



# VALUATION OF THE MILITARY RETIREMENT SYSTEM

SEPTEMBER 30, 2011

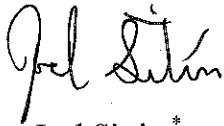
DoD Office of the Actuary  
February 2013

## ACTUARIAL CERTIFICATION

This report on the Military Retirement System as of September 30, 2011, has been prepared in accordance with generally accepted actuarial principles, standards, and practices. In preparing the report, we have relied upon information maintained by the Department of Defense regarding plan provisions, finances, and participants. The purpose of the actuarial valuation documented in this report is to develop actuarial liability and funding amounts to support the Secretary of Defense and the DoD Board of Actuaries (Board) in meeting the requirements of Chapter 74, Title 10, United States Code. Use of these results for other purposes may not be appropriate. Any rates or parameters included in this report should not be used for other purposes without complete comprehension of the underlying derivation. Please contact the DoD Office of the Actuary for further information.

We have performed the valuation using methods and assumptions approved by the Board. In general, the decrement rates used in the valuation are based on Military Retirement System experience. The annual economic assumptions include a 3% rate of inflation, a 3.75% across-the-board salary increase, and a 5.75% interest rate.

The actuarial methods and assumptions used in the preparation of this report are reasonable, and the valuation results present a fair picture of the financial condition of the Military Retirement System for purposes of meeting the requirements of Chapter 74, Title 10, United States Code. Future report results may differ significantly from those presented and documented in this report.



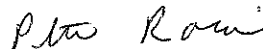
Joel Sitrin \*  
Chief Actuary  
ASA, MAAA  
Joel.Sitrin@osd.pentagon.mil



Pete Zouras \*  
Deputy Chief Actuary  
ASA, Enrolled Actuary No. 11-5314  
Pete.Zouras@osd.pentagon.mil



Inger Pettygrove \*  
Actuary  
FSA  
Inger.Pettygrove@osd.pentagon.mil



Pete Rossi \*  
Actuary  
FSA, CERA, FCA, MAAA  
Peter.Rossi@osd.pentagon.mil

To contact the office by mail write to:

Defense Human Resources Activity (DHRA)  
Office of the Actuary (OACT)  
4800 Mark Center Drive, Suite 06J25-01  
Alexandria, VA 22350-4000  
(571) 372-1993

\* Meets the qualification standards of the American Academy of Actuaries, and continuing professional development requirements of the Society of Actuaries, to render the actuarial opinion referenced above.

## USE OF THIS REPORT

- **Intended Audience:** Those seeking actuarial information about the Military Retirement System (MRS) or financial information about the Military Retirement Fund (MRF).
- **Report Limitations:** Stated in “*Actuarial Certification*” section of this report (page 2) and *Key Result*” section (page 4).
- For those new to the MRS, the main text and associated tables/figures can be found in the central section of this report (“*Valuation of the MRS*”).
- For those familiar with the MRS, the appendices and supplementary information provide additional technical and background information to DoD Office of the Actuary work.
- In various places throughout this report, figures may not add exactly due to rounding.
- Many references to “active duty” personnel throughout the report also include full-time support reservists. Similarly, many references to “reservists” or “selected reservists” exclude full-time support reservists.
- DoD Office of the Actuary contact information is located in the “*Actuarial Certification*” section of this report (page 2).

## ABBREVIATIONS AND TERMS

<b>AEAN</b>	Aggregate Entry-Age Normal cost funding method
<b>Board</b>	DoD Board of Actuaries
<b>COLA</b>	Cost-of-Living Adjustment
<b>CPI</b>	Consumer Price Index
<b>CSB/Redux</b>	Career Status Bonus election combined with Reduced Benefit Formula
<b>DIC</b>	Dependency and Indemnity Compensation
<b>DoD</b>	Department of Defense
<b>FY</b>	Fiscal Year
<b>GORGO</b>	Actuarial Projection Model used by DoD OACT
<b>MRF</b>	Military Retirement Fund
<b>MRS</b>	Military Retirement System
<b>NCP</b>	Normal Cost Percentage
<b>P.L.</b>	Public Law
<b>RSFPP</b>	Retired Serviceman’s Family Protection Plan
<b>OACT</b>	DoD Office of the Actuary
<b>SBP</b>	Survivor Benefit Plan
<b>Services</b>	Army, Navy, Air Force, Marines
<b>UFL</b>	Unfunded Liability
<b>U.S.C.</b>	United States Code
<b>VA</b>	Department of Veterans Affairs

**GENERAL INFORMATION AND KEY RESULTS**  
**Military Retirement System – For Fiscal Year ending September 30, 2011**

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**1. Name of Plan:**

Military Retirement System

**2. Name and Address of Plan Sponsor:**

Department of Defense  
 1400 Defense Pentagon  
 Washington, DC 20301-1400

**3. Type of Plan Entity:**

Single-employer

**4. Type of Plan:**

Defined Benefit

**5. Establishment of Funding Arrangement:**

Public Law 98-94 (currently Chapter 74 of Title 10, U.S.C.)

**6. Administrative Costs:**

Not borne by the Plan

**7. Funding Arrangement:**

Trust Fund

**8. Actuarial Cost Method:**

Aggregate Entry-Age Normal

**9. Oversight:**

DoD Board of Actuaries. The Board approves methods and assumptions used in the valuation. The current members of the Board are:

James F. Verlautz, Chairman  
 Marcia A. Dush  
 Ronald Gebhardtsbauer

**10. Plan Participant Information at End of Plan Year:**

	<u>Members</u> (in 000s)	<u>Annualized Pay</u> (\$ in billions)
Active Duty and Full-time Reservists:	1,487	\$57.08
Selected Drilling Reservists:	771	\$5.80
Non-Selected Reservists – w/ 20 years:	218	(N/A)
Nondisability Retirees:	1,838	\$45.89
Disability Retirees:	95	\$1.36
Surviving Families:	295	\$3.62

\*\*\* Only retirees and survivors are paid from the Military Retirement Fund. \*\*\*

**GENERAL INFORMATION AND KEY RESULTS (Continued)**  
**Military Retirement System – For Fiscal Year ending September 30, 2011**

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**11. Valuation Input Data:**

Extracts from files maintained by the Defense Manpower Data Center, and  
Files submitted by the Defense Finance and Accounting Service

**12. Retirement Criteria:**

- A. Nondisabled Retirement from Active Duty - Immediate after 20 years of service
- B. Disabled Retirement – Immediate, generally with no years of service requirement
- C. Nondisabled Retirement from Reserve Duty - Deferred to age 60 (or earlier in some cases) after 20 years of service

**13. Actuarial Assumptions:**

A. Economic:

(Annual Rates)

- 1) Inflation – 3.0%
- 2) Salary – 3.75%
- 3) Interest – 5.75%

B. Demographic:

- 1) Mortality and other assumptions: Based on Plan experience.
- 2) Mortality Improvement: Based on Plan experience (generally).

**14. Accounting Results During Fiscal Year 2011:**

(\$ in billions)

- A. Benefits paid to participants: \$ 51.0
- B. Contributions from services: \$ 21.0
- C. Contributions from Treasury: \$ 66.4
- D. Investment Income: \$ 18.0

**15. Actuarial Results at End of Fiscal Year 2011:**

(\$ in billions)

- A. Present Value of Future Benefits: \$1,512.4
- B. Actuarial Accrued Liability: \$1,273.3
- C. Actuarial Value of Assets: \$ 376.1
- D. Unfunded Accrued Liability: \$ 897.2
- E. Funded Ratio (C./B.): 30%

**16. Normal Cost Percentages Applied to Fiscal Year 2013 Basic Pay:**

	<u>DoD</u>	<u>Treasury</u>	<u>Total</u>
Full-time:	32.1%	11.2%	43.3%
Part-time:	24.4%	3.2%	27.6%

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## SUMMARY OF CHANGES FOR THE SEPTEMBER 30, 2011, VALUATION

### Changes in Actuarial Assumptions

At its July 2011 meeting, the Office of the Actuary proposed and the DoD Board of Actuaries approved the following changes for the September 30, 2011, valuation.

#### *Retired Pay Offset Factors*

The Board approved an updated set of full and partial offset factors, and retired pay adjustment factors primarily related to disability compensation received from the Department of Veterans Affairs (VA). They decreased the full-time DoD normal cost percentage (NCP)\* by 2.6 percentage points, and have no impact on the part-time NCP to the nearest 0.1 percentage point. The new factors led to an actuarial gain of \$5.4 billion (or 0.4% of the accrued liability) to the Fund. For the September 30, 2011, valuation, retired pay offset factors are described in Appendix F.

#### *Mortality Improvement Factors*

The Board approved the use of new factors that are based on military experience. They increased the full-time DoD NCP by 0.4 percentage points, and increased the part-time DoD NCP by 0.1 percentage point. The new factors led to an actuarial loss of \$10.0 billion (or 0.8%) to the Fund. For the September 30, 2011, valuation, mortality improvement factors are described in Appendix J.

#### *Miscellaneous Refinements*

The Board approved the implementation of other miscellaneous rate and factor updates including retiree divorce rates, and changing of the actuarial modeling platform. They had no effect on the full- and part-time DoD NCPs to the nearest 0.1 percentage point. The refinements had no effect to the nearest \$0.1 billion (or 0.0%) to the Fund. For the September 30, 2011, valuation, the retiree divorce rates are found in Appendix I.

#### *Physical Disability Board of Review (PDBR)*

The PDBR, established in P.L. 110-181, has the authority to reexamine the files of veterans medically separated with ratings under 30 percent and potentially offer disability retirements. Based on recent data, we estimated an actuarial loss of \$1.5 billion (or 0.1%) due to the PDBR. It had no effect on the full- and part-time DoD NCPs. The loss will be accounted for as a change in the actuarial experience. The Board assumed the additional disability retirements will be fully reflected in the starting data after a period of three years. The PDBR is discussed further in Appendix A.

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\* DoD pays only a portion of the total NCP. The portion attributable to concurrent receipt benefits is paid by Treasury.



**SUMMARY OF ANTICIPATED CHANGES  
FOR THE SEPTEMBER 30, 2012, VALUATION**

**Changes in Actuarial Assumptions**

At its July 2012 meeting, the DoD Board of Actuaries approved the following changes for the September 30, 2012, valuation. Note that all changes in accrued liabilities are estimated on a 9/30/2011 valuation basis.

*Interest Rate*

The Board approved a new long-term interest rate assumption of 5.5% (vs. 5.75%). The new assumption increases the full-time DoD NCP\* by 2.4 percentage points, and increases the part-time DoD NCP by 2.2 percentage points. OACT estimates the new assumption leads to an actuarial loss of \$57.4 billion (or 4.4% of the accrued liability) to the Fund. For the September 30, 2011, valuation, long-term economic assumptions are shown in Appendix D.

*Salary Increase*

The Board approved a new long-term, across-the-board salary increase assumption of 3.5% (vs. 3.75%). The new assumption decreases the full-time DoD NCP by 1.1 percentage points, and decreases the part-time DoD NCP by 1.3 percentage points. OACT estimates the new assumption leads to an actuarial gain of \$10.7 billion (or 0.8%) to the Fund. For the September 30, 2011, valuation, long-term economic assumptions are shown in Appendix D.

*Reserve Valuation*

The Board approved a new model used to value retired and survivor pay for the reserves. It decreases the full-time DoD NCP by 1.2 percentage points, and decreases the part-time NCP by 1.0 percentage point. OACT estimates the change leads to an actuarial loss of \$8.9 billion (or 0.7%) to the Fund. For the September 30, 2011, valuation, reserve valuation assumptions are described in Appendix H.

*Temporary Disability Retiree List (TDRL) Valuation Rates*

The Board approved an update to rates used to value retired pay for retirees on TDRL. The change has no effect on the full- and part-time DoD NCPs to the nearest 0.1 percentage point. OACT estimates the change leads to an actuarial gain of \$0.8 billion (or 0.1%) to the Fund. For the September 30, 2011, valuation, TDRL rates are described in Appendix I.

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\* DoD pays only a portion of the total NCP. The portion attributable to concurrent receipt benefits is paid by Treasury.

**SUMMARY OF ANTICIPATED CHANGES  
FOR THE SEPTEMBER 30, 2012, VALUATION  
(Continued)**

*Survivor Valuation Rates*

The Board approved an update to rates used in the valuation of survivor pay. They increase both the full- and part-time time DoD NCPs by 0.1 percentage point. OACT estimates the rate updates lead to an actuarial loss of \$6.1 billion (or 0.5%) to the Fund. For the September 30, 2011, valuation, the rates are found in Appendices F, I, and J.

*Normal Cost Weighting Factors*

The Board approved an updated set of factors used to weight the NCPs associated with the different retirement benefit formulas. The change has no effect on the full-time DoD NCP to the nearest 0.1 percentage point, and increases the part-time DoD NCP by 0.1 percentage point. OACT estimates the factor updates have no effect on the actuarial gain/loss to the nearest \$0.1 billion (or 0.0%) to the Fund. For the September 30, 2011, valuation, the weighting factors are described in Appendix E.

**Changes in Benefits**

*Temporary Early Retirement Authority (TERA) Reinstitution*

The FY 2012 National Defense Authorization Act (P.L. 112-181) reinstated TERA, from January 2012 through December 2018, which allows the Services to voluntarily retire active duty members with more than 15 years but less than 20 years of active service. Since it is not anticipated this authority will be used to a large extent, the Board approved recognizing the effect as actuarial experience with no modeling changes. It has no effect on the full- and part-time DoD NCPs. The Board will monitor TERA usage in the future. TERA is discussed further in Appendix A.

## **VALUATION OF THE MILITARY RETIREMENT SYSTEM**

### **Introduction**

The Military Retirement System provides benefits for retirement from active duty and from the reserves, disability retirement benefits, optional survivor coverage, and a special compensation program for certain disabled retirees. A detailed description of benefits can be found in Appendix A, and a history of the system is in Appendix B.

Public Law (P.L.) 98-94 (currently Chapter 74 of Title 10, U.S.C.) established an aggregate entry-age normal cost funding method for the Military Retirement System starting October 1, 1984. Under this law, DoD pays the normal cost of the system and the Treasury Department makes payments from general revenues to amortize the unfunded liability, including any gains or losses that have arisen from assumption or benefit changes, or from actual experience differing from assumed experience. P.L. 108-136 modified this process such that DoD's normal cost contribution excludes the cost due to Concurrent Receipt benefits (refer to Appendix A for more information on Concurrent Receipt provisions). Treasury's total contribution includes an additional amount to fund the normal cost for Concurrent Receipt benefits.

P.L. 98-94 also established an independent three-member DoD Retirement Board of Actuaries who were appointed by the President. The Board is required to review valuations of the Military Retirement System; to determine the method of amortizing unfunded liabilities; to report annually to the Secretary of Defense; and to report to the President and the Congress on the status of the Military Retirement Fund at least every four years. The DoD Office of the Actuary provides all technical and administrative support to the Board. P.L. 110-181 eliminated the Retirement and Education Benefits Boards, and created a new single DoD Board of Actuaries appointed by the Secretary of Defense. Board duties with respect to the Retirement and Education Benefits Funds are similar, and the new law expands the Board's responsibilities to include oversight of any other Fund the Secretary of Defense deems necessary.

The terms of the Board members are fifteen years and a member can be removed only for misconduct or failure to perform the duties of the office. The current Board members are James F. Verlantz (Chairman), Marcia A. Dush, and Ronald Gebhardtsbauer. The DoD Chief Actuary is the Executive Secretary for the Board.

Military retired pay is based on "basic pay." This is the principal element of military compensation that all members receive; however, it is not analogous to private or public sector salaries for comparative purposes. Reasonable comparisons can be made to Regular Military Compensation (RMC). RMC is the sum of (1) basic pay, (2) the housing allowance, which varies by grade, location, and dependency status, (3) the subsistence allowance and, (4) the tax advantages accruing to allowances because they are not subject to federal income tax. Consequently, comparisons of military retired pay to other pension systems should recognize the relationship to RMC rather than to basic pay only. Appendix A contains a more complete description of this topic.

**Valuation Data and Procedure**

The valuation input data were extracted from files maintained by the Defense Manpower Data Center (DMDC). Data on individual retirees and survivors come from official files submitted by the Defense Finance and Accounting Service (DFAS). Reserve data are obtained from the Reserve Component Common Personnel Data System (RCCPDS), the official source for all reserve strengths and statistics. The DoD Office of the Actuary (OACT) reviews the data for reasonableness and consistency, but does not audit the data and relies on the file suppliers for its accuracy and comprehensiveness.

Dollar amounts for the below years include the subsequent January 1st, across-the-board pay raise. These totals are summarized in Table 1.

<b>TABLE 1</b>		
<b>INITIAL ACCOUNTING FIGURES AS OF SEPTEMBER 30</b>		
	<u>2011</u>	<u>2010</u>
Total Active Duty Personnel + Full-Time Reservists	1,486,853	1,493,233
Total Annualized Basic Pay	\$57.08 billion	\$56.19 billion
Total Selected Drilling Reservists	771,080	773,286
Total Annualized Basic Pay	\$5.80 billion	\$5.77 billion
Total Non-Selected Reservists (with 20 years)	218,090	220,080
Total Annualized Basic Pay	(N/A)	(N/A)
Total Number of Nondisability Retirees	1,838,042	1,824,539
Total Annualized Retired Pay	\$45.89 billion	\$45.44 billion
Total Number of Disability Retirees	95,051	92,804
Total Annualized Retired Pay	\$1.36 billion	\$1.37 billion
Total Number of Surviving Families	294,794	294,707
Total Annualized Survivor Annuities	\$3.62 billion	\$3.62 billion

Note: Some amounts do not reflect benefit increases described in Appendix A. Costs, liabilities, and outlays in this report, however, reflect these benefit increases unless otherwise stated. Only retirees and survivors are paid from the Military Retirement Fund.

Population and pay projections are generated by an actuarial projection model (GORGO<sup>1</sup>). GORGO is a deterministic model; use of a deterministic model assumes the average outcome will occur annually over a period of time. When projecting a large population such as the military the law of large numbers is used to control the various risks (such as mortality).

Due to law changes, additional adjustments to the pay projection are made outside of GORGO. For use in this model, the data on active duty personnel and drilling reservists are grouped into cells by age and number of years of service. Each cell contains the number and the average basic pay for personnel with that particular combination of age and length of service. Data on the retired population and surviving families are grouped into cells by age, and each cell contains the number and total net annualized retired pay or survivor annuity.

Separate data arrays are maintained in GORGO for each of the population categories listed in Table 2. These data arrays are displayed in Appendix C.

In GORGO, these starting populations are projected year by year into the future. Each year personnel are moved from one population category to another (e.g., from active to retired, or dropped from the system altogether) by means of decrement rates such as withdrawal, nondisability retirement, temporary disability, permanent disability, transfer, death with and without survivors, etc. Basic pay scale increases are assumed to be 3.75 percent per year. Basic pay is also increased by individual promotion and longevity increases. Generally, retired pay and survivor annuities are increased by cost-of-living adjustments (COLAs) of 3 percent per year for retirees and survivors who receive a full COLA. At the end of each year, the number of people and the amounts paid in basic pay and benefits are saved, and the population is aged. After 100 years, when an immaterial number (less than 0.01 percent) of basic pay and benefit expenditures are projected, the present values of the series of future benefit payments and future basic pay outlays are determined, using the valuation interest rate of 5.75 percent per year. Because no new entrants come into the system, the projection is said to be “closed group.”

There is also an option in GORGO for an “open group” projection in which new entrants are added each year to meet projected endstrengths. Detailed results of an open group projection of the Military Retirement System appear in Appendix K.

An open group projection also appears in Table 9. This projection, which shows the past and projected flow of plan assets, includes the total basic payroll over the next 25 years, the normal cost contributions, the payments to amortize the unfunded liability, investment income, fund disbursements, and the fund balance. All of these items are discussed in detail throughout the text of this report. An overview of the GORGO process is illustrated in Figure 1.

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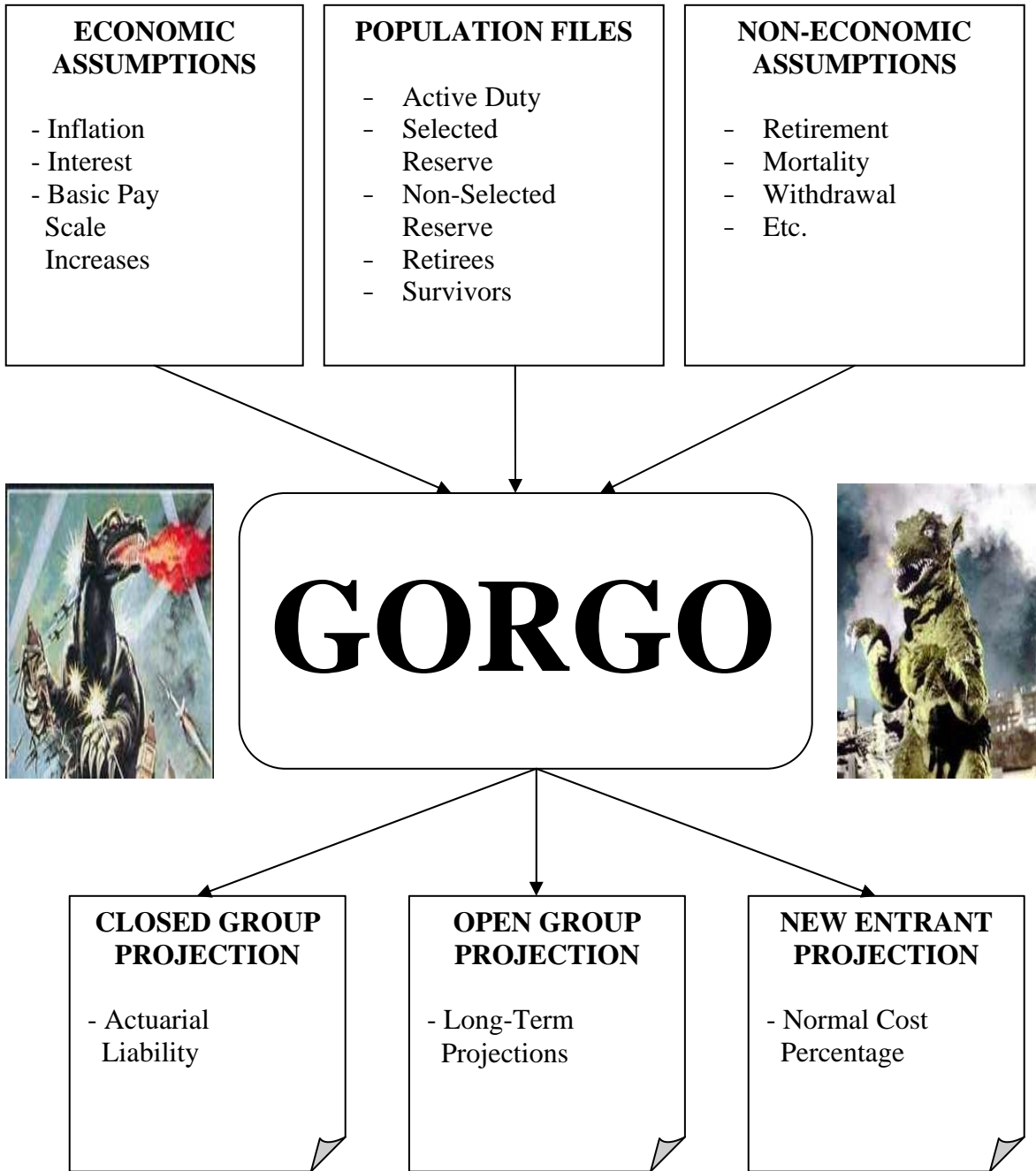
<sup>1</sup> GORGO is the name given to the computer program by a former DoD Chief Actuary. Due to the program size, it was named after a monster featured in a 1961 British science fiction movie based on a variation of *Godzilla*.

TABLE 2  
GORG0 POPULATION CATEGORIES

1. Active duty populations and basic pay
  - a. Officers
  - b. Enlistees
2. Selected reserve populations, basic pay, and benefit formula
  - a. Officers
  - b. Enlistees
3. Non-selected reserve (those who have completed 20 good years and have not reached paid retirement) populations, basic pay, and benefit formula
  - a. Officers
  - b. Enlistees
4. Retiree populations, retired pay, and benefit formula
  - a. Nondisabled officers
  - b. Nondisabled enlistees
  - c. Reserve officers
  - d. Reserve enlistees
  - e. Disabled officers (Permanent and Temporary)
  - f. Disabled enlistees (Permanent and Temporary)
5. Surviving families in a survivor benefit plan, total annuities, and benefit formula
  - a. Retired Serviceman's Family Protection Plan (RSFPP)
  - b. Survivor Benefit Plan (SBP)
  - c. Reserve Component Survivor Benefit Plan (RCSBP)
  - d. Death on active duty
  - e. Minimum income
6. Typical new-entrant cohort
  - a. Officers
  - b. Enlistees

FIGURE 1

GORGO PROCESS OVERVIEW



Economic assumptions, i.e., the annual rate of inflation, the annual basic pay scale increases, and the annual valuation interest rate, were decided upon by the DoD Board of Actuaries after extensive analysis of past trends, current environment, and future expectations. A discussion of these trends and other considerations is contained in Appendix D.

The decrement rates and other non-economic assumptions can be categorized as follows:

1. Active duty decrement rates
2. Retiree and survivor decrement rates
3. Drilling and non-drilling (with 20 good years) reserve decrement rates
4. Actuarial projection model parameters
5. Other rates (e.g., mortality improvement)

The decrement rates and GORGO parameters are generally based on military-specific experience. The rates and descriptions of how they were derived appear in Appendixes G through J. The actuarial projection model parameters, dealing with such matters as the survivor benefit elections, premium deductions, and member/beneficiary age differences, appear in Appendix F. In general, the valuation results are most sensitive to changes in the economic and retention assumptions, where retention refers to the active and reserve duty withdrawal/reentrant and separation rates.

### **Assets**

The assets of the Military Retirement Fund (the Fund) are invested in special issue Treasury obligations bearing interest at rates determined by the Secretary of the Treasury taking into consideration current market yields for outstanding marketable U.S. obligations of comparable maturities. Each security issued to the Fund “mirrors” a security that has been issued to the public, i.e., it has the same maturity date and coupon rate. The special issue “mirrored” security may have been issued recently, or at any time in the past. Under current procedures adopted by Treasury, the investment manager (DFAS Trust Fund Accounting Division) is permitted to redeem long-term special issue securities at any time before maturity for their fair market value, which is based on the public issue bid price with the same maturity date and coupon rate. However, Treasury policy encourages a buy-and-hold approach giving consideration to the needs of the Fund in determining the maturities of securities purchased.

