

March 2, 1999

Honorable John W. Warner
Chairman
Committee on Armed Services
United States Senate
Washington, D.C. 20510

Dear Mr. Chairman:

As requested in Senator Thurmond's letter of October 9, 1998, the Congressional Budget Office (CBO) has examined the effects of the 1986 Military Retirement Reform Act (known as REDUX) on the retention of military personnel. CBO concludes that the retirement changes enacted in 1986 appear to be having little effect on the midcareer retention of officers or enlisted personnel. A preliminary summary of CBO's analysis is attached. That analysis focuses on the effects of REDUX on retention; it does not address whether the services are experiencing serious problems in retaining midcareer personnel. It finds only that if such problems do exist, they are probably not the result of REDUX.

The general lack of a statistically significant relationship between REDUX and retention is not surprising. In 1985, CBO testified that the law might reduce the career content of the enlisted force (the percentage of that force in its second or later enlistment) by about 3 percent. In CBO's current analysis, such modest predicted effects could easily be swamped by other factors. Given the level of statistical uncertainty that surrounds CBO's estimates, the possibility that the new retirement system is having a small negative effect on retention cannot be ruled out.

Nonetheless, these results suggest that REDUX has not had a large negative impact on retention among the first groups of personnel to enter under that system. The findings raise questions about the benefits of repealing the law. Increasing retirement benefits might not stem a decline in retention if that decline resulted from factors such as the quality of military health care and housing, the level of pay and bonuses, or the frequency of deployments. Instead, such increases could divert resources away from more cost-effective forms of compensation or other pressing

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defense needs without solving the department's personnel problems. Moreover, because the retirement system is difficult to change, and because the effects of changes only become apparent over a long period of time, it is particularly important that any proposed changes to that system receive careful analysis.

The Joint Chiefs of Staff have made repeal of REDUX their number one readiness priority. To the extent that repeal has become a symbol of the nation's commitment to its military personnel, failure to repeal REDUX could have a strong negative effect on the morale and possibly the retention of military personnel, at least in the short run. CBO's analysis examined retention rates through 1998 for enlisted personnel and through 1997 for officers. But because REDUX has recently received extensive coverage in the media, its effects on retention in 1999 could be greater.

I hope that this analysis proves useful; please let me know if I can be of further assistance. A CBO memorandum with additional technical information about the analysis will be available this spring. Questions about CBO's estimates of the effect of REDUX on officer retention can be directed to Marty Smith. Questions about the analysis for enlisted personnel can be directed to Richard Fernandez.

Sincerely,

Dan L. Crippen
Director

Attachment

Identical letter sent to Honorable Carl Levin

THE EFFECTS OF THE MILITARY RETIREMENT REFORM ACT OF 1986 ON MIDCAREER RETENTION

February 1999

The Congressional Budget Office (CBO) examined the impact that changes in the military retirement system are having on the midcareer retention decisions of officers and enlisted personnel. It found that, in general, the changes enacted in 1986 are not having a discernible effect on midcareer retention. CBO did not examine overall trends in retention and can neither verify nor dismiss reports of serious retention problems. Its analysis simply indicates that the Military Retirement Reform Act of 1986 is unlikely to be the cause of any marked change in retention patterns. If large declines in retention are observed, other possible explanations—such as frequent, unscheduled deployments or attractive civilian job opportunities—may merit investigation.

CHANGES MADE BY THE MILITARY RETIREMENT REFORM ACT

The retirement system that was created by the Military Retirement Reform Act of 1986 (known as the REDUX system) lowered retirement benefits for people who first joined the military after July 31, 1986. It cut the percentage of basic pay that members retiring with 20 years of service would receive from 50 percent to 40 percent, while leaving the percentage for retirement after 30 years unchanged (at 75 percent). It also reduced the annual cost-of-living adjustments paid to retirees. Proponents of the act argued that it would provide a number of benefits: it would increase the incentive to stay in the military between 20 and 30 years of service, provide budgetary savings to the Department of Defense (DoD), and make military compensation more efficient by reducing the military's traditional reliance on deferred compensation.

When the Congress enacted REDUX, it was aware that cohorts of personnel entering after 1986 might experience somewhat lower retention at the midcareer point where service members typically either leave the military or decide to stay until retirement. In 1985 testimony before a subcommittee of the Senate Armed Services Committee, CBO predicted that such a change in the retirement system would reduce the portion of the enlisted force in its second enlistment term or beyond by about 3 percent. Moreover, the retention models used by military manpower experts—then as now—indicated that any loss in retention because of the retirement change could be made up, at a lower cost, through higher reenlistment bonuses and pay. That lower cost reflects the finding that—compared with the federal government—service members typically place a much higher value on immediate payments (such as bonuses or pay raises) than on deferred compensation (such as retirement pay).

