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Assessing Compensation Reform

Research in Support of the
10th Quadrennial Review
of Military Compensation

Beth J. Asch, James Hosek, Michael Mattock, Christina Panis

Prepared for the Office of the Secretary of Defense

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1776 Main Street, P.O. Box 2138, Santa Monica, CA 90407-2138

1200 South Hayes Street, Arlington, VA 22202-5050

4570 Fifth Avenue, Suite 600, Pittsburgh, PA 15213-2665

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Summary

Military retirement reform has been a central element of the policy debate regarding why and how to restructure the system for compensating members of the U.S. armed forces. Concerns about the compensation system, and the retirement system specifically, include the rising cost of military compensation and the need for greater efficiency in the provision of compensation, the greater need for flexibility to reshape the force as missions change in ways that challenge the current compensation system, and issues related to the equity of military retirement benefits of active versus reserve personnel, junior versus senior personnel, and military personnel versus their civilian counterparts. Active members can claim retirement benefits before reservists can; junior members who leave prior to completing 20 years of service do not qualify for retirement benefits, unlike their more senior counterparts; and the 20-year vesting rule is outside the civilian vesting norm of five to seven years of service, under the Employee Retirement Income Security Act of 1974 (ERISA) (P.L. 93-406).

The 10th Quadrennial Review of Military Compensation (QRMC), building on previous studies and commission reports, including the 2006 report of the Defense Advisory Committee on Military Compensation (DoD, 2006) and the 2000 report of the Defense Science Board Task Force on Human Resources Strategy, has proposed an alternative military retirement system that addresses concerns regarding the current system while still sustaining the force. The new system would include the following:

- A defined benefit (DB) plan with earlier vesting at year of service (YOS) 10: The DB plan would provide an annuity at age 57 equal to 2.5 percent times YOS times high-three annual basic pay (ABP).
- An early-withdrawal option for the DB plan: Those with 20 or more years of service could choose to receive an immediate annuity, rather than waiting until age 57, but the annuity would be reduced by 5 percentage points for every year that the service member is less than 57 years old. That is, the reduction factor is $0.05 \times (57 - \text{age})$.
- A defined contribution (DC) plan, vested at YOS 10: Under this plan, the U.S. Department of Defense (DoD) would contribute to a fund for each member, up to 5 percent of basic pay, depending on YOS; members would own the fund once they are vested. In this sense, the benefit is portable. The payout of the DC plan is according to 401(k) rules. Under these rules, the payout begins at age 59.5, though in our analysis, we assume that it is age 60.
- “Gate pay”: This is a multiple of basic pay and would be paid to those who complete specific milestones, i.e., a specific number of years of service, regardless of whether they stay or leave upon completion. The specific number of years of service will depend on the retention pattern and force shaping that the service would like to achieve, as well as the current force shape.
- Separation pay, vested at YOS 20, would be provided to members who separate, after they leave the service. The formula is a multiple of monthly basic pay (MBP) times YOS.

The DB and DC plans are the foundation of the alternative system that we consider in this analysis. Gate pay and the level of separation pay depend on the force-shaping objectives of the service, and they can vary across the services or even within a service among personnel in different communities, such as occupational groups. For example, gate pay and separation pay can be set to achieve longer careers among those in more technical occupations or among specific officer communities.

RAND was asked to develop a modeling capability to assess compensation alternatives, such as the QRMC proposal, in terms of their

effects on military retention, retirement behavior, vesting, cost, reserve participation, and the value of compensation from the perspective of the member leaving active duty. This monograph presents the results of that study. It reviews the case of military compensation reform, documents the model, and provides an assessment of the QRMC proposal.

To assess the proposal, we focused on several cases. The first case includes the DC and DB plan and sets gate and separation pay to enable each service to sustain its personnel strength and achieve the same retention profile as produced by the current compensation system. The second case also includes the DC and DB plan and sets gate and separation pay to enable the services to achieve longer careers, e.g., to enable more members to stay beyond YOS 20. The specific profiles that we examined were based on guidance from the QRMC director. To illustrate the range of variability in career profiles that might be produced by the QRMC alternative for different communities, our other cases vary gate and separation pay to generate a shorter career than the current profile and a substantially longer career than the long career recommended by the QRMC.