The investment manager must follow the asset investment strategy approved by the DFAS Investment Board at their semiannual meetings. The current investment strategy includes investing the assets so that the Fund generates sufficient cash to fund benefit payments and expenses as they come due. Many considerations are taken into account when making investment decisions, including balancing various risks, targeting an expected average maturity of future investments of 20 years (which is close to the duration of the liabilities) and current and expected economic conditions. A large majority of purchases are in Treasury Inflation-Protected Securities (TIPS). This strategy hedges almost all of the inflationary pressures while minimizing liquidity risks to the Fund. Timing issues and the inconsistency between the TIPS calculation of inflation (CPI-U) and the Fund’s crediting of inflation (CPI-W) to retiree and survivor benefits leave some residual inflationary risks.



For purposes of determining the unfunded liability, the assets of the Fund are valued using the amortized cost method. Under this method, the yield to maturity of a security valued at any point in time is equal to the yield to maturity at the time of purchase. In the valuation of the Military Retirement System, the amortized cost value is referred to as the “actuarial value of assets.” The actuarial value of assets is determined by amortizing premium and discount over the life of the securities. The total investment return includes: the interest coupons received; the change in the amortized cost value during the year; and the inflation compensation accrued from the holdings of TIPS. The actuarial value of assets used in the determination of the unfunded liability includes the “accrued interest,” which is the amount of the next semiannual interest coupon payment that has accrued since the date of the last coupon payment. The amount of the “accrued interest” is determined by multiplying the coupon payment by the ratio of the time that has elapsed since the last coupon payment date to the total time between coupon payments. Table 3 presents a statement of the actuarial value of assets as of September 30, 2011; Table 4 presents a statement of changes in the actuarial value of assets. Other associated asset statements and disclosures are included in Appendix L; these should be used for descriptive purposes only.

In an open group projection of a retirement system where the total number of employees is held constant, the number of retirees and survivors on the rolls at year end, as well as the number withdrawing, retiring, dying, etc., each year, eventually levels out. When this occurs, the population is said to be “stationary.” In this report’s open group projection, DoD-projected endstrengths are used through the end of FY 2017 (as depicted in Table 9). Subsequently, the force size is held constant each year. However, the assumption of future mortality improvement results in a small increase in the retired population each year, so that the retired population is nearly, but not completely, stationary.

When a population becomes stationary, the fund disbursements increase each year at the same rate as total pay, which is 3.75 percent per year. If the method of funding the system is theoretically sound, the value of the assets in the Fund will also increase at this same rate, and thus will become a level percentage of pay. Otherwise, the fund would either increase indefinitely as a percent of pay, or decrease until it was zero. Practical considerations in this report’s open group projection, including mortality improvement, cause the fund disbursements to grow at an ultimate rate slightly higher than 3.75 percent.

A portion of the investment income must be used to generate the 3.75 percent Fund increases and cannot be used to pay benefits. For example, in the year 2036 (on Table 9), the projected normal cost payment (‘From DoD’ plus ‘From Treasury’) is \$56.2 billion, the investment income is \$172.6 billion, and Fund disbursements are \$115.8 billion. The beginning-of-year fund balance is \$3,024.3 billion. The two sources of Fund income will ultimately cover benefit payments plus 3.75 percent of the beginning-of-the-year fund balance. That is, the difference of \$56.2 billion plus \$172.6 billion and \$115.8 billion plus \$113.4 billion ( $\$3,024.3 \text{ billion} \times .0375$ )—where \$113.4 billion represents the amount that would be required for the Fund to grow by 3.75 percent during the year. The lack of equality in various years of the projection is due to (1) mortality improvement, which keeps the retired population from being stationary, and (2) the difference between the short-term economic assumptions and the ultimate economic assumptions (see Table 9 Footnote). Additionally, the projection uses unfunded liability amortization payments determined in the September 30, 2011, valuation.

TABLE 3  
 DEPARTMENT OF DEFENSE  
 MILITARY RETIREMENT FUND  
 STATEMENT OF ACTUARIAL VALUE OF ASSETS  
 (\$ in millions)

<u>Assets</u>	For the Plan Year Ended September 30:	
	<u>2011</u>	<u>2010</u>
1) Investments, at book value:		
U.S. Government securities <sup>1</sup>	\$372,066	\$318,565
2) Accounts receivable:		
a) Accrued interest <sup>2</sup>	\$3,405	\$3,122
b) Due from military retirees or their survivors	\$47	\$37
c) Intragovernmental	\$186	\$0
3) Cash:	<u>\$370</u>	<u>\$25</u>
 <u>Actuarial value of assets</u>	 <u>\$376,074</u>	 <u>\$321,749</u>

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<sup>1</sup> Book value is determined by 1) amortizing premium and discount over the life of the securities using the effective interest method and 2) including additional inflation compensation from TIPS. Additional adjustment made as a result of FY 2011 National Defense Authorization Act (P.L. 111-383) regarding retired pay date as follows:

	<u>2011</u>	<u>2010</u>
Investments, at book value (actual)	\$368,212	\$318,565
October Expenditures paid in September	<u>\$3,854</u>	<u>\$0</u>
Investments, at book value (adjusted)	\$372,066	\$318,565

<sup>2</sup> Includes accrued interest receivable and interest purchased.

TABLE 4  
DEPARTMENT OF DEFENSE  
MILITARY RETIREMENT FUND  
STATEMENT OF CHANGES IN ACTUARIAL VALUE OF ASSETS  
(\$ in millions)

	For the Plan Year Ended September 30:	
	<u>2011</u>	<u>2010</u>
1) Actuarial value of assets at beginning of plan year:	\$321,749	\$278,399
2) Investment income:		
a) Interest/Inflation	\$20,179	\$12,251
b) Net appreciation (depreciation) in book value of investments <sup>1</sup>	\$(2,181)	\$(1,833)
3) Contributions:		
a) From Services	\$20,970	\$20,377
b) Appropriation to amortize the unfunded liability	\$61,404	\$58,619
c) Appropriation for Treasury Normal Cost Contribution	\$4,950	\$4,516
4) Total additions (2 + 3):	\$105,322	\$93,930
5) Change in Accounts Receivable	\$10	\$5
6) Benefits paid to participants:	<u>\$51,007</u>	<u>\$50,585</u>
Actuarial value of assets (1 + 4 + 5 - 6):	<u>\$376,074</u>	<u>\$321,749</u>

<sup>1</sup> Investments bought, sold and held during the plan year ended September 30 appreciated (depreciated) in value as follows:

	<u>2011</u>	<u>2010</u>
Amortized discount	\$62	\$53
Amortized premium	\$(2,243)	\$(1,886)
Gain (loss) on sale *	<u>\$0</u>	<u>\$0</u>
	\$(2,181)	\$(1,833)

\* Gain (loss) on sale is only shown for informational purposes and is not included in the net appreciation (depreciation).

**Normal Cost**

The aggregate entry-age normal cost percentage (NCP) is the level percentage of basic pay that must be contributed over the entire active career of a typical group of new entrants to pay for all the future retirement and survivor benefits of that group. It is determined by using the new-entrant cohort as the starting population in a GORGO projection. Their basic pay and benefits are projected over 100 years, and then discounted back to the present (i.e. valuation date). Mathematically, a NCP is calculated by dividing the present value of future benefits for the entire cohort by the present value of future basic pay, evaluated at the assumed interest rate.

As described in Appendix A, there are three distinct nondisability benefit formulas (relevant to three distinct populations) within the Military Retirement System. Retirement benefits are based on final basic pay (Final Pay) for military personnel who first became members of a uniformed service before September 8, 1980, and are based on the average of the highest 36 months (High-3) for those becoming members on or after this date. Additionally, active duty military personnel who first became members of a uniformed service on or after August 1, 1986, are High-3 unless they elect Career Status Bonus (CSB)/Redux, which provides them with a bonus in exchange for reduced (Redux) benefits.

P.L. 99-661, enacted in November 1986, mandated that two separate NCPs be used for the valuation of the Military Retirement System. One NCP is for active duty personnel and full-time reservists (full-time) and one is for part-time reservists (part-time). Full-time and part-time NCPs are calculated for each of the three separate benefit formulas. Only full-time personnel are under the CSB/Redux benefit formula, thus an analogous part-time NCP is not applicable (“N/A”). The FY 2012 NCPs are summarized below (with DoD NCPs in parentheses):

<u>Benefit Formula</u>	<u>Full-Time</u>	<u>Part-Time</u>
Final Pay	48.7% (36.5%)	29.2% (25.8%)
High-3	44.2% (33.1%)	27.6% (24.4%)
CSB/Redux <sup>2</sup>	43.3% (32.1%)	-- N/A --

P.L. 108-136 required the Treasury to pay the normal cost arising from increased benefits due to Concurrent Receipt into the Fund at the beginning of each year. The NCPs shown above include the respective Total (DoD plus Treasury) and DoD percentages. Table 7 depicts the DoD and Treasury NCPs separately. The NCPs are further disaggregated in Table 6.

Table 5 shows the expected percentage of the total basic payroll that will be paid during the fiscal year to all personnel who entered a uniformed service since the beginning of fiscal year t-k, where k can take any value from 0 to 29 (or greater). (Note the same percentages are used for both active and reserve duty personnel.) For example, during FY 2012 (t = 2012), 3 percent of the expected basic payroll will be paid to personnel entering service in that fiscal year (k = 0), and 100 percent of the expected basic payroll will be paid to persons entering service since the beginning of FY 1981 (k = 31), while 77 percent will be paid since the beginning of FY 1997 (k = 15). The data and methodology used to derive this table are described in Appendix E.

<sup>2</sup> This NCP represents a blend of NCPs for CSB/Redux and HI-3 benefit formulas based on the CSB/Redux Election Proportion (see Appendix F).

TABLE 5

PERCENTAGE OF TOTAL BASIC PAYROLL PAID DURING FISCAL YEAR 't' TO ALL  
PERSONNEL ENTERING SERVICE DURING OR AFTER SPECIFIC YEAR OF ENTRY

<u>Year of Entry</u>	<u>Percentage</u>
t	3%
t-1 or later	10
t-2 or later	18
t-3 or later	26
t-4 or later	32
t-5 or later	38
t-6 or later	43
t-7 or later	47
t-8 or later	52
t-9 or later	56
t-10 or later	60
t-11 or later	63
t-12 or later	67
t-13 or later	70
t-14 or later	74
t-15 or later	77
t-16 or later	80
t-17 or later	83
t-18 or later	86
t-19 or later	89
t-20 or later	92
t-21 or later	94
t-22 or later	95
t-23 or later	96
t-24 or later	97
t-25 or later	98
t-26 or later	98
t-27 or later	99
t-28 or later	99
t-29 or later	100
t-30 (or greater)	:::

Notes:

- Based on basic payroll data for Fiscal Years 1987 to 1991, as described in Appendix E.
- The same percentages are used for both active and reserve duty personnel.

Since 100 percent of the basic payroll for FY 2012 is expected to be paid to personnel entering service since the beginning of FY 1981, the normal cost for personnel whose retirement benefits are based on Final Pay<sup>3</sup> receives no weight (it is shown for informational purposes). Of the post-FY 1980 new entrants, 98 percent is expected to be attributable to the CSB/Redux members (entering on or after August 1, 1986) and the remaining 2 percent to the High-3 members. The 98 percent was derived by interpolating between the factors for FY 1986 (k = 26) and FY 1987 (k = 25) years of entry. The FY 2012 weighted aggregate full- and part-time NCPs are obtained by weighting their respective NCPs for the CSB/Redux formula by 98 percent, and the NCPs for the High-3 formula by 2 percent. The resulting sum of the DoD and Treasury components of the weighted aggregate full-time NCP is 43.3 percent, and the weighted aggregate part-time NCP is 27.6 percent. Due to federal budget deadlines, the two NCPs used to determine the actual contributions to the Fund must be established in advance of implementation and may vary from those actually derived in a valuation.

Table 6 summarizes the components of the FY 2012 normal cost percentages.

TABLE 6				
NORMAL COST AS A PERCENT OF BASIC PAY (NCPs)				
(DoD Normal Cost Percentage in Parentheses)				
<u>FULL-TIME</u>	<u>FINAL PAY</u>	<u>HIGH-3</u>	<u>CSB/REDUX</u>	<u>FY 2012 Weighted</u>
Nondisability benefits	46.5 (34.9)	42.2 (31.7)	41.3 (30.7)	41.3 (30.7)
Disability benefits	0.8 (0.5)	0.7 (0.4)	0.7 (0.4)	0.7 (0.4)
Survivor benefits	<u>1.4 (1.1)</u>	<u>1.3 (1.0)</u>	<u>1.3 (1.0)</u>	<u>1.3 (1.0)</u>
Total	48.7 (36.5)	44.2 (33.1)	43.3 (32.1)	43.3 (32.1)
 <u>PART-TIME</u>				
Nondisability benefits	27.2 (24.1)	25.8 (22.8)	-- N/A --	25.8 (22.8)
Disability benefits	0.0 (0.0)	0.0 (0.0)	-- N/A --	0.0 (0.0)
Survivor benefits	<u>1.9 (1.7)</u>	<u>1.8 (1.6)</u>	-- N/A --	<u>1.8 (1.6)</u>
Total	29.2 (25.8)	27.6 (24.4)	-- N/A --	27.6 (24.4)
<ul style="list-style-type: none"> <li>- Note that columns may not add exactly due to rounding of the separate NCP components.</li> <li>- Disability benefits from part-time personnel are not currently modeled (in GORGO).</li> <li>- Only full-time personnel are under the CSB/Redux benefit formula, thus an analogous part-time NCP is not applicable (“N/A”).</li> </ul>				

<sup>3</sup> Personnel hired before September 8, 1980, have their retirement benefits based on Final Pay, but for purposes of determining the weights in the weighted NCP, we use personnel hired before October 1, 1980.

As can be determined from this table, about 95 percent of the full-time normal cost stems from nondisability retirement. Based on current decrement rates, 19 percent of a typical group of new entrants attains 20 years of active duty service and becomes eligible for nondisability retirement from active duty. Specifically, 49 percent of new officers and 17 percent of new enlistees attain 20 years of active duty service.<sup>4</sup> It should be noted that some military personnel who begin their careers on active duty move to the reserves and retire from there. This is modeled through the allocation of a portion of the reserve benefit, in present values terms, to the full-time normal cost (see Appendix F).

Table 10 lists the past and projected weighted aggregate full-time and part-time NCPs under current law in the normal cost columns. The columns are separated into the DoD and Treasury NCPs due to P.L. 108-136. In recent years both the full- and part-time sums of the DoD and Treasury component weighted aggregate percentages are at the level of the CSB/Redux normal cost percentages since virtually all non-retired personnel have entered the uniformed service on or after August 1, 1986. For example, in 2013, the full-time NCP is 43.3 percent ( $43.3 = 32.1 + 11.2$ ) and the part-time NCP is 27.6 percent ( $27.6 = 24.4 + 3.2$ ) [the above figures may not add due to rounding].

### **Amortization of Unfunded Liability**

Under P.L. 98-94, normal cost contributions began to be made by DoD on behalf of all military personnel on October 1, 1984. Since normal cost contributions had not been made for service prior to this date, there was an initial unfunded accrued liability, or “initial unfunded liability,” of \$528.7 billion as of September 30, 1984. If this amount had been deposited in the retirement fund on September 30, 1984, then it, together with the future normal cost payments to be made on behalf of all active duty personnel and drilling reservists over the balance of their active careers, plus investment earnings at the assumed rate, would have been sufficient to provide all expected retirement and survivor benefits for those in the system on that date.

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<sup>4</sup> As in past valuation reports, these percentages are stated from the perspective of a new entrant cohort still in active service surviving to its first fiscal-year boundary (i.e., September 30). If losses prior to the first fiscal-year boundary are taken into account, the percentages would be reduced by approximately 15 percent (19 percent would become 16 percent). The stated percentages also reflect the effect of reentrants, i.e., members who appear in the active duty population one year without having been there the year before, but are not new entrants. Without the effect of reentrants, the proportion of a typical group of new entrants who attain 20 years of active duty service is reduced from 19 percent to 15 percent. The paygrade transfer rates have no effect.

The Board of Actuaries originally determined that the initial unfunded accrued liability of the system (\$528.7 billion) should be amortized with payments equal to 33 percent of the second preceding fiscal year's basic payroll. It was originally projected that this method would amortize the initial unfunded liability over 60 years. However, economic assumption changes extended the amortization period well beyond 60 years. As a result, the Board revised the amortization method of the original unfunded liability in such a way that the amortization would have been completed in 2043. In more recent years, it was determined that the Military Retirement Fund was projected to have a negative balance for several years before becoming positive again. The Board decided to shorten the amortization period to 50 years in 1996. The Board again shortened the amortization period in 2007 to 42 years in order for the payments to cover the interest on the unfunded liability each year. The initial unfunded liability is now expected to be fully amortized in 2025.

Changes in the unfunded liability can also arise because of: 1) modifications to benefit provisions, 2) changes in actuarial assumptions, and 3) deviations in actual experience from expected experience (gains and losses). The Board approved a method to amortize these changes over 30 years by payments that increase in absolute value at the same rate as the annual long-term basic pay scale assumption (currently 3.75 percent). A detailed description of the methods and computations used to calculate the payment streams for changes in unfunded liability can be found in Appendix M.

### **Unfunded Accrued Liability as of September 30, 2011**

Table 7 summarizes the calculation of the unfunded accrued liability as of September 30, 2011. The present value of future benefits is obtained by projecting future benefits for the total covered population (closed group with no new entrants) as of September 30, 2011, and discounting these benefits back to the present (i.e. valuation date) at the assumed interest assumption. The GORGO actuarial model projects benefits for the current active and retired populations over the duration of their lifetimes. Due to recent law changes, additional adjustments to the pay projections are made outside of the GORGO model. The initial retirement benefits for military personnel are based on their total projected service at retirement, the applicable benefit formula, and assumed basic pay increases. Subsequent retirement benefits include assumed cost-of-living adjustments and the age 62 adjustment for those retiring under the CSB/Redux formula.

The present value of future normal cost contributions is obtained by (1) using GORGO to project future yearly full-time and part-time basic pay for the September 30, 2011, covered population, (2) multiplying the pay by the total projected (DoD and Treasury) full-time and part-time weighted aggregate entry-age NCPs, and (3) discounting the resulting normal costs back to September 30, 2011. For this closed group, the relative percentages of basic pay subject to the three separate benefit formulas will change over time as fewer members are covered under the High-3 and Final Pay formulas. The *weighted* full- and part-time NCPs that are multiplied against the future full- or part-time pay in each year reflect expected changing percentages of pay going to members covered by the multiple benefit formulas. This weighted procedure is roughly equivalent in the aggregate to projecting separately the pay of each of the six groups of active duty and selected reserve members and multiplying it by the individual group's NCP.



The sum of the DoD and Treasury components of the weighted aggregate entry-age normal cost percentages for FY 2012 are 43.3 percent full-time and 27.6 percent part-time. Federal budget deadlines require the establishment of normal cost percentages in advance of the valuation. Consequently, the percentages actually implemented in a fiscal year may vary from those derived in the valuation. These differences, which are small unless major actuarial assumptions are changed, are reflected in the unfunded liability by using the implemented normal cost in the first year of the projection.

Deducting the present value of future normal costs and the actuarial asset value of the Fund from the present value of future benefits leaves an unfunded liability of \$897.2 billion as of September 30, 2011. This was 0.5 percent more than the expected unfunded liability of \$890.5 billion. The expected unfunded liability is what the unfunded liability would have been if all actuarial assumptions had been realized and all benefit formulas had remained unchanged. The fact that the actual unfunded liability is more than expected means that there was a total FY 2011 loss of \$6.8 billion (\$890.5 billion minus \$897.2 billion). The components of this loss are outlined in Table 8. The total experience loss is divided into four segments: (1) the loss due to the difference between the actual interest rate (4.9%) earned by the Fund and the assumed interest rate (5.75%); (2) the loss due to the actual COLA (3.6%) increase being different from that assumed (3.0%); (3) the gain due to the actual salary (1.6%) increase being different from that assumed (3.75%); and (4) the loss due to the difference between the actual experience and all non-economic assumptions for the year. See the Summary of Changes for the September 30, 2011, Valuation for a more detailed discussion of the actuarial assumptions outlined in Table 8.

These changes in unfunded liability were used to calculate the October 1, 2012, unfunded liability payment. The total payment was determined to be \$67.733 billion. This total payment includes (1) a payment of \$78.598 billion to amortize the original unfunded liability, plus (2) an amount of \$0.386 billion to amortize changes in actuarial assumptions, plus (3) an amount of \$7.930 billion to amortize benefit changes, less (4) an amount of \$19.181 billion to amortize total combined experience gains and losses through FY 2011. The detailed calculations of these payment components are located in Appendix M. Tables 11 and 12 show the projection of the unfunded liability payments and unfunded liability balances. Tables 9 and 10 display all projected transactions to the Fund.

Starting in FY 2005, the total payment to be made by Treasury includes the amount required by P.L. 108-136 to pay for the increased normal cost due to Concurrent Receipt benefits in addition to the unfunded liability amortization amount. The total Treasury payment on October 1, 2012, is \$74.524 billion (\$67.733 billion for the unfunded liability amortization + \$6.791 billion for Concurrent Receipt benefits). Detailed calculations of the total Treasury payment are also located in Appendix M.

Other measures of a retirement system's liabilities (required for private sector plans under Generally Accepted Accounting Principles [GAAP]) are the "Accumulated Plan Benefits" and the "Market Value of Assets." In prior years, both these items and explanatory notes were included in Appendix L. Currently, only the "Market Value of Assets" is shown for informational purposes as well as other financial statement disclosures and comparisons.

TABLE 7

**MILITARY RETIREMENT SYSTEM  
ACTUARIAL STATUS INFORMATION  
(\$ in billions)**

		For the Plan Year Ended September 30:	
		<u>2011</u>	<u>2010</u>
1.	Present value of future benefits		
	a. Annuitants now on roll	\$807.3	\$768.0
	b. Nonretired reservists	\$174.2	\$173.6
	c. Active duty personnel <sup>1</sup>	<u>\$530.9</u>	<u>\$516.5</u>
	TOTAL	\$1,512.4	\$1,458.1
2.	Present value of future normal cost contributions	\$239.1	\$232.9
3.	Actuarial accrued liability (1. – 2.)	\$1,273.3	\$1,225.2
4.	Actuarial value of assets <sup>2</sup>	\$376.1	\$321.7
5.	Unfunded accrued liability (3. – 4.)	\$897.2	\$903.5
6.	Funded Ratio (3. / 4.)	30%	26%
7.	DoD normal cost percentage (NCP) <sup>3</sup> to be applied to basic pay in fiscal year	<u>FY 2013</u>	<u>FY 2012</u>
	a. Full-time	32.1%	34.3%
	b. Part-time	24.4%	24.3%
8.	Treasury normal cost percentage (NCP) <sup>4</sup> to be applied to basic pay in fiscal year	<u>FY 2013</u>	<u>FY 2012</u>
	a. Full-time	11.2%	8.8%
	b. Part-time	3.2%	3.6%

Basic pay is only a portion of active duty military compensation. See The Military Retirement System: Benefits (Appendix A) for details.

<sup>1</sup> The future benefits of active duty personnel expected to retire as reservists are counted on line 1.b.

<sup>2</sup> The actuarial value of assets is determined using the amortized cost method from Table 4.

<sup>3</sup> Due to the need to establish the NCPs in advance of implementation (federal budget deadlines), the percentages actually used in a fiscal year may vary from the ones derived in the valuation.

<sup>4</sup> P.L. 108-136 requires the Department of Treasury to pay the normal cost resulting from the increase in benefits due to Concurrent Receipt.

TABLE 8  
 FY 2011 CHANGE IN UNFUNDED LIABILITY  
 (\$ in billions)

	For the Plan Year Ended September 30, 2011	
1. Actual unfunded accrued liability (9/30/11)	\$897.2	
2. Expected unfunded accrued liability (9/30/11)	\$890.5	
3. Total gain/(loss)	(\$6.8)	0.5%
a. Total experience gain/(loss)	(\$2.2)	0.2%
Interest assumption	(\$3.3)	0.9%
COLA assumption	(\$4.6)	0.4%
Salary assumption	\$8.9	0.7%
Non-economic assumptions	(\$3.2)	0.3%
b. Total benefit change gain/(loss)	\$0.0	0.0%
c. Total assumption change gain/(loss)	(\$4.6)	0.4%
New Mortality Improvement Factors	(\$10.0)	0.8%
Updated Retired Pay Offset Factors	\$5.4	0.4%
Miscellaneous Refinements	\$0.0	0.0%

In this table, negative values represent actuarial losses and positive values represent actuarial gains.

Percentages shown are ratios of absolute values of each gain or loss component to the accrued liability (Table 7, line 3), except the percentage given for the experience gain/(loss) due to the interest assumption: it is the ratio of the gain or loss to the actuarial value of assets (Table 7, line 4).

