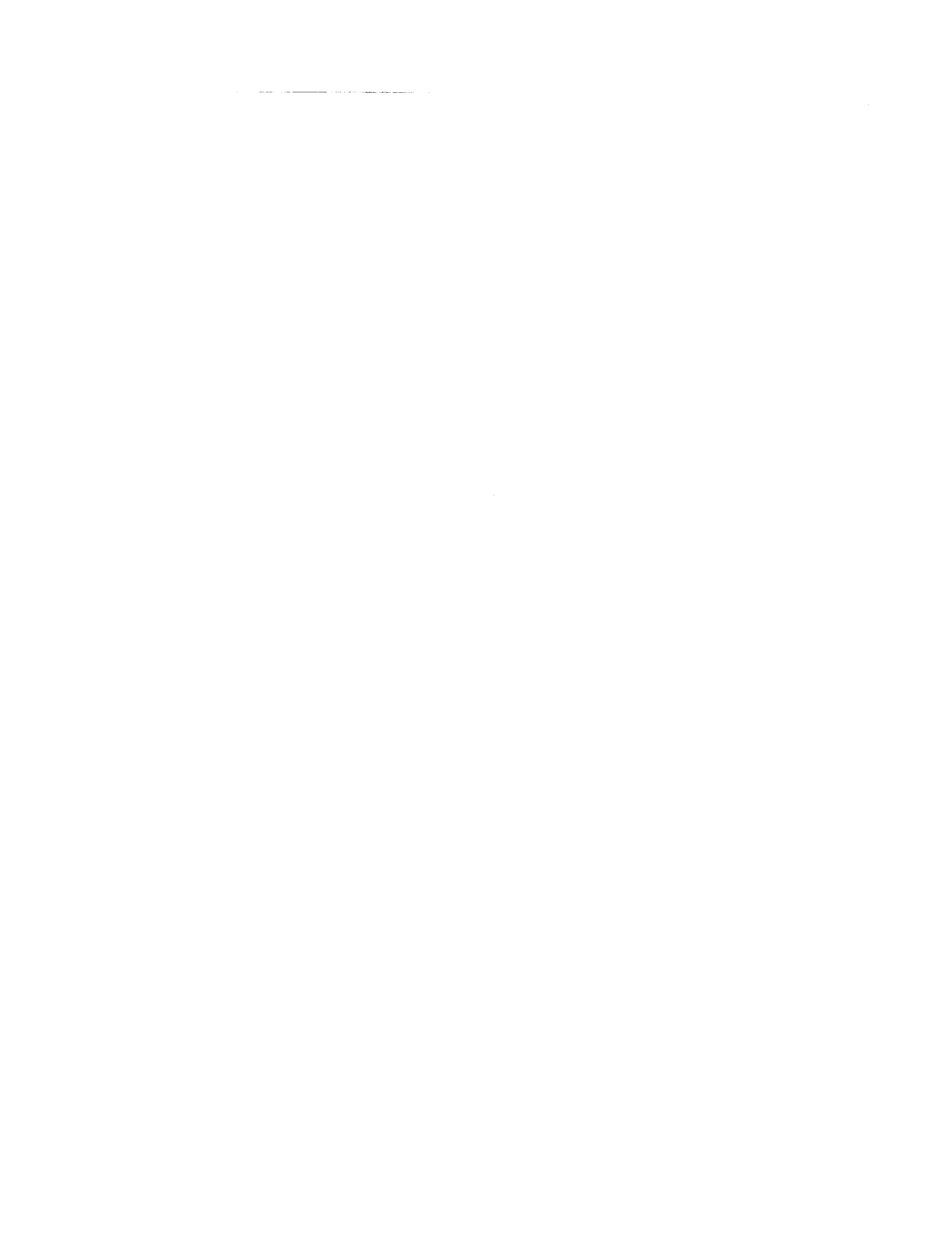
Alice M. Rivlin
Director

May 1980



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SUMMARY

In recent years, the military has had difficulty attracting enough enlisted recruits into active-duty service, particularly "high-quality" recruits holding high school diplomas. It has also had trouble retaining some career personnel. In consequence, a number of proposals have been made to increase military pay. In an effort to assess the likely costs of manning the active-duty military under an all-volunteer system, this study examines the costs and effects of some pay proposals now being considered by the Congress.

CHANGES IN MILITARY PAY

The study finds that:

- o The Administration's pay proposals for fiscal year 1981, despite pay increases, would be insufficient to meet the services' needs for enlisted recruits and maintain recruit quality in 1980 and 1981. Nor would they be sufficient to stem a decline in the numbers of career personnel. If the Administration's 1981 policies were to be continued for the next five years, problems in recruiting and retention would probably continue or worsen.
- o The addition to the Administration proposal of the pay increases recently approved by the Senate--the Nunn-Warner proposal--would help retain career personnel but would do little to solve recruiting problems.
- o In order to meet recruiting needs and, as some have urged, increase the size of the career force, the Congress may need to further increase and restructure military pay. This could require not only the Administration and Senate changes noted above, but also increased bonuses for categories of recruits and careerists in short supply. In addition, military pay raises must keep pace with pay raises in the private sector. Increased costs from these actions could be held down through modest reductions in retirement pay. Nonetheless, costs over the next five years would be likely to increase by a total of about \$4

billion above the Administration's proposed levels. Increases would be even higher if money had to be added to ensure that military pay raises kept pace with those in the private sector. (Except as noted, all costs in this study are in constant 1981 dollars.).

- o While substantial, these added costs would be roughly half the costs required if the Congress were to rely on across-the-board pay raises to meet recruiting goals and increase numbers of careerists.

CONGRESSIONAL IMPLEMENTATION OF MILITARY PAY CHANGES

The Congress may never vote on a single package of options to change military pay. It will, however, vote on individual initiatives that point toward one or another of the approaches discussed above.

- o One such initiative will be the size of the annual military pay raise, which is decided each year in the late summer. Clearly, a pay raise that does not keep pace with increases in the private sector must be offset by other pay increases, or the problems discussed in this study will worsen.
- o In considering options that will help reduce federal spending, the Congress may vote on reductions in the military retirement program, such as once-a-year cost-of-living increases. Given the problems of meeting the manpower needs of the active forces, however, it may be more useful to consider such reductions as part of a restructuring of military pay that would provide offsetting increases in other parts of the military pay package.
- o The Congress may also be faced with proposals to increase the pay of enlisted recruits, perhaps by improving their educational benefits. A package of educational benefits aimed at recruits in short supply would be a move toward restructuring military pay, while a package available to most or all those entering the services would be consistent with the more expensive approach of across-the-board pay increases.

DETAILS OF POSSIBLE CHANGES IN MILITARY PAY

Problems in Manning the Active-Duty Military

Several problems have precipitated the current concern over military pay. In fiscal year 1979, all four services fell short of their enlisted recruiting goals. Perhaps more important, the number of enlisted recruits holding high school diplomas declined. The military needs these graduates in large numbers to maintain recruit quality. Retention rates among enlisted personnel who have completed more than one term of military service have also fallen. The problems of enlisted recruiting are most severe in the Army; those of retention, in the Navy. These problems require explanation and remedy.

The explanation may lie partly in compensation policies. In recent years, military pay raises have lagged behind those in the private sector, particularly in blue-collar industries with which the services must compete for enlisted recruits. Moreover, the G.I. Bill was replaced in 1976 by educational incentives worth only about one-third as much. Declines in youth unemployment rates over the last few years have also hurt recruiting. And, following good recruiting years in the mid-1970s, the services cut back their expenditures for recruiting and advertising.

The remedy may lie in part in proposals now being considered by the Congress to improve pay as an aid to recruiting and retention. This study examines the costs and effects of the proposals, which were sketched above. The study concentrates on enlisted personnel, where problems and costs are greatest. All the proposals assume continuation of the all-volunteer force. Analysis of the costs of manning the active-duty military under alternatives to the all-volunteer force is beyond the scope of this study.

The Administration Proposal

In its fiscal year 1981 budget, the Administration proposes spending \$47 billion for retirement pay and for pay and allowances for those on active and reserve duty. Included in the \$47 billion are improvements in compensation, including higher bonuses for enlistment and reenlistment, higher reimbursement for government-ordered travel, and other pay changes.

The Administration also apparently intends that its planned military pay raises, which amount to 7.4 percent in fiscal year 1981 and total 44 percent over the next five years, keep pace with increases in the private sector. CBO estimates, however, that pay increases for production workers in the private sector will be 9 percent in 1981 and total 58 percent over the next five years. Keeping military pay abreast with these increases would add \$0.4 billion to costs in 1981 and a total of \$6.8 billion over the next five years. The remainder of this analysis assumes that military pay raises keep pace, either because the Administration's more optimistic economic assumptions prove to be correct or because of increased spending on higher pay raises.

Even with pay raises that keep pace, CBO estimates that the Administration's proposal would not, in 1980 and 1981, enable the services to attract enough enlisted recruits while also maintaining the desired percentage of those holding high school diplomas. (This percentage is an often-used measure of recruit quality.) The services would either have to accept more nongraduates, which is what they appear to be doing in the first half of fiscal year 1980, or fall short of their recruiting goals by as much as 14 percent. These problems stem from current pay policies and the unusually large demand for recruits in fiscal year 1980, caused in part by the shortfall in recruiting in 1979.

The Administration's pay increases would improve career retention, but would not be sufficient to offset other adverse trends, including the smaller numbers coming up for their first reenlistment. CBO estimates that by 1981 the number of careerists--defined as those with four or more years of service--would be 10,000, or about 1.3 percent, below 1979 levels.