CRITICISMS OF THE REDUX SYSTEM

Today, more than 12 years after REDUX was enacted, there is increasing controversy over the impact that the new system is having on military readiness. The first officer and enlisted cohorts that entered under the new system are now making their midcareer decisions about retention. According to the service chiefs, people in those cohorts are leaving by the thousands as a result of the new retirement system. In the view of at least one service chief, there is no time to wait for analysis: “If we wait to analyze the thing to death, it would be too late—we’d lose thousands more.”¹ Immediate repeal of REDUX—or at least of the provision that reduces retirement benefits at 20 years of service from 50 percent to 40 percent of basic pay—is the number one priority of the Joint Chiefs of Staff.

That position has led to a vigorous debate in the press and the Congress. There is no disagreement about the amount of savings that the law has generated for DoD: roughly \$7.5 billion in accrual charges for military retirement since 1986. Nor is there much disagreement about the costs of repealing REDUX. Both CBO and DoD’s Office of the Actuary say that complete repeal would cost DoD about \$10 billion through 2006. Repeal only of the provision restricting pensions to 40 percent after 20 years of service would cost about \$5 billion over that period.² Instead, disagreement focuses on the impact that the law is having on midcareer retention and on the best approach to resolve any retention problems that do exist. Supporters of REDUX note that its repeal would entail a costly and permanent change to the retirement system and thus deserves very careful analysis.

CBO’S ANALYTIC APPROACH

To determine the effects of REDUX on midcareer retention, CBO examined the retention decisions of individual officers and enlisted personnel who started active duty at about the same time but were under different retirement systems. That approach allowed CBO to isolate the effects of retirement changes from the effects of other factors that may have influenced retention, including the services’ policies during the personnel cuts of the 1990s. The analysis did not look at whether retention among midcareer personnel was declining—a trend that might be explained by a variety of factors—but at whether any observed declines in retention could be attributed to REDUX.

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1. Bradley Graham, “Military Pension Maneuvers: Costly Rush to Misjudgment?” *Washington Post*, February 11, 1999, p. A35.
 2. Savings in federal outlays from the Military Retirement Reform Act—like outlay costs from its possible repeal—remain largely in the future. The federal government will not begin to achieve large outlay savings until the first cohorts under the new system start to retire in 2006.

The comparison was possible because a member's eligibility for REDUX or "High-Three" (the earlier, more generous retirement plan) is based on the date that he or she "first became a member of a uniformed service" rather than the date of actually beginning active duty. Many enlisted personnel enter the military through a delayed-entry program in which they commit to a particular service as much as a year before they actually start active duty. Depending on whether they spent time in the delayed-entry program, enlisted personnel who began active duty in the months immediately following July 31, 1986, could be under either of the two retirement systems. Similarly, candidates from the Reserve Officers Training Corps (ROTC) who did not hold a military scholarship and who were commissioned in 1987 are under REDUX, whereas service academy and ROTC scholarship students who were commissioned at the same time are under the old retirement plan.

CBO created a model of the retention decisions of both officers and enlisted personnel by using a statistical method known as a logistic regression. That method is appropriate for use in retention models in which there are only two possible outcomes: stay or leave. Two logistic equations were estimated for enlisted personnel in each of the four services. The first estimated the probability that someone who began active duty for the first time between July 1986 and September 1987 and was still on active duty without a break six years later would remain on active duty from the 6th through the 11th year of service. The second equation estimated the probability that those on active duty in their 8th year of service would still be on active duty in their 11th year. The estimates for years 6 through 11 are likely to capture the effects of all second-term reenlistment decisions, whereas the estimates for years 8 through 11 focus more heavily on the years in which midcareer retention decisions are made.

For officers, a logistic equation estimated the probability that academy and ROTC graduates who were commissioned in 1986 or 1987 and remained on active duty until their 8th year of service would still be on active duty in their 10th year. CBO estimated separate equations for Navy and Air Force officers but was unable to obtain appropriate data for Army and Marine Corps officers in the time available for the analysis. (As data on officer retention through 1998 become available, CBO will extend the analysis through the 11th year of service.) CBO's sample included officers who were commissioned in 1986 before enactment of REDUX to control for any difference in the retention of ROTC scholarship and nonscholarship officers when both groups were under the same retirement system. The analysis then looked at whether the relative retention decisions of nonscholarship and scholarship officers differed for the cohort entering in 1987, when only the nonscholarship officers were under REDUX.

The sample sizes used to estimate the eight equations for enlisted personnel ranged from a low of 3,768 to a high of 25,876. The equations for officers were

estimated on the basis of 1,964 Navy and 3,858 Air Force officers who were commissioned in 1986 or 1987. (Of those, 50 Navy officers and 901 Air Force officers were covered by REDUX.) In each logistic regression, CBO estimated the effect of the new retirement system on the probability of retention while controlling for the effects of other variables such as occupation, age, education, marital status, sex, and race. The equations for enlisted personnel also controlled for the individual's score on the Armed Forces Qualification Test, time in the delayed-entry program, term of initial enlistment, and month of enlistment. The equations for officers included variables to control for the commissioning program (academy, ROTC scholarship, or ROTC nonscholarship) and year (1986 or 1987).