TABLE 9

MILITARY RETIREMENT SYSTEM  
PAST AND PROJECTED FLOW OF PLAN ASSETS<sup>1</sup>  
(In Billions of Dollars and as a Proportion of Payroll)

Fiscal Year	Contributions Received										Fund Balance, End of Year <sup>6</sup>		
	Basic Payroll <sup>2</sup>	From DoD, for Normal Costs <sup>3</sup>		From Treasury, for Normal Costs <sup>3</sup>		From Treasury, for Amortization of Unfunded Liability <sup>4</sup>		Investment Income		Fund Disbursements <sup>5</sup>			
1985	\$33.5	\$17.0	(50.7%)	---	---	\$9.5	(28.4%)	\$1.1	(3.3%)	\$15.8	(47.2%)	\$11.8	(35.2%)
1986	35.4	17.4	(49.2)	---	---	10.5	(29.7)	2.5	(7.1)	17.6	(49.7)	24.6	(69.5)
1987	36.4	18.3	(50.3)	---	---	10.5	(28.8)	3.6	(9.9)	18.1	(49.7)	38.9	(106.9)
1988	37.3	18.4	(49.3)	---	---	10.3	(27.6)	5.0	(13.4)	17.5	(46.9)	53.4	(143.2)
1989	38.6	18.5	(47.9)	---	---	9.8	(25.4)	6.1	(15.8)	20.2	(52.3)	67.6	(175.1)
1990	39.8	16.3	(41.0)	---	---	10.6	(26.6)	7.3	(18.3)	21.5	(54.0)	80.4	(202.0)
1991	42.3	17.2	(40.7)	---	---	10.8	(25.5)	8.5	(20.1)	23.1	(54.6)	93.7	(221.5)
1992	41.1	16.3	(39.7)	---	---	11.2	(27.3)	9.4	(22.9)	24.5	(59.6)	106.1	(258.2)
1993	38.9	13.2	(33.9)	---	---	12.3	(31.6)	10.0	(25.7)	25.7	(66.1)	115.9	(297.9)
1994	38.3	12.8	(33.4)	---	---	11.9	(31.1)	10.3	(26.9)	26.7	(69.7)	124.2	(324.3)
1995	37.1	12.2	(32.9)	---	---	11.5	(31.0)	10.9	(29.4)	27.8	(74.9)	131.0	(353.1)
1996	36.7	11.2	(30.5)	---	---	10.7	(29.2)	11.3	(30.8)	28.8	(78.5)	135.3	(368.7)
1997	36.8	11.1	(30.2)	---	---	15.2	(41.3)	11.9	(32.3)	30.2	(82.1)	143.3	(389.4)
1998	37.1	10.4	(28.0)	---	---	15.1	(40.7)	12.2	(32.9)	31.1	(83.8)	149.9	(404.0)
1999	37.6	10.4	(27.7)	---	---	15.3	(40.7)	12.4	(33.0)	31.9	(84.8)	156.0	(414.9)
2000	39.0	11.4	(29.2)	---	---	15.3	(39.2)	12.7	(32.6)	32.8	(84.1)	162.7	(417.2)
2001	40.9	11.4	(27.9)	---	---	16.1	(39.4)	13.2	(32.3)	34.1	(83.4)	169.2	(413.7)
2002	44.7	12.9	(28.9)	---	---	17.0	(38.0)	12.4	(27.7)	35.1	(78.5)	176.5	(394.9)
2003	52.0	13.7	(26.3)	---	---	17.9	(34.4)	10.0	(19.2)	35.6	(68.5)	182.6	(351.2)
2004	53.6	14.1	(26.3)	---	---	18.2	(34.0)	10.1	(18.8)	37.0	(69.0)	188.0	(350.7)
2005	56.3	15.0	(26.6)	\$1.5	(2.7%)	21.4	(38.0)	10.9	(19.4)	39.0	(69.3)	197.9	(351.5)
2006	54.0	13.9	(25.7)	2.3	(4.3)	23.2	(43.0)	12.3	(22.8)	41.1	(76.1)	208.4	(385.9)
2007	56.4	14.5	(25.7)	2.5	(4.4)	26.0	(46.1)	10.3	(18.3)	43.5	(77.1)	218.2	(386.9)
2008	59.2	16.1	(27.2)	2.8	(4.7)	46.2	(78.0)	15.6	(26.4)	45.8	(77.4)	253.1	(427.5)
2009	63.0	17.5	(27.8)	3.7	(5.9)	51.1	(81.1)	2.9	(4.6)	50.0	(79.4)	278.4	(441.9)
2010	64.4	20.4	(31.7)	4.5	(7.0)	58.6	(91.0)	10.4	(16.1)	50.6	(78.6)	321.7	(499.5)
2011	66.9	21.0	(31.4)	5.0	(7.5)	61.4	(91.8)	18.0	(26.9)	51.0	(76.2)	376.1	(562.2)
↑ ACTUAL ↑													
↓ PROJECTED ↓													
2012	\$62.8	\$21.0	(33.4%)	\$5.2	(8.3%)	\$64.8	(103.1%)	\$24.7	(39.4%)	\$52.7	(84.0%)	\$439.0	(699.2%)
2013	63.7	20.0	(31.4)	6.7	(10.5)	67.7	(106.4)	28.5	(44.8)	54.5	(85.6)	507.4	(796.9)
2014	65.1	20.4	(31.4)	6.8	(10.4)	70.3	(107.9)	32.6	(50.0)	56.1	(86.1)	581.4	(892.5)
2015	66.6	20.9	(31.4)	7.0	(10.4)	72.9	(109.4)	37.0	(55.5)	57.5	(86.3)	661.6	(992.9)
2016	68.4	21.4	(31.3)	7.1	(10.4)	75.6	(110.7)	41.7	(61.0)	59.0	(86.4)	748.5	(1,094.9)
2017	70.1	22.0	(31.3)	7.3	(10.4)	78.5	(111.9)	46.9	(66.8)	60.6	(86.4)	842.5	(1,201.4)
2018	72.1	22.6	(31.3)	7.5	(10.4)	81.4	(112.9)	52.4	(72.7)	62.0	(86.0)	944.4	(1,309.1)
2019	74.4	23.3	(31.3)	7.8	(10.4)	84.5	(113.5)	58.4	(78.5)	63.8	(85.7)	1,054.6	(1,416.9)
2020	76.8	24.1	(31.3)	8.0	(10.4)	87.6	(114.1)	64.9	(84.6)	65.6	(85.4)	1,173.7	(1,528.0)
2021	79.3	24.8	(31.3)	8.3	(10.4)	90.9	(114.6)	72.0	(90.7)	67.9	(85.6)	1,301.8	(1,641.3)
2022	82.1	25.7	(31.3)	8.5	(10.4)	94.3	(114.9)	79.5	(96.8)	70.4	(85.8)	1,439.5	(1,753.1)
2023	85.0	26.6	(31.3)	8.8	(10.4)	97.9	(115.2)	87.6	(103.0)	73.1	(86.0)	1,587.3	(1,867.8)
2024	87.9	27.5	(31.3)	9.1	(10.4)	101.5	(115.5)	96.2	(109.5)	75.9	(86.3)	1,745.9	(1,986.0)
2025	90.9	28.5	(31.3)	9.5	(10.4)	105.4	(115.8)	105.5	(116.1)	78.7	(86.5)	1,916.0	(2,106.7)
2026	94.1	29.5	(31.3)	9.8	(10.4)	109.3	(116.1)	115.5	(122.7)	81.6	(86.7)	2,098.4	(2,229.6)
2027	97.4	30.5	(31.3)	10.1	(10.4)	-6.2	(-6.4)	119.3	(122.5)	84.6	(86.9)	2,167.5	(2,225.8)
2028	100.8	31.5	(31.3)	10.5	(10.4)	14.4	(14.3)	124.4	(123.5)	88.0	(87.3)	2,260.4	(2,243.0)
2029	104.4	32.7	(31.3)	10.8	(10.4)	15.0	(14.4)	129.8	(124.4)	91.4	(87.6)	2,357.2	(2,258.8)
2030	108.2	33.8	(31.3)	11.2	(10.4)	15.5	(14.4)	135.3	(125.1)	94.6	(87.5)	2,458.6	(2,272.9)
2031	112.2	35.1	(31.3)	11.6	(10.4)	16.1	(14.4)	141.2	(125.8)	97.9	(87.3)	2,564.7	(2,286.4)
2032	116.3	36.4	(31.3)	12.1	(10.4)	16.7	(14.4)	147.3	(126.6)	101.4	(87.2)	2,675.7	(2,300.8)
2033	120.6	37.7	(31.3)	12.5	(10.4)	17.4	(14.4)	153.6	(127.4)	104.9	(87.1)	2,792.0	(2,316.0)
2034	125.1	39.1	(31.3)	13.0	(10.4)	18.0	(14.4)	160.3	(128.2)	108.5	(86.7)	2,913.9	(2,329.4)
2035	129.9	40.7	(31.3)	13.5	(10.4)	2.0	(1.5)	166.4	(128.1)	112.1	(86.3)	3,024.3	(2,327.7)
2036	135.0	42.2	(31.3)	14.0	(10.4)	0.9	(0.7)	172.6	(127.9)	115.8	(85.8)	3,138.3	(2,325.1)

TABLE 9 FOOTNOTES

NOTE REGARDING OPEN GROUP PROJECTIONS: The 25-year open group projection in this report presents results that reflect the expected path of the Military Retirement System based on the benefit provisions, data, methods and assumptions described herein. The values displayed in this projection are future-year dollars. While there is value to such results, at the same time they should be used with caution; they are intended to provide the user with a general directional magnitude. Uncertainty inherently increases with the length of the projection period. There is no reasonable expectation that events can be forecast with any degree of certainty or precision over a period of even 25 years. To the extent the underlying assumptions are not realized, actual results will be different. Benefit changes, economic conditions, and other environmental factors are not perfectly predictable.

Additionally, it should be noted that the fundamental purpose of the Office of the Actuary's valuation is to produce actuarial liability and normal cost amounts, both of which are done on a closed group basis. In performing the valuation calculations, some assumptions represent long-run average expectations. This is appropriate for such liability and normal cost determinations. The open group projection uses many of the same long-run average assumptions as are used in the actuarial liability and normal cost calculations, but incorporates some adjustments for short-term expectations (e.g., the use of Office of Management and Budget [OMB] short-term economic assumptions for basic pay and COLA increases).

The projection in this publication is intentionally limited to 25 years. Additional projection years, as well as projections assuming different economic assumptions, may be requested.

- <sup>1</sup> P.L. 98-94 established the Military Retirement Fund. Under the law, DoD is responsible for the normal cost payment and Treasury is responsible for the payments on the unfunded liability. P.L. 108-136 assigned Treasury the responsibility of funding the normal cost resulting from increased benefits due to Concurrent Receipt, starting in FY 2005. There are no employee contributions to the Fund.
- <sup>2</sup> DoD-projected endstrengths are used through the end of FY 2017 and constant force strengths thereafter. Basic pay is only a portion of military compensation. See The Military Retirement System: Benefits in Appendix A for details. The drop in Basic Payroll from FY 2011 to FY 2012 reflects the expectation of decreased reserve (part-time) mobilizations as well as the inherent challenges of the reserve projection (discussed further in Appendix H).
- <sup>3</sup> Due to federal budget deadlines, normal cost percentages are established in advance of implementation. The percentage actually used and displayed here may vary from the one derived in the valuation as of the end of the previous year. Starting in FY 1987, NCPs have been developed separately for the full-time and part-time basic payrolls. Beginning in FY 2008, mobilized reserve pay has been charged against the part-time NCP. However, this report includes mobilized reserve pay as part of the full-time payroll from FY 2008 through FY 2010.

TABLE 9 FOOTNOTES (Continued)

- <sup>4</sup> Reflects amortization payments for FY 2013 and thereafter determined in the September 30, 2011, valuation. The FY 2027 payment depicts a negative value, implying the Fund will have to pay Treasury this amount. There is no mechanism that would allow for this to occur under current law. The Board is aware of this situation and will monitor.
- <sup>5</sup> Disbursements are on a cash basis. Beginning in December 1984, entitlements obligated for a month have been paid at the beginning of the following month. Prior to this date, entitlements were paid at the end of the month of obligation. Consequently, FY 1985 disbursements include only 11 months of payments. The FY 2011 National Defense Authorization Act allowed for retired pay to be paid on the previous business day if the first of the month falls on a weekend or holiday. This is not accounted for in the projected Fund Disbursements or Balances in order to give the projection a smooth trajectory.
- <sup>6</sup> This fund balance (on a book value basis) reflects cash disbursements during the year. On September 30, 2011, assets in the Fund totaled \$376.1 billion.

**OTHER NOTES:** Mortality rates that are applied in the valuation to active duty members, nondisabled retirees, and survivors, are subject to improvement over time. See Appendix J for details. People and pay underlying the projection can be found in Appendix K. The table does not reflect future gains or losses due to experience being different than assumed. Consequently, only payments on the total unfunded liability as of September 30, 2011, are reflected.

ANNUAL ECONOMIC ASSUMPTIONS USED IN PROJECTIONS OF PLAN ASSETS

<u>Fiscal Year</u>	<u>Full COLA</u>	<u>Basic Pay</u>	<u>Interest</u>
2012	3.6%	1.6%	5.75%
2013	1.9	2.0	5.75
2014	1.9	3.5	5.75
2015-16	2.0	3.5	5.75
2017-20	2.1	3.5	5.75
2021	3.0	3.5	5.75
2022+	3.0	3.75	5.75

Full COLA is equal to full cost-of-living increases to retiree and survivor annuities. Basic Pay is the rate at which the entire military pay table increases (hence excludes longevity or promotion-and-merit increases). They are applied on an across-the-board basis and typically occur each January 1<sup>st</sup>. Interest assumptions pertain to annual, aggregate Fund yield on all cash flows. The above COLA and Basic Pay assumptions are from the OMB; the interest (fund yield) is the Board of Actuaries long-term interest assumption. Long-term annual economic assumptions (used throughout the projection in the normal cost and unfunded liability calculations) are 3.0% COLA, 3.75% basic pay, and 5.75% interest.

**TABLE 10**  
**MILITARY RETIREMENT SYSTEM**  
**PAST AND PROJECTED PAYROLL AND NORMAL COST PAYMENTS**  
*(In Billions of Dollars and as a Proportion of Payroll)*

Fiscal Year	Payroll			DoD Normal Cost Payments				Treasury Normal Cost Payments				Normal Cost Payments	
	Full-Time	Part-Time	Total	Full-Time		Part-Time		Full-Time		Part-Time		Total	
1985	\$30.6	\$2.9	\$33.5	\$15.5	(50.7%)	\$1.5	(50.7%)	\$0.0	---	\$0.0	---	\$17.0	(50.7%)
1986	32.3	3.1	35.4	16.4	(50.7)	1.6	(50.7)	0.0	---	0.0	---	17.9	(50.7)
1987	33.4	3.0	36.4	17.4	(52.2)	0.8	(26.4)	0.0	---	0.0	---	18.2	(50.1)
1988	34.0	3.3	37.3	17.4	(51.2)	0.9	(26.1)	0.0	---	0.0	---	18.3	(49.0)
1989	35.0	3.6	38.6	17.6	(50.2)	0.9	(25.7)	0.0	---	0.0	---	18.5	(47.9)
1990	36.0	3.7	39.7	15.8	(43.9)	0.5	(13.4)	0.0	---	0.0	---	16.3	(41.1)
1991	38.6	3.7	42.3	16.7	(43.2)	0.5	(13.3)	0.0	---	0.0	---	17.2	(40.6)
1992	36.9	4.1	41.0	15.8	(42.7)	0.5	(13.3)	0.0	---	0.0	---	16.3	(39.8)
1993	35.1	3.8	38.9	12.8	(36.4)	0.4	(10.6)	0.0	---	0.0	---	13.2	(33.9)
1994	34.5	3.8	38.3	12.4	(36.0)	0.4	(10.6)	0.0	---	0.0	---	12.8	(33.5)
1995	33.4	3.8	37.2	11.9	(35.5)	0.4	(10.5)	0.0	---	0.0	---	12.3	(32.9)
1996	33.1	3.7	36.8	10.9	(32.9)	0.4	(9.6)	0.0	---	0.0	---	11.2	(30.6)
1997	33.2	3.7	36.9	10.8	(32.6)	0.4	(9.6)	0.0	---	0.0	---	11.2	(30.3)
1998	33.4	3.7	37.1	10.2	(30.5)	0.3	(8.8)	0.0	---	0.0	---	10.5	(28.3)
1999	33.7	3.9	37.6	10.2	(30.2)	0.3	(8.7)	0.0	---	0.0	---	10.5	(28.0)
2000	35.1	4.0	39.1	11.2	(31.8)	0.4	(9.8)	0.0	---	0.0	---	11.6	(29.5)
2001	36.7	4.2	40.9	10.9	(29.6)	0.6	(14.1)	0.0	---	0.0	---	11.5	(28.0)
2002	40.8	3.9	44.7	12.4	(30.3)	0.6	(14.4)	0.0	---	0.0	---	12.9	(28.9)
2003	47.8	4.2	52.0	13.1	(27.4)	0.6	(14.6)	0.0	---	0.0	---	13.7	(26.4)
2004	49.4	4.2	53.6	13.4	(27.1)	0.7	(16.0)	0.0	---	0.0	---	14.1	(26.2)
2005	52.0	4.3	56.3	14.3	(27.5)	0.7	(16.7)	\$1.7	(3.3%)	\$0.0	(0.8%)	16.8	(29.8)
2006	49.7	4.3	54.0	13.2	(26.5)	0.7	(16.7)	2.4	(4.9)	0.1	(1.4)	16.4	(30.3)
2007	51.2	5.2	56.4	13.6	(26.5)	0.9	(17.5)	2.5	(4.9)	0.1	(1.5)	17.1	(30.3)
2008	53.5	5.7	59.2	15.5	(29.0)	1.1	(19.1)	2.7	(5.0)	0.1	(1.5)	19.4	(32.7)
2009	57.1	5.9	63.0	16.8	(29.4)	1.2	(21.1)	4.0	(7.0)	0.1	(2.3)	22.2	(35.2)
2010	58.3	6.1	64.4	18.9	(32.4)	1.5	(24.5)	4.7	(8.0)	0.2	(2.8)	25.2	(39.2)
2011	56.6	10.3	66.9	18.5	(32.7)	2.5	(24.4)	4.6	(8.2)	0.3	(3.2)	26.0	(38.9)
↑ ACTUAL ↑													
↓ PROJECTED ↓													
2012	\$57.0	\$5.8	\$62.8	\$19.6	(34.3%)	\$1.4	(24.3%)	\$5.0	(8.8%)	\$0.2	(3.6%)	\$26.2	(41.7%)
2013	57.7	6.0	63.7	18.5	(32.1)	1.5	(24.4)	6.5	(11.2)	0.2	(3.2)	26.6	(41.8)
2014	59.0	6.2	65.1	18.9	(32.1)	1.5	(24.4)	6.6	(11.2)	0.2	(3.2)	27.2	(41.8)
2015	60.2	6.4	66.6	19.3	(32.1)	1.6	(24.4)	6.8	(11.2)	0.2	(3.2)	27.8	(41.8)
2016	61.7	6.6	68.4	19.8	(32.1)	1.6	(24.4)	6.9	(11.2)	0.2	(3.2)	28.6	(41.8)
2017	63.3	6.8	70.1	20.3	(32.1)	1.7	(24.4)	7.1	(11.2)	0.2	(3.2)	29.3	(41.8)
2018	65.1	7.1	72.1	20.9	(32.1)	1.7	(24.4)	7.3	(11.2)	0.2	(3.2)	30.1	(41.7)
2019	67.1	7.3	74.4	21.5	(32.1)	1.8	(24.4)	7.5	(11.2)	0.2	(3.2)	31.1	(41.7)
2020	69.2	7.6	76.8	22.2	(32.1)	1.9	(24.4)	7.8	(11.2)	0.2	(3.2)	32.1	(41.7)
2021	71.4	7.9	79.3	22.9	(32.1)	1.9	(24.4)	8.0	(11.2)	0.3	(3.2)	33.1	(41.7)
2022	73.9	8.2	82.1	23.7	(32.1)	2.0	(24.4)	8.3	(11.2)	0.3	(3.2)	34.3	(41.7)
2023	76.5	8.5	85.0	24.5	(32.1)	2.1	(24.4)	8.6	(11.2)	0.3	(3.2)	35.5	(41.7)
2024	79.1	8.9	87.9	25.4	(32.1)	2.2	(24.4)	8.9	(11.2)	0.3	(3.2)	36.7	(41.7)
2025	81.7	9.2	90.9	26.2	(32.1)	2.3	(24.4)	9.2	(11.2)	0.3	(3.2)	37.9	(41.7)
2026	84.5	9.6	94.1	27.1	(32.1)	2.3	(24.4)	9.5	(11.2)	0.3	(3.2)	39.2	(41.7)
2027	87.4	9.9	97.4	28.0	(32.1)	2.4	(24.4)	9.8	(11.2)	0.3	(3.2)	40.6	(41.7)
2028	90.4	10.3	100.8	29.0	(32.1)	2.5	(24.4)	10.1	(11.2)	0.3	(3.2)	42.0	(41.7)
2029	93.6	10.7	104.4	30.0	(32.1)	2.6	(24.4)	10.5	(11.2)	0.3	(3.2)	43.5	(41.7)
2030	97.0	11.1	108.2	31.1	(32.1)	2.7	(24.4)	10.9	(11.2)	0.4	(3.2)	45.1	(41.7)
2031	100.6	11.6	112.2	32.3	(32.1)	2.8	(24.4)	11.3	(11.2)	0.4	(3.2)	46.7	(41.7)
2032	104.3	12.0	116.3	33.4	(32.1)	2.9	(24.4)	11.7	(11.2)	0.4	(3.2)	48.5	(41.7)
2033	108.1	12.5	120.6	34.7	(32.1)	3.1	(24.4)	12.1	(11.2)	0.4	(3.2)	50.2	(41.7)
2034	112.1	13.0	125.1	36.0	(32.1)	3.2	(24.4)	12.6	(11.2)	0.4	(3.2)	52.1	(41.7)
2035	116.4	13.5	129.9	37.4	(32.1)	3.3	(24.4)	13.1	(11.2)	0.4	(3.2)	54.1	(41.7)
2036	121.0	14.0	135.0	38.8	(32.1)	3.4	(24.4)	13.6	(11.2)	0.4	(3.2)	56.2	(41.7)

TABLE 11  
**MILITARY RETIREMENT SYSTEM**  
**PAST AND PROJECTED UNFUNDED LIABILITY PAYMENTS ON OCTOBER 1**  
 (\$ in billions)

Calendar Year	Original UFL	Assumption Changes	Benefit Changes	Actuarial Experience	Total
1984	\$9.500	\$0.000	\$0.000	\$0.000	\$9.500
1985	10.500	0.000	0.000	0.000	10.500
1986	11.042	0.000	0.000	-0.518	10.524
1987	11.679	0.000	-0.113	-1.281	10.285
1988	12.003	0.135	-0.112	-2.244	9.782
1989	16.300	-2.116	-0.132	-3.456	10.596
1990	17.237	-2.237	-0.140	-4.078	10.782
1991	18.228	-2.366	-0.148	-4.508	11.206
1992	22.621	-4.625	-0.171	-5.552	12.273
1993	23.865	-4.880	-0.180	-6.897	11.908
1994	25.177	-5.148	-0.189	-8.370	11.470
1995	27.746	-6.619	-0.079	-10.349	10.699
1996	33.456	-6.917	-0.042	-11.346	15.151
1997	36.227	-8.529	0.048	-12.627	15.119
1998	37.676	-8.870	0.050	-13.606	15.250
1999	39.183	-9.201	0.052	-14.732	15.302
2000	42.098	-9.984	0.335	-16.360	16.089
2001	43.571	-9.862	0.472	-17.134	17.047
2002	45.096	-10.059	0.661	-17.770	17.928
2003	46.674	-10.741	0.977	-18.721	18.189
2004	46.857	-10.959	4.627	-19.167	21.358
2005	48.614	-11.337	6.081	-20.178	23.180
2006	50.437	-11.238	6.313	-19.464	26.048
2007	66.711	-7.642	6.430	-19.312	46.187
2008	69.213	-5.076	7.026	-20.038	51.125
2009	70.379	-1.241	7.100	-17.619	58.619
2010	73.018	-1.012	7.367	-17.969	61.404
2011	75.757	0.171	7.643	-18.820	64.751
↑ A C T U A L ↑					
↓ P R O J E C T E D ↓					
2012	\$78.598	\$0.386	\$7.930	-\$19.181	\$67.733
2013	81.545	0.400	8.227	-19.900	70.272
2014	84.603	0.415	8.535	-20.647	72.906
2015	87.775	0.431	8.855	-21.421	75.640
2016	91.067	0.447	9.188	-22.224	78.478
2017	94.482	0.464	9.532	-23.057	81.421
2018	98.025	0.481	9.890	-23.922	84.474
2019	101.701	0.499	10.260	-24.819	87.641
2020	105.515	0.518	10.645	-25.750	90.928
2021	109.472	0.537	11.044	-26.715	94.338
2022	113.577	0.557	11.459	-27.717	97.876
2023	117.836	0.578	11.888	-28.757	101.545
2024	122.254	0.600	12.334	-29.835	105.353
2025	126.839	0.623	12.796	-30.954	109.304
2026	0.000	0.646	13.276	-20.122	-6.200
2027	0.000	0.670	13.774	0.000	14.444
2028	0.000	0.695	14.291	0.000	14.986
2029	0.000	0.721	14.827	0.000	15.548
2030	0.000	0.748	15.383	0.000	16.131
2031	0.000	0.777	15.960	0.000	16.737
2032	0.000	0.806	16.558	0.000	17.364
2033	0.000	0.836	17.179	0.000	18.015
2034	0.000	0.867	1.141	0.000	2.008
2035	0.000	0.900	0.000	0.000	0.900
2036	0.000	0.933	0.000	0.000	0.933
2037	0.000	0.968	0.000	0.000	0.968
2038	0.000	1.005	0.000	0.000	1.005
2039	0.000	1.042	0.000	0.000	1.042
2040	0.000	0.254	0.000	0.000	0.254
2041	0.000	0.000	0.000	0.000	0.000



TABLE 12  
**MILITARY RETIREMENT SYSTEM**  
**PAST AND PROJECTED UNFUNDED LIABILITY BALANCE ON SEPTEMBER 30 (Before Payment)**  
 (\$ in billions)

Calendar Year	Original UFL	Assumption Changes	Benefit Changes	Actuarial Experience	Total
1984	\$528.700	\$0.000	\$0.000	\$0.000	\$528.700
1985	553.500	0.000	0.000	-13.800	539.700
1986	578.800	0.000	-3.000	-34.200	541.600
1987	605.200	3.600	-2.998	-59.500	546.302
1988	632.700	-50.062	-3.076	-81.180	498.382
1989	664.173	-53.711	-3.172	-94.562	512.728
1990	693.224	-55.207	-3.253	-102.283	532.481
1991	723.306	-97.578	-3.331	-111.879	510.518
1992	757.959	-102.353	-3.421	-139.327	512.858
1993	790.488	-105.057	-3.494	-167.942	513.995
1994	824.120	-130.691	-0.968	-201.052	491.409
1995	852.872	-134.017	-0.832	-217.255	500.768
1996	880.822	-159.859	0.897	-231.424	490.436
1997	902.444	-162.883	1.000	-244.673	495.888
1998	922.521	-164.057	1.014	-259.976	499.503
1999	942.360	-169.827	6.583	-277.940	501.176
2000	959.626	-164.942	9.414	-284.168	519.931
2001	974.873	-162.970	13.075	-285.393	539.585
2002	989.509	-170.593	19.216	-293.105	545.027
2003	1,003.439	-172.248	94.231	-297.115	628.308
2004	1,016.562	-171.288	125.272	-304.415	666.132
2005	1,030.312	-165.769	128.261	-290.020	702.784
2006	1,043.054	-126.439	131.332	-282.660	765.287
2007	1,052.174	-89.221	140.140	-279.068	824.025
2008	1,044.591	-27.990	142.047	-254.441	904.207
2009	1,031.462	-19.974	142.785	-245.726	908.548
2010	1,016.346	2.415	143.487	-258.786	903.461
2011	997.569	8.208	143.947	-252.478	897.246
↑ A C T U A L ↑					
↓ P R O J E C T E D ↓					
2012	\$974.816	\$8.499	\$144.141	-\$247.093	\$880.363
2013	947.751	8.580	144.043	-241.017	859.357
2014	916.012	8.650	143.626	-233.831	834.457
2015	879.215	8.709	142.858	-225.442	805.340
2016	836.948	8.754	141.709	-215.753	771.658
2017	788.769	8.784	140.141	-204.657	733.038
2018	734.209	8.799	138.119	-192.042	689.085
2019	672.765	8.796	135.602	-177.786	639.376
2020	603.900	8.774	132.549	-161.763	583.460
2021	527.042	8.731	128.913	-143.834	520.852
2022	441.580	8.665	124.647	-123.853	451.039
2023	346.863	8.574	119.696	-101.664	373.470
2024	242.196	8.456	114.007	-77.099	287.560
2025	126.839	8.308	107.519	-49.982	192.684
2026	0.000	8.127	100.170	-20.122	88.175
2027	0.000	7.911	91.890	0.000	99.801
2028	0.000	7.657	82.608	0.000	90.265
2029	0.000	7.363	72.245	0.000	79.608
2030	0.000	7.023	60.720	0.000	67.743
2031	0.000	6.636	47.944	0.000	54.580
2032	0.000	6.196	33.823	0.000	40.019
2033	0.000	5.700	18.258	0.000	23.958
2034	0.000	5.144	1.141	0.000	6.284
2035	0.000	4.523	0.000	0.000	4.523
2036	0.000	3.831	0.000	0.000	3.831
2037	0.000	3.065	0.000	0.000	3.065
2038	0.000	2.217	0.000	0.000	2.217
2039	0.000	1.282	0.000	0.000	1.282
2040	0.000	0.254	0.000	0.000	0.254
2041	0.000	0.000	0.000	0.000	0.000

## **The Military Retirement Fund Transaction Process**

The description of deficit, debt, and funding impact contained in this section are applicable under the current practices of the federal government regarding budget accounting and tax policy. These practices do not provide for increases in taxes to fund the Military Retirement System beyond what is required to pay benefits to retirees and survivors each year, but do result in increases in the national debt.