Unless changes are made in the pay plans for the years beyond fiscal year 1981, problems of recruiting and retention are likely to continue or even worsen. Either the percentage of recruits holding high school diplomas would have to remain below levels desired by the services, or else the services would have to fall short of their recruiting goals, perhaps by as much as 16 percent in 1985. The major cause of the potential shortfall is the decline in numbers of young persons eligible to enlist, a result of low birth rates in the 1960s. The shortfall in 1985 could be even worse if the services accept high percentages of recruits who do not hold high school diplomas, in order to meet recruiting requirements in 1980 and 1981. In the past, nongraduates have left the military before completing their first term of service at about twice the rate of graduates. Nor would continu-

ing 1981 pay policies increase the number of careerists. By 1985, the number of careerists would be about 11,000, or 1.5 percent, below 1979 levels.

Senate Changes

The Senate recently approved a package of compensation improvements contained in the so-called Nunn-Warner amendment. These improvements would include a larger housing allowance in high-cost housing areas, higher reimbursement for government-ordered travel, increased cash allowances for food, and other changes. The improvements, some of which have already been proposed by the Administration, would increase costs above those of the Administration package by about \$0.6 billion in fiscal year 1981 and a total of \$3.0 billion over the next five years.

Together with the Administration proposals, the Nunn-Warner amendment would improve retention sufficiently so that the career force would return to 1979 levels by 1985. But the size of the career force would probably not increase substantially, as some have urged it should. Nor would the addition of the Nunn-Warner proposals do much to solve enlisted recruiting shortfalls. The shortfall in 1985 would amount to about 14 percent under the assumptions discussed above, compared to 16 percent with the Administration proposal alone.

Meeting Manpower Needs by Restructuring Military Pay

To meet recruiting goals in terms of both numbers and quality, and at the same time to increase the size of the career force, it will probably be necessary to go beyond the Administration and Nunn-Warner proposals. While any restructuring of military pay would be designed by the Administration and the cognizant Congressional committees, CBO has formulated a sample package to provide a basis for estimating costs. Changes under this option would:

- o Increase reenlistment bonuses and retirement benefits available after ten years of service enough to add about 30,000 persons to the career force. The Chief of Naval Personnel has indicated that he believes that the Navy alone needs an additional 20,000 careerists. The improved retention would also cut down demand for recruits;

- o Increase recruit pay enough to meet remaining recruiting needs and keep the percentage of high school graduates at levels desired by the services. These pay increases could take the form of higher enlistment bonuses (which are assumed in this study), or increased education incentives, or both; and
- o Make modest reductions in retirement pay. This would cut back on the incentive to leave immediately upon becoming eligible for retirement after 20 years of service, which would allow the services to be more selective about senior careerists. The reductions would also hold down cost increases. The retirement changes illustrated in this study would base retirement pay on the three years when pay was highest, phasing in this change over three years, and switch immediately to once-a-year cost-of-living allowances for military retirees.

CBO estimates that these changes, combined with the Administration and Nunn-Warner proposals, would allow the military to meet its enlisted recruiting goals, both in numbers and in quality. Moreover, they would actually increase the size of the career force by about 30,000 above 1979 levels.

The proposals discussed above, however, would increase costs above the Administration's proposals. Costs would go up by about \$0.6 billion in fiscal year 1981 and by a total of \$4.2 billion over the next five years. About half of these increases would be aimed mainly at improving career retention. These estimates of costs assume that military pay raises keep pace with those in the private sector. As was noted above, the higher pay raises that could be needed to keep pace might push up the costs of this option.

While these increases are substantial, they are roughly half what the added costs would be if the Congress should choose to meet military manpower needs by special across-the-board increases in military pay, rather than by restructuring pay. Costs under the restructuring approach are held down because pay increases are concentrated on those groups most needed by the services.

CHAPTER I. INTRODUCTION

In fiscal year 1981 the Administration has requested about \$47 billion for the pay and allowances of active-duty and reserve military personnel and retirees. This would pay for 2,059,000 men and women on active military duty in the four armed services at the end of fiscal year 1981. U.S. military manpower also includes reservists and civilian personnel, but this study is concerned primarily with those on active duty.

The armed forces have encountered difficulty in recruiting young men and women, particularly high school graduates, for service in the enlisted ranks. An accompanying decline in retention of some career personnel has compounded the recruiting problem and has caused shortages of careerists. These two problems stem partly from past decisions that have reduced military pay and benefits relative to those in the private sector. The problem may worsen over the next few years because of a decline in the number of persons reaching ages 16 to 19, the prime ages for enlisted recruits.

Thus, the Congress faces several important decisions. It could mandate a return to the peacetime draft, though that would probably not solve the problems of career retention. If the all-volunteer military is to continue, the Congress will have to emphasize personnel policies that reduce the need for hard-to-get categories of recruits; it will also need to increase military pay and benefits. Such changes, particularly added pay and benefits, would increase personnel costs over the next few years. The amount of increase will depend on whether the Congress raises pay and benefits across the board or mandates some restructuring of military compensation to make it more efficient as well as more competitive with civilian pay scales. The major purpose of this study is to estimate the costs of manning the active forces under alternative pay policies, all of which assume continuation of the all-volunteer force.

Chapter II begins with a general discussion of the problems of manning the military. Chapter III explores alternatives to the all-volunteer approach and discusses likely trends in costs. The military pay options are analyzed in Chapter IV.



CHAPTER II. PROBLEMS IN MANNING THE MILITARY

All of the military services are finding it difficult to maintain their authorized numbers. This is true not only for the active forces, but for the reserves as well.

ACTIVE FORCES

The active forces face problems both in recruiting and in retaining enlisted personnel and, in some cases, officer personnel. The problems are the result of several factors, including policy decisions in recent years and changes in economic conditions that affect enlistment.

Recruiting and Retention Problems

One key problem for the active forces is a decline in enlisted recruits. In 1979, the four services together fell 7 percent short of their recruiting goals; the Army recorded the largest shortfall, with 10 percent. Perhaps more important, the number of enlisted recruits with high school diplomas fell by 5 percent between 1978 and 1979. (The Army's number fell by 9 percent.) Numbers of high school graduates are significant because the services have the most trouble recruiting them. High school graduates are needed for skilled duties; they are about twice as likely as non-graduates to complete their terms of service. 1/

There is also uncertainty as to the mental quality of enlisted recruits as measured by aptitude tests. Until recently, the mental quality of enlisted recruits was said to have improved under the all-volunteer force. 2/ For example, those scoring in mental category IV, the lowest from which the military is allowed to recruit, were thought to have fallen from about 15 percent in

1/ U.S. Department of Defense, America's Volunteers: A Report on the All-Volunteer Armed Forces (December 31, 1978), p. 68.

2/ Ibid., pp. 25-26.

fiscal year 1964 to less than 10 percent under the all-volunteer force. Recent testimony, however, suggests that the aptitude tests may be giving an incorrect picture, and that category IV recruits may be increasing rather than decreasing. ^{3/} Conclusive evidence on this issue is not yet available, nor are any firm estimates of what distribution of mental categories the Department of Defense requires. But revised test results could reinforce concerns about the quality of enlisted recruits.

In addition to experiencing recruiting problems, some services have suffered declines in reenlistment rates. Among career enlisted personnel, defined as those who have completed more than four to six years of military service, the rate of reenlistment declined in the Army, Navy, and Air Force. Declines were most severe among second-term personnel with five to ten years of service, whose reenlistment rates have declined between 15 and 20 percent since 1975. These declines have increased the demand for enlisted recruits. ^{4/}

Bright Spots in the Manpower Picture

There are bright spots in the all-volunteer military picture. Because the annual number of recruits amounts to less than 20 percent of total military strength, the 7 percent shortfall in recruits in 1979 still left the military at almost 99 percent of its authorized strength. Moreover, while reenlistment rates for certain careerists declined, the total number of all careerists remained roughly constant. Declines in reenlistment rates for second- and third-term careerists were offset by other factors such as increases in reenlistment rates for first-term personnel, defined as those with from one to six years of service. Indeed, between 1975 and 1977, reenlistment rates for Army first-term personnel rose about 40 percent and have since maintained that higher level.

^{3/} Statement of Robert B. Pirie, Jr., Assistant Secretary of Defense for Manpower, Reserve Affairs, and Logistics, before the Subcommittee on Military Personnel, House Committee on Armed Services (February 19, 1980; processed), pp. 10-11.

^{4/} U.S. Department of Defense, Report on the Adequacy of Pay (October 1979), Appendix D.

Another bright spot is in officer recruiting and retention. There are generally no shortages of officer applicants, and first-term retention is up. There are, however, some declines in career officer retention, as well as shortages of skilled personnel such as doctors, engineers, and pilots. 5/

Causes of Manpower Problems

Despite the bright spots, the military manpower problems require explanation and remedy. Perhaps the most important explanatory factor is the decision to hold down pay raises. Since fiscal year 1977--when the services last met their recruiting goals--military compensation has increased 27 percent through annual pay raises. Because of pay caps imposed to restrain federal spending, however, that increase is 3.4 percent less than increases among white-collar workers in the survey used to determine federal pay. And military pay increases have lagged 11 percent behind those for manufacturing workers. This comparison may be more appropriate, particularly for enlisted personnel whose private-sector opportunities are likely to lie mostly in manufacturing and other blue-collar pursuits. These limits on pay raises have probably hurt both recruiting and retention.

Several other factors may have hampered military recruiting. In December 1976, the G.I. Bill was terminated and replaced by an educational program with one-third the maximum benefits. Recent years have also seen a surge in educational benefits under other federal laws that do not impose any military obligation. These new benefits may have increased the incentives to enroll in college rather than enter military service.

Moreover, expenditures on recruiting and advertising have been cut back. From 1975 to 1979, total spending on recruiting and advertising fell by 16 percent (after adjustment for inflation). Another factor is a tightening of the youth job market that made recruiting more difficult. Between 1977 and 1979, the unemployment rate for males aged 16 to 19 fell from 18.1 to 15.9 percent. Recruiting and advertising expenditures have not risen in response to this market tightening.

5/ Ibid.