Model Development

The model that we developed builds on the Gotz-McCall dynamic retention model for active-duty personnel and extends it to the reserves (see Gotz and McCall, 1984). The model is a stochastic dynamic programming model of the decision to stay or leave active duty and, if a member leaves, the decision to participate or not participate in the reserve components in the subsequent periods. The dynamic retention model is formulated in terms of the parameters that underlie the retention and reserve participation processes. Because the model is based on the factors underlying the decision process, rather than on a specific compensation system and retention outcome, the model permits assessments of alternative compensation systems. We estimate seven model parameters—namely, the means, variances, and covariance of the preference for active and reserve service (which account for five parameters), a parameter related to the variance of the stochastic shock

affecting the decision to stay on active duty or leave, and a parameter related to the variance of the stochastic shocks affecting the alternatives of being a civilian or a reservist. We estimate the model for each service for the enlisted force using the Work Experience File (WEX) from 1990 to 2007, provided by the Defense Manpower Data Center. The WEX data track the careers of service members in the active and reserve components; for our analysis, we focused on enlisted members. We supplement the WEX data with information on military compensation, as well as data on civilian earnings from the Current Population Survey (U.S. Census Bureau and U.S. Department of Labor Statistics, various years).

Given the model parameter estimates, we simulate retention profiles, as well as other outcomes of interest, such as retirement vesting, cost, and reserve participation under the current compensation system and the QRMC alternative. We found that we could closely replicate existing active-duty retention patterns, including the percentage of service members who reach active-duty retirement eligibility at YOS 20.

Results

To replicate the current force under the QRMC retirement alternative, gate pay, equal to 15 percent of ABP, is offered at YOS 12 and 18, and separation pay, equal to MBP times YOS, is offered to those with between 20 and 24 years of service (in the Army). To extend careers beyond YOS 20 along the lines suggested by the QRMC, gate pay is set equal to 25 percent at YOS 12 and 35 percent at YOS 18, and separation pay is MBP times YOS for those with between 20 and 30 years of service (in the Army).

We found that the QRMC alternative can reproduce the retention patterns achieved under the current system by the appropriate setting of gate and separation pay, on top of the DB and DC plans. The QRMC alternative achieves the same rate of retirement for an entering cohort, the same midcareer retirement patterns, and the same man-years per accession among the active force. To offer a comparison, under the current system, our data show that 10.5 percent of Army

entrants reach YOS 20 and that the average man-years per accession is 7.0. Under the QRMC proposal, our estimates show that 10.8 percent reach YOS 20, and average man-years per accession is 7.1. We achieved similar results for the other services.

The QRMC alternative can also reshape the force by inducing longer careers—specifically, higher retention at YOS 20—while sustaining force levels, as suggested by the QRMC. For example, by appropriately setting gate and separation pay, the QRMC retirement alternative can increase the Army enlisted retirement rate to 12.6 percent, and average man-years per accession increase to 7.6 years. Again, similar results are found for the other services, though the levels of gate and separation pay vary by service.

The QRMC proposal also provides the flexibility to conduct force shaping within a service (i.e., gate and separation pay can be varied within a service to produce different retention profiles for different communities in that service, such as different occupational groups). We illustrate the potential to vary profiles within the Army by eliminating gate pay and vesting personnel at YOS 10 for separation pay. This profile produces a shorter career at less cost than under the current system. We also produced a profile with greater retention beginning in the early career and continuing through the end of the career by vesting separation pay at YOS 20 and offering gate pay equal to 40 percent at YOS 12, 14, 16, and 18. The substantially longer career increases retention. We find that, supposing that the Army wanted to retain one-third of personnel who fit the current career profile, one-third of personnel with a short career, and one-third of personnel with a significantly longer career, the weighted cost per active man-year is slightly lower than that under the current system.