A trust fund was created inside the Unified Budget of the federal government for the monies of the Military Retirement System. This fund has three sources of income: (1) normal cost payments made by DoD, (2) unfunded liability and Concurrent Receipt normal cost payments made by Treasury, and (3) interest earnings on investments in government securities made by Treasury and the payment of the par values of these securities at maturity. All three of these items are intragovernmental transfers consisting of debits from one government account and credits to another.

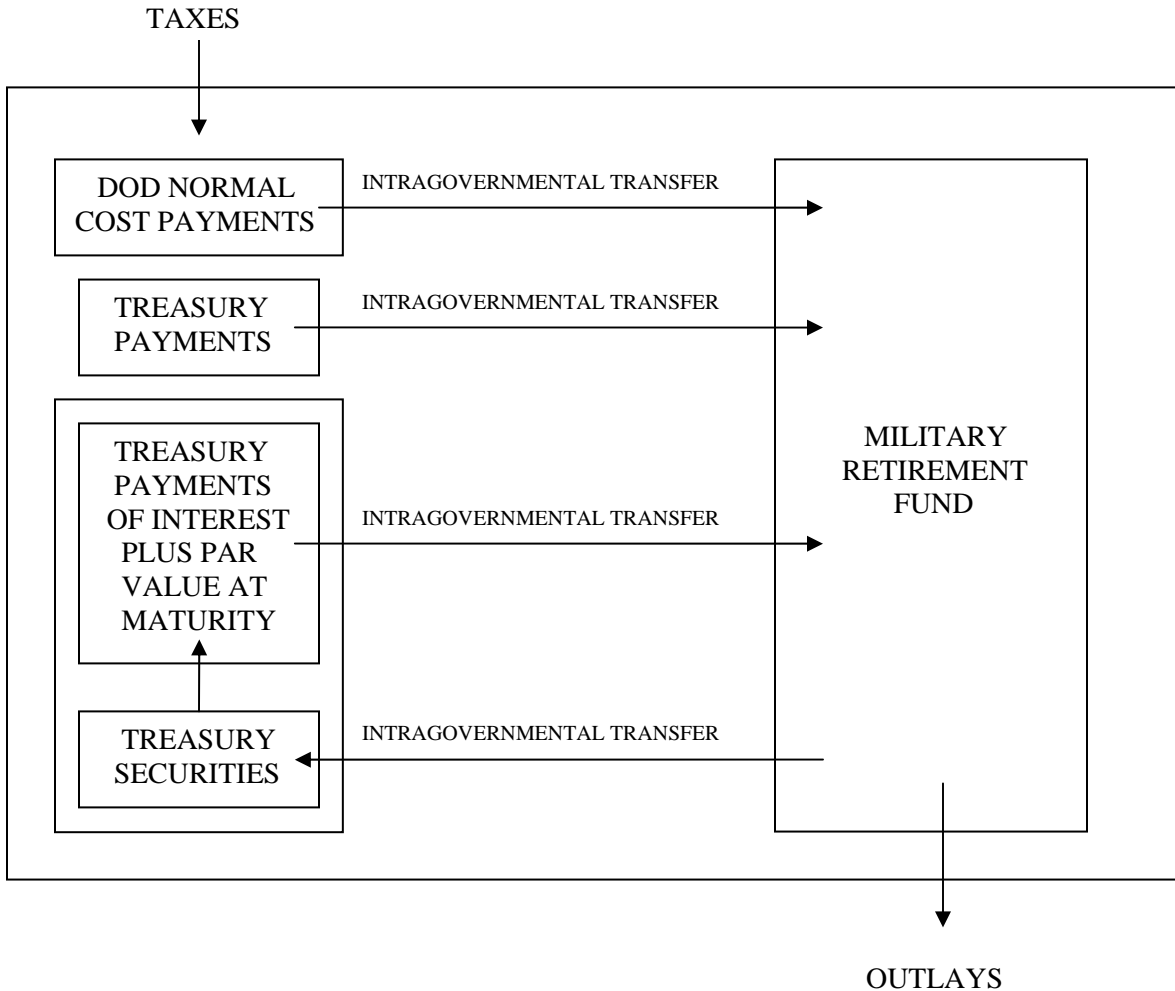
The Fund has two types of payouts: (1) payments to retirees and survivors of retirees and (2) purchases of U.S. Treasury securities. The purchase of a Treasury security is also an intragovernmental transfer, while a payment to a retiree or a survivor is not.

Figure 2 on the following page depicts this process. The only transactions in a particular year that directly affect the deficit of the Unified Budget are those that pass in or out of the government, such as tax collections (“in”) and retiree or survivor payments (“out”). The intragovernmental transfers are debits and credits within the federal budget, with no direct effect on the deficit. The following examples illustrate the process:

- If DoD debits \$25 billion in normal cost payments and the Fund credits the \$25 billion, the net direct federal budget deficit effect is zero.
- If the Fund purchases \$60 billion in securities (debit) and the Treasury sells \$60 billion in securities (credit), the net direct federal budget deficit effect is zero.
- If the Treasury pays \$20 billion interest (debit) and the Fund earns \$20 billion interest (credit), the net direct federal budget deficit effect is zero.
- Disregarding all other government programs, if the government collects \$45 billion in tax revenues (credit) and pays \$50 billion to retirees (debit), the net direct federal budget deficit effect is \$5 billion.

**FIGURE 2**

**MILITARY RETIREMENT SYSTEM  
UNIFIED BUDGET**



All of the intragovernmental transfers in Figure 2 will always generate both a credit and an associated equal debit within the Unified Budget. Consequently, under current federal budget accounting practices, contributions to the Fund beyond what are required to pay benefits to retirees and survivors that year have no impact on the total federal deficit. Just as in the pay-as-you-go method, the only transactions that directly affect the deficit in the retirement system accounting process are payments to retirees and survivors (i.e. outlays).

On the other hand, the purchase of securities by the Fund does increase the national debt, specifically the portion of the debt held by the government. The portion held by the public will not change. However, the total debt will increase and this requires an increase in the statutory borrowing authority (debt ceiling).

Suppose that in the year 2011 the amount needed to pay retirees was \$50 billion and the Military Retirement Fund had grown to \$375 billion. The following transactions would take place:

- Fund cashes in \$50 billion in securities (credit).
- Treasury pays \$50 billion to Fund (debit).
- Net federal surplus zero.

Since no budget surplus can be derived from using fund money, the government still has a need for \$50 billion to pay retirees—the same need it would have under the pay-as-you-go system. Accordingly, the Fund cannot transfer liabilities from one tax year to another.

However, funding does have an effect on the DoD budget. With the normal cost payments (except for Concurrent Receipt) in the DoD budget, policymakers now consider the impact on future retirement costs when they make manpower decisions, and this could have a significant impact on future federal budgets. For example, if a decision were made today to double the size of the active duty and reserve forces, the DoD budget would automatically have an immediate increase in retirement obligations. Under the pay-as-you-go method, the retirement expenses would not necessarily be considered in the initial decision since they would not show up for 20 years.

In their prior quadrennial reports to the President and Congress, the DoD Board has noted that the establishment of the Fund does not represent actual advance funding. Real advance funding could be achieved by investing the assets outside the Unified Budget, for example, in stocks or corporate bonds, or in bonds of state and local municipalities or quasi-federal government agencies (like Fannie Mae or Freddie Mac). Instead, the accrual accounting procedure now in place is essentially an internal cost accounting system. While the nation has not really set aside money to pay the benefits of those who have served in uniform, the Fund can be viewed as earmarking future tax receipts for the benefit of military retirees. As such, the existence of the Fund promotes a measure of “psychological security” for military members.

Two common *misconceptions* about the Fund are:

- 1) *The Fund represents government tax receipts that have been accumulated in the past.* Actually, the Fund represents future tax receipts that will be allocated to pay principal and interest on government bonds being held by the Fund.
- 2) *The actuarial soundness of the Fund can be measured by prospective short-term (or medium-term) cash flows.* Rather, the entire present value of the liabilities must be compared to the sum of the Fund and prospective contributions. A year-by-year projection of cash flow is also needed to measure the Fund’s ability to pay benefits every year. Comparing the past and projected dollars as a proportion of payroll (as shown in Table 9) is another good measure of sustainability.

The current financing procedure, although carried out by allocating no more tax dollars than needed to pay benefits to military retirees as they come due, has nonetheless contributed to a more accurate allocation of resources within the defense budget and to formal quantification of the government's obligation to pay retirement benefits to military members and eligible survivors. This type of required quantification and allocation represents strong fiscal responsibility.

Additionally, the costs of the current retirement system are actuarially based and reasonable given the plan provisions; thus, the system is considered sustainable. However, all elements of compensation should be considered and compared when examining sustainability of the respective defense and federal budgets.

The fact that costs are fully recognized in advance provides greater benefit security over the long term. Also, when there is a Fund, the system is not as dependent on obtaining the necessary appropriation from Congress each year in order to pay benefits for that year. This can provide additional benefit security in the short run.

APPENDIX A

THE MILITARY RETIREMENT SYSTEM: BENEFITS

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## THE MILITARY RETIREMENT SYSTEM: BENEFITS

As of September 30, 2011

### Summary

The Military Retirement System applies to members of the Army, Navy, Marine Corps, and Air Force. However, most of the provisions also apply to retirement systems for members of the Coast Guard (administered by the Department of Homeland Security), officers of the Public Health Service (administered by the Department of Health and Human Services), and officers of the National Oceanic and Atmospheric Administration (administered by the Department of Commerce). Only those members in plans administered by the Department of Defense (DoD) are included in this report.

The system is a funded, noncontributory defined benefit plan that includes nondisability retired pay, disability retired pay, retired pay for reserve service, survivor annuity programs, and special compensation programs for certain disabled retirees. The Service Secretaries may approve immediate nondisability retired pay at any age with credit of at least 20 years of active duty service. Reserve retirees generally must be at least 60 years old and have at least 20 qualifying years of service before retired pay commences, with certain exceptions. Public Law (P.L.) 110-181 allows a 90-day reduction in the reserve retirement age from age 60 for every 3 months served within a contingency operation, for service after enactment (not below age 50). There is no vesting of benefits before retirement.

There are distinct nondisability benefit formulas related to three populations within the Military Retirement System. A summary is displayed in Tables B-1 and B-2 (see Appendix B).

- 1) **Final Pay**: Military personnel who first became members of a uniformed service before September 8, 1980, have retired pay equal to final basic pay times a multiplier. The multiplier is equal to 2.5 percent times years of service.
- 2) **High-3 (HI-3)**: If the retiree first became a member of a uniformed service on or after September 8, 1980, the average of the highest 36 months of basic pay is used instead of final basic pay.
- 3) **Career Status Bonus (CSB)/Redux**: Members who first became a member of a uniformed service on or after August 1, 1986, may choose between a High-3 and CSB/Redux retirement. Those who elect CSB/Redux receive the Career Status Bonus outlined below, also have retired pay computed on a base of the average of their highest 36 months of basic pay, but are subject to a multiplier penalty if they retire with less than 30 years of service; however, at age 62, their retired pay is recomputed without the penalty. Members make their election during the fifteenth year of service and may receive the Career Status Bonus of \$30,000 in either a lump-sum or installments. Those who elect CSB/Redux generally must remain continuously on active duty until they complete 20 years of active duty service or forfeit a portion of the \$30,000 (exceptions include death and disability retirement).

Retired pay and survivor annuity benefits are automatically adjusted annually to protect the purchasing power of initial retired pay. The benefits associated with members first entering the armed services before August 1, 1986, or those entering on or after that date who do not take the CSB, have their benefits adjusted annually by the percentage increase in the average Consumer Price Index (CPI). Refer to the section “Cost-of-Living Increases” in this appendix for more information on the CPI. This is commonly referred to as full CPI protection. Benefits associated with members entering on or after August 1, 1986, who elect the \$30,000 CSB bonus payment are annually increased by the percentage change in the CPI minus 1 percent (except when the change in the CPI is less than or equal to 1 percent), but at the military member’s age 62, or when the member would have been age 62 for a survivor annuity, the benefits are restored to the amount that would have been payable had full CPI protection been in effect. This restoral is in combination with that described in the previous description. However, after this restoral, partial indexing (CPI minus 1 percent) continues for future retired pay and survivor annuity payments.

The FY 2011 National Defense Authorization Act (NDAA) (P.L. 111-383) required “amounts of retired pay and retainer pay due a retired member of the uniformed services shall be paid on the first day of each month beginning after the month in which the right to such pay accrues.” This means that when the first day of the month falls on a non-business day (weekend/holiday), the pay must be paid the preceding business day. This legislation did not apply to survivor annuitant pay and Combat-Related Special Compensation. This results in retirees receiving 13 payments in some fiscal years and 11 payments in others, with 12 payments occurring in a typical fiscal year. Note that annual fiscal year amounts shown throughout this report represent 12 monthly payments without regard to the 2011 NDAA. Comments regarding this law are also noted in the Table 9 footnotes in the main text.

### **Nondisability Retirement From Active Service**

The current system allows voluntary retirement upon completion of at least 20 years of service at any age, subject to Service Secretary approval. The military retiree receives immediate retired pay calculated as (base pay) times (a multiplier). Base pay is equal to terminal basic pay if the retiree first became a member of a uniformed service before September 8, 1980. It is equal to the average of the highest 36 months of basic pay for all other members. The multiplier is equal to (2.5 percent) times (years of service, rounded down to the nearest month). Members first entering a uniformed service on or after August 1, 1986, who elect CSB/Redux and who retire with less than 30 years of service receive a temporary penalty until age 62. The penalty reduces the multiplier by one percentage point for each full year of service under 30. For example, the multiplier for a 20-year retiree would be 40 percent (50 percent minus 10 percent, where 50 percent equals 20 years times 2.5 percent). At age 62, the retired pay is recomputed with the penalty removed.

As of September 2011, 1.47 million nondisability retirees from active duty and full-time reserves were receiving an annualized retired pay entitlement totaling \$40.76 billion. Included in this number are a reported 27,545 nondisabled retirees who elected CSB/Redux.



## **Disability Retirement**

A military member in an active component or on active duty for more than 30 days who is found unfit for duty is entitled to disability retired pay if the disability:

- (1) is incurred while entitled to basic pay;
- (2) is neither the result of the member's intentional misconduct nor willful neglect;
- (3) was not incurred during a period of unauthorized absence; and
- (4) either:
  - (a) the member has at least 20 years of service; or
  - (b) the disability is rated at least 30 percent under the Department of Veterans Affairs Schedule of Rating Disabilities (VASRD) and one of the following conditions is met:
    - (i) the disability was not noted at the time of the member's entrance on active duty (unless clear and unmistakable evidence demonstrates that the disability existed before the member's entrance on active duty and was not aggravated by active military service);
    - (ii) the disability is the proximate result of performing active duty;
    - (iii) the disability incurred in the line of duty in time of war or national emergency; or
    - (iv) the disability was incurred in the line of duty after September 14, 1978.

Under certain conditions generally similar to the above, members on active duty for 30 days or less or on inactive-duty training are also entitled to disability retired pay for disabilities incurred or aggravated in the line of duty.

In disability retirement, the member may elect to receive retired pay equal to either:

- (1) the accrued nondisability retirement benefit regardless of eligibility to retire; or
- (2) base pay multiplied by the rated percent of disability.

Except for members with more than 30 years of service, the benefit cannot be more than 75 percent of base pay. Only the excess of (1) over (2) is subject to federal income taxes if the member had service on or before September 24, 1975. If not a member of a uniformed service on September 24, 1975, disability retired pay is tax-exempt only for those disabilities that are combat or hazardous duty related. Base pay is equal to final basic pay if the retiree first became a member of a uniformed service before September 8, 1980; otherwise, base pay is equal to the average of the highest 36 months of basic pay.

Members whose disabilities may not be permanent are placed on a temporary-disability retired list and receive disability retirement pay just as if they were permanently disabled. However, they must be physically examined every 18 months for any change in disability. A final determination must be made within five years. The temporary disability pay is calculated like the permanent disability retired pay, except that it can be no less than 50 percent of base pay.

Members who elected the CSB/Redux retirement option, but who retire for disability, are not subject to the reduced CSB/Redux retired pay multiplier and are awarded retired pay based on the disability retired rules outlined above. However, such members continue to be subject to the reduced CPI (with age 62 restoral) as Career Status Bonus recipients.

Recent Congressional action has been directed to the care of disabled retirees and veterans. P.L. 110-181 established the Physical Disability Board of Review (PDBR). The PDBR has the authority to reexamine the files of veterans medically separated with ratings under 30 percent between September 11, 2011, and December 31, 2009, and potentially offer disability retirements. The PDBR is expected to review files for approximately 77,000 veterans.

As of September 2011, 95,000 disability retirees were receiving an annualized retired pay entitlement totaling \$1.36 billion. Included in this number are a reported 698 disability retirees who elected CSB/Redux.

### **Reserve Retirement**

Members of the reserves may retire after 20 qualifying years of creditable service. However, reserve retired pay is not payable until age 60 unless the member performs certain types of active duty or active service subsequent to the enactment of NDAA 2008 (P.L. 110-181). In these cases, retirement age is reduced below 60 by three months for every 90 days of service. However, the age cannot be reduced below 50, and eligibility for subsidized retiree health benefits remains at age 60 even if the eligibility age for retired pay is reduced.

Retired pay is computed as base pay times 2.5 percent times years of service. If the reservist was first a member of a uniformed service before September 8, 1980, base pay is defined as the active duty basic pay in effect for the retiree's grade and years of service at the time that retired pay begins. If the reservist first became a member of the armed services on or after September 8, 1980, base pay is the average basic pay for the member's grade in the highest 36 months computed as if he/she was on active duty for the entire period preceding age 60. The years of service are determined by using a point system, where 360 points convert to a year of service. Typically, one point is awarded for one day of active duty service (e.g. active duty training) or one inactive duty training (IDT) drill attendance. Reservists often perform two IDT periods in one day thereby receiving two retirement points per day. In addition, 15 points are awarded for completion of one year's membership in a reserve component. A creditable year of service is one in which the member earned at least 50 points. A member generally cannot retire with less than 20 creditable years, although points earned in non-creditable years are used in the retirement calculation. Beginning with years of service that include October 30, 2007, IDT points are limited in any year to no more than 130. Lesser limitations have applied in the past.

As of September 2011, 367,000 reserve retirees were receiving an annualized retired pay entitlement totaling \$5.13 billion.

### **Survivor Benefits**

Legislation originating in 1953 provided optional survivor benefits. It was later referred to as the Retired Servicemen's Family Protection Plan (RSFPP). The plan proved to be expensive to the participants and inadequate since the survivor annuities were never adjusted for inflation and could not be more than 50 percent of retired pay. RSFPP was designed to be self-supporting

in the sense that the present value of the reductions to retired pay equaled the present value of the survivor annuities.

On September 21, 1972, RSFPP was replaced by the Survivor Benefit Plan (SBP) for new retirees. RSFPP still covers those servicemen retired before 1972 who did not convert to the new plan or who retained RSFPP in conjunction with SBP. RSFPP continues to pay survivor annuities.

Retired pay is reduced, before taxes, for the member's cost of SBP. Total SBP costs are shared by the government and the retiree, so the reductions in retired pay are only a portion of the total cost of the SBP program.

The SBP survivor annuity is 55 percent of the member's base amount. The base amount is elected by the member, but cannot be less than \$300 or more than the member's full gross monthly retired pay, with one exception. If the member elects CSB/Redux and is subject to a penalty for service under 30 years in the calculation of retired pay, the maximum base amount is equal to the full retired pay without the penalty. However, the annuity for a survivor of a CSB/Redux retiree is subject to the reduced CPI.

When the plan started in 1972, benefits for those 62 and older were reduced by the amount of Social Security for which the survivor would be eligible based on the member's military pay. In 1985, that reduction formula was changed so all annuitants 62 and over received a reduced flat rate of 35 percent of the member's base. Beginning October 1, 2005, the age 62 reduced rate was phased out in 5 percent increments. On April 1, 2008, the survivor benefit reduction at age 62 was fully eliminated and the rate of 55 percent of the member's elected base became standard for all survivors, regardless of age.

During FY 1987, SBP's treatment of survivor remarriages changed. Prior to the change, a surviving spouse remarrying before age 60 had the survivor annuity suspended. The change lowered the age to 55. If the remarriage ends in divorce or death, the annuity is reinstated.

An active or reserve member who died in the line of duty on or after September 10, 2001, is generally assumed to have retired with full disability on the day they died and to have elected full SBP coverage for spouses, former spouses, and/or children. Insurable interest elections may be applicable in some cases. These benefits have been improved and expanded over the history of the program.

The surviving spouse (or dependent children, if there is no surviving spouse or if the spouse subsequently dies) of a reservist who dies in the line of duty while performing IDT service is entitled to an SBP annuity based on the reservist's years of service.

SBP annuities generally are reduced by any VA survivor benefits (Dependency and Indemnity Compensation (DIC)), and all premiums relating to the reductions are returned to the survivor. The FY 2008 NDAA enacted, and the Family Smoking Prevention and Tobacco Control Act of 2009 (P.L. 111-31) revised, a temporary Special Survivor Indemnity Allowance (SSIA) that pays a monthly amount (\$50 in FY 2009 grading up to \$310 in FY 2017) to survivors with a DIC offset. The authority for the allowance ends in 2017.

The relationship between SBP and DIC has been the subject of litigation in the U.S. Court of Appeals. As a result of the “Sharp Case” ruling, the SBP benefit of survivors with entitlement to both DIC and SBP who remarry after age 57 is not reduced by DIC benefits received.

As with retired pay, SBP annuities and premiums are annually increased with cost-of-living adjustments (COLAs). These COLAs are either full or partial CPI increases, depending on the benefit formula covering the member. If a member who elected the CSB/Redux retirement option dies before age 62, the survivor is subject to partial COLAs and his/her annuity is increased on what would have been the member’s 62nd birthday to the amount that would have been payable had full COLAs been in effect. Partial COLAs continue annually thereafter.

For reserve retirees, the retired pay reductions applicable under SBP apply for survivor coverage after a reservist turns 60 (or earlier if they have certain active service) and begins to receive retired pay. Reserve Component Survivor Benefit Program (RCSBP) provides annuities to survivors of reservists who die before age 60 (or earlier if they have certain active service), provided they attained 20 years of qualified service and elected to participate in the program (or were within their 90-day election window after receiving their “20-year letter”). However, if the death occurs either on active or inactive duty as described above, the survivor receives an annuity under SBP. The added cost of RCSBP coverage is borne completely by reservists through deductions from future retired pay.

Beginning October 1, 2008, a paid-up provision eliminated the reduction in retired pay for premiums for SBP and RSFPP coverage for participants age 70 or older whose retired pay has been reduced for at least 360 months.

As of September 2011, 295,000 survivors of military members were receiving an annualized annuity entitlement totaling \$3.62 billion.

### **Temporary Early Retirement Authority (TERA)**

The FY 1993 NDAA (P.L. 102-484) granted temporary authority for the military services to offer early retirements to members with more than 15 but less than 20 years of service. The retired pay was calculated in the usual way except that there was a reduction of 1 percent for every year below 20 years of service. Part or all of this reduction can be restored at age 62 if the retired member works in a qualified public service job during the period from the date of retirement to the date on which the retiree would have completed 20 years of service. Unlike members who leave military service before 20 years with voluntary separation incentives or special separation benefits, these early retirees are generally treated like regular military retirees for the purposes of other retirement benefits. This authority originally expired on September 1, 2002.