A recent study attempted to assess the relative effect on recruiting of three of the factors discussed above: relative reductions in pay, elimination of the G.I. Bill, and reduced unemployment. ^{6/} That study concluded that the military pay lag accounts for between one-third and one-half of the decline in enlisted recruits holding high school diplomas. The remainder of the decline may be attributed about equally to the elimination of the G.I. Bill and to reduced unemployment.

Other factors may also have influenced recruiting and retention. Increases in household moving costs, which have not been offset by increased allowances, may have reduced retention rates among career personnel. The relative decline in other allowances, usually because they have failed to keep pace with inflation, may also have had some impact. ^{7/} To these factors may be added recurring reports of worsening living conditions for U.S. military personnel in Europe, along with occasional reports of deception in recruiting practices.

OTHER THAN ACTIVE FORCES

Other types and sources of U.S. military manpower have also suffered problems, although they are not the primary subject of this study.

Reserves

There are shortages of reservists, including those paid to train part-time during peacetime (Selected Reserves) and those who are not paid to train during peacetime but have some military background (Individual Ready Reserves). Overall the Selected Reserves were at their budgeted strength in 1979, though there were slight shortages in the Army reserve components. Some

^{6/} Richard W. Hunter and Gary R. Nelson, "The All-Volunteer Force: Has It Worked? Will It Work?" (paper presented to the Hoover-Rochester Conference on the All-Volunteer Force, Stanford, California, December 13-16, 1979; processed), p. 55.

^{7/} For further discussion, see U.S. Department of Defense, Report on the Adequacy of Pay, Appendixes E and F.

believe, however, that a better measure of reserve requirements--particularly for the Selected Reserves--would be actual reserve levels in 1973, at the beginning of the all-volunteer force. The Selected Reserves and the Individual Ready Reserves are, respectively, 14 percent and 65 percent below their levels at that time.

The reserves have probably suffered both from problems unique to them and from the pay caps and other policy decisions that have affected the active forces. The outlook for the reserves may be brighter, however, than for the active forces. By now, the last of the draft-induced volunteers have left the reserves, and this has increased--and should continue to increase--the fraction who stay in after the end of their initial six-year obligation. 8/ Moreover, the Congress has authorized both enlistment and reenlistment bonuses for the Selected Reserves, and the Administration is considering further measures to increase manning of the Individual Ready Reserves.

Wartime Conscription

Reserves would provide the initial support for U.S. military forces in the event of a major war. But such a conflict would require the immediate reinstatement of a draft. The consensus of several recent studies, including one by CBO, is that--in its current "deep-standby" status--the Selective Service System would not be able to reinstitute a draft quickly enough to meet the stated needs of the Department of Defense for about 100,000 draftees within 60 days after a war started and 650,000 draftees within six months. 9/

After considering the problems discussed by these studies, and probably in response to the events in Iran and Afghanistan, the Administration has proposed improvements in the Selective

8/ Congressional Budget Office, Improving the Readiness of the Army Reserve and National Guard: A Framework for Debate, Budget Issue Paper for Fiscal Year 1979 (February 1978), p. 24.

9/ Congressional Budget Office, The Selective Service System: Mobilization Capabilities and Options for Improvement, Budget Issue Paper for Fiscal Year 1980 (November 1978), p. xvi.

Service System. ^{10/} Its proposal features a system of peacetime registration, using the facilities of the U.S. Postal Service. The Administration contends that such a system would induct the first draftee about 13 days after mobilization, and could meet the Defense Department's requirement that it provide 100,000 draftees after 60 days and 650,000 draftees within six months. CBO reached essentially the same conclusion in its 1978 study.

Other options, however, could also meet the needs of the Defense Department. For example, rather than conducting a peacetime registration, the Administration could formulate a detailed mobilization plan, including preparations for necessary computer support, that would enable it to conduct rapid registration during a mobilization. The system could still use the facilities of the Postal Service. CBO has estimated that such a registration plan would bring in the first draftee after 25 days, about two weeks later than under the Administration's proposal, but could still meet the needs of the Department of Defense for draftees in 60 days and six months. This system would be less intrusive than a peacetime registration. It might be riskier, however, since it would be implemented only after a mobilization had begun. Some might argue that the plan would also show less resolve, and thus be less effective as a tool of international politics, than would a system of peacetime registration.

^{10/} Selective Service Reform, House Document No. 96-265 (February 12, 1980).

CHAPTER III. THE ALL-VOLUNTEER MILITARY: PROS AND CONS

Since its inception in 1973, the all-volunteer military has been frequently criticized, in part because of the difficulties in recruiting and retention discussed in the preceding chapter. A reinstatement of peacetime registration, together with the draft or some form of compulsory military service, is often offered as a solution to the criticisms. Indeed, a draft would ensure full manning of the active forces and probably would increase reserve manning.

On the other hand, as the foregoing discussion pointed out, many of today's difficulties seem to stem from policy decisions. Changes in these policy decisions might substantially improve the current success and future prospects of the all-volunteer force. Moreover, to abandon the volunteer principle and reinstitute a peacetime draft would raise social and economic questions that go well beyond meeting military manpower needs.

For all these reasons, the issue of the all-volunteer military is likely to be one of the most important national manpower questions of the 1980s. This chapter briefly reviews arguments for and against the all-volunteer force. More detailed discussion, and estimates of the costs of alternatives to an all-volunteer military, are beyond the scope of this study.

ARGUMENTS AGAINST AN ALL-VOLUNTEER MILITARY

Critics of the all-volunteer system contend that it has resulted in a military--and particularly an Army--that is not representative of the country in socioeconomic terms. In 1979, about 32 percent of the Army's enlisted personnel and 37 percent of its recruits without prior military experience were black; yet only 14 percent of the male population aged 16 to 19 in the United States is black. Recruits tend to include disproportionately few from very high and very low income groups. Also, relative to population averages, Army recruits are disproportionately numerous in the lower and middle ranges of mental ability (the 30th to 50th percentiles on standardized defense tests) and disproportionately few in the two highest mental categories (the top 35 percentiles). Moreover, this finding may overstate the quality of Army recruits

because of problems with the mental aptitude test mentioned earlier. Whether these characteristics of the all-volunteer military are unacceptable in peacetime is a key judgment in assessing the desirability of a voluntary system.

Critics of the all-volunteer force also suggest that, in the future, large increases in spending may be necessary to maintain a steady flow of manpower into the military. This would be even more likely if service strengths were to be increased, as strategies and events may require. Indeed, demographic trends alone suggest that, as the pool of eligible recruits declines, the costs of maintaining an all-volunteer force will increase in real terms. Peacetime conscription limited to the military might avoid part of these future increases.

Critics also argue that alternative ways of manning the military might foster in young people a desire to serve their country. Peacetime conscription would be one of those alternatives. Another would be a program of national service that included military duty as one option. Still another opportunity to serve would be provided by some form of brief, universal military training. Of course, some of the benefits of an opportunity to serve might be realized if national leaders promoted the idea of service in the all-volunteer military. Moreover, it should be noted that national service and universal military training--unlike conscription for military service--might well cost more than an all-volunteer force and so might not be desirable on strictly budgetary grounds.

ARGUMENTS FOR AN ALL-VOLUNTEER FORCE

Supporters of today's all-volunteer military maintain that it is consistent with the freedom of choice generally available in the United States. Moreover, a return to conscription would not necessarily eliminate all the socioeconomic imbalances attributed to the all-volunteer force. In the past, draftees have included disproportionately small numbers of people from upper-income groups, who could obtain deferments more readily, and also from lower-income groups, who were found to be less mentally and physically fit for induction.

Supporters also argue that reversing recent policy decisions that have reduced military pay and benefits relative to levels in the private sector would help eliminate current recruiting and retention problems. The services might also go further in revis-

ing their manpower policies so as to compete more effectively in the labor market--for example, by putting a premium on experienced personnel, restructuring military pay, and making more use of civilians, women, and other groups in the general population. These policy changes might keep the all-volunteer force viable in the 1980s.

Most supporters of a volunteer military would agree that changes in policy will almost certainly increase costs, especially as the pool of eligible recruits declines in the 1980s. But they argue that peacetime conscription would avoid these costs only by transferring them from taxpayers as a whole to the young persons who are drafted. Whether this "tax" on those who are drafted is an appropriate way for the majority of U.S. citizens to avoid these costs is a key judgment in assessing the desirability of an all-volunteer military.

The House of Representatives last year rejected a proposal to reinstitute some form of military registration during peacetime, a step falling well short of instituting a draft. While peacetime registration may be reinstated this year, it seems likely that--barring a major war or unforeseen shifts in political outlook--the all-volunteer force will continue for the next few years. The remainder of this study discusses options for manning the active forces under such a system.

CHAPTER IV. OPTIONS FOR MANNING THE ACTIVE FORCES UNDER AN
ALL-VOLUNTEER MILITARY

This chapter considers four options that illustrate alternative ways of meeting needs for active-duty military manpower:

- o The Administration proposal;
- o Senate changes;
- o Across-the-board pay raises; and
- o Restructuring of pay.

All four options would allow the military to maintain the same total strengths for active-duty personnel, though the quality of recruits would differ widely. Total active-duty strengths over the next five years would be at the level proposed by the Administration for fiscal year 1981, slightly above today's levels.

In addition, all four options assume continued efforts to reduce the need of the services for hard-to-recruit male high school graduates. Progress has been made in increasing the use of women in the military, reducing the number of persons who leave the military before the end of their first term of service, increasing first-term retention, and developing other policies designed to cut demand for hard-to-get categories of recruits. Probably as a result, service projections of demand in 1985 for male high school graduates are 18 percent below those supplied to CBO three years ago. ^{1/} Further large improvements may be difficult, but all four options assume that progress on these key initiatives will be maintained.

