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Determining a Discount Rate for Calculating Lump Sum Payments to Eligible Military Retirees

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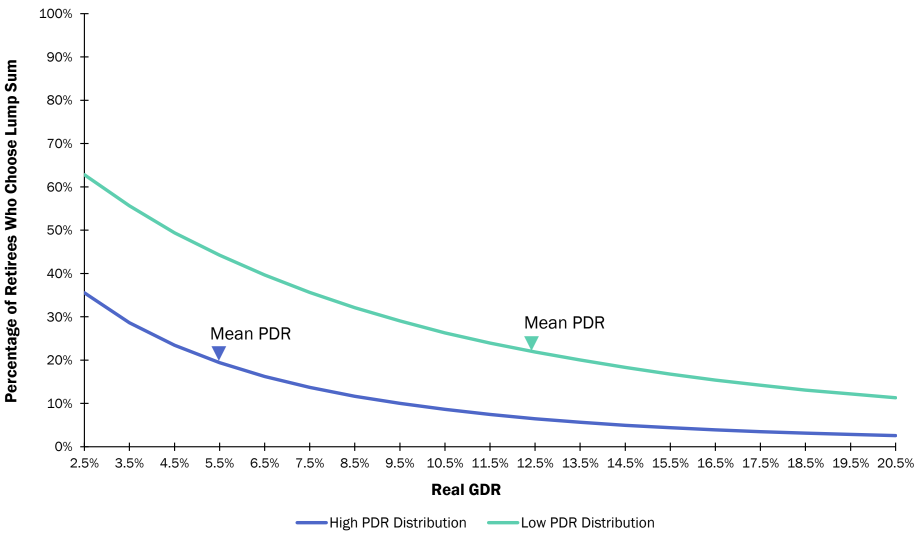
The Department of Defense (DoD) established the Blended Retirement System (BRS) in fiscal year 2016. Among other provisions, the new retirement system provides military personnel who retire after 20+ years of service with an option to cash out a portion of their retirement annuity upon separation. This provision was designed to give retirees greater choice in how to realize their retirement benefit. The Secretary of Defense was responsible for determining how to calculate the lump sum payments offered, and DoD turned to IDA for assistance.

IDA was asked to provide a basis for evaluating a government discount rate (GDR) to be used in calculating lump sum military retirement payments. The law required that the Secretary consider the personal discount rates (PDRs) for military personnel in determining the GDR. PDRs model the personal willingness of individuals to exchange a larger amount in the future for a smaller amount today, expressed as an annual percentage.

DoD established an Executive Working Group to oversee implementation of the BRS. That group established six criteria for determining the GDR: (1) Be consistent with the law, (2) Provide choice (while not appearing to advocate for any particular choice), (3) Either be the same for all retirees or vary for defensible reasons, (4) Not be so high as to be perceived as unfair, (5) At worst be cost neutral to the Military Retirement Fund, and (6) Not unduly affect retention.

We first looked into how lump sums are computed in various existing annuity markets. Both lotteries and some pension plans allow such conversions. Generally, the real discount rates used follow market interest rates; currently conversion factors are typically less than 3%.



We then simulated the behavior of military personnel to estimate the proportion of retirees who would choose the lump sum option at a given GDR (see chart). We based this simulation on the range and distribution of PDRs of military personnel identified in prior research. This satisfied the requirement to consider all studies of the discount rates of military personnel.

Higher GDRs imply smaller lump sums. There is thus a tradeoff between how much money is paid to each retiree and how many retirees will prefer a lump sum. While higher GDRs would cause DoD to save more money on each individual who chooses a lump sum, fewer would choose that option. Beyond a certain point, increasing the GDR would increase government costs with no offsetting benefit to retirees.

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We calculated the GDR that would minimize cost to the government under low-PDR and high-PDR assumptions. In the low-PDR case, costs begin to increase at inflation-adjusted GDRs above 6.5%. For the high PDR case, costs begin to increase at GDRs above 8.5%. Since the Military Retirement Fund is predicted to yield inflation-adjusted returns of 2.5%, a GDR below that would reduce the system's ability to cover future retirement payments.

Given these results, **we selected 8.5% as the highest rate and 2.5% as the lowest rate for the government to consider**. The low end of this range is more consistent with current private-sector practice.

We also estimated the effect of the lump sum payment option on retention of enlisted personnel and officers at three GDRs. The results indicate that retention of enlisted personnel and officers would be most adversely affected under high-PDR assumptions using the lowest GDR. In that case, the proportion of officers staying at least 25 years could fall by 18%.

This table (right) summarizes our assessment of a range of GDRs with respect to the Executive Working Group's criteria.

Criteria	1%	3%	5%	7%	9%
Be consistent with the law					
Provide choice Do not advocate for a particular choice					
Be the same for all retires or vary for defensible reasons					
Not be so high as to be perceived as unfair					
At worst be cost neutral to the Military Retirement Fund					
Not unduly affect retention					

DoD ultimately decided to use a formula that currently specifies a GDR of roughly 5% for calculating lump sums. **This rate will vary with the yield of high-grade corporate bonds. The selected method makes use of IDA's analysis and is projected to have only a modest impact on career retention past 20 years, which can be managed with other policies if desired**.

Based on IDA P-8527, *Discount Rate Analysis for Blended Retirement System Lump Sum Payments*, S. A. Horowitz, D. M. Tate, and J. T. Warner, November 2017. Research sponsored by the Office of the Under Secretary of Defense for Personnel and Readiness.