The FY 2012 NDAA (P.L. 112-81) reinstated TERA, from January 2012 through December 2018, but without the qualified public service provision.

As of September 2011, 57,000 TERA retirees were receiving an annualized retired pay entitlement totaling \$908 million.

### **Cost-of-Living Increases**

All nondisability retirement, disability retirement, and most survivor annuities are adjusted annually for inflation. Cost-of-living adjustments (COLAs) are automatically scheduled to occur every 12 months, on December 1st, to be reflected in checks issued at the beginning of January.

The “full” COLA effective December 1 is computed by calculating the percentage increase in the average CPI of the third quarter of the prior calendar year to the third quarter of the current calendar year. The increase is based on the Urban Wage Earner and Clerical Worker Consumer Price Index (CPI-W) and is rounded to the nearest tenth of one percent. Recent retirees/annuitants receive a prorated COLA depending on their date of retirement/eligibility.

The benefits of retirees (and most survivors) are increased annually with the full COLA, except for those first entering a uniformed service on or after August 1, 1986, who elect CSB/Redux. Their benefits are increased annually with a partial COLA equal to the full COLA minus 1 percent (except if the full COLA is less than or equal to 1 percent). A one-time restoral is given to a partial COLA recipient on the first day of the month after the retiree’s 62nd birthday. At this time, retired pay (or the survivor benefit if the retiree is deceased) is increased to the amount that would have been payable had full COLAs been in effect. Annual partial COLAs continue after this restoral.

### **Relationship with Veterans Administration Benefits**

The Department of Veterans Affairs (VA) provides compensation for Service-connected and certain non-Service-connected disabilities. These VA benefits can be in place of or in combination with DoD retired pay, but through December 31, 2003, were not fully additive. Since VA benefits are exempt from federal income taxes, it is often to the advantage of a member to elect them. Through 2003, retired pay earned from DoD for military service was offset by any payment received from VA for a VA-rated disability. Beginning with the FY 2004 NDAA (P.L. 108-136), a series of legislation has been enacted that increasingly reduces or eliminates the offset to military retired pay due to receipt of VA disability compensation. Members with a combined VA disability rating of 50% or greater who have at least 20 years of service will have their offset eliminated under the Concurrent Retirement and Disability Pay (CRDP) program. The CRDP program has a ten-year phase-in schedule that began in 2004; however, the offset is already fully eliminated for members whose disabilities are rated total or make the individual unemployable. Members whose disability meets certain combat-related criteria can elect to receive payments against the offset under the Combat Related Special Compensation (CRSC) program. Under CRSC, members are not subject to a phase-in schedule, are not required to have at least 20 years of service (per P.L. 110-181), and are not required to have at least a 50% VA disability rating. Although CRSC amounts are calculated based on retired pay lost due to offset and are paid from the Military Retirement Fund, CRSC is not

technically considered retired pay. CRSC payments are tax exempt. A member may not participate in both the CRDP and CRSC programs simultaneously, but may change from one to the other during an annual "open season."

VA benefits also offset (or reduce) survivor pay through the Dependency and Indemnity Compensation (DIC) program. DIC benefits are payable to survivors of veterans who die from Service-connected causes. Although SBP annuities are generally reduced by the amount of any DIC benefit, all SBP premiums relating to the reduction in benefits are returned to the survivor. The FY 2008 NDAA enacted, and the Family Smoking Prevention and Tobacco Control Act of 2009 (P.L. 111-31) revised, a temporary Special Survivor Indemnity Allowance (SSIA) that pays a monthly amount (\$50 in FY 2009 grading up to \$310 in FY 2017) to survivors with a DIC offset; the authority for the allowance ends in 2017. As a result of the "Sharp Case" ruling, the SBP benefit of widows with entitlement to both DIC and SBP who remarry after age 57 is not reduced by DIC benefits received.

As of September 2011, there were 319,000 CRDP members and 76,000 CRSC members. These members were paid an additional monthly amount of \$437 million and \$73 million, respectively. As of September 2011, there were 57,000 survivors receiving annualized SSIA benefits of \$48 million.

### **Interrelationship with Other Federal Service**

For military retirement purposes, no credit is given for other federal service, except where cross-service transferability is allowed. Military service is generally creditable toward the federal civilian retirement systems if military retired pay is waived. However, a deposit (equal to a percentage of post-1956 basic pay) must be made to the Civil Service Retirement and Disability Fund in order to receive credit. Military service is not generally creditable under both systems (but is for reservists and certain disability retirees). Military retirees may qualify separately for Civil Service retirement and receive concurrent pay from both systems.

### **Relationship of Retired Pay to Military Compensation**

Basic pay is the only element of military compensation upon which non-disability retired pay is based and entitlement is determined. Basic pay is the principal element of military compensation that all members receive, but it is not representative of salary levels in the public and private sectors for comparative purposes. Reasonable comparisons can be made to regular military compensation (RMC). RMC is the sum of (1) basic pay, (2) the housing allowance, which varies by grade, location, and dependency status, (3) the subsistence allowance and, (4) the tax advantages accruing to allowances because they are not subject to federal income tax. Basic pay represents approximately 69 percent of RMC for all retirement eligible members. For the 20-year retiree, basic pay is approximately 67 percent of RMC. Consequently, a member retired with 20-years of service and entitled to 50 percent of basic pay, only receives 34 percent of RMC. For a 30-year retiree, basic pay is approximately 72 percent of RMC and such member would be entitled to 75 percent of basic pay or 54 percent of RMC. P.L. 109-364 allows certain members, retired since January 1, 2007, with greater than 30 years of service to retire with

entitlements exceeding 75 percent of basic pay. These relationships should be considered when military retired pay is compared to compensation under other retirement systems.

### **Social Security Benefits**

Many military members and their families receive monthly benefits indexed to the CPI from Social Security. As full participants in the Social Security system, military personnel are in general entitled to the same benefits and are subject to the same eligibility criteria and rules as other employees. Details concerning the benefits are covered in other publications.

Beginning in 1946, Congress enacted a series of amendments to the Social Security Act that extended some benefits to military personnel and their survivors. These “gratuitous” benefits were reimbursed out of the general fund of the U.S. Treasury. The Servicemen’s and Veterans’ Survivor Benefits Act brought members of the military into the contributory Social Security system effective January 1, 1957.

For the Old Age, Survivors, and Disability Insurance (OASDI) program, military members must contribute the employee portion of the OASDI payroll tax, with the federal government contributing the matching employer contribution. Only the basic pay of a military member constitutes wages for Social Security purposes. One feature of OASDI unique to military personnel grants a noncontributory wage credit of (i) \$300 for each quarter between 1956 and 1978 in which such personnel received military wages and (ii) up to \$1,200 per year after 1977 (\$100 of credit for each \$300 of wages up to a maximum credit of \$1,200). The purpose of this credit is to take into account elements of compensation such as quarters and subsistence not included in wages for Social Security benefit calculation purposes. Under the 1983 Social Security amendments, the cost of the additional benefits resulting from the noncontributory wage credits for past service was met by a lump sum payment from general revenues, while the cost for future service will be met by payment of combined employer-employee tax on such credits as the service occurs. Payments for these wage credits ended in 2002.

Members of the military are also required to pay the Hospital Insurance (HI) payroll tax, with the federal government contributing the matching employer contribution. Medicare eligibility occurs at age 65, or earlier if the employee is disabled.

### **Performance Measures**

During FY 2011, the Fund made monthly disbursements to approximately 2.2 million retirees and survivors.

There are many ways to measure the funding progress and performance of a pension plan. Table A-1 depicts a few common measures, specifically 1) Percent Funded, 2) Asset-to-Annuitant Liability Ratio, and 3) Effective Fund Yield. The table footnotes show the associated derivation of each performance measure.

**TABLE A-1**  
**MILITARY RETIREMENT FUND PERFORMANCE MEASURES**  
**(\$ in billions)**

End of Fiscal Year	Accrued Liability (1)	Assets (2)	Annuitant Liability On Roll (3)	Unfunded Accrued Liability (4)	Percent Funded (5)	Asset-to-Annuitant Liability Ratio (6)	Fund Effective Yield (7)
1984	\$528.7	\$0.0	\$310.0	\$528.7	0.0%	---	---
1985	551.5	11.8	322.7	539.7	2.1	3.7%	14.3%
1986	566.2	24.6	321.4	541.6	4.3	7.7	11.8
1987	585.2	38.9	326.3	546.3	6.6	11.9	11.0
1988	551.8	53.4	329.4	498.4	9.7	16.2	10.5
1989	580.3	67.6	345.8	512.7	11.6	19.5	10.1
1990	612.9	80.4	367.5	532.5	13.1	21.9	9.9
1991	604.2	93.7	372.9	510.5	15.5	25.1	9.8
1992	619.0	106.1	392.7	512.9	17.1	27.0	9.5
1993	629.9	115.9	409.3	514.0	18.4	28.3	9.1
1994	615.6	124.2	409.9	491.4	20.2	30.3	8.7
1995	631.8	131.0	431.3	500.8	20.7	30.4	8.6
1996	625.8	135.3	432.2	490.5	21.6	31.3	8.6
1997	639.2	143.3	444.9	495.9	22.4	32.2	8.5
1998	649.4	149.9	452.9	499.5	23.1	33.1	8.4
1999	657.2	156.0	442.7	501.2	23.7	35.2	8.1
2000	682.6	162.7	459.8	519.9	23.8	35.4	8.0
2001	708.8	169.2	487.3	539.6	23.9	34.7	8.0
2002	721.6	176.5	467.2	545.1	24.5	37.8	7.2
2003	810.9	182.6	519.8	628.3	22.5	35.1	5.5
2004	854.1	188.0	556.3	666.1	22.0	33.8	5.4
2005	900.6	197.9	592.2	702.7	22.0	33.4	5.5
2006	973.7	208.4	636.3	765.3	21.4	32.8	5.9
2007	1,042.3	218.2	677.3	824.1	20.9	32.2	4.7
2008	1,157.3	253.1	750.6	904.2	21.9	33.7	6.2
2009	1,186.9	278.4	751.8	908.5	23.5	37.0	1.0
2010	1,225.2	321.7	768.0	903.5	26.3	41.9	3.2
2011	1,273.3	376.1	807.3	897.2	29.5	46.6	4.9

**NOTES:**

- (1) From Table 7, Item 3 in main text.
- (2) From Table 7, Item 4 in main text.
- (3) From Table 7, Item 1.a in main text.
- (4) = (1) - (2)
- (5) = (2) / (1) x 100
- (6) = (2) / (3) x 100
- (7) Discussed in Appendix D.



APPENDIX B

THE MILITARY RETIREMENT SYSTEM: HISTORY

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## THE MILITARY RETIREMENT SYSTEM: HISTORY<sup>1</sup>

The history of the Uniformed Services Military Retirement System in the United States extends back to the early days of the country. The history detailed in this appendix provides the user with a useful, yet robust, context when evaluating the status of the current system. The extensive legislative history has been an interplay of the separate retired pay plan motivations. When available, the Public Law (P.L.) reference is provided. Over the course of its history, the Military Retirement System has been scrutinized by numerous committees, commissions, and groups. Since the end of World War II, a number of military compensation studies have been conducted under the general sponsorship of the Department of Defense, the President, and Congress, including: Hook, Strauss, Cordiner, Gorham/Randall, Quadrennial Review of Military Compensation, Gates, etc. These studies continue to the present day. Much discussion typically occurs as a result of the study findings. It should be noted that while there may be superficial resemblance between the Military Retirement System and other retirement systems, there exist substantial differences, including that of the federal civil servants. Primarily, retired members are subject to active duty recall.

### **History of Retired Pay – Active Duty and Disability**

The legislative history of the nondisability (regular service) and disability retired pay have been a collaborative effort of lawmakers. The two programs are highly correlated given the possible end states of a regular service career. Before discussing the regular service retired pay history, below are the motivations driving the two distinct retirement types:

1) The principal motivations guiding the nondisability retired pay evolution of the Military Retirement System have been to ensure that (1) continued service in the armed forces is competitive with the alternatives; (2) promotion opportunities are kept open for young and able members; (3) some measure of economic security is made available to members after retirement from a military career; (4) a pool of experienced personnel is available for recall in times of war or national emergency. Much of the history to be discussed focuses on officers. The legislative history for enlisted personnel is much shorter. The objectives can be achieved for the enlisted force by an administrative policy of “judicious non-acceptance of reenlistments.”

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<sup>1</sup> Much of the information in this appendix can be found in *Military Compensation Background Papers*, Seventh Edition (November 2011), Department of Defense – Under Secretary of Defense for Personnel and Readiness. For a more in-depth discussion of the early history of military pensions, refer to *History of Military Pension Legislation in the United States*, William H. Glasson, New York, N.Y. 1900, Digitized by Google.

2) The guiding motivation behind disability retired pay is to authorize continuing payments to members separated from active service due to physical disability causes in service for their country. Members should not be left to cope with the effects of these disabilities on their own. A measure of economic security will be provided for duties exposing members to wartime hazards and career military service. Early reports showed rationale for separation other than physical disability as well: “An officer may possess a strong mind and a robust frame, yet, if his moral perception of right or wrong be so blunted and debased as to render him unreliable, he could hardly be ranked as the capable officer.”

Provisions for the maintenance of disabled military members date to colonial days. Not surprisingly, the English pension law is a precursor to the American colonial pension legislation. The pilgrims at Plymouth provided in 1636 that any man sent forth as a soldier and returned maimed should be maintained by the colony during his life. In order to obtain enlistments in military expeditions against the Indians the colonies promised to care for those who were disabled and had no means of earning a livelihood as well as providing aid for the indigent families of those fallen in conflict. Some of these precedents were continued in the first national pension law of August 26, 1776, which promised half pay for life, or during disability, to the disabled. After the Revolutionary War, a full disability pension for a noncommissioned officer or private soldier was fixed at five dollars per month, with commissioned officers being paid at one-half of their monthly pay. Initially, the States administered disability pensions. However, in 1790, the Secretary of War became the principal pension administrator. In 1805, disability pensions were extended to those who received wounds in military service who subsequently became disabled.

Pensions based on service by itself were more controversial. Payments of half pay for life had been promised in 1780 by Congress for officers who served to the end of the War. However, the resulting claims were initially settled for less than full value and with a considerable amount of controversy. With the number of veterans declining and the treasury increasing, Congress became more generous. In 1818, an act was passed providing relief to Revolutionary War veterans in need. By 1832, it became full pay for life, regardless of need. In 1836, widows were included. This same pattern was followed for Service pensions for subsequent wars, with each war treated separately.

In 1849, the Bureau of Pensions was transferred to the newly established Department of the Interior, where it was to remain until the Veterans Administration (VA) was created in 1930. In 1855, authorization was given for involuntary separation with partial pay of Navy officers adjudged incapable, but not necessarily disabled. The outbreak of the Civil War brought further changes when it became necessary to retire older officers no longer fit for field duty. The vehicle was the act of August 3, 1861, the first major nondisability retirement act, which provided for the voluntary retirement of regular officers of all branches of Service after 40 years of duty, at the discretion of the President. Subsequent acts in 1861 and 1862 provided for involuntary retirements for age or years of service.

The 1861 act also established a military disability retirement system that covered the regular officers of all branches of Service. Army and Marine Corps officers were to be paid an amount equal to their “pay proper” plus four rations. Navy officers were paid slightly more. The act of March 2, 1867, authorized disability retirement for enlisted personnel of the Navy and Marine Corps.

Congress established two enduring retirement principles while reducing forces to a peacetime basis in 1870. The first permitted voluntary retirement of officers after 30 years of service upon approval by the President, and the second eliminated the ration commutation by fixing retired pay at 75 percent of the officer’s pay. The 75 percent applied to Army and Marine Corps officers, both disabled and nondisabled, and was extended to the Navy in 1873.

In 1885, the first nondisability retirement law for Army and Marine Corps enlistees was enacted. Paralleling the officer retirement laws, it provided for voluntary retirement at 30 years of service with 75 percent of pay of the grade in which retired, plus an allowance in lieu of fuel, quarters, and food. The law was extended to the Navy in 1899.

By the middle of World War I, the limit on the number of officers who could be placed on the retired list was causing stagnating promotion in the Navy. To alleviate the problem, Congress established selection boards for promotion to Rear Admiral, Captain, and Commanders on the basis of age-in-grade in 1916 (P.L. 64-241). Service-in-grade replaced age-in-grade in 1926 (P.L. 69-413). Those officers not selected for promotion were retired at 2 ½ percent of pay per year of service, not to exceed 75 percent of pay. This was the first recognition of length of service as well as grade in the computation of retired pay.

The act of 1916 (P.L. 64-241) also created the Fleet Naval Reserve, to provide a pool of experienced personnel who could be recalled to active duty in an emergency. While technically different than retirement, the practical effect was that it was possible for enlistees of the Navy and Marine Corps to “retire” with as little as 16 years of service (raised to 20 in 1925) and become entitled to “retainer pay.”

By 1938 (P.L. 75-706), the Navy was again experiencing stagnating promotion caused by the large influx of officers throughout World War I. Almost all of these officers were in the same age and years of service groups. To remedy the situation, Congress extended the selection board process to all grades above Lieutenant (junior grade); set limits on years of service for Lieutenant Commanders through Captains; and provided for voluntary retirement at 20 years of service at the discretion of the President.

Following World War II, allegations of unfairness, inequity, and inefficiency in the existing disability retirement system became extensive. A new system for disability retirement was created by the Career Compensation Act of 1949 (P.L. 81-351). Under this system, all disabilities had to be rated under the standard schedule of rating disabilities in use by the VA, and the resultant ratings became a factor in disability retired pay entitlement and taxability. The new system covered officer and enlisted personnel of both the regular and reserve components, and it authorized temporary as well as permanent disability retirements. The disability

retirement system remains basically unchanged from the way it was enacted in 1949. Much legislation has been passed recently, as well as additional process improvements, in an attempt to modernize the disability system.

Meanwhile, the Officer Personnel Act of 1947 (P.L. 80-381) brought the Army and Air Force under a selection process similar to the Navy system. It also provided that those officers who failed promotion and were not eligible to retire would receive severance pay of two months per year of service, but not exceeding two years' pay.

Standardized nondisability retirement laws for all Services were brought about by the Army and Air Force Vitalization and Retirement Equalization Act of 1948 (P.L. 80-810). The act established 20 years as the minimum requirement for voluntary retirement, thereby placing the Army and Air Force on a par with the Navy. It also provided for the removal of substandard officers with severance pay equal to one month's pay per year of service, but not exceeding one year's pay. This law resulted, for the first time in history, in uniform voluntary retirement authority among the officers of all branches of service.

P.L. 96-513 changed the retired pay formula for persons who first became a service member after September 7, 1980. For this group, the 2 ½ percent times years of service is multiplied by the average of the highest 36 months of pay, rather than by final pay. This is sometimes referred to as the High-3 (HI-3) formula, where the highest 36 months of pay generally occurs within the highest 3 years of average annual pay. This first major change to retired pay computation since 1948 was endorsed in findings by various committees and commissions.

P.L. 99-348, enacted July 1, 1986, made extensive changes in retired pay formula for persons entering service after July 31, 1986. These persons are credited with 2 percent for each of the first twenty years of service, 3 ½ percent for each of the next 10 years, and 2 ½ percent thereafter. At the member's age 62, the annuity is recomputed to equal the annuity that would have been in effect if a level 2 ½ percent had been used for each year of service. In addition, the cost-of-living adjustment for this group no longer keeps up with inflation, as described later. This is referred to as the Redux benefit formula.

P.L. 106-65, enacted October 1, 1999, enhanced benefits for military members previously covered by the Redux benefit formula (those who entered service on or after August 1, 1986) by converting these members to the HI-3 formula. At the 15 year-of-service mark, these (full-time) members now have the choice of: (1) remaining in HI-3, or (2) electing the Career Status Bonus, which is not paid out of the Military Retirement Fund, and converting to the Redux benefit formula. Those who elect the bonus must commit to remaining continuously in service until completing 20 years or forfeit a portion of the \$30,000. Part-time reservists previously covered by Redux do not have the option of electing the bonus, and so remain under the HI-3 benefit formula. This is referred to as the Career Status Bonus (CSB)/Redux benefit formula. The three different retirement systems currently in effect for members of the uniformed services are summarized in Table B-1.

P.L. 108-136, enacted November 23, 2003, provides a phase-out of the offset to military retired pay due to receipt of VA disability compensation for members whose combined disability rating is 50% or greater, effective January 1, 2004. Members retired under disability provisions must have at least 20 years of service. P.L. 108-136 also expands eligibility under the Combat Related Special Compensation program to include qualified retirees at any combined percentage rating for certain combat-related disabilities compensated by the VA. Through 2003, retired pay earned from DoD for military service was offset by any payment received from Veterans Affairs for a VA-rated disability. These VA benefits were in place of or in combination with DoD retired pay but were not fully additive. Thus the law is commonly referred to as Concurrent Receipt.

Subsequent to P.L. 108-136, a series of legislation has been enacted that increasingly reduces or eliminates the offset to military retired pay due to receipt of VA disability compensation. This is described further in Appendix A.

P.L. 109-364, enacted October 17, 2006, eliminated the 75 percent multiplier cap for retirements exceeding 30 years of service for members retiring on nondisability after January 1, 2007. A member can now retire with a retired pay multiplier greater than 100 percent if their years of service exceed 40 years. The various percentage multipliers by year of service and benefit system are shown in Table B-2.

### **History of Retired Pay – Reserve Duty**

The motivation behind the reserve duty retirement (non-regular service) is to establish a nondisability retirement system to authorize retired pay for service in the reserve components. This provides an incentive for qualified personnel to retain membership and continue training in these components, providing a pool of skilled, trained, and readily available manpower to assist active duty forces in times of national emergency.

Title III of the Army and Air Force Vitalization and Retirement Equalization Act of 1948 (P.L. 80-810) created a nondisability retirement program for reserve personnel. The above motivation was explained as part of the House Report accompanying the legislation. The reserve retirement system remained basically unchanged from the original 1948 legislation until 1993. Those modifications made over that time were more corrective than substantive.

The National Defense Authorization Act for Fiscal Year 1993 (P.L. 102-484) adopted two provisions intended to induce Selected Reserves members to apply for transfer to the retired reserve through temporary special retirement mechanisms. Subsequent legislation authorizes further downsizing of the military during the mid-1990's, which was extended until October 1, 2001.

P.L. 107-314 permanently reduced the required reserve service eligibility years for retired pay from eight years to six years. This law also authorized a 10 percent increase in reserve retired pay, not to exceed 75 percent, for enlisted members credited with extraordinary heroism in the line of duty.

P.L. 110-181, enacted January 28, 2008, reduces the retirement age for a reserve retirement below age 60 by three months for every 90 days of certain active service with a limit of 10 years. Eligibility for subsidized retiree health benefits remains at age 60 even if the eligibility age for retired pay is reduced.

### **Adjustments – Cost-of-Living**

Cost-of-living adjustments provide a mechanism for adjusting retired pay entitlements to compensate for the effects of inflation. The ideal system is one that protects the initial value of pay to insure that members who retire from the military do not have the purchasing power of their pay eroded by inflation.

Prior to 1958, retired pay was generally increased in direct proportion to changes in active duty pay. The practice was discontinued with the act of May 1958 (P.L. 85-422), when it was realized that a single 6 percent cost-of-living increase would cost only \$35 million, as opposed to \$65 million for linking the retired pay to active duty pay. The 6 percent approximated the increase in the cost of living since 1955 when retired pay was last increased. In 1963, a permanent system of increasing retired pay (P.L. 88-132) based on a formula geared to increases in the cost-of-living was adopted. In 1965, the adjustment mechanism was modified slightly (P.L. 89-132). This system granted cost-of-living increases whenever the Consumer Price Index (CPI) went up at least 3 percent and remained up for three months. The benefit increase was equal to the percentage rise in the CPI. In 1969 (P.L. 91-179), an additional 1 percent was added to compensate for the fact that five months elapsed between the time that the index increased 3 percent and the time that benefits increased.

Effective March 1977, cost-of-living adjustments (COLAs) were scheduled to occur every six months, on March 1 and September 1. This would be reflected in checks issued those months and the additional 1 percent was eliminated (P.L. 94-440). The cost-of-living increase, effective March 1, was computed by calculating the percentage increase (adjusted to the nearest tenth of a percent) in the CPI from the previous June to the previous December. Similarly, the cost-of-living increase effective September 1 was obtained by calculating the percentage increase in the June CPI over the CPI from the previous December.

In August 1981 (P.L. 97-35), once-a-year cost-of-living increases were implemented by eliminating the September increase. Full annual cost-of-living increases were given in March of each year based on the percentage increase in the CPI between the two previous Decembers.

In August 1982, P.L. 97-253 created a temporary deviation to the calculation and timing of the cost-of-living increase. Consequently, in FY 1983, the increase was delayed until April

and the full increase of 3.9 percent was given only to survivors, disabled persons and nondisabled persons over age 61. Nondisabled retirees under age 62 received 3.3 percent instead of 3.9 percent.

P.L. 98-270, enacted in April 1984, eliminated the FY 1984 increase and modified the permanent law. Under the modified system, the COLA equals the percentage increase in the average of the CPIs for July, August, and September over the averaged indexes for the same three months of the prior year. These increases become effective for entitlements earned in December. P.L. 98-369 directed that entitlements for a particular month should be paid at the beginning of the subsequent month rather than at the end of the month of entitlement and became effective with the December 1984 adjustment. P.L. 111-383 required amounts of retired and retainer pay (excluding survivor annuitant pay and Combat Related Special Compensation) due a retired member of the uniformed services shall be paid on the first day of each month beginning after the month in which the right to such pay accrues; unless the first falls on a non-business day, then the payment is made on the preceding business day.

P.L. 99-348, enacted July 1, 1986, changed the cost-of-living increase for members entering the service after July 31, 1986. Their retiree and survivor benefits are increased annually by the full cost-of-living adjustment minus 1 percent (except if the full adjustment is less than or equal to 1 percent). A one-time catch-up is given on the first day of the month after the *retiree's* 62nd birthday. At this time, the retiree benefit (or survivor benefit if the retiree is deceased) is increased to the amount that would have been payable had full adjustments been made. Annual partial increases continue after this catch-up. For persons entering the service prior to August 1, 1986, full COLAs are still applied to the retiree and survivor benefits. P.L. 106-65 called for full COLAs to be applied to the retiree and survivor benefits of post-July 31, 1986, entrants who decline the CSB/Redux and retire under the HI-3 benefit formula. Retired pay cost-of-living increases from 1958 to the present time are shown in Table B-3. Additional discussion regarding cost-of-living increases can be found in Appendix D.