The options differ in the amount and nature of the pay changes they call for. The differences would ultimately affect

1/ Congressional Budget Office, The Costs of Defense Manpower: Issues for 1977, Budget Issue Paper (January 1977), pp. 137-38.

the ability of the services to recruit enlisted personnel with high school diplomas, a key measure of success in meeting military needs. The options also differ in their effects on retention--which would have consequences for the average experience and productivity of personnel, as well as for recruiting needs--and in other less tangible ways, such as their effects on morale.

The concentration on major pay changes in the following discussion is not intended to imply that pay is the only important factor. Changes in training availability, recruiting policy, and the intangibles that affect morale could have important effects. Nonetheless, behavioral research suggests that adequate levels of pay are a necessary, if not sufficient, condition for meeting recruiting and retention goals.

The discussion also focuses on enlisted recruiting and retention since these are the major problems. The options would, of course, affect officer recruiting and retention as well. Finally, the discussion treats the services together for the sake of brevity, even though the problems in enlisted recruiting are most severe for the Army and those of retention weigh most heavily on the Navy.

THE ADMINISTRATION PROPOSAL

The Administration's budget request for fiscal year 1981 contains a variety of initiatives aimed at improving the pay and allowances of those on active duty. Key among them are the following:

- o Military pay would be increased by 7.4 percent in fiscal year 1981 and by a total of 44 percent over the next five years. The Secretary of Defense has stated that the proposed 7.4 percent increase in 1981 is an estimate of what is needed to keep pace with pay raises in the private sector. ^{2/} The rates of increase could therefore change as economic conditions change. The Administration is also proposing legislation that would enable it to give larger raises to first-term personnel and smaller raises to

^{2/} Statement of Secretary of Defense Harold Brown before the House Committee on the Budget (February 28, 1980; processed), Annex, p. 4.

career personnel, or vice versa. The details of this plan are not yet available and thus are not considered in this analysis.

- o Bonuses would increase substantially. Enlistment bonuses would rise by \$16 million, or 30 percent, over fiscal year 1980. New awards of reenlistment bonuses for active forces would go up by \$77 million, or 36 percent, over fiscal year 1980. Of this, about \$18 million would require new legislation authorizing bonuses for those who reenlist after their tenth year of service.
- o Reimbursements for certain costs of permanent-change-of-station travel would increase by \$123 million in fiscal year 1981.
- o The Administration has proposed a variety of other changes in compensation, many of which would require legislation. Included are cost-of-living allowances for bachelors, increased housing allowances for some enlisted personnel, higher pay for physicians, added flight pay, improvements in health-care benefits, and many others. The Administration estimates that these proposals would cost almost \$600 million in fiscal year 1981. The Administration budget does not include money for all these proposals, on the assumption that not all will be enacted. The cost of those actually funded is about \$240 million, and it is this amount that is considered in this study.
- o Legislation has been proposed that would restructure retirement pay, beginning as early as fiscal year 1982. The legislation would allow military personnel now on active duty to choose between the existing retirement system and the proposed alternative. Under the alternative, personnel with at least 10 years of service would be entitled to a large cash payment based on length of service. ^{3/} Benefits for those retiring with 20 or more years of service would be reduced.

^{3/} The maximum cash payment would equal one and two-thirds times annual basic pay at the 15th year of service, but personnel could withdraw smaller amounts beginning after 10 years of service. A typical enlisted person could withdraw as much as \$18,500 in 1981 dollars. For a typical officer, the total withdrawal could be as much as \$37,400 in 1981 dollars.

Costs

Table 1 shows the cost of the Administration proposal, totaling \$47.3 billion in fiscal year 1981 and increasing to \$48.1 billion in fiscal year 1985. These figures, and all those in Table 1, are in constant 1981 dollars, which are most appropriate for considering long-run costs and are the basis for discussion in this study. Table 2 repeats the estimates of Table 1 but in current dollars, which may be helpful in making comparisons with figures in the budget resolutions or in the Administration's long-run forecasts.

The costs of the Administration proposal in Table 1 assume the military pay raises presented in this year's Administration budget, which amount to 7.4 percent in 1981 and total 44 percent over the next five years (see Table A-2 in Appendix A for details). These figures are apparently based on the assumption that military pay raises will match pay increases in the private sector. The Administration's pay raises and its other economic assumptions imply, however, that pay raises would not keep up with inflation over the next five years, which would be historically unusual. CBO's economic projections suggest that pay increases for production workers in the private sector will be higher than the Administration pay raises. ^{4/} In order to keep pace with CBO estimates of production-worker raises, military pay would have to rise by about 9 percent in 1981 and 58 percent over the next five years (see Table A-2). As Table 1 shows, the higher raises would increase the costs of the Administration's proposal by \$0.4 billion in 1981 and by a total of \$6.8 billion over the next five years.

In the analysis that follows, it is assumed that military pay raises keep pace with those in the private sector, whether because private pay rises more slowly in accordance with the Administration's optimistic assumptions or because military outlays are increased. Excursions in the study do, however, consider the effects on recruiting and retention of differing assumptions as to whether military pay raises keep pace with those in the private sector.

^{4/} Increases for production workers were chosen as a basis for estimating pay raises since the military competes with that labor market for much of its enlisted manpower.

TABLE 1. COSTS OF MILITARY PAY OPTIONS, FISCAL YEARS 1981-1985 (In millions of constant 1981 dollars)

	1981	1982	1983	1984	1985	Total 1981-1985
Total Outlays Under:						
Administration proposal <u>a/</u>	47,300	47,950	48,000	48,100	48,130	239,480
Added Outlays Under:						
Higher pay raises to match private sector <u>b/</u>	440	740	1,270	1,800	2,540	6,790
Added Outlays Under: <u>c/</u>						
Senate changes						
VHA	390	390	390	390	390	1,950
Subsistence	150	150	150	150	150	750
Travel pay	50	50	50	50	50	250
Total	590	590	590	590	590	2,950
Across-the-board increases						
Senate changes	590	590	590	590	590	2,950
Increased pay raises	830	1,100	1,120	1,130	2,590	6,770
Total	1,420	1,690	1,710	1,720	3,180	9,720
Restructuring of pay						
Senate changes	590	590	590	590	590	2,950
Enlistment bonuses	410	400	380	360	440	1,990
Reenlistment bonuses	0	100	300	300	300	1,000
Retirement pay						
High-3	-10	-20	-50	-80	-110	-270
Single COLA <u>d/</u>	-410	-290	-290	-260	-240	-1,490
Total	580	780	930	910	980	4,180

a/ These costs are based on CBO March 1980 economic assumptions except that military pay raises are those proposed by the Administration. (See Table A-2 of Appendix A for details.)

b/ These are the costs of increasing military pay raises so that they match CBO March 1980 estimates of increases in pay for production workers. (See Table A-2 of Appendix A for details.)

c/ These estimates are based on CBO March 1980 economic assumptions, including increases in pay for production workers. For the sake of consistency with past estimates, costs of the Senate changes assume CBO projections of pay raises for federal employees rather than production workers. This assumption has little effect on the estimates.

d/ These estimates assume no cost-of-living raise in September 1980; the next raise would be in March 1981.

TABLE 2. COSTS OF MILITARY PAY OPTIONS, FISCAL YEARS 1981-1985 (In millions of current dollars)

	1981	1982	1983	1984	1985	Total 1981-1985
Total Outlays Under:						
Administration proposal <u>a/</u>	47,300	52,600	57,200	62,100	67,000	286,200
Added Outlays Under:						
Higher pay raises to match private sector <u>b/</u>	440	810	1,510	2,320	3,530	8,610
Added Outlays Under: <u>c/</u>						
Senate changes						
VHA	390	420	460	500	540	2,310
Subsistence	150	170	180	200	210	910
Travel pay	50	50	60	60	70	290
Total	590	640	700	760	820	3,510
Across-the-board increases						
Senate changes	590	640	700	760	820	3,510
Increased pay raises	830	1,200	1,330	1,460	3,600	8,420
Total	1,420	1,840	2,030	2,220	4,420	11,930
Restructuring of pay						
Senate changes	590	640	700	760	820	3,510
Enlistment bonuses	410	440	450	460	610	2,370
Reenlistment bonuses	0	110	360	390	420	1,280
Retirement pay						
High-3	-10	-20	-60	-110	-160	-360
Single COLA <u>d/</u>	-410	-320	-340	-330	-340	-1,740
Total	580	850	1,110	1,170	1,350	5,060

a/ These costs are based on CBO March 1980 economic assumptions except that military pay raises are those proposed by the Administration. (See Table A-2 of Appendix A for details.)

b/ These are the costs of increasing military pay raises so that they match CBO March 1980 estimates of increases in pay for production workers. (See Table A-2 of Appendix A for details.)

c/ These estimates are based on CBO March 1980 economic assumptions, including increases in pay for production workers. For the sake of consistency with past estimates, costs of the Senate changes assume CBO projections of pay raises for federal employees rather than production workers. This assumption has little effect on the estimates.

d/ These estimates assume no cost-of-living raise in September 1980; the next raise would be in March 1981.

The estimates in Table 1 also include other important assumptions. With the exception of planned pay raises, the Administration has not presented a five-year plan for military pay policies, although such five-year projections are common for major weapons programs. For this reason, the estimates in Table 1 assume that 1981 military pay policies will be continued in ensuing years, except for the pay raises discussed above. The figures in Table 1 include the military personnel appropriation and retired pay, and the costs of proposed legislation for which funds have been requested. 5/ These are the types of costs primarily affected by the options in this study. Table 1 includes costs for active-duty officers and reserve personnel as well as for the enlisted personnel who are the focus of this study. But Table 1 does not include the additional costs of training, housing, and personnel support that could be attributed to military personnel; these would bring the total 1981 costs to about \$54 billion, which is a figure often cited as the 1981 cost of military manpower.