RESULTS OF CBO'S ANALYSIS

If the new retirement system was having a strong negative effect on retention, as the Joint Chiefs have reported, the equations estimated by CBO would most likely have captured that effect. Yet in most of the equations, CBO was unable to identify any significant impact (see Table 1). The only equation for enlisted personnel in which a negative impact could be determined with 95 percent confidence (a standard statistical threshold) was the one for retention of Navy enlisted personnel from the 6th through 11th years of service. No statistically significant link between REDUX and retention could be found for Army, Marine Corps, and Air Force enlisted personnel between 6 and 11 years of service or for Navy, Marine Corps, and Air Force enlisted personnel between 8 and 11 years of service. For Army enlisted personnel between 8 and 11 years of service, being under REDUX was associated with higher retention—an apparent statistical anomaly.

In the case of officers, being under REDUX did appear (with a 95 percent confidence level) to reduce retention in the Air Force between the 8th and 10th years of service. In contrast, no effect could be estimated with that level of confidence for Navy officers. CBO has not completed its analysis of Army officers, but the one existing analysis of the midcareer retention patterns of Army officers who were commissioned in 1987 indicates that REDUX did not have a statistically significant effect on retention.³

Those results are not surprising. In the equations in which a statistically significant negative effect was found, the estimated size of that effect was fairly small. The average probability that a Navy enlisted member would remain on active duty between 6 and 11 years of service was 49 percent; being under REDUX reduced that

3. Based on an analysis by Dean Dudley, professor of economics, U.S. Military Academy at West Point.

TABLE 1. PROBABILITIES OF RETENTION AND THE EFFECT OF REDUX

	Average Probability of Retention (Percent)	Effect of REDUX (Percentage points)
Enlisted Personnel		
Years of Service 6 Through 11		
Army	43	a
Navy	49	-2.7
Marine Corps	46	a
Air Force	59	a
Years of Service 8 Through 11		
Army	71	+3.5
Navy	64	a
Marine Corps	70	a
Air Force	71	a
Officers		
Years of Service 8 Through 10		
Army	b	b
Navy	78	a
Marine Corps	b	b
Air Force	91	-3.9

SOURCE: Congressional Budget Office.

NOTE: REDUX = Military Retirement Reform Act of 1986.

- a. The probability of no effect cannot be ruled out with 95 percent confidence.
- b. Not estimated because data were not available.

probability by about 2.7 percentage points, CBO's estimates suggest. Air Force officers had a 91 percent average probability of remaining on active duty between 8 and 10 years of service, and being under REDUX lowered that probability by about 3.9 percentage points. Those relatively modest effects are generally consistent with what many analysts anticipated when REDUX was enacted. Given the range of factors outside the model that could affect retention and the statistical uncertainty surrounding CBO's estimates, it is possible that REDUX is having a modest negative effect throughout the services. The estimates for the other equations neither demonstrate that REDUX is having a negative effect nor rule it out. (The one anomalous result is the statistically significant positive effect estimated for Army enlisted personnel.)

Despite their ambiguity, those results indicate that REDUX did not cause a large midcareer exodus of officers and enlisted personnel among the first cohorts covered by that system. If the services are experiencing large declines in midcareer retention, it could be because of other factors that might not be resolved by repealing REDUX. Frequent deployments and attractive civilian job opportunities are among the possible explanations. In the equation for Air Force officers, for example, being a fighter pilot had a much larger negative effect on the probability of retention than being under REDUX did.

CAVEATS FOR THE FUTURE

Although retention patterns for the first military personnel to enter under REDUX show little if any discernible change as a result of the new retirement system, the effects may become more apparent in the future. One reason is that many people in CBO's sample may not have been fully aware of which system they were under. Despite access to the automated personnel records maintained at the Defense Manpower Data Center, CBO analysts initially had trouble identifying which system individuals were under. Do enlisted service members understand that entering through the delayed-entry program might put them under a different retirement system than other people who started recruit training on the same day? As future cohorts move through the system, there will be less ambiguity about which system they are under, and the effects of the change may become clearer.

In addition, even people who know which system they are under may not be fully aware of the financial implications of the two systems. The financial impact of REDUX on members is receiving much more publicity now that the first cohorts under REDUX are making their midcareer decisions about retention. As awareness increases, so might the effects of REDUX on retention. Even with that greater awareness, however, the anticipated impact of REDUX—consistent with the retention models developed when the system was enacted—might be a 3 percent or 4 percent drop in the portion of the force committed to a military career.

Another reason that the effects of REDUX in the future might differ from those found here is that military leaders have made repeal of REDUX their top readiness priority and a symbol of the nation's commitment to its military personnel. Depending on the weight that service members give to that symbol, failure to repeal the system could have a negative effect on the retention not only of people under REDUX but also of people under the older system. Although that effect would probably be temporary, it would come at a time when retention was suffering as a result of both frequent deployments and a vigorous civilian economy. Moreover, conventional retention models cannot predict the magnitude of such an effect. One option if REDUX is not repealed might be to offset the symbolic impact of that

decision by undertaking some other, equally visible but more cost-effective action on behalf of the military. For example, improving access to health care for military families or eliminating the out-of-pocket costs paid for housing might provide both a strong symbolic message and valuable benefits without increasing the military's reliance on deferred compensation.