### **Adjustments – Basic Pay**

Basic pay scale increases are analogous to retired pay cost-of-living increases for the current active duty and drilling reserve population. These increases are typically credited and paid at the beginning of the calendar year. The annual basic pay scale increases are designed to establish a crude comparability with the private sector and American economy in general.

The Act of 1790 provided funds for “militia employed in the service of the United States” payable to “the troops of the United States.” Although the components of the pay system, basic pay plus allowances, have changed throughout its history, the system itself has been remarkably enduring. However, the proliferation of special allowances has caused confusion and complexity surrounding compensation.

The Career Compensation Act of 1949 (P.L. 81-351) revamped the military compensation structure to provide pay that was equitable to personnel yet responsive to the



needs of the United States in attracting and retaining the necessary personnel following World War II. The Uniformed Services Pay Act of 1958 (P.L. 85-422) was the beginning of regular basic pay adjustments intended to make personnel pay more competitive.

In the Act of 1967 (P.L. 90-207) Congress adopted new basic pay rate adjustment mechanisms. The adjustments were to be a “comparable increase” to the general schedule compensation for federal classified employees (Civil Service employees). This legislation resulted in a more systematic procedure for increasing basic pay rates as opposed to the prior methods which were solely dependent on Congressional discretion. The military-civilian pay adjustment remains loosely linked through present day.

The Department of Defense Authorization Act of 1981 (P.L. 96-342) granted personnel substantial basic pay adjustments with the intent of further convergence between military and civilian wages. The legislation also allowed the President greater flexibility in adjusting military compensation by allocating greater increases to “career” members. In the years that followed, Congress expressed dissatisfaction with the pay adjustment mechanisms shown in the military-civilian link. The Senate proposed linking military pay to the Employment Cost Index (ECI) as a method to correct the military-civilian pay inequity. This discussion continued for some years.

Beginning in 2000 (P.L. 106-65), legislative change responded to the military-civilian pay inequity by tying basic pay increases to the ECI plus an additional 0.5 percent for the five years that follow (through FY 2006). After FY 2006, the increases are tied directly to ECI; however, covenants are embedded within the law which gives the President the authority to propose an alternate adjustment. Subsequent legislation used targeted basic pay scale increases to be granted for specific pay grades and ranks in order to meet the necessary retention and recruitment needs. Basic pay scale increases from 1958 to the present time are shown in Table B-4. Additional discussion regarding basic pay scale increases can be found in Appendix D.

### **Funding of Retirement Benefits**

Prior to 1935, the Navy had a pension fund which provided payments to persons retired for disability whenever there was a sufficient amount in the fund. The income to the fund consisted of the government’s share of the proceeds from the sale of enemy or pirate ships captured by the Navy, and from interest received on fund investments. This fund was abolished in 1935, and the Military Retirement System moved to an unfunded or “pay-as-you-go” basis. P.L. 98-94 (currently Chapter 74 of Title 10, U.S.C.), signed in September 1983, established a Military Retirement Fund starting October 1, 1984. Under this accrual accounting system, funds are allocated for the individual services via the Department of Defense annually by Congress. These funds are transferred to the Military Retirement Fund in an amount sufficient, along with the Treasury contributions resulting from P.L. 108-136, to cover the expected retirement costs associated with the current active duty force. This system helps to apprise all stakeholders of the total costs of manpower decisions made each year.

As explained by Congress (House Report No. 98-107 – Committee on Armed Services – p. 225), the reasons for adoption of the Department of Defense Military Retirement Plan were as follows:

“Most retirement plans in the private sector are funded, either partially or fully, and the trend--as a result of the Employee Retirement and Income Security Act (ERISA)--is toward full funding. Security of a retirement plan, *i.e.*, the probability that promised benefits will be paid, is generally related to the method of funding. Full funding provides greater security than partial funding.

Of course, the security of payments from the Federal government is not generally related to the method of funding. From the Federal government's perspective, the issue of funding is primarily a matter of timing. Should funds be raised by taxing and borrowing when the obligation becomes due, or should funds be set aside through taxing and borrowing when the obligation is incurred?”

This funding law stated that DoD will make normal cost payments into the Fund and the Treasury Department will make payments from general revenues to amortize the unfunded liability. P.L. 99-661, enacted in November 1986, mandated that two separate normal cost percentages (NCPs) be used to compute the normal cost payment of the Military Retirement System. One NCP is for active-duty personnel and reservists (full-time) and the second NCP is for drilling reservists (part-time). These normal cost payments are designed to be sufficient to pay for the future retirement benefits for a cohort of new entrants. The unfunded liability exists primarily because such payments were not made in the past.

P.L. 108-136, enacted November 2003, required the Department of Treasury to pay the normal cost arising from the increased benefits due to Concurrent Receipt at the beginning of each fiscal year. Beginning with FY 2005, Treasury includes the annual normal cost payment along with the unfunded liability payment in the October 1<sup>st</sup> contribution.

The original funding law also established an independent three-member DoD Retirement Board of Actuaries, appointed by the President (changed to the Secretary of Defense as part of the 2008 National Defense Authorization Act (P.L. 110-181)). House Report No. 98-107 – Committee on Armed Services – p. 227, states:

“Care must be exercised to minimize the ability to manipulate the interest rate. The committee recommends that an independent Board of Actuaries be established and that they, alone, be charged with the responsibility for determining the interest rate and other actuarial assumptions in accordance with generally accepted actuarial principles and practices.”

The Board is required to approve methods and assumptions for determining the normal cost and unfunded liability; to review valuations of the Military Retirement System; to determine the method of amortizing unfunded liabilities; to annually report to the Secretary of Defense; and to report to the President and Congress on the status of the Fund not less than every four years. P.L. 110-181 renamed the Board the “DoD Board of Actuaries,” and added oversight of other funds deemed to be necessary by the Secretary of Defense.

**TABLE B-1**

**MILITARY RETIREMENT SYSTEM PROPERTIES**  
(FOR NONDISABILITY RETIREMENT FROM ACTIVE DUTY)

Benefit System	Final Pay	High-3 (HI-3)	Career Status Bonus (CSB)/Redux
Applies to	First became member of a uniformed service <u>before</u> September 8, 1980	First became member of a uniformed service <u>on or after</u> September 8, 1980 and <u>prior to</u> July 31, 1986, and members joining <u>after</u> July 31, 1986 who elect not to accept the Career Status Bonus (CSB) at the 15-year anniversary	First became member of a uniformed service <u>on or after</u> August 1, 1986 and elect to accept the Career Status Bonus (CSB) with additional 5-year service obligation
Retired Pay Computation Basis	Final basic pay rate	Highest 36 months of basic pay rate	Highest 36 months of basic pay rate
Multiplier	2.5% per year of service	2.5% per year of service	2.5% per year of service less 1% for each year of service less than 30 (restored at age 62)
Cost-of-Living Adjustment Mechanism	Full CPI-W	Full CPI-W	Full CPI-W minus 1% (one-time catch-up at age 62)
Additional Benefit	---	---	\$30,000 Career Status Bonus (CSB) payable at 15-year anniversary upon assumption of 5-year obligation to remain on continuous active duty

**TABLE B-2**

**MILITARY RETIREMENT SYSTEM MULTIPLIERS**  
(FOR NONDISABILITY RETIREMENT FROM ACTIVE DUTY)

Years of Service	Final Pay/HI-3 Multiplier	CSB/Redux Multiplier	
		Before Age 62	After Age 62
20	50.0 %	40.0 %	50.0 %
21	52.5	43.5	52.5
22	55.0	47.0	55.0
23	57.5	50.5	57.5
24	60.0	54.0	60.0
25	62.5	57.5	62.5
26	65.0	61.0	65.0
27	67.5	64.5	67.5
28	70.0	68.0	70.0
29	72.5	71.5	72.5
30	75.0	75.0	75.0
31	77.5	77.5	77.5
32	80.0	80.0	80.0
33	82.5	82.5	82.5
34	85.0	85.0	85.0
35	87.5	87.5	87.5
36	90.0	90.0	90.0
37	92.5	92.5	92.5
38	95.0	95.0	95.0
39	97.5	97.5	97.5
40	100.0	100.0	100.0
41	102.5	102.5	102.5
42	105.0	105.0	105.0
:	:	:	:

**TABLE B-3**

**MILITARY RETIRED PAY COST-OF-LIVING INCREASES  
(JUNE 1958 TO PRESENT)**

<u>Date of Increase</u>	<u>Percentage Increase</u>	<u>Cumulative % From Date of Increase</u>
6/1/58	6.0 %	746.5 %
10/1/63	5.0	698.5
9/1/65	4.4	660.5
12/1/66	3.7	628.5
4/1/68	3.9	602.5
2/1/69	4.0	576.1
11/1/69	5.3	550.1
8/1/70	5.6	517.4
6/1/71	4.5	484.6
7/1/72	4.8	459.5
7/1/73	6.1	433.8
1/1/74	5.5	403.1
7/1/74	6.3	376.9
1/1/75	7.3	348.7
8/1/75	5.1	318.1
3/1/76	5.4	297.8
3/1/77	4.8	277.5
9/1/77	4.3	260.2
3/1/78	2.4	245.3
9/1/78	4.9	237.2
3/1/79	3.9	221.5
9/1/79	6.9	209.4
3/1/80	6.0	189.4
9/1/80	7.7	173.1
3/1/81	4.4	153.5
3/1/82	8.7	142.8
4/1/83	3.9 (1)	123.4
12/1/84	3.5 (2)	115.0
12/1/85	0.0 (3)	107.8
12/1/86	1.3	107.8
12/1/87	4.2	105.1
12/1/88	4.0	96.8
12/1/89	4.7	89.2
12/1/90	5.4	80.8
12/1/91	3.7	71.5
12/1/92	3.0	65.4
3/1/94	2.6 (4)	60.6
3/1/95	2.8 (5)	56.5
3/1/96	2.6 (6)	52.2
12/1/96	2.9	48.4
12/1/97	2.1	44.2
12/1/98	1.3	41.2
12/1/99	2.4	39.4
12/1/00	3.5	36.1
12/1/01	2.6	31.5
12/1/02	1.4	28.2
12/1/03	2.1	26.4
12/1/04	2.7	23.8
12/1/05	4.1	20.6
12/1/06	3.3	15.8
12/1/07	2.3	12.1
12/1/08	5.8	9.6
12/1/09	0.0	3.6
12/1/10	0.0	3.6
12/1/11	3.6	3.6

- (1) Nondisabled retirees under age 62 received 3.3%.  
 (2) Starting December 1984, entitlements earned in a particular month are paid at the beginning of the next month.  
 (3) A cost-of-living adjustment of 3.1%, scheduled for 12/1/85, was suspended as a consequence of P.L. 99-177.  
 (4) Disabled retirees and survivors received 2.6% on 12/1/93.  
 (5) Disabled retirees and survivors received 2.8% on 12/1/94.  
 (6) Disabled retirees and survivors received 2.6% on 12/1/95.

**TABLE B-4**  
**MILITARY BASIC PAY SCALE INCREASES**  
**(JUNE 1958 TO PRESENT)**

<u>Date of Increase</u>	<u>Percentage Increase</u>	<u>Cumulative % From Date of Increase</u>
6/1/58	8.3 %	1,257.0 %
10/1/63	14.2	1,153.0
9/1/64	2.3	997.2
9/1/65	10.4	972.5
7/1/66	3.2	871.5
10/1/67	5.6	841.4
7/1/68	6.9	791.5
7/1/69	12.6	733.9
1/1/70	8.1	640.6
1/1/71	7.9	585.1
11/14/71	11.6	534.9
1/1/72	7.2	469.0
10/1/72	6.7	430.7
10/1/73	6.2	397.4
10/1/74	5.5	368.4
10/1/75	5.0	344.0
10/1/76	3.6	322.8
10/1/77	6.2	308.1
10/1/78	5.5	284.3
10/1/79	7.0	264.3
10/1/80	11.7	240.4
10/1/81	14.3 (1)	204.8
10/1/82	4.0 (2)	166.6
1/1/84	4.0 (2)	156.4
1/1/85	4.0	146.5
10/1/85	3.0	137.0
1/1/87	3.0	130.1
1/1/88	2.0	123.4
1/1/89	4.1	119.1
1/1/90	3.6	110.4
1/1/91	4.1	103.1
1/1/92	4.2	95.1
1/1/93	3.7	87.3
1/1/94	2.2	80.6
1/1/95	2.6	76.7
1/1/96	2.4	72.2
1/1/97	3.0	68.2
1/1/98	2.8	63.3
1/1/99	3.6	58.8
1/1/00	4.8 (3)	53.3
1/1/01	3.7 (3)	46.3
1/1/02	4.6 (3)	41.1
1/1/03	4.1 (3)	34.9
1/1/04	3.7 (3)	29.5
1/1/05	3.5	24.9
1/1/06	3.1	20.7
1/1/07	2.2 (3)	17.1
1/1/08	3.5	14.6
1/1/09	3.9	10.7
1/1/10	3.4	6.5
1/1/11	1.4	3.0
1/1/12	1.6	1.6

(1) Basic pay increases for enlisted personnel ranged from 10% for E-1; 10.7% for E-2, E-3; 13% for E-4; 16.5% for E-5, E-6; and 17% for E-7, E-8, E-9. For officers, the increase was 14.3%.

(2) Except for E-1 with less than 4 months service.

(3) The increases do not include additional targeted pay increases.

APPENDIX C

VALUATION POPULATION DATA

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## **POPULATION DATA NOTES**

The following are relevant notes to the population data displayed in this appendix:

- These populations represent the appropriate beginning counts (“inputs”) to “Closed Group” and “Open Group” projections.
- Valuation input data were extracted from files maintained by the Defense Manpower Data Center. Data on individual retirees and survivors came from official files submitted by the Defense Finance and Accounting Service. Reserve data were obtained from the Reserve Component Common Personnel Data System, the official source for all reserve strengths and statistics.
- These data were not further adjusted to match the official totals supplied by the DoD Comptroller.
- The DoD Office of the Actuary reviews the data for reasonableness and consistency, but does not audit the data and relies on the file suppliers for its accuracy and comprehensiveness.
- Table-specific notes are shown at the bottom.









DoD Officers Active Duty Personnel by Years of Service and Age for FY 2011 Valuation

Age	Years of Active Service																														Total				
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29		30+			
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	2	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	
21	27	6	2	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	39	
22	1,892	43	16	6	4	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1,966	
23	3,988	1,944	79	23	10	19	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6,064	
24	2,275	3,847	2,171	119	25	33	18	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8,489	
25	594	2,184	4,199	2,266	108	52	38	37	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9,878	
26	728	1,075	2,112	4,250	2,219	119	64	95	56	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10,723	
27	756	863	1,063	1,961	4,053	2,026	135	135	143	107	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	11,244	
28	498	788	776	916	1,811	3,605	1,771	173	194	222	139	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10,894	
29	375	581	802	758	798	1,640	3,327	1,613	278	243	348	232	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10,999	
30	270	400	516	732	664	750	1,570	2,754	1,475	257	277	444	282	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10,394	
31	197	306	412	475	687	679	760	1,464	2,496	1,454	304	362	498	352	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10,452	
32	184	253	320	358	450	642	753	868	1,486	2,205	1,298	393	449	675	360	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10,694	
33	125	191	208	288	330	426	566	665	789	1,282	2,025	1,264	324	468	660	317	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9,929	
34	94	154	164	191	235	319	426	589	661	767	1,222	1,946	1,203	355	522	632	290	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9,773	
35	72	116	133	170	190	267	326	395	572	597	680	1,180	1,730	1,214	444	569	562	251	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9,448	
36	65	88	114	141	142	165	270	305	445	535	547	655	1,167	1,727	1,281	458	516	619	289	2	0	0	0	0	0	0	0	0	0	0	0	0	0	9,531	
37	68	86	105	105	125	145	192	249	339	395	540	569	629	1,158	1,734	1,214	444	542	624	297	0	0	0	0	0	0	0	0	0	0	0	0	0	9,560	
38	48	55	70	81	104	128	139	208	238	365	361	472	555	691	1,112	1,270	1,270	458	617	692	258	2	1	0	0	0	0	0	0	0	0	0	0	9,646	
39	40	37	70	69	84	97	136	177	182	259	280	343	461	553	730	1,096	1,721	1,205	502	608	573	312	2	1	0	0	0	0	0	0	0	0	0	9,638	
40	28	63	78	62	82	89	133	135	177	249	216	276	310	466	614	787	1,156	1,844	1,323	535	508	601	332	1	0	0	0	0	0	0	0	0	0	10,065	
41	38	42	55	77	82	70	110	151	173	198	190	245	298	370	485	616	757	1,283	1,955	1,440	489	467	630	303	2	0	0	0	0	0	0	0	0	10,486	
42	26	34	54	61	59	84	72	125	138	174	163	203	270	308	479	552	779	1,313	1,881	1,070	362	425	508	253	2	0	0	0	0	0	0	0	0	9,602	
43	19	30	31	43	43	65	78	83	140	151	173	159	170	224	249	312	416	510	743	1,253	1,372	904	305	379	415	192	4	0	0	0	0	0	0	8,463	
44	15	21	44	44	44	47	54	45	76	92	118	117	134	171	218	256	280	370	544	674	987	1,136	820	264	289	319	161	1	0	0	0	0	0	7,411	
45	10	14	28	32	35	44	43	53	88	119	99	97	97	126	131	187	221	272	370	553	552	732	1,116	694	205	230	266	100	1	0	0	0	0	6,495	
46	13	14	31	23	26	33	48	58	68	57	73	102	103	109	152	143	173	214	274	419	388	434	784	863	566	161	207	229	80	1	1	1	5,847		
47	14	13	23	20	20	36	35	46	82	59	81	77	86	102	114	131	164	181	200	285	297	331	387	630	747	539	129	177	179	69	5	5	5,259		
48	9	9	16	17	24	26	33	38	51	52	58	52	74	90	92	94	131	136	167	212	243	264	330	355	429	612	425	117	133	124	67	4	4,480		
49	10	10	19	24	14	17	32	32	38	51	46	54	68	76	71	101	81	121	141	160	171	172	206	234	247	345	520	332	92	93	89	3,667			
50	6	11	13	11	14	21	12	24	30	34	44	44	50	54	51	68	94	86	89	130	143	101	122	164	179	215	273	357	273	76	110	2,889			
51	6	3	5	20	10	14	16	17	18	23	24	39	39	36	46	51	64	67	104	99	92	78	103	99	135	154	162	191	271	229	132	2347			
52	6	7	4	3	10	17	7	15	17	16	21	33	26	22	30	44	57	56	57	81	54	66	75	73	85	108	133	115	152	203	202	1,795			
53	5	5	9	3	14	8	16	11	10	19	11	19	33	26	25	38	40	41	51	66	48	42	59	66	77	97	97	72	93	262	1,413	0	0		
54	7	3	4	5	8	9	5	9	13	8	11	20	17	14	22	21	31	35	40	45	35	46	30	32	51	56	65	60	58	76	237	1,073	0		
55	4	8	8	10	4	2	5	8	10	8	10	14	12	14	15	22	31	28	37	55	48	39	46	49	27	47	41	53	61	44	181	941	0		
56	1	10	6	8	2	4	6	4	6	8	9	8	13	14	12	12	18	16	22	39	27	32	46	23	30	32	32	39	44	49	134	706	0		
57	5	3	6	2	1	1	5	5	6	7	6	10	10	4	8	5	8	16	16	21	26	25	22	23	20	22	31	28	27	29	33	111	534	0	
58	3	2	4	4	6	0	1	6	5	7	7	4	5	8	3	11	9	12	10	15	39	19	15	22	15	13	22	21	20	22	23	110	458	0	
59	1	0	3	2	5	3	3	2	4	5	4	6	6	4	3	7	10	5	17	24	19	21	11	16	9	24	17	19	17	18	79	364	0		
60+	4	11	16	12	6	8	11	10	10	12	13	5	9	12	10	15	9	25	25	30	29	34	32	26	24	24	35	32	35	25	157	706	0		
Total	12,928	13,331	13,789	13,397	12,551	11,721	11,209	10,636	10,531	10,067	9,400	9,463	9,064	9,369	9,513	9,388	9,117	9,273	9,540	9,625	7,447	6,213	5,907	4,799	3,794	3,190	2,616	1,966	1,519	1,156	1,877	254,396	0		

Notes: Age is age nearest birthday as of the end of the fiscal year.

Average Age: 35.7

Average YAS: 11.1

DoD Enlisted Active Duty Personnel by Years of Service and Age for FY 2011 Valuation

Table with columns for Age (0-60+) and Years of Active Service (0-30+), and a Total column. Data represents the count of personnel for each age and service year combination.

Notes: Age is age nearest birthday as of the end of the fiscal year.

Average Age: 28.3

Average YAS: 6.6



DoD Officers Selected Reserve Personnel by Years of Service and Age for FY 2011 Valuation

Age	Completed Years Of Active Duty Service																				Total	
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19		20+
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	20	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	30
21	97	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	102
22	427	16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	443
23	963	47	6	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1,019
24	1,307	145	47	16	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1,517
25	1,359	325	83	27	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1,803
26	1,262	433	189	105	36	18	10	1	0	0	0	0	0	0	0	0	0	0	0	0	0	2,054
27	1,161	482	269	209	204	51	14	8	4	0	0	0	0	0	0	0	0	0	0	0	0	2,402
28	1,108	586	410	285	373	156	41	8	13	1	0	0	0	0	0	0	0	0	0	0	0	2,981
29	1,015	573	498	340	452	287	113	45	25	5	4	1	0	0	0	0	0	0	0	0	0	3,358
30	997	512	446	395	466	291	225	138	31	21	11	3	0	0	0	0	0	0	0	0	0	3,536
31	842	467	400	390	504	330	302	196	114	31	26	6	0	0	0	0	0	0	0	0	0	3,608
32	738	371	366	337	453	327	306	207	185	78	31	24	4	0	2	0	0	0	0	0	0	3,429
33	657	284	347	310	398	322	302	255	193	148	88	28	14	5	1	1	0	0	0	0	0	3,353
34	590	276	272	306	417	319	352	258	221	197	140	88	15	8	2	2	1	0	0	0	0	3,464
35	553	273	262	292	380	267	279	263	225	225	201	156	52	26	5	4	2	0	0	0	0	3,465
36	563	311	241	284	339	291	284	218	195	232	206	177	97	40	12	4	5	1	0	0	0	3,500
37	569	327	280	266	334	292	288	239	197	216	212	206	146	68	28	5	5	1	0	0	0	3,679
38	327	269	279	274	312	274	279	249	204	218	204	180	150	88	51	17	5	3	0	0	0	3,633
39	533	364	297	314	329	273	282	265	199	216	213	180	149	91	71	33	13	10	2	0	1	3,835
40	623	361	327	346	329	304	272	292	226	253	198	221	155	129	92	49	26	10	1	2	1	4,217
41	663	440	400	393	379	389	326	301	256	257	208	201	182	128	99	54	30	18	6	4	1	4,735
42	638	408	368	409	420	329	340	252	264	271	183	240	177	144	102	78	35	26	11	7	2	4,704
43	541	410	421	370	403	299	287	243	222	195	204	198	195	165	85	66	49	33	16	7	7	4,416
44	500	377	337	356	388	342	267	248	213	203	228	197	188	162	104	82	41	34	21	9	16	4,313
45	453	319	360	338	347	344	314	244	240	200	219	201	207	192	120	83	61	46	23	21	16	4,348
46	421	330	302	312	346	331	310	231	231	196	183	176	196	149	109	76	57	42	29	26	24	4,077
47	378	299	305	330	275	297	313	247	230	181	183	183	171	128	105	104	70	35	20	14	23	3,891
48	346	328	266	271	282	286	249	240	252	187	182	155	156	156	107	103	70	47	37	23	40	3,783
49	293	239	200	257	228	229	231	209	197	177	178	153	140	122	99	75	63	37	19	11	34	3,191
50	270	256	181	207	219	189	181	179	156	163	177	136	133	135	86	92	56	44	18	11	26	2,915
51	205	197	160	167	173	127	169	163	145	118	131	117	85	92	78	51	41	37	19	16	21	2,312
52	165	160	123	147	149	133	137	142	113	123	89	107	81	71	58	55	35	34	14	7	30	1,973
53	177	142	109	99	147	118	106	99	88	84	63	81	68	74	54	45	27	22	10	2	24	1,639
54	141	140	124	105	120	126	97	90	82	58	65	57	57	49	41	34	31	23	7	6	12	1,465
55	117	125	114	94	111	101	105	81	68	58	50	48	33	45	42	15	21	17	4	3	20	1,272
56	103	130	107	81	68	86	78	80	65	54	45	37	28	36	22	26	16	23	15	7	10	1,117
57	81	116	83	75	80	79	69	42	48	34	32	30	31	22	14	20	16	10	8	7	6	903
58	84	117	97	77	63	59	49	51	45	30	31	26	26	28	13	13	9	6	5	4	7	840
59	67	87	75	56	64	54	46	48	41	35	22	22	15	18	13	3	18	2	5	1	5	697
60	44	63	56	47	46	35	37	23	17	20	10	7	9	4	5	5	3	2	1	2	0	436
61	25	25	26	25	19	15	10	16	19	8	5	6	5	2	1	1	4	0	0	0	0	212
62	17	17	16	22	9	6	7	6	3	6	2	2	1	4	1	2	0	0	1	0	1	123
63+	23	41	29	21	15	14	13	10	4	4	4	3	5	3	1	0	0	2	0	0	0	192
Total	21,673	11,198	9,283	8,755	9,691	7,790	7,090	5,887	5,031	4,505	4,042	3,677	2,971	2,384	1,623	1,198	810	565	292	190	327	108,982

Notes: Age is age nearest birthday as of the end of the fiscal year. Average Age: 39.9 Average Years of Active Service: 4.8

DoD Enlisted Selected Reserve Personnel by Years of Service and Age for FY 2011 Valuation