Effects on Recruiting and Retention in Fiscal Years 1980 and 1981

Recruiting. The Congressional Budget Office has projected the likely supply of and demand for enlisted recruits. While subject to substantial uncertainties that are discussed more fully below, these estimates are based on the best available methods and data, including service estimates of recruit demand and recent studies of recruit supply. 6/

The CBO analysis suggests that, under the Administration proposal, about 63 percent of new male recruits in fiscal years 1980 and 1981 would be high school graduates. (The services also recruit females, but their numbers are determined more by policy

5/ For reasons discussed below, Table 1 excludes the costs of the proposed retirement changes.

6/ The estimates of demand for enlisted recruits are derived from estimates made by the services during this year's POM cycle. CBO's estimates of the supply of recruits are based on estimates by the Rand Corporation of the number of male high school graduates in the upper three mental categories who would be willing to enlist in the military. Appendix A shows the methods and data used in this and subsequent analyses in the study.

than by supply. Hence, the discussion here is limited to males.) The 63 percent figure assumes that the services recruit all the high school graduates they can and then fill their remaining requirements with nongraduates. Experience suggests they can recruit as many nongraduates as they want. The services have indicated that, in fiscal years 1980 and 1981, they would like about 73 percent of male recruits without previous military service to be high school graduates, about the same percentage as under the draft in the pre-Vietnam period. But if the services were to limit recruiting of nongraduates in order to maintain a 73 percent graduate level in 1980 and 1981, they would probably fall about 14 percent short of their total recruiting goals. 7/

Most of this shortfall reflects the large demand for recruits in fiscal year 1980, which in turn is partly the result of the shortfall in fiscal year 1979. Since the degree of recruiting success in fiscal year 1980 will in turn influence results in fiscal year 1981, the two years are discussed together in this study.

The services could probably meet more of their needs, while keeping up the percentage of males with high school diplomas, by emphasizing shorter enlistments. The Army is experimenting in 1980 with a two-year enlistment, compared with the three-year minimum enlistment in effect over the last several years. The greater attention now being paid to enlisted recruiting may also produce more success. In the end, however, the percentage of recruits with high school diplomas will probably have to fall. Indeed, the proportion of recruits (male and female) holding high school diplomas fell to 58 percent in the first six months of fiscal year 1980, compared to 68 percent in the first six months of fiscal year 1979.

Retention. The Administration's proposal would not only result in declines in enlisted recruit quality; it would also allow the numbers of careerists to decline, even though added pays would help to slow the decline. CBO estimates that, under the Administration proposal, the number of careerists at the end of

7/ The analysis assumes that the 7.4 percent pay raise in fiscal year 1981 would keep pace with increases in the private sector, as the Administration intends. CBO projections suggest that it will not, however, in which case the shortfall could equal 15 percent. The effects of pay raises on enlistment are discussed more fully below.

1981 would fall by about 10,000 below levels at the end of 1979--a drop of about 1.3 percent--as against a drop of about 14,000, or 1.9 percent, in the absence of the additional pay and bonuses contained in the Administration proposal. (Careerists are defined as those with four or more years of military service.)

Effects on Recruiting and Retention Beyond Fiscal Year 1981

Recruiting. In the years beyond 1981, the Administration's plan would lead almost certainly either to substantial declines in quality of personnel or to shortfalls in numbers of enlisted recruits. CBO estimates that, by fiscal year 1985, only about 60 percent of all male recruits will be high school graduates if the services meet their total recruiting goals under the Administration plan. (Table B-1 in Appendix B shows details of the estimate.) Alternatively, if recruiting of nongraduates were restricted to keep the percentage of high school graduates at the desired level of 71 to 73 percent over the next five years, the services would fall about 16 percent short of their goals for recruits in fiscal year 1985. Most of this shortfall would occur because pay would not increase enough to offset the decline in numbers of young persons eligible to enlist.

The Administration might be able to reduce the need for recruits, and hence the shortfall. The budget for fiscal year 1981 announces continued attempts at improving first-term reenlistments, reducing losses before the end of the first term, and other actions intended to reduce demand for recruits. As was noted above, however, substantial reductions in demand have already been achieved, and further improvements may be difficult.

The Administration's retirement pay proposal could improve retention and hence alleviate part of the 16 percent shortfall. Enactment of the Administration's retirement pay proposal--which would take effect in fiscal year 1982 if Congress approves it this year--would make large amounts of cash available to those completing 10 or more years of service. This might improve retention and cut recruit demands over the next few years, perhaps by about 10 percent a year. As Table 3 shows, CBO estimates suggest the proposal would also substantially increase costs in fiscal years 1982 and beyond, though savings could occur after the turn of the century. Perhaps because of these large near-term costs, the Administration proposal has not yet been introduced in the Congress. (For the same reason, the costs are shown separately here rather than being included in Table 1.)

TABLE 3. COSTS OF ADMINISTRATION'S RETIREMENT PAY PROPOSAL,
FISCAL YEARS 1981-1985 (In millions of 1981 dollars)

	1981	1982	1983	1984	1985
Cost Each Year	0	1,620	510	610	720

While some policy changes could reduce the projected 16 percent shortfall, other influences could substantially increase it. The pay raises proposed by the Administration for fiscal years 1981 to 1985 are about 9 percent below CBO estimates of expected increases in hourly earnings of production workers in the private sector, which may be a reasonable measure of the pay competition for enlisted recruits. Left unchecked, this relative decline in military pay could lead to a 30 percent shortfall in enlisted recruits in 1985. Efforts to prevent this by giving higher military pay raises would make it more difficult to balance the federal budget, especially since, under current law, the higher pay raises would also have to be given to civil service employees.

The quality problem mentioned in Chapter II may exacerbate recruiting difficulties. If the Administration finds that there are substantially more enlisted personnel in lower mental categories than previously believed, and seeks to tighten quality standards, this could further increase the shortfall in enlisted personnel.

Finally, the 16 percent shortfall estimated by CBO for 1985 is based on service estimates of demand for recruits. But those estimates may not fully reflect changes in fiscal years 1980 and 1981. For example, the services appear to be pursuing a policy of meeting their end strengths by recruiting large numbers of persons who have not graduated from high school. Experience suggests that such recruits are about twice as likely as high school graduates to leave the military before completing their first enlistment, which could drive up recruiting requirements in years beyond 1981. Moreover, the new two-year enlistment will increase recruiting requirements because enlistees will serve for shorter periods. Unless adequate numbers of new recruits are attracted by the shorter enlistment, this policy change could exacerbate problems in the years beyond 1981.

Retention. The Administration proposal would improve retention, though not enough to offset other trends. CBO estimates that, by fiscal year 1985, the increases in pays and bonuses would leave the number of careerists--defined as those who have completed four or more years of service--about 11,000, or 1.5 percent, below 1979 levels. (Table B-2 shows details of the estimates.) Without those added pays and bonuses, numbers of careerists would be more than 42,000, or 6 percent, below 1979 levels. (The decline would occur because smaller groups of enlisted personnel recruited in the late 1970s would enter the career ranks, and also because of past declines in career retention rates.) These results assume that pay raises keep pace with those in the private sector. If, instead, the 9 percent decline in military pay relative to civilian pay discussed above were allowed to take place, the numbers of careerists might decline by about 79,000, or 11 percent, by 1985.

In sum, if the Administration continues its fiscal year 1981 pay policies until 1985, retention cannot be expected to improve substantially. Moreover, the services are likely to fall short of their desired end strengths or will need to cut the quality of enlisted recruits. The price of such cuts would be a military of lower quality and poorer retention in later years.

SENATE CHANGES

On February 4, 1980, the Senate passed a package of military pay increases intended primarily for career military personnel. The increases have not yet been approved by the House or the President. The Senate proposal--often called the Nunn-Warner amendment--would make the following changes in the Administration proposal:

- o Military personnel would receive a variable housing allowance (VHA) to compensate for living expenses in high-cost areas. Those living in government quarters, which include many junior personnel, would not benefit. The new allowance would be equal to the difference between average housing costs, as determined by surveys in various geographic areas, and 115 percent of the current quarters allowance;
- o Cash subsistence payments would increase by 10 percent. These payments are not made to those who eat in government facilities, which include most junior personnel;

- o Mileage allowances could be increased, though the Senate bill did not specify the amount. These allowances offset costs for those who travel on government-ordered moves. This study assumes that allowances would be increased to 18.5 cents per mile, the amount paid to federal civilian employees. This would be more generous than the Administration's proposal;
- o Other changes include higher flight pay, accelerated sea pay, and extension of reenlistment bonuses to those with between 10 and 15 years of service--all of which were proposed by the Administration. Several other changes passed by the Senate would have only minor effects on costs.

Costs

Table 1 shows that the Senate changes would increase costs by about \$590 million in fiscal year 1981 and by a total of about \$3 billion over the next five years. These increases are relative to the Administration proposal, which already includes several of the initiatives. The cost of all the Senate changes, including those already in the Administration proposal, would amount to about \$660 million in fiscal year 1981 and a total of \$3.3 billion over the next five years.

The added costs given above do not include the additional loss to the government of tax revenues from the variable housing allowance and increased subsistence allowance, which are not subject to federal income taxes. These tax expenditures would benefit officers the most, since officers are generally in higher tax brackets.

Nor will all the cost increases in Table 1 necessarily occur, depending on Administration policy. Some of the Senate provisions allow pay increases but do not require them, and the Department of Defense might not seek funding for all the increases. These actions would reduce the added costs of the Senate changes, and also the effects on recruiting and retention.

Effects on Recruiting and Retention

Recruiting. The effects of the Senate changes on enlisted recruiting would be modest. By fiscal year 1985, the shortfall of enlisted recruits would be about 14 percent, compared to 16

percent under the Administration option. The changes would improve career retention, which would reduce the demand for recruits. But the Senate changes are targeted on careerists; so there would be little effect on the supply of recruits. Moreover, about one-quarter of the cost of the Senate changes would be paid to officers. (See Appendix A for the basis of this estimate.) This would improve officer recruiting and retention, but would not show up in the supply and demand analyses for enlisted personnel.