The QRMC proposal is less costly than the current system, given the gate and separation pays we considered. For the Army, the QRMC achieves current retention patterns and force structure at 6.1-percent lower cost in terms of active-duty cost per man-year, where cost includes the current cost of regular military compensation, gate pay, and separation pay, plus the outlays required to fund the DB and DC plans for vested personnel when they leave service. Also, the QRMC alternative achieves the longer career profile that we considered for the

Army force at 3-percent lower cost. Thus, the system is more efficient than the current system in achieving a given force structure. The reason for the improvement in cost-effectiveness is that the QRMC system shifts compensation away from the end of the career, in the form of retired pay, and toward the earlier part of the career, in the form of gate and separation pay. Furthermore, these pays are targeted to those who reach specific career milestones, unlike a basic-pay increase that would be received by all personnel.

The QRMC proposal vests personnel earlier. The DB part of the QRMC proposal vests at YOS 10, versus YOS 20 under the current system, and the DC part of the QRMC proposal vests at YOS 10. We find that the percentage of entrants who vest more than doubles for the Army. In the first case, in which the QRMC proposal replicates the current Army enlisted force, 23.7 percent vest at YOS 10, which compares with 10.5 percent who vest at YOS 20 under the current system. In the second case, in which the QRMC proposal extends active-duty careers, the percent vesting at YOS 10 versus YOS 20 increases from 10.5 percent to 25.2 percent. Thus, more individuals become eligible for retirement benefits under the QRMC proposal.

Because the QRMC system significantly restructures the retirement system, the amount and timing of retirement benefits change. In the case in which the same force profile is achieved, assuming that individuals choose the early-withdrawal option, we find that the QRMC alternative increases compensation for leaving members, given our assumptions about the personal discount rate. For example, actuarial tabulations show that an E-7 who leaves at YOS 20 would receive a present discounted value of \$120,000 under the current retirement-benefit system, assuming a personal discount rate of 15 percent. Under the QRMC alternative, an E-7 who leaves at YOS 20 and takes the early-withdrawal option for the DB plan would receive \$138,000, including the values of their DB and DC plans at that point, plus separation pay and gate pay. A similar result was found for members leaving at YOS 10, YOS 24, and YOS 30. On the other hand, if the member opts to defer the DB annuity until age 57, i.e., if the member does not take the early-withdrawal option, the QRMC alternative provides less compensation than the current system in some cases. Clearly, for

a member leaving at YOS 10, the QRMC plan provides more money because the current system provides no benefit for such a member. We also find that the QRMC plan provides a greater benefit to those leaving at YOS 20, but we do not find this to be the case for those leaving later, e.g., at YOS 30.

Our findings are tempered by the fact that they depend on our assumptions. Specifically, we assume that gate pay and separation pay will be the same for those taking the deferred option versus the early-withdrawal option. If gate pay or separation pay is increased in the former case, we could find that compensation is higher for those who leave later than YOS 20, even under the deferred option. Of course, cost would increase too. More generally, the value to the individual of the current system versus the QRMC proposal depends on the individual's personal discount rate. This rate no doubt varies among individuals. Individuals with a higher personal discount rate are more likely to favor the QRMC alternative, under which compensation is more front-loaded, whereas the reverse is true for individuals with a lower personal discount rate. According to our actuarial tabulations, at a personal discount rate below 12.5 percent, the QRMC alternative is generally less attractive than the current system.

On the basis of our findings, we conclude that the QRMC alternative has the potential to address the key concerns about the current retirement system. Our analysis suggests that it would be more cost-effective, increase the equity of the system, and enable force-management initiatives to reshape the force to suit changing requirements or alternative needs of personnel throughout the force or in specific communities. Changing to a new compensation system is not easy, and additional questions remain about the advisability of such a change. The analysis presented here contributes to the policy debate.