Age	Completed Years Of Active Duty Service																				Total	
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19		20+
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	908	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	9,827	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	908
19	20,319	131	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	20,450
20	30,231	1,028	12	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	31,272
21	35,489	3,320	177	72	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	39,061
22	34,250	5,819	319	393	714	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	41,356
23	30,719	7,400	1,348	1,063	932	127	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	41,592
24	25,091	7,613	2,007	1,594	2,029	532	72	4	0	0	0	0	0	0	0	0	0	0	0	0	0	38,942
25	19,604	6,750	2,327	1,981	2,843	1,010	349	52	4	0	0	0	0	0	0	0	0	0	0	0	0	34,920
26	15,836	5,923	2,699	2,377	3,248	1,397	762	193	55	2	0	0	0	0	0	0	0	0	0	0	0	32,492
27	12,872	5,213	2,735	2,556	3,387	1,611	1,212	489	243	22	1	0	0	0	0	0	0	0	0	0	0	30,341
28	10,623	4,569	2,744	2,615	3,322	1,669	1,317	665	440	131	21	1	0	0	0	0	0	0	0	0	0	28,117
29	9,117	4,055	2,719	2,599	3,265	1,710	1,441	775	609	257	93	12	0	0	0	0	0	0	0	0	0	26,652
30	7,211	3,238	2,366	2,368	2,918	1,644	1,352	759	672	345	235	85	4	2	0	0	0	0	0	0	0	23,199
31	6,037	2,807	1,956	2,011	2,530	1,414	1,305	829	728	438	279	156	45	7	4	0	0	0	0	0	0	20,546
32	5,137	2,241	1,793	1,706	2,148	1,244	1,081	728	627	443	342	199	111	43	14	0	0	0	0	0	0	17,857
33	4,269	1,930	1,549	1,464	1,873	1,109	963	665	580	491	356	216	112	87	52	3	1	0	0	0	0	15,720
34	3,731	1,718	1,309	1,363	1,715	1,127	898	591	544	436	332	207	145	94	135	11	3	2	0	0	0	14,361
35	3,366	1,521	1,179	1,221	1,555	1,018	847	596	456	391	342	221	131	91	112	23	14	0	0	0	0	13,084
36	3,004	1,425	1,205	1,126	1,461	951	789	554	470	393	271	218	147	119	117	45	19	13	1	0	0	12,328
37	2,862	1,380	1,206	1,073	1,312	902	734	579	454	415	307	213	176	119	111	58	32	8	5	0	0	11,946
38	2,584	1,353	1,171	1,097	1,247	872	689	559	481	319	227	183	133	107	148	25	10	6	0	0	0	11,487
39	2,619	1,349	1,250	1,121	1,256	840	722	582	489	403	341	249	177	121	110	57	28	22	6	6	6	11,754
40	2,551	1,363	1,222	1,184	1,382	941	794	633	501	463	371	313	220	146	111	57	40	30	9	6	7	12,344
41	2,476	1,374	1,279	1,279	1,418	1,032	837	685	546	476	409	356	233	131	109	59	44	38	19	8	5	12,813
42	2,178	1,280	1,159	1,139	1,351	970	807	598	532	411	396	290	207	162	102	81	42	31	11	9	8	11,764
43	1,848	1,148	1,035	1,061	1,155	876	814	641	517	413	373	261	205	149	110	94	52	27	25	9	14	10,827
44	1,573	970	950	961	1,038	866	718	574	486	376	357	287	215	138	104	73	50	34	15	13	13	9,811
45	1,363	962	911	870	945	845	701	566	478	375	300	282	216	140	99	80	51	24	30	8	11	9,257
46	1,187	837	811	828	859	764	695	547	460	366	341	255	195	153	110	88	64	33	37	6	22	8,708
47	1,060	745	789	820	808	738	651	547	447	344	339	281	238	174	131	92	70	43	29	11	22	8,379
48	914	660	726	755	761	715	597	509	416	380	332	294	216	198	126	119	61	43	19	21	22	7,884
49	794	622	682	723	697	646	533	512	409	330	348	252	218	173	118	91	61	54	29	14	21	7,327
50	727	529	600	615	629	549	475	412	313	283	273	251	151	168	155	97	61	48	21	6	31	6,394
51	566	437	488	573	538	482	433	406	280	241	238	195	180	163	141	119	49	39	20	10	20	5,618
52	422	338	413	435	375	438	372	321	246	231	177	169	135	118	94	69	54	41	16	8	16	4,488
53	356	307	362	413	373	361	339	278	207	187	151	126	87	100	78	70	50	34	16	6	14	3,915
54	321	254	328	370	350	318	313	253	184	128	133	114	103	73	53	59	31	29	16	8	8	3,446
55	259	208	260	330	306	269	247	218	152	129	107	95	76	50	58	47	24	20	5	6	13	2,879
56	183	182	233	277	253	260	212	157	115	117	90	71	66	39	41	31	27	18	14	7	4	2,397
57	149	123	189	225	186	183	171	137	102	90	55	51	42	28	23	16	15	9	6	8	8	1,898
58	124	113	169	204	175	160	136	118	84	79	69	45	33	31	16	23	7	11	3	6	6	1,610
59	139	113	168	169	144	126	116	75	68	64	34	32	28	22	13	10	9	9	3	3	5	1,350
60	58	51	94	93	75	60	59	35	34	31	28	23	5	7	10	6	2	3	2	2	1	679
61	13	8	12	7	7	8	0	3	5	1	4	0	0	2	0	1	0	0	0	0	0	71
62	5	3	3	4	3	1	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	23
63+	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Total	314,972	83,413	45,400	43,136	51,049	30,788	24,558	16,845	13,436	10,056	8,199	6,051	4,309	3,195	2,569	1,634	987	679	366	179	277	662,098

Notes: Age is age nearest birthday as of the end of the fiscal year. Average Age: 30.6 Average Years of Active Service: 2.2

All DoD Selected Reserve Personnel by Years of Service and Age for FY 2011 Valuation

Age	Completed Years Of Active Duty Service																				Total		
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19		20+	
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
17	908	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
18	9,827	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	908	
19	20,319	131	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9,830	
20	30,251	1,038	12	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	20,450	
21	35,586	3,320	182	72	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	31,302	
22	34,677	5,835	714	393	177	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	39,163	
23	31,682	7,447	1,354	1,063	935	127	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	41,799	
24	26,398	7,758	2,054	1,610	2,031	532	72	4	0	0	0	0	0	0	0	0	0	0	0	0	0	42,611	
25	20,963	7,075	2,410	2,008	2,852	1,010	349	52	4	0	0	0	0	0	0	0	0	0	0	0	0	40,459	
26	17,098	6,356	2,888	2,482	3,284	1,415	772	194	55	2	0	0	0	0	0	0	0	0	0	0	0	36,723	
27	14,033	5,695	3,004	2,765	3,591	1,662	1,226	497	247	22	1	0	0	0	0	0	0	0	0	0	0	34,546	
28	11,731	5,155	3,154	2,900	3,695	1,825	1,358	673	453	132	21	1	0	0	0	0	0	0	0	0	0	32,743	
29	10,132	4,628	3,217	2,939	3,717	1,997	1,554	820	634	262	97	13	0	0	0	0	0	0	0	0	0	31,098	
30	8,208	3,750	2,812	2,763	3,384	1,935	1,577	897	703	366	246	88	4	2	0	0	0	0	0	0	0	30,010	
31	6,879	3,274	2,356	2,401	3,034	1,744	1,607	1,025	842	469	305	162	45	7	4	0	0	0	0	0	0	24,154	
32	5,875	2,612	2,159	2,043	2,601	1,571	1,387	935	812	521	373	223	115	43	16	0	0	0	0	0	0	21,286	
33	4,926	2,214	1,896	1,774	2,271	1,431	1,265	920	773	639	444	244	126	92	53	4	1	0	0	0	0	19,073	
34	4,321	1,994	1,581	1,669	2,132	1,446	1,250	849	765	633	472	295	160	102	137	13	4	2	0	0	0	17,825	
35	3,919	1,794	1,441	1,513	1,935	1,126	859	681	616	543	377	183	117	117	27	16	0	0	0	0	0	16,549	
36	3,567	1,736	1,446	1,410	1,800	1,242	1,073	772	665	625	477	395	244	159	129	49	24	14	1	0	0	15,828	
37	3,431	1,707	1,486	1,339	1,646	1,194	1,022	818	651	631	519	419	322	187	139	63	37	9	5	0	0	15,625	
38	2,389	1,538	1,456	1,371	1,559	1,146	968	808	685	537	431	333	221	158	103	33	33	6	0	0	0	15,120	
39	3,152	1,713	1,547	1,435	1,585	1,113	1,004	847	688	619	554	429	326	212	181	90	41	13	8	6	7	15,589	
40	3,174	1,724	1,549	1,530	1,711	1,245	1,066	925	727	716	569	534	375	275	203	106	66	40	10	8	8	16,561	
41	3,139	1,814	1,679	1,672	1,797	1,421	1,163	986	802	733	617	557	415	259	208	113	74	56	25	12	6	17,548	
42	2,816	1,688	1,527	1,548	1,771	1,299	1,147	850	796	682	579	530	384	306	204	159	77	57	22	16	10	16,468	
43	2,389	1,538	1,456	1,431	1,558	1,175	1,101	884	739	608	577	459	400	314	195	160	101	60	41	16	21	15,243	
44	2,073	1,347	1,287	1,317	1,426	1,208	985	822	699	579	585	484	403	300	208	155	91	68	36	22	29	14,124	
45	1,816	1,281	1,271	1,208	1,292	1,189	1,015	810	718	575	519	483	423	332	219	163	112	70	53	29	27	13,605	
46	1,698	1,167	1,163	1,140	1,205	1,095	1,005	778	691	562	524	431	391	302	219	164	121	75	66	32	46	12,785	
47	1,438	1,044	1,094	1,150	1,083	1,035	964	794	677	525	522	464	409	302	236	196	140	78	49	25	45	12,270	
48	1,260	988	992	1,026	1,043	1,001	846	749	668	567	514	449	372	354	233	222	131	90	56	44	62	11,667	
49	1,087	861	882	980	925	875	764	721	606	507	526	405	358	295	217	166	124	91	48	25	55	10,518	
50	997	785	781	822	848	738	656	591	469	446	450	387	284	303	241	189	117	92	39	17	57	9,309	
51	771	634	648	740	711	609	602	569	425	359	312	265	255	219	170	170	90	76	39	26	41	7,930	
52	587	498	536	582	524	571	509	463	359	354	266	276	216	189	152	124	89	75	30	15	46	6,461	
53	533	449	471	512	520	479	445	377	295	271	214	207	155	174	132	115	77	56	26	8	38	5,554	
54	462	394	452	475	470	444	410	343	266	186	198	171	160	122	94	93	62	52	23	14	20	4,911	
55	376	333	374	424	417	370	352	299	220	187	157	143	109	95	100	62	45	37	9	9	33	4,151	
56	286	312	340	358	321	346	290	237	180	171	135	108	94	75	63	57	43	41	29	14	14	3,514	
57	230	239	272	300	266	262	240	179	150	124	122	102	82	64	42	43	32	25	17	13	14	2,801	
58	208	230	266	281	238	219	185	169	129	109	100	71	59	59	29	36	16	17	8	10	11	2,450	
59	206	200	243	225	208	180	162	123	109	99	56	54	43	40	26	13	27	11	8	4	10	2,047	
60	102	114	150	140	121	95	96	58	51	51	38	30	14	11	15	11	5	5	3	4	1	1,115	
61	38	33	38	32	26	23	10	19	24	9	9	6	5	4	1	2	4	0	0	0	0	0	283
62	22	20	19	26	12	7	9	6	5	6	2	2	1	4	1	2	0	0	1	0	1	0	146
63+	23	41	30	21	15	14	13	10	4	4	4	3	5	3	1	0	0	0	2	0	0	0	193
Total	336,645	94,611	54,683	51,891	60,740	38,578	31,648	22,732	18,467	14,561	12,241	9,728	7,280	5,579	4,192	2,832	1,797	1,244	658	369	604	771,080	

Notes: Age is age nearest birthday as of the end of the fiscal year. Average Age: 32.0 Average Years of Active Service: 2.6



**DoD Officers Non-Selected Reserve Personnel With 20 Good Years for FY 2011 Valuation**

Age	Completed Years Of Active Duty Service																				Total	
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19		20+
36	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37	0	0	1	0	0	2	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
38	3	0	1	3	4	3	0	1	1	1	1	1	1	0	0	0	0	0	0	0	0	5
39	6	6	9	5	8	9	5	2	3	3	0	5	2	2	3	0	0	0	0	2	2	19
40	10	23	25	25	8	7	7	19	1	8	6	7	6	4	4	1	4	3	0	0	0	168
41	19	34	40	34	19	15	8	19	14	12	15	15	15	9	5	6	3	5	0	0	0	291
42	23	49	48	35	35	40	35	27	27	39	49	27	20	27	8	16	7	4	4	0	0	532
43	43	74	56	61	45	55	34	31	37	56	84	84	53	36	28	18	4	9	3	0	1	812
44	45	74	101	76	79	66	70	47	60	92	86	114	79	58	28	23	18	4	2	5	1	1,128
45	53	69	124	91	79	90	80	64	86	101	130	147	118	77	63	23	19	11	1	5	0	1,431
46	57	91	129	94	129	109	117	93	107	121	109	128	123	73	86	45	32	11	6	2	2	1,664
47	48	150	140	123	147	153	155	121	121	158	147	152	162	104	104	69	47	13	6	2	6	2,128
48	76	151	164	164	170	193	216	196	213	198	178	174	149	122	129	78	39	31	10	3	3	2,657
49	59	128	136	130	195	202	230	226	253	206	159	195	154	126	141	71	52	30	10	5	7	2,715
50	73	163	126	123	185	243	234	242	296	225	196	195	210	150	133	98	54	42	9	5	6	3,008
51	61	162	134	113	183	295	273	274	324	265	264	241	201	161	137	78	56	39	10	6	6	3,283
52	81	164	130	126	221	295	270	293	331	299	243	250	196	167	123	99	71	56	19	7	5	3,446
53	68	163	124	141	249	301	284	320	368	290	258	240	236	185	138	111	69	51	14	3	11	3,624
54	77	181	125	141	276	339	343	370	336	296	274	272	250	196	145	125	87	47	14	5	9	3,908
55	62	182	145	181	294	369	339	409	363	302	295	295	262	190	171	134	96	42	13	3	9	4,156
56	76	210	167	204	298	383	341	389	372	292	296	342	239	247	191	121	93	65	17	6	6	4,355
57	96	234	188	191	319	402	379	368	363	288	280	278	236	197	189	118	79	50	22	6	6	4,289
58	89	235	194	234	338	423	424	391	327	268	290	278	266	198	175	97	66	46	23	6	1	4,369
59	113	356	268	272	415	508	476	395	346	272	243	240	254	197	154	118	66	46	24	10	4	4,777
60	62	186	148	145	222	251	231	174	156	141	134	133	124	112	58	42	44	22	10	3	1	2,399
61	8	7	3	9	2	7	12	5	5	12	9	2	1	0	1	0	2	3	2	0	0	90
62	1	3	0	5	4	5	9	4	5	4	7	3	3	3	1	0	1	0	0	0	1	59
63+	8	3	28	46	42	26	13	12	8	9	7	12	3	3	1	4	1	7	1	4	0	238
Total	1,317	3,098	2,754	2,772	3,966	4,795	4,592	4,481	4,528	3,960	3,747	3,852	3,368	2,637	2,216	1,495	1,010	637	220	88	88	55,621

Average Years of Active Service: 7.7

Average Age: 53.1

Notes: Data taken from the actuarial valuation file created by the DoD Office of the Actuary.  
Age is age nearest birthday as of the end of the fiscal year.

**DoD Enlisted Non-Selected Reserve Personnel With 20 Good Years for FY 2011 Valuation**

Age	Completed Years Of Active Duty Service																				Total			
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19		20+		
36	0	3	2	0	1	3	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	2	13	
37	0	2	1	1	2	0	2	1	1	1	1	1	0	0	1	0	1	0	0	0	0	0	0	15
38	3	8	14	3	11	6	11	6	9	8	8	11	8	0	0	2	2	0	0	2	0	0	106	
39	12	48	60	53	26	31	27	19	27	26	32	24	22	14	19	3	3	3	2	0	3	454		
40	53	110	114	102	97	77	75	61	77	64	89	81	39	22	25	14	8	5	2	0	0	1,115		
41	76	185	208	165	202	139	123	119	109	110	125	113	82	65	46	29	10	4	6	1	7	1,924		
42	88	249	282	288	298	263	195	157	126	137	152	143	120	101	56	32	29	12	6	1	1	2,736		
43	143	397	387	317	397	384	265	231	198	194	232	204	145	126	82	65	24	11	9	4	1	3,816		
44	196	446	478	438	425	515	391	298	233	243	252	214	166	158	111	83	56	21	13	7	3	4,747		
45	197	590	494	495	539	583	477	383	312	276	322	276	207	166	107	96	58	30	13	7	6	5,634		
46	205	628	577	533	724	603	504	383	385	351	393	304	206	211	129	123	81	54	20	1	7	6,422		
47	258	777	593	581	839	875	607	486	443	429	498	410	291	236	176	151	112	49	33	14	7	7,865		
48	229	880	669	675	909	875	737	523	584	484	585	518	373	296	201	166	116	50	21	12	15	8,918		
49	239	983	701	614	974	1,038	764	609	550	516	596	527	456	285	224	176	137	60	35	12	15	9,511		
50	246	1,018	620	690	1,057	1,025	841	604	618	580	589	497	450	437	290	202	127	62	22	11	22	10,008		
51	261	992	639	675	1,100	1,118	824	606	671	563	569	457	430	436	359	228	131	63	43	6	19	10,190		
52	228	978	607	765	1,190	1,134	831	637	563	492	498	423	353	376	300	231	147	98	56	13	23	9,943		
53	244	985	549	789	1,231	1,079	887	579	542	526	434	395	315	303	292	237	119	103	35	15	29	9,688		
54	244	1,047	637	815	1,478	1,141	823	593	549	468	467	407	314	282	287	218	167	103	46	10	17	10,113		
55	252	1,243	672	922	1,557	1,120	881	683	480	438	383	321	302	267	212	168	149	111	42	25	24	10,252		
56	259	1,135	733	1,025	1,449	1,140	832	676	511	447	406	339	271	235	173	137	95	105	46	14	19	10,047		
57	287	1,131	726	1,037	1,456	1,077	798	641	545	427	383	292	294	152	132	110	110	62	35	15	22	9,732		
58	311	1,199	848	1,088	1,427	1,100	808	644	611	508	364	240	257	212	136	107	92	60	31	17	18	10,078		
59	312	1,887	1,308	1,458	1,636	1,032	903	597	682	530	410	283	213	177	118	82	82	66	25	21	18	11,840		
60	173	1,018	720	805	836	526	393	351	346	250	247	121	106	103	50	29	27	18	5	4	13	6,141		
61	12	27	42	31	46	21	15	11	16	9	8	7	1	1	1	0	0	1	3	0	0	0	252	
62	3	13	29	27	31	15	15	5	5	5	5	5	5	5	2	0	0	0	0	0	0	0	170	
63+	17	57	157	94	159	74	39	30	17	13	18	13	7	7	2	2	2	7	2	0	0	0	717	
Total	4,548	18,036	12,867	14,486	20,097	16,994	13,069	9,930	9,206	8,097	8,066	6,626	5,433	4,673	3,531	2,691	1,885	1,158	551	212	291	162,447		

Average Years of Active Service: 6.1

Average Age: 52.0

Notes: Data taken from the actuarial valuation file created by the DoD Office of the Actuary.  
Age is age nearest birthday as of the end of the fiscal year.

**All DoD Non-Selected Reserve Personnel With 20 Good Years for FY 2011 Valuation**

Age	Completed Years Of Active Duty Service																				Total			
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19		20+		
36	0	0	2	0	1	3	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	2	13	
37	0	2	2	1	2	2	1	2	1	1	1	1	0	0	1	0	1	0	0	0	0	0	1	20
38	6	8	15	6	15	9	11	4	5	10	9	12	9	0	0	2	2	0	0	2	2	0	125	
39	18	54	69	58	34	40	32	21	30	29	32	29	22	16	22	3	3	3	2	2	2	5	524	
40	63	133	139	127	105	84	82	80	78	72	95	88	45	26	29	15	12	8	2	0	0	0	1,283	
41	95	219	248	199	221	158	138	127	128	124	137	128	97	74	51	35	13	9	6	1	7	2,215		
42	111	298	330	323	333	303	230	184	153	176	191	192	147	121	64	48	36	16	10	1	1	3,268		
43	186	471	443	378	442	439	299	262	235	250	316	288	198	162	110	83	28	20	12	4	2	4,628		
44	241	520	579	514	504	581	461	345	293	335	338	328	245	216	139	106	74	25	15	12	4	5,875		
45	250	659	618	586	618	673	557	447	398	377	452	423	325	243	170	119	77	41	14	12	6	7,065		
46	262	719	706	627	853	712	621	476	492	472	502	432	329	284	215	168	113	65	26	3	9	8,086		
47	306	927	733	704	986	1,028	762	607	564	587	645	562	453	340	280	220	159	62	39	16	13	9,993		
48	305	1,031	833	839	1,079	1,068	953	719	797	682	763	692	522	418	330	244	155	81	31	15	18	11,575		
49	298	1,111	837	744	1,169	1,240	994	835	803	722	755	722	610	411	365	247	189	90	45	17	22	12,226		
50	319	1,181	746	813	1,242	1,268	1,075	846	914	805	785	692	660	587	423	300	181	104	31	16	28	13,016		
51	322	1,154	773	788	1,283	1,413	1,097	880	995	828	833	698	631	597	496	306	187	102	53	12	25	13,473		
52	309	1,142	737	891	1,411	1,429	1,101	930	894	791	741	673	549	543	423	330	218	154	75	20	28	13,389		
53	312	1,148	673	930	1,480	1,380	1,171	899	910	816	692	635	551	488	430	348	188	154	49	18	40	13,312		
54	321	1,228	762	956	1,754	1,480	1,166	963	885	764	741	679	564	478	432	343	254	150	60	15	26	14,021		
55	314	1,425	817	1,103	1,851	1,489	1,220	1,092	843	740	678	616	564	457	383	302	245	153	55	28	33	14,408		
56	335	1,345	900	1,229	1,747	1,523	1,173	1,065	883	739	702	681	510	482	364	258	188	170	63	20	25	14,402		
57	383	1,365	914	1,228	1,775	1,479	1,177	1,009	908	715	663	570	530	349	321	228	189	112	57	21	28	14,021		
58	400	1,434	1,042	1,322	1,765	1,523	1,232	1,035	938	776	664	518	523	410	311	204	158	106	54	23	19	14,447		
59	425	2,243	1,576	1,730	2,051	1,540	1,379	992	1,028	802	653	523	467	374	272	200	148	112	49	31	22	16,617		
60	235	1,204	868	950	1,058	777	624	525	502	391	381	254	230	215	108	71	71	40	15	7	14	8,540		
61	20	34	45	40	48	28	27	16	21	21	17	9	2	1	2	0	2	4	5	0	0	0	342	
62	4	16	29	32	35	20	24	9	10	9	12	8	8	8	3	0	1	0	0	0	1	1	229	
63+	25	60	185	140	201	100	52	42	25	22	25	25	10	10	3	6	3	14	3	4	0	0	955	
Total	5,865	21,134	15,621	17,258	24,063	21,789	17,661	14,411	13,754	12,057	11,813	10,478	8,801	7,310	5,747	4,186	2,895	1,795	771	300	379	218,068		

Average Years of Active Service: 6.5

Average Age: 52.3

Notes: Data taken from the actuarial valuation file created by the DoD Office of the Actuary.  
Age is age nearest birthday as of the end of the fiscal year.