Retention. The Senate changes, if added to the Administration proposal, would improve career retention, as they are designed to do. Although numbers of enlisted careerists would fall below their 1979 levels between 1981 and 1984, they would return to the 1979 level by 1985. (See Table B-2 for details.) ^{8/} By contrast, the Administration proposal would allow a decline in numbers of careerists amounting to 11,000, or 1.5 percent, by 1985.

ACROSS-THE-BOARD PAY RAISES

The foregoing discussion suggests that the Administration proposal--even with the Senate changes--would result in shortfalls in enlisted recruits or in a decline in recruit quality. One way of preventing this would be to raise the pay of all military personnel. This option would provide, in addition to the Administration proposals and Senate changes discussed above:

- o Special pay raises designed to meet recruiting needs. These special raises would be in addition to those needed to keep pace with pay increases in the private sector. CBO estimates the amount of special raises in 1981 at about 3 percent. Special raises would total 9 percent by fiscal year 1985. Given CBO estimates of raises necessary to keep pace with private-sector pay raises, the raises under this option would equal about 12 percent in 1981 and would total 72 percent over the next five years.

^{8/} These estimates are based on a model that is adjusted to be conservative so as to be roughly consistent with a model used by the Department of Defense. Appendix A discusses the reasons for this conservative approach. A more optimistic analysis suggests that by 1985 this option would increase the numbers of careerists by 24,000 over 1979 levels.

The higher pay raises under this option should allow the military to meet overall recruiting goals, while keeping the percentage of recruits who hold high school degrees at the levels desired by the services. 9/ The higher raises would do so by improving overall retention and willingness to enlist sufficiently to overcome the decline in the youth population and the declines in unemployment that may occur in the years beyond 1981.

Improved retention would also increase the number of careerists by about 37,000 over 1979 levels in 1985 (see Table B-2).

Despite these improvements, across-the-board pay raises have disadvantages. Such raises tend to affect recruiting and retention more or less uniformly. In some cases, it may be desirable to raise pay selectively. Studies have suggested the importance of increasing retention for career personnel, particularly highly skilled people. 10/ It may also be important to improve the flow of enlisted recruits into the combat arms, rather than elsewhere. At the same time, there is less need to improve recruiting and retention of officers. For these reasons, selective pay increases may be a more effective way of meeting military needs than across-the-board increases.

Moreover, across-the-board pay raises are expensive, as Table 1 shows. Relative to the Administration proposal, the costs of such special raises--plus the costs of the Senate changes that are included in this option--would increase costs by \$1.4 billion in fiscal year 1981 and by a total of \$9.7 billion in fiscal years 1981-1985. As has been noted, cost increases would be even higher if money must be added to the Administration proposal just to keep pace with pay increases in the private sector. These added costs are a major drawback, particularly when

9/ For purposes of calculating 1981 demands, this option assumes that the percentage of high school graduates in 1980 equals 66 percent, the average during all-volunteer-force years. In addition, this option accepts a recruit shortfall of about 12 percent in fiscal year 1981. If the pay raise in fiscal year 1981 were sufficient to meet recruiting needs, it would lead to excesses of recruits in fiscal year 1982.

10/ See, for example, Donald B. Rice, Defense Resource Management Study: Final Report, prepared for the Secretary of Defense (February 1979), Chapter IV.

compared to the less expensive alternative of meeting manpower needs by restructuring pay.

RESTRUCTURING OF MILITARY PAY

The aim in restructuring military pay would be to increase it most for those groups in greatest demand. This would use the need to increase military pay as an opportunity to make it more effective and competitive in the marketplace.

The details of this option would have to be worked out by the Administration. The following suggestions illustrate some possible components of a pay restructuring package and are intended to provide a basis for estimating costs rather than a blueprint for pay reform.

- o This option would include the Administration proposal and Senate changes discussed above, since many are likely to become law. It also would ensure that military pay increases keep pace with those in the private sector. If CBO's economic assumptions are realized, this could require larger increases than are assumed in the 1981 budget.
- o Instead of the modest increases in enlistment bonuses proposed by the Administration, the option would increase pay for high-school-graduate enlisted recruits sufficiently to keep the percentage of them at the level desired by the services. Increased pay would go mainly to those volunteering for occupations in short supply. Pay could be increased by an educational incentives program targeted on those in short supply, or by similarly targeted increases in enlistment bonuses, or by a mix of the two approaches. In order to facilitate cost estimates, this study assumes that only bonuses would be increased.
- o Pay for career personnel could be increased by amending the retirement pay law to provide for deferred annuities (available at age 60) to those completing between 10 and 19 years of military service. Reenlistment bonuses could also be given to those whose skills are in short supply and who reenlist after completing three or more years of service.

- o Retirement pay could be reduced in order to cut incentives to leave after 20 years of service, and to offset part of the costs of the improvements in benefits. These reductions could include basing retirement annuities on average basic pay over the three years when pay was highest, and moving to once-a-year cost-of-living raises for all military retirees.

Details of the Proposals

While avoiding across-the-board pay raises as a way of increasing the real value of military pay, this option would stem further declines in recruiting and retention by providing raises that keep pace with increases in the private sector. This important action would tend to stabilize enlisted and officer recruiting and retention.

In addition, total spending on bonuses would rise substantially under this option. By fiscal year 1985, total spending on enlistment bonuses would be about seven times 1981 levels under the Administration option. Bonuses would be high for occupations where recruiting shortfalls are highest, and lower or zero for other skills.

Reenlistment bonuses would also go up sharply for personnel at the first and subsequent reenlistment points. By 1985, total spending on reenlistment bonuses would be 80 percent higher than under the Administration's 1981 proposal. The amount of the reenlistment bonuses under this option would increase the number of careerists over 1979 levels by about 28,000 by 1985. There is no firm goal among all the services for increases in careerists. But the Chief of Naval Personnel has indicated that the Navy's current shortfall of mid-careerists (those with 5 to 12 years of service) is about 20,000; 11/ and the other services have indicated that they, too, have shortages. To accomplish an increase in careerists, the added bonuses under this option must

11/ See "Statement of Vice Admiral Robert B. Baldwin, Deputy Chief of Naval Operations for Manpower, Personnel, and Training and Chief of Naval Personnel, Before the Subcommittee on the Department of Defense of the House Appropriations Committee on FY 1981 Navy Manpower Program" (April 1, 1980; processed), p. 16.

not only increase incentives to reenlist, but must also offset the effects of reductions in retirement pay discussed below.

This option would immediately make available a deferred annuity at age 60 for those who, after the date of implementation, leave the military with between 10 and 19 years of service. Today they receive nothing. The annuity would be equal to 2.5 percent of the person's average basic pay multiplied by years of service. This would eliminate the "all-or-nothing" nature of today's military retirement pay system and provide a further incentive to complete a second term of service.

In order to restructure pay and hold down costs, this option includes some reductions in retirement pay for those who serve 20 years or more. These would eventually offset the costs of added reenlistment bonuses, allowing the services to increase incentives to remain for 10 or more years of service without increasing costs. The reductions would also reduce the incentive to retire from the military immediately after completing 20 years of service and becoming eligible for retirement pay. Several studies have recommended such changes in incentives. 12/

Retirement pay would be based on average basic pay during the three years when pay was highest, rather than on basic pay at the day of retirement. This "high-3" system would avoid favoring those who can time their retirement to take place just after a pay raise, and would make the military retirement system consistent with that of the federal civil service, which uses high-3 pay as a basis for its annuities. The change, which would eventually reduce retirement pay costs by about 10 percent (assuming pay increases average around 6 percent a year), would be implemented over three years in order to protect retirement credits already earned by those on active duty. A three-year phase-in of the high-3 provision would, however, be opposed by those now on active duty on the grounds that retirement pay should not be changed for anyone now in the military, or at least for anyone who has completed more than a few years of service. The Congress could opt for a slower phase-in and still eventually restructure military pay and cut retirement costs. But if all

12/ See, for example, Report of the President's Commission on Military Compensation (May 1978); and U.S. Department of Defense, Report to the Secretary of Defense by the DoD Retirement Study Group (May 31, 1972).

active-duty personnel were allowed to retire under the current system, substantial reductions in costs would not begin until after the year 2000.

Costs could be further offset by moving to once-a-year cost-of-living raises for military retirees, in place of twice-a-year raises. This would be consistent with the Social Security system, which grants once-a-year raises, and would reduce the costs of military retirement pay by about 2 percent given anticipated rates of inflation.

Costs

Table 1 shows that manning the military by restructuring pay would increase costs of the Administration proposal by about \$580 million in fiscal year 1981 and by a total of \$4.2 billion over the next five years. Nearly half of the five-year cost would be reenlistment bonuses and changes in retirement pay aimed at career retention. As was the case with the other options in this study, the added costs of this option could be higher if money has to be added to the Administration proposal to ensure that military pay raises keep pace with those in the private sector.

The costs in Table 1 make clear that manning the military by restructuring pay would be cheaper than doing it with special, across-the-board pay raises. Costs under this option are less than half those under the across-the-board option discussed above.

Overall Effects of the Option

Restructuring military pay should allow the services to meet their needs for recruits in 1981-1985, while maintaining the desired percentages of high school graduates. The pay raises would approximate those in the private sector, helping to stem declines in retention. Any decline in overall retention caused by the proposed reductions in retirement pay would be more than offset by increases in reenlistment bonuses. By 1985, these two changes would also increase the number of career personnel with over four years of service by 4 percent over 1979 levels. Residual shortfalls of recruits caused by the decline in youth population and a tighter labor market would be offset by enlistment bonuses.

The move toward selective pay increases would be especially important if the military had to increase its overall strength, as

some argue may be needed. The cost of getting an additional high school graduate to enlist would be substantially lower with enlistment bonuses than with across-the-board pay raises.

IMPLEMENTING PAY CHANGES

Table 4 describes the four options discussed above and summarizes their costs and effects.

The Congress probably will not vote on the options as such. It will, however, vote on initiatives that reflect one or another of the options. One such initiative will be the size of the annual military pay raise. Clearly, a pay raise that does not keep pace with increases in the private sector must be offset by other pay raises, or the difficulties discussed in this report will be exacerbated. The Congress may also be faced with proposals to increase the pay of enlisted recruits, perhaps by improving their educational benefits. A package of educational benefits made available to all those entering the services would be more consistent with the option of meeting needs through across-the-board pay raises, while a package of educational incentives aimed at recruits in short supply would be a move toward the alternative of restructuring military pay. Finally, the Congress may have to vote on reductions in military retirement pay as a means of reducing federal spending. Given the manpower needs of the active forces, however, it may be more useful to consider such reductions as part of a general restructuring of military pay along the lines discussed here.

TABLE 4. SUMMARY OF FOUR OPTIONS FOR MILITARY COMPENSATION: THEIR COSTS AND EFFECTS ON MILITARY MANNING

	Administration Proposal	Administration plus Senate Changes	Across-the-Board Increases	Restructuring of Pay
Description	(Pay raises that may have to increase to keep pace with private sector plus increased enlistment and reenlistment bonuses plus other pay increases.)	(Administration option plus variable housing allowance, subsistence increase, and other increases.)	(Administration option plus Senate changes plus across-the-board pay raises to meet manpower needs.)	(Administration option plus Senate changes plus increased bonuses to meet manpower needs plus reductions in retirement pay.)
Pay Raises (percent)				
Fiscal year 1981	7.4 or 9.1 <u>a/</u>	9.1	12.4	9.1
Total 1981-1985	44 or 58 <u>a/</u>	58	72	58
Shortfall in Enlisted Recruits (percent) <u>b/</u>				
Fiscal years 1980-1981	14	13	12 <u>c/</u>	11 <u>c/</u>
Fiscal year 1985	16	14	0	0
Increase or Decrease (-) in Careerists over 1979 Level <u>d/</u>				
Fiscal year 1981	-10,000	-6,000	-1,000	-7,000
Fiscal year 1985	-11,000	500	37,000	28,000
Added Costs over Administration Proposal (millions of 1981 dollars)				
Fiscal year 1981	0 or 440 <u>a/</u>	590	1,420	580
Total 1981-1985	0 or 6,790 <u>a/</u>	2,950	9,720	4,180

a/ The range of pay raises and costs stems from differing assumptions about pay raises needed to keep pace with increases in the private sector. The lower raises assume that the Administration's planned pay raises are sufficient to keep pace. The higher pay raises and cost increases assume that the military receives additional pay increases equal to those for production workers in the private sector as estimated in CBO's March 1980 economic assumptions.

b/ This shortfall assumes the services limit recruiting to maintain their desired percentage of high school graduates.

c/ This shortfall is necessary during the transition to higher pay to avoid creating excesses of recruits in later years.

d/ Careerists are defined as those with four or more years of military service.

APPENDIXES

APPENDIX A. METHODS AND DATA USED IN THE ESTIMATES

This appendix discusses the methodology and data used to estimate enlisted recruit supply, recruit demand, and numbers of careerists. It also discusses methods used in estimating costs. It assumes familiarity with military manpower terms.

ESTIMATING ENLISTED RECRUIT SUPPLY

This study begins with estimates done by the Rand Corporation for the Department of Defense. ^{1/} Rand estimated numbers of male non-prior-service (NPS) enlisted recruits who are high school diploma graduates (HSDG) in mental categories I to III who would be willing to enlist in each of the services between 1979 and 1990. Male HSDG non-prior-service recruits in these mental categories are thought to be the supply-limited group. CBO used Rand's "case B" estimates, which are more pessimistic but track best with recent results, and aggregated the estimates across all four services (see Table A-1).

Adjustments for Pay Changes

The Rand estimates assume that, in fiscal year 1979 and beyond, military pay keeps pace with private-sector increases. Pay raises under the options in this study, however, lag private-sector pay because of pay caps or surge ahead because of across-the-board increases or bonuses. Past studies have related willingness to enlist in the military among NPS males in supply-limited groups to first-term enlisted pay. Such studies have often found that the elasticity of response to first-term pay is around 1.0, although the elasticity varies with mental category and other factors. (Elasticity refers to the percentage change in those willing to reenlist in response to a 1 percent change in first-term pay.) This study assumed an elasticity of 1.0.

^{1/} Richard L. Fernandez, Forecasting Enlisted Supply: Projections for 1979-1990, Note N-1297-MRAL (Santa Monica: The Rand Corporation, September 1979), p. 25.

TABLE A-1. RAND ESTIMATES OF NUMBERS WILLING TO ENLIST, AND SUPPORTING DATA

Fiscal Year	Numbers Willing to Enlist <u>a/</u>	Youth Unemployment Assumed in Estimates <u>b/</u>
1979	172,581	16.3
1980	178,882	17.3
1981	180,063	17.0
1982	174,814	16.3
1983	167,117	15.8
1984	157,533	15.1
1985	149,765	15.1

a/ Case B, Moderate Growth. (Male, NPS, HSDG, category I-III recruits in all four services.)

b/ Percentage of males aged 16-19.

The exact nature of the pay adjustments in this study varied according to the nature of the pay raises. For across-the-board pay increases, changes in overall pay relative to the private sector were first determined by comparing pay raises to CBO estimates of likely increases in hourly earnings of production workers in the private sector (see Table A-2). The elasticity could then be applied directly, since such across-the-board pay changes affect all first-term pay. Enlistment bonuses were translated into percentage changes in first-term pay by dividing by the number eligible to receive the bonus (to achieve a per-recipient bonus) and then by the discounted present value of typical first-term regular military compensation (assuming a real discount rate of 20 percent and a three-year term with promotion to E-2 coming after six months and E-3 after one year). "Kickers" to the Veterans Education Assistance Program were handled in the same way as bonuses.

Adjustment for Unemployment

The Rand estimates assume a specific pattern of male youth unemployment, defined as unemployment among males aged 16 to 19

TABLE A-2. ADMINISTRATION PAY RAISES AND CBO MARCH 1980 ECONOMIC ASSUMPTIONS

Fiscal Year	Administration Pay Raises	Percent Increases in Hourly Earnings of Production Workers in the Private Sector (CBO Estimate)	Percent Change in CPI (CBO Estimate)	Percent Unemployment for All Persons (CBO Estimate)	Percent Youth Unemployment As Adjusted (CBO Estimate) <u>a/</u>
1979	5.5	8.3	10.3	5.8	15.6
1980	7.0	8.5	13.3	6.4	16.5
1981	7.4	9.1	10.0	7.5	18.1
1982	8.0	9.3	9.7	7.6	18.0
1983	8.0	9.8	8.7	7.0	16.6
1984	7.5	9.8	8.3	6.4	15.4
1985	7.0	9.7	7.8	6.1	14.7

a/ See text for adjustment method.

(Table A-1). CBO has its own estimate of unemployment consistent with current economic assumptions (Table A-2). Past studies have found that more males are willing to enlist in periods of high youth unemployment because of the difficult job market. The elasticity of response to youth unemployment has been found to range from 0.2 to 0.8. This study used an estimate of 0.5.

CBO economic assumptions show overall unemployment, rather than unemployment for male youths. This study translated CBO's overall estimates into male youth unemployment using a relationship derived by Rand.^{2/} The study also adjusted the male youth unemployment figures to reflect effects of the declining numbers of males expected in the 1980s. The adjustment relied on a rule of thumb that a one-percentage-point drop in the percentage of youth in the population results in a one-percentage-point drop in the youth unemployment rate (Table A-2).

Translating to High School Diploma Graduates

The Rand estimates are of high school diploma graduates (HSDG) in mental categories I to III. Numbers of HSDG recruits in mental category IV are determined more by policy than by supply factors. Estimates of demand discussed below are in terms of HSDG recruits in all mental categories. This study translated the Rand numbers to estimates of total HSDG graduates based on policies in effect in fiscal year 1979. In that year HSDG graduates in mental category IV equaled about 10 percent of those in mental categories I to III.

Matching 1979 Results

Rand made its first projection for fiscal year 1979. After making the adjustments discussed above, the Rand estimates were about 3 percent lower than the numbers of male, NPS, HSDG persons actually recruited in fiscal year 1979. To correct for this minor deviation, all estimates for years beyond fiscal year 1979 were increased by 3 percent.

^{2/} Ibid., p. 21.

ESTIMATING DEMAND FOR ENLISTED RECRUITS

This study began with estimates made by the services of male, NPS, HSDG recruits needed to man the military in each year through fiscal year 1985 (Table A-3). The estimates were made during last year's planning process and so are assumed to reflect all planned personnel policy changes (for example, changes in first-term attrition).

TABLE A-3. SERVICE ESTIMATES OF RECRUIT DEMAND (In thousands)

Fiscal Year	Total Non-Prior-Service (NPS)	Male NPS	Male NPS High School Diploma Graduates (HSDG)
1980	380	332	242 <u>a/</u>
1981	342	292	213
1982	339	286	208
1983	344	289	206
1984	335	282	201
1985	329	277	196

a/ Assumes same percentage of HSDG recruits as in fiscal year 1981.

Adjustments for Pay Changes

This study assumed that, in making estimates of demand for recruits, the services intended that military pay keep pace with increases in the private sector in years beyond fiscal year 1979. This would be consistent with policies announced by the Administration during testimony on the defense budget for fiscal year 1981. Yet pay raises under the options in this study sometimes lag private-sector pay because of pay caps or surge ahead because of compensation increases. These changes affect retention and hence the demand for recruits. To adjust for these changes, CBO relied on a model that relates enlisted continuation rates to changes in pay. The model is based on 1976 DoD personnel survey data and was originally developed to analyze the effects of retirement pay on retention. This model suggested that the

elasticity of overall retention (defined as average man-years per accession) in response to an across-the-board increase in pay is about 2.5. Results of a DoD model, however, suggest an elasticity of overall retention of about one. ^{3/} Because of the substantial uncertainty in all such retention models, and in order to make conservative estimates, CBO assumed an elasticity of one. To accomplish this, detailed elasticities by year of service were scaled down. The scaled-down or "base-case" and the unadjusted or "optimistic" elasticities are shown in Table A-4.

The conservatism implied by use of these reduced elasticities seems justified on several grounds. Available analytic tools required that complex allowances, such as those in the Nunn-Warner proposal, be treated as pay raises; this may overstate effects by assuming that all careerists benefit equally, while in truth the more senior personnel, who have lower elasticities, may benefit more. Also some increases in pay--particularly increased travel reimbursement--may be viewed as less valuable than a comparable cash pay raise, which would be offset by the lower elasticities. Moreover, policy constraints--such as tighter reenlistment screens--could come into play and hold down elasticities as retention improved. Finally, the lower elasticities have the advantage of rough consistency with a detailed model developed by the Department of Defense.

Across-the-Board Pay Changes. When pay changes are made across the board, the elasticities can be applied directly. Changes in overall retention caused by these pay changes were assumed to affect demand for male, NPS, HSDG recruits in the same way as the changes affected overall demand.

Allowance Changes. Allowances presented a more difficult problem. For purposes of analysis, this study treated the various allowance provisions as a pay raise for one of three personnel groups. In order to determine the 1981 percentage increase received by each personnel group, the costs of additional benefits (deflated to reflect CPI growth in 1981) were first apportioned to officers, career enlisted personnel (E-4 and above), and junior enlisted personnel. Travel and subsistence allowances were apportioned based on data in the 1980 Army military personnel

^{3/} U.S. Department of Defense, Report on the Adequacy of Pay (October 1979), Appendix D; elasticity of one based on informal conversations with the author.

TABLE A-4. CBO ESTIMATES OF DoD-WIDE CONTINUATION-RATE ELASTICITIES WITH RESPECT TO AN OVERALL PAY RAISE

Year of Service	Elasticities	
	Base Case	Optimistic
0-1	.00 <u>a/</u>	.00 <u>a/</u>
2	.00 <u>a/</u>	.00 <u>a/</u>
3	.28	.60
4	1.00	2.13
5	.15	.32
6	.23	.49
7	.23	.49
8	.31	.65
9	.21	.46
10	.16	.33
11	.12	.25
12	.10	.22
13	.05	.11
14	.03	.07
15	.02	.04
16	.02	.04
17	.01	.02
18	.01	.02
19	.01	.02
20	.46	.98
21	.24	.51
22	.14	.29
23	.29	.61
24	.14	.30
25	.06	.12
26	.35	.74
27	.24	.51
28	.12	.26
29	.05	.11
30	.00	.00

a/ Numbers assumed determined by policy rather than by pay.

appropriation; the Army was used as a proxy for all of DoD. Pay changes that were funded as legislative contingencies and the variable housing allowance benefits were treated as raises for career enlisted personnel and officers only. Next the apportioned costs were divided by each group's 1980 pay and allowance base to determine the implied pay raise. Finally, elasticities were applied to determine the effect on demand.

Bonuses. To judge the likely effects of increased reenlistment bonuses, the progression of cohorts that receive bonuses was compared to the progression of cohorts that do not receive additional bonus money. Those not receiving a bonus followed 1979 continuation behavior. CBO relied on the aforementioned retention model to predict continuation rates for bonus-eligible cohorts.

Each cohort's size was set equal to the expected number eligible to receive the bonus, which equaled the dollar cost of the added bonuses divided by the average bonus amount in the year when the bonus was received. This procedure implicitly assumes that individuals have perfect information; that is, personnel know whether or not they are eligible for a bonus and adjust their continuation behavior accordingly. Within the bonus-eligible cohort, continuation rates rise in years that precede the awarding of the bonus. After they receive the bonus, recipients are assumed to stay in the military for three years, although small adjustments are made to reflect likely nonreenlistment losses. At the end of their extended contract, bonus recipients are assumed to leave at a rate equal to their unrealized cumulative losses over the three years (less nonreenlistment losses).

Differences in cohort size caused by bonuses were determined for each year through 1985. These bonus-induced changes were then added to the estimates of the changes caused by any pay raises in order to obtain the overall effects of an option.

ESTIMATING NUMBERS OF CAREERISTS

This study defines careerists as persons with four or more years of completed service. Estimates of career force size are taken from the enlisted demand analyses discussed above. For each fiscal year, base-case elasticities are applied directly to the percentage pay raise in order to determine the additional number of careerists who would continue serving in the military. When pay changes include real bonus increases, the number of bonus-induced reenlistees is added to this figure.

ESTIMATING COSTS

Costs in this study estimate effects on the military personnel appropriation and retirement pay. Cost estimates exclude the effects on training costs and the effects on pay and allowances of changes in longevity. These effects should be small over the next five years.

Administration Proposal

In estimating costs of the military personnel appropriation under the Administration proposal, this study assumes that pay and personnel policies for fiscal year 1981 are continued in the years beyond 1981. Hence the real costs of the military personnel appropriations remain unchanged. Estimates simply take costs requested in 1981 in the latest defense budget and inflate them using the Administration's assumed pay raises for costs dependent on pay raises (\$27.4 billion in fiscal year 1981) and the CPI for the remaining military personnel costs. To these numbers are added the costs of legislative contingencies for which funding was requested, since these are considered in the demand analysis. Costs of retirement pay are CBO estimates.

Senate Changes

Costs under this option are comprised of increases in housing, travel, and subsistence allowances. Costs of the Variable Housing Allowance are based on DoD estimates contained in the aforementioned study of pay adequacy, and are adjusted to reflect CBO's economic assumptions. Estimates of PCS costs assume a mileage reimbursement rate of 18.5 cents per mile. Estimates apply CBO's transportation deflator to the costs, and net out proposed Administration increases for travel. Subsistence allowance estimates simply apply a 10 percent increase to previous CBO allowance figures.

Across-the-Board Pay Raises

The size of the needed pay raises was determined by comparing supply and demand for enlisted recruits as estimated using the methods and data discussed above. The comparison of supply and demand accounted not only for the effects on recruiting and retention, but also for surpluses or shortfalls developed in

previous years. After the needed pay raises were determined, the percentage raises were simply multiplied by the costs directly affected by pay raises to estimate increases.

Restructuring Military Pay

Estimates of required reenlistment bonuses were designed to increase the numbers of careerists by about 30,000 by 1985, for reasons mentioned in the main study. The dollar value in constant dollars came from trial-and-error application of the procedure discussed above for analyzing bonuses. Constant dollars were inflated using pay raises as the inflator.

Estimates of required enlistment bonuses were determined by comparing supply and demand of enlisted recruits based on the methods and data discussed above. Demand estimates reflect the effects of reenlistment bonuses. Where the comparison showed a shortfall of recruits, the needed size of the bonus was determined assuming an elasticity of 1.0. Then the percentage was multiplied by first-term pay (defined as regular military compensation over the first three years) and the result was multiplied by the supply of high school diploma graduates (since the bonus would be limited to this group). Cost estimates in constant dollars were inflated using pay raises as the inflator.

Costs of the single cost-of-living allowance were made using a model of retirement costs over the next five years and CBO economic assumptions (Table A-2). The costs assume that the change is implemented in July 1980.

Costs of calculating retirement pay on basic pay during the three highest years (high-3) were based on a CBO model of the costs of retirement pay and CBO economic assumptions. The option assumes that high-1 would be implemented in 1981, high-2 in 1982, and high-3 in 1983 and beyond. Costs in the model exclude reserve (Title III) retirees; the effects of including reserve retirees over the next five years would be small. For simplicity and consistency with earlier estimates, costs of high-3 assume continuation of current retention patterns for officers and enlisted personnel. Depending on how personnel policies limit voluntary changes in retention behavior, changes in retention could substantially increase high-3 savings over the next five years.

APPENDIX B. SUPPLEMENTARY DATA

TABLE B-1. ENLISTED RECRUITING RESULTS BY FISCAL YEAR (In high school graduates and percentage shortfall from target)

Option	Description	Measure	1980-81	1982	1983	1984	1985
IA	Administration proposal, assuming pay raises keep pace	Percent high school graduates	63	72	67	64	60
		Percent shortfall	14	1	7	10	16
IB	Administration proposal, assuming pay raises fall behind	Percent high school graduates	62	68	61	56	50
		Percent shortfall	15	6	15	21	30
II	Option IA plus Senate changes	Percent high school graduates	64	74	68	65	61
		Percent shortfall	13	0	5	9	14
III	Option II plus across- the-board increases	Percent high school graduates	66	78	73	71	71
		Percent shortfall	11	3	0	1	0
IV	Option II plus restructuring of military pay	Percent high school graduates	66	78	73	72	70
		Percent shortfall	12	4	1	2	0

TABLE B-2. NUMBERS OF CAREERISTS WITH FOUR OR MORE YEARS OF SERVICE, FISCAL YEARS 1979-1985

Option	Description	1979	1980	1981	1982	1983	1984	1985
IA	Administration proposal, assuming pay raises keep pace	738,200	733,500	728,400	716,900	709,900	723,700	726,900
IB	Administration proposal, assuming pay raises fall behind	738,200	733,500	725,300	708,500	691,000	684,600	659,000
II	Option IA plus Senate changes	738,200	733,500	731,800	723,200	718,500	734,500	738,500
III	Option II plus across- the-board increases	738,200	733,500	737,400	735,800	737,100	759,000	774,800
IV	Option II plus restructuring of military pay	738,200	733,500	731,500	718,900	718,400	743,800	766,100