DoD Retired Military Valuation Data as of Year-End FY 2011

All Officers

Age	Non Disabled		Perm Disabled		Temp Disabled		Reserve Retired		Strength		TERA Non-Dis		TERA Res Ret		CSB Non-Dis		CSB Dis		Average Annual Net Retired Pay	
	Age	Count	Count	Count	Count	Count	Count	Count	Total	TERA Non-Dis	TERA Res Ret	CSB Non-Dis	CSB Dis	Total	Reserve Retired	TERA Non-Dis	TERA Res Ret	CSB Non-Dis	CSB Dis	Total
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	\$0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	\$0
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	\$0
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	\$0
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	\$0
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	\$0
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	\$0
23	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	\$0
24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	\$0
25	0	0	3	8	11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	\$12,169
26	0	0	3	14	17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	\$14,975
27	0	0	14	16	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	\$8,876
28	0	0	23	20	43	0	0	0	0	0	0	0	0	0	0	0	0	0	0	\$11,857
29	0	0	35	25	60	0	0	0	0	0	0	0	0	0	0	0	0	0	0	\$13,233
30	0	0	49	35	84	0	0	0	0	0	0	0	0	0	0	0	0	0	0	\$12,407
31	0	0	50	44	94	0	0	0	0	0	0	0	0	0	0	0	0	0	0	\$12,844
32	0	0	71	36	107	0	0	0	0	0	0	0	0	0	0	0	0	0	0	\$12,977
33	0	0	54	24	78	0	0	0	0	0	0	0	0	0	0	0	0	0	0	\$14,207
34	0	0	63	37	100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	\$15,256
35	0	0	67	31	98	0	0	0	0	0	0	0	0	0	0	0	0	0	0	\$15,929
36	0	0	82	20	102	0	0	0	0	0	0	0	0	0	0	0	0	0	0	\$14,036
37	1	79	200	28	228	0	0	0	0	0	0	0	0	0	0	0	0	0	0	\$14,627
38	14	1,518	1,281	83	2,906	2	2	0	0	0	0	0	0	0	0	0	0	0	0	\$18,153
39	117	92	26	26	235	0	0	0	0	0	0	0	0	0	0	0	0	0	0	\$23,951
40	331	3,150	104	30	465	0	0	0	0	0	0	0	0	0	0	0	0	0	0	\$32,147
41	523	4,065	171	46	693	0	0	0	0	0	0	0	0	0	0	0	0	0	0	\$29,358
42	916	7,115	204	25	1,145	0	0	0	0	0	0	0	0	0	0	0	0	0	0	\$31,773
43	1,518	11,171	228	34	1,746	0	0	0	0	0	0	0	0	0	0	0	0	0	0	\$36,488
44	2,288	16,127	161	31	2,449	2	2	0	0	0	0	0	0	0	0	0	0	0	0	\$37,716
45	3,150	22,882	145	29	3,324	0	0	0	0	0	0	0	0	0	0	0	0	0	0	\$21,123
46	4,065	29,947	171	19	4,255	0	0	0	0	0	0	0	0	0	0	0	0	0	0	\$17,227
47	4,940	37,115	200	30	5,170	0	0	0	0	0	0	0	0	0	0	0	0	0	0	\$16,391
48	5,672	43,158	191	24	5,887	25	3	0	0	0	0	0	0	0	0	0	0	0	0	\$17,550
49	6,127	46,685	218	15	6,366	61	0	0	0	0	0	0	0	0	0	0	0	0	0	\$19,982
50	6,685	50,303	249	12	6,915	101	0	0	0	0	0	0	0	0	0	0	0	0	0	\$21,123
51	7,115	54,065	279	24	7,343	219	0	0	0	0	0	0	0	0	0	0	0	0	0	\$39,092
52	7,683	58,808	307	11	7,991	433	0	0	0	0	0	0	0	0	0	0	0	0	0	\$21,091
53	8,308	63,544	343	11	8,653	716	0	0	0	0	0	0	0	0	0	0	0	0	0	\$20,804
54	8,999	68,343	380	10	9,257	1,093	0	0	0	0	0	0	0	0	0	0	0	0	0	\$16,391
55	9,303	73,158	419	7	9,559	1,304	0	0	0	0	0	0	0	0	0	0	0	0	0	\$19,372
56	9,866	78,024	456	12	10,117	1,444	0	0	0	0	0	0	0	0	0	0	0	0	0	\$23,756
57	10,067	83,111	493	3	10,355	1,429	0	0	0	0	0	0	0	0	0	0	0	0	0	\$26,198
58	10,388	88,200	530	6	10,723	1,233	0	0	0	0	0	0	0	0	0	0	0	0	0	\$45,915
59	10,427	93,300	567	6	10,792	942	0	0	0	0	0	0	0	0	0	0	0	0	0	\$46,043
60	10,302	98,400	604	6	12,816	699	55	1	0	0	0	0	0	0	0	0	0	0	0	\$46,065
61	10,613	103,500	641	3	13,154	650	115	1	0	0	0	0	0	0	0	0	0	0	0	\$45,708
62	11,271	109,600	678	5	14,046	361	133	0	0	0	0	0	0	0	0	0	0	0	0	\$45,985
63	12,123	116,700	715	1	15,038	300	110	2	0	0	0	0	0	0	0	0	0	0	0	\$45,915
64	13,025	124,800	752	1	16,077	261	89	0	0	0	0	0	0	0	0	0	0	0	0	\$46,915
65	13,870	133,900	789	0	17,169	215	101	0	0	0	0	0	0	0	0	0	0	0	0	\$46,385
66	9,629	143,000	826	0	16,908	127	58	0	0	0	0	0	0	0	0	0	0	0	0	\$27,141
67	9,732	152,100	863	0	17,015	85	43	0	0	0	0	0	0	0	0	0	0	0	0	\$46,748
68	9,931	161,200	899	0	16,778	76	38	0	0	0	0	0	0	0	0	0	0	0	0	\$26,507
69	9,744	170,300	936	0	16,563	62	44	0	0	0	0	0	0	0	0	0	0	0	0	\$46,915
70	8,566	179,400	973	0	14,059	40	30	0	0	0	0	0	0	0	0	0	0	0	0	\$29,156

DoD Retired Military Valuation Data as of Year-End FY 2011

All Officers

Age	Non-Disabled				Perm Disabled				Temp Disabled				Reserve Retired		Average Annual Net Retired Pay		TERRA		CSB	
	Non-Disabled	Perm Disabled	Temp Disabled	Total	Non-Disabled	Perm Disabled	Temp Disabled	Total	Non-Disabled	Perm Disabled	Temp Disabled	Total	Res Ret	Non-Dis	Res Ret	Non-Dis	Non-Dis	Dis		
71	8,676	360	0	13,657	0	4,621	0	0	0	0	0	0	\$21,001	\$34,095	\$14,201	\$0	\$0	\$0		
72	8,684	300	0	13,296	0	4,312	0	0	0	0	0	0	\$20,793	\$37,963	\$14,058	\$0	\$0	\$0		
73	8,291	284	0	12,881	0	4,306	0	0	0	0	0	0	\$19,982	\$44,845	\$13,900	\$0	\$0	\$0		
74	7,894	261	0	12,335	0	4,180	0	0	0	0	0	0	\$19,590	\$41,822	\$13,877	\$0	\$0	\$0		
75	7,520	253	0	11,718	0	3,945	0	0	0	0	0	0	\$19,309	\$35,663	\$12,800	\$0	\$0	\$0		
76	7,324	252	0	11,336	0	3,760	0	0	0	0	0	0	\$18,960	\$37,790	\$12,726	\$0	\$0	\$0		
77	7,657	247	0	11,735	0	3,831	0	0	0	0	0	0	\$18,804	\$38,746	\$11,328	\$0	\$0	\$0		
78	7,289	240	0	11,031	0	3,522	0	0	0	0	0	0	\$19,212	\$40,212	\$11,888	\$0	\$0	\$0		
79	7,267	244	0	11,086	0	3,575	0	0	0	0	0	0	\$18,757	\$41,984	\$16,577	\$0	\$0	\$0		
80	6,811	294	0	10,803	0	3,698	0	0	0	0	0	0	\$17,942	\$40,028	\$15,463	\$0	\$0	\$0		
81	6,665	262	0	10,790	0	3,863	0	0	0	0	0	0	\$17,613	\$39,967	\$23,949	\$0	\$0	\$0		
82	5,902	278	0	9,816	0	3,636	0	0	0	0	0	0	\$17,199	\$39,712	\$15,366	\$0	\$0	\$0		
83	4,756	249	0	8,087	0	3,082	0	0	0	0	0	0	\$17,097	\$40,384	\$17,583	\$0	\$0	\$0		
84	3,353	183	0	5,665	0	2,129	0	0	0	0	0	0	\$17,658	\$41,721	\$18,180	\$0	\$0	\$0		
85	2,656	170	0	4,759	0	1,953	0	0	0	0	0	0	\$17,479	\$49,607	\$23,892	\$0	\$0	\$0		
86	2,794	177	0	5,184	0	2,213	0	0	0	0	0	0	\$16,618	\$40,703	\$0	\$0	\$0	\$0		
87	2,961	261	0	5,853	0	2,631	0	0	0	0	0	0	\$16,528	\$39,110	\$11,351	\$0	\$0	\$0		
88	2,911	362	0	5,900	0	2,627	0	0	0	0	0	0	\$15,766	\$38,006	\$0	\$0	\$0	\$0		
89	2,809	407	0	5,818	0	2,602	0	0	0	0	0	0	\$15,786	\$37,448	\$0	\$0	\$0	\$0		
90	2,931	437	0	5,840	0	2,472	0	0	0	0	0	0	\$16,059	\$37,783	\$0	\$0	\$0	\$0		
91	2,467	439	0	5,094	0	2,188	0	0	0	0	0	0	\$17,056	\$36,675	\$8,616	\$0	\$0	\$0		
92	1,998	399	0	4,102	0	1,705	0	0	0	0	0	0	\$18,097	\$37,691	\$0	\$0	\$0	\$0		
93	1,495	276	0	3,156	0	1,385	0	0	0	0	0	0	\$22,125	\$36,084	\$0	\$0	\$0	\$0		
94	1,021	225	0	2,232	0	986	0	0	0	0	0	0	\$19,012	\$35,827	\$0	\$0	\$0	\$0		
95	652	140	0	1,459	0	667	0	0	0	0	0	0	\$19,669	\$36,979	\$0	\$0	\$0	\$0		
96	462	96	0	974	0	416	0	0	0	0	0	0	\$20,771	\$36,822	\$0	\$0	\$0	\$0		
97	241	60	0	591	0	290	0	0	0	0	0	0	\$21,488	\$36,257	\$0	\$0	\$0	\$0		
98	142	39	0	334	0	153	0	0	0	0	0	0	\$22,125	\$36,084	\$0	\$0	\$0	\$0		
99	56	26	0	170	0	88	0	0	0	0	0	0	\$21,943	\$34,207	\$0	\$0	\$0	\$0		
100	54	5	0	111	0	52	0	0	0	0	0	0	\$21,794	\$33,662	\$0	\$0	\$0	\$0		
101	28	6	0	73	0	39	0	0	0	0	0	0	\$20,357	\$31,130	\$0	\$0	\$0	\$0		
102	9	3	0	36	0	24	0	0	0	0	0	0	\$18,601	\$25,004	\$0	\$0	\$0	\$0		
103	6	1	0	13	0	6	0	0	0	0	0	0	\$19,022	\$34,286	\$0	\$0	\$0	\$0		
104	7	2	0	10	0	1	0	0	0	0	0	0	\$12,336	\$50,999	\$0	\$0	\$0	\$0		
105	1	1	0	3	0	1	0	0	0	0	0	0	\$12,612	\$29,008	\$0	\$0	\$0	\$0		
106	1	0	0	2	0	1	0	0	0	0	0	0	\$20,976	\$24,972	\$0	\$0	\$0	\$0		
107	0	0	0	1	0	1	0	0	0	0	0	0	\$49,224	\$49,224	\$0	\$0	\$0	\$0		
108	0	0	0	1	0	1	0	0	0	0	0	0	\$11,508	\$11,508	\$0	\$0	\$0	\$0		
109	0	0	0	0	0	0	0	0	0	0	0	0	\$0	\$0	\$0	\$0	\$0	\$0		
110	0	0	0	0	0	0	0	0	0	0	0	0	\$0	\$0	\$0	\$0	\$0	\$0		
Total	361,080	16,840	798	526,560	11,787	1,050	908	57	57	57	57	57	\$20,324	\$39,107	\$28,199	\$28,003	\$28,124	\$0		
60+	242,577	11,969	16	402,315	2,772	1,050	8	1	1	1	1	1	\$20,314	\$37,868	\$31,781	\$38,182	\$20,256	\$0		
62+	221,662	11,355	7	372,808	1,623	880	2	0	0	0	0	0	\$20,111	\$37,733	\$33,008	\$48,567	\$15,682	\$0		
65+	185,243	10,061	0	311,324	701	548	0	0	0	0	0	0	\$19,687	\$38,032	\$35,222	\$14,503	\$0	\$0		

Notes: Age is retiree's current age nearest birthday at end of fiscal year.

60+ is total for ages 60 and over.

62+ is total for ages 62 and over.

65+ is total for ages 65 and over.

Includes only retirees receiving payment from DoD.

Temporary Early Retirement Act (TERA) retirees and payments are shown for informational purposes only.

Career Status Bonus (CSB) retirees and payments are shown for informational purposes only.

TERA and CSB numbers and payments are included in the appropriate categories.

Pay amounts do not include the 12/11 cost of living increase of 3.6%.

DoD Retired Military Valuation Data as of Year-End FY 2011

All Enlisted

Age	Non Disabled	Perm Disabled	Temp Disabled	Reserve Retired	Strength			TERRA				Average Annual Net Retired Pay				CSB Dis			
					Total	TERRA Non-Dis	TERRA Res Ret	CSB Non-Dis	CSB Dis	Non Disabled	Perm Disabled	Temp Disabled	Reserve Retired	Total	TERRA Non-Dis		TERRA Res Ret	CSB Non-Dis	CSB Dis
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
18	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	
19	0	0	5	6	11	0	0	0	0	0	0	0	0	0	0	0	0	0	
20	0	10	37	0	47	0	0	0	0	0	0	0	0	0	0	0	0	0	
21	0	32	124	0	156	0	0	0	0	0	0	0	0	0	0	0	0	0	
22	1	109	255	0	365	0	0	0	0	0	0	0	0	0	0	0	0	0	
23	0	187	360	0	547	0	0	0	0	0	0	0	0	0	0	0	0	0	
24	1	302	539	0	842	0	0	0	0	0	0	0	0	0	0	0	0	0	
25	0	381	713	0	1,094	0	0	0	0	0	0	0	0	0	0	0	0	0	
26	0	557	792	0	1,349	0	0	0	0	0	0	0	0	0	0	0	0	0	
27	0	674	790	0	1,464	0	0	0	0	0	0	0	0	0	0	0	0	0	
28	1	711	733	0	1,445	0	0	0	0	0	0	0	0	0	0	0	0	0	
29	0	711	661	0	1,372	0	0	0	0	0	0	0	0	0	0	0	0	0	
30	1	674	643	0	1,318	0	0	0	0	0	0	0	0	0	0	0	0	0	
31	1	714	551	0	1,266	0	0	0	0	0	0	0	0	0	0	0	0	0	
32	0	681	492	0	1,173	0	0	0	0	0	0	0	0	0	0	0	0	0	
33	1	652	418	0	1,071	0	0	0	0	0	0	0	0	0	0	0	0	0	
34	0	622	332	0	954	0	0	0	0	0	0	0	0	0	0	0	0	0	
35	0	636	315	0	951	0	0	0	0	0	0	0	0	0	0	0	0	0	
36	0	567	250	0	817	0	0	0	0	0	0	0	0	0	0	0	0	0	
37	0	593	234	0	827	0	0	0	0	0	0	0	0	0	0	0	0	0	
38	38	475	643	221	1,260	0	0	0	0	0	0	0	0	0	0	0	0	0	
39	2,443	643	182	0	3,268	0	0	0	0	0	0	0	0	0	0	0	0	0	
40	5,752	709	205	0	6,666	0	0	0	0	0	0	0	0	0	0	0	0	0	
41	8,728	789	199	0	9,716	0	0	0	0	0	0	0	0	0	0	0	0	0	
42	11,252	785	178	0	12,215	0	0	0	0	0	0	0	0	0	0	0	0	0	
43	14,299	805	143	0	15,247	0	0	0	0	0	0	0	0	0	0	0	0	0	
44	17,746	825	143	0	18,714	0	0	0	0	0	0	0	0	0	0	0	0	0	
45	21,236	948	129	0	22,313	0	0	0	0	0	0	0	0	0	0	0	0	0	
46	24,375	1,041	132	0	25,548	0	0	0	0	0	0	0	0	0	0	0	0	0	
47	28,106	1,127	89	0	29,322	0	0	0	0	0	0	0	0	0	0	0	0	0	
48	30,870	1,172	90	0	32,132	0	0	0	0	0	0	0	0	0	0	0	0	0	
49	33,487	1,275	94	0	34,856	0	0	0	0	0	0	0	0	0	0	0	0	0	
50	35,548	1,246	66	0	36,860	0	0	0	0	0	0	0	0	0	0	0	0	0	
51	36,812	1,283	64	1	38,160	0	0	0	0	0	0	0	0	0	0	0	0	0	
52	36,618	1,307	57	1	37,983	0	0	0	0	0	0	0	0	0	0	0	0	0	
53	35,921	1,241	46	1	37,209	0	0	0	0	0	0	0	0	0	0	0	0	0	
54	35,201	1,343	30	0	36,574	0	0	0	0	0	0	0	0	0	0	0	0	0	
55	33,835	1,360	25	0	35,220	0	0	0	0	0	0	0	0	0	0	0	0	0	
56	32,985	1,421	30	0	34,436	0	0	0	0	0	0	0	0	0	0	0	0	0	
57	32,676	1,489	25	1	34,191	0	0	0	0	0	0	0	0	0	0	0	0	0	
58	31,611	1,553	7	10	33,181	0	0	0	0	0	0	0	0	0	0	0	0	0	
59	31,503	1,637	16	63	33,219	0	0	0	0	0	0	0	0	0	0	0	0	0	
60	28,939	1,630	10	5,330	35,909	133	133	0	0	0	0	0	0	0	0	0	0	0	
61	27,749	1,927	9	13,981	43,666	696	312	0	0	0	0	0	0	0	0	0	0	0	
62	28,172	2,339	4	15,691	46,206	537	364	0	0	0	0	0	0	0	0	0	0	0	
63	28,365	2,678	5	16,694	47,742	456	415	0	0	0	0	0	0	0	0	0	0	0	
64	28,498	2,795	1	17,893	49,187	387	434	0	0	0	0	0	0	0	0	0	0	0	
65	28,239	2,468	0	17,780	48,487	325	397	0	0	0	0	0	0	0	0	0	0	0	
66	19,661	1,582	0	12,441	33,684	191	268	0	0	0	0	0	0	0	0	0	0	0	
67	20,079	1,382	0	11,516	32,977	141	230	0	0	0	0	0	0	0	0	0	0	0	
68	21,700	1,211	0	10,979	33,890	117	200	0	0	0	0	0	0	0	0	0	0	0	
69	23,500	1,159	0	10,459	35,118	82	172	0	0	0	0	0	0	0	0	0	0	0	
70	21,921	1,029	0	8,302	31,252	54	144	0	0	0	0	0	0	0	0	0	0	0	

DoD Retired Military Valuation Data as of Year-End FY 2011

All Enlisted

Age	Strength				Average Annual Net Retired Pay				Reserve Retired				Total				
	Non Disabled	Perm Disabled	Temp Disabled	Reserve Retired	TERRA Non-Dis	TERRA Res Ret	CSB Non-Dis	CSB Dis	TERRA Non-Dis	TERRA Res Ret	CSB Non-Dis	CSB Dis	Total	TERRA Non-Dis	TERRA Res Ret	CSB Non-Dis	CSB Dis
71	21,114	916	0	7,207	35	104	0	0	\$21,843	\$16,328	\$0	\$0	\$18,539	\$18,942	\$6,286	\$0	\$0
72	20,901	777	0	7,058	20	108	0	0	\$21,722	\$15,707	\$0	\$0	\$18,448	\$20,620	\$5,585	\$0	\$0
73	21,801	793	0	6,981	28	126	0	0	\$21,858	\$16,137	\$0	\$0	\$18,659	\$19,240	\$5,685	\$0	\$0
74	23,328	783	0	6,890	13	146	0	0	\$22,058	\$16,269	\$0	\$0	\$18,782	\$16,782	\$5,026	\$0	\$0
75	22,802	719	0	6,516	9	112	0	0	\$22,431	\$16,585	\$0	\$0	\$19,356	\$19,729	\$5,055	\$0	\$0
76	22,193	714	0	6,178	3	127	0	0	\$22,501	\$16,243	\$0	\$0	\$19,461	\$21,059	\$5,844	\$0	\$0
77	20,486	761	0	5,358	0	70	0	0	\$22,583	\$16,552	\$0	\$0	\$19,160	\$0	\$5,447	\$0	\$0
78	18,736	772	0	4,431	1	64	0	0	\$22,841	\$16,053	\$0	\$0	\$19,504	\$13,680	\$5,614	\$0	\$0
79	18,160	894	0	4,231	0	16	0	0	\$23,019	\$16,643	\$0	\$0	\$19,393	\$20,260	\$5,570	\$0	\$0
80	17,050	987	0	4,188	0	3	0	0	\$23,127	\$14,581	\$0	\$0	\$19,251	\$20,134	\$8,675	\$0	\$0
81	17,120	1,035	0	3,953	0	1	0	0	\$23,889	\$15,589	\$0	\$0	\$19,157	\$20,092	\$0	\$0	\$0
82	15,052	1,003	0	3,104	0	0	0	0	\$22,771	\$15,864	\$0	\$0	\$19,284	\$20,224	\$0	\$0	\$0
83	11,657	782	0	2,447	0	0	0	0	\$22,798	\$16,434	\$0	\$0	\$19,405	\$20,262	\$0	\$0	\$0
84	9,172	563	0	1,689	0	1	0	0	\$22,363	\$17,438	\$0	\$0	\$19,600	\$20,233	\$0	\$0	\$0
85	6,548	371	0	1,424	0	0	0	0	\$22,137	\$17,899	\$0	\$0	\$19,659	\$19,815	\$0	\$0	\$0
86	5,345	343	0	1,253	0	0	0	0	\$21,804	\$18,066	\$0	\$0	\$19,733	\$19,440	\$0	\$0	\$0
87	4,618	278	0	1,119	0	0	0	0	\$21,956	\$20,024	\$0	\$0	\$19,536	\$19,556	\$0	\$0	\$0
88	3,890	242	0	918	0	0	0	0	\$21,658	\$19,186	\$0	\$0	\$19,596	\$19,347	\$0	\$0	\$0
89	3,093	183	0	741	0	0	0	0	\$21,590	\$21,408	\$0	\$0	\$19,519	\$19,355	\$0	\$0	\$0
90	2,643	139	0	672	0	0	0	0	\$21,326	\$22,367	\$0	\$0	\$19,590	\$19,084	\$0	\$0	\$0
91	1,968	105	0	481	0	0	0	0	\$21,841	\$21,266	\$0	\$0	\$10,224	\$19,630	\$0	\$0	\$0
92	1,580	81	0	350	0	0	0	0	\$21,603	\$24,801	\$0	\$0	\$10,584	\$19,814	\$0	\$0	\$0
93	965	63	0	228	0	0	0	0	\$21,392	\$26,317	\$0	\$0	\$10,817	\$19,720	\$0	\$0	\$0
94	672	30	0	168	0	0	0	0	\$21,288	\$30,483	\$0	\$0	\$10,834	\$19,586	\$0	\$0	\$0
95	368	23	0	91	0	0	0	0	\$20,709	\$25,538	\$0	\$0	\$10,338	\$18,981	\$0	\$0	\$0
96	242	15	0	60	0	0	0	0	\$19,983	\$22,720	\$0	\$0	\$11,020	\$18,416	\$0	\$0	\$0
97	152	8	0	49	0	0	0	0	\$21,442	\$16,205	\$0	\$0	\$10,892	\$18,768	\$0	\$0	\$0
98	74	1	0	25	0	0	0	0	\$18,539	\$2,724	\$0	\$0	\$11,312	\$16,574	\$0	\$0	\$0
99	43	1	0	11	0	0	0	0	\$21,822	\$24,084	\$0	\$0	\$12,243	\$19,947	\$0	\$0	\$0
100	27	1	0	7	0	0	0	0	\$19,136	\$25,008	\$0	\$0	\$10,308	\$17,538	\$0	\$0	\$0
101	9	1	0	4	0	0	0	0	\$14,401	\$30,180	\$0	\$0	\$5,077	\$12,864	\$0	\$0	\$0
102	6	1	0	2	0	0	0	0	\$17,957	\$17,832	\$0	\$0	\$6,414	\$15,378	\$0	\$0	\$0
103	5	1	0	1	0	0	0	0	\$17,671	\$744	\$0	\$0	\$14,918	\$14,860	\$0	\$0	\$0
104	4	1	0	1	0	0	0	0	\$16,665	\$5,112	\$0	\$0	\$5,976	\$12,958	\$0	\$0	\$0
105	3	0	0	0	0	0	0	0	\$25,188	\$0	\$0	\$0	\$25,188	\$0	\$0	\$0	\$0
106	3	0	0	0	0	0	0	0	\$19,200	\$0	\$0	\$0	\$19,200	\$0	\$0	\$0	\$0
107	1	0	0	0	0	0	0	0	\$13,188	\$0	\$0	\$0	\$13,188	\$0	\$0	\$0	\$0
108	0	0	0	0	0	0	0	0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
109	0	0	0	0	0	0	0	0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
110	0	0	0	0	0	0	0	0	\$0	\$0	\$0	\$0	\$10,632	\$10,632	\$0	\$0	\$0
Total	1,110,140	66,968	10,445	218,980	1,406,533	3,947	26,637	641	\$21,343	\$11,013	\$9,385	\$18,953	\$18,953	\$13,204	\$6,381	\$16,350	\$16,463
60+	568,654	33,587	29	218,903	821,173	4,001	3,947	6	\$22,090	\$13,117	\$20,027	\$18,425	\$18,425	\$15,304	\$6,381	\$14,132	\$0
62+	511,966	30,030	10	199,592	741,598	2,399	3,502	0	\$22,221	\$13,348	\$18,239	\$18,476	\$18,476	\$16,037	\$6,299	\$0	\$0
65+	426,931	22,218	0	149,314	598,463	1,019	2,289	0	\$22,315	\$14,757	\$0	\$18,827	\$18,827	\$17,127	\$6,159	\$0	\$0

Notes: Age is retiree's current age nearest birthday at end of fiscal year.

60+ is total for ages 60 and over.

62+ is total for ages 62 and over.

65+ is total for ages 65 and over.

Includes only retirees receiving payment from DoD.

Temporary Early Retirement Act (TERA) retirees and payments are shown for informational purposes only.

Career Status Bonus (CSB) retirees and payments are shown for informational purposes only.

TERA and CSB numbers and payments are included in the appropriate categories.

Pay amounts do not include the 12/1/11 cost of living increase of 3.6%.

DoD Retired Military Valuation Data as of Year-End FY 2011

AllDoD

Age	Strength			TERRA			TERRA			TERRA			Average Annual Net Retired Pay			TERRA		CSB	
	Non Disabled	Perm Disabled	Temp Disabled	Reserve Retired	Total	Non-Dis	Res Ret	Non-Dis	CSB Non-Dis	CSB Dis	Non-Dis	Res Ret	Non-Dis	Res Ret	Non-Dis	Res Ret	Non-Dis	Dis	
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
18	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
19	0	5	6	0	11	0	0	0	0	0	0	0	0	0	0	0	0	0	
20	0	10	37	0	47	0	0	0	0	0	0	0	0	0	0	0	0	0	
21	0	32	124	0	156	0	0	0	0	0	0	0	0	0	0	0	0	0	
22	1	109	256	0	366	0	0	0	0	0	0	0	0	0	0	0	0	0	
23	0	187	360	0	547	0	0	0	0	0	0	0	0	0	0	0	0	0	
24	1	303	543	0	847	0	0	0	0	0	0	0	0	0	0	0	0	0	
25	0	384	721	0	1,105	0	0	0	0	0	0	0	0	0	0	0	0	0	
26	0	560	806	0	1,366	0	0	0	0	0	0	0	0	0	0	0	0	0	
27	0	688	806	0	1,494	0	0	0	0	0	0	0	0	0	0	0	0	0	
28	1	734	753	0	1,488	0	0	0	0	0	0	0	0	0	0	0	0	0	
29	0	746	686	0	1,432	0	0	0	0	0	0	0	0	0	0	0	0	0	
30	1	723	678	0	1,402	0	0	0	0	0	0	0	0	0	0	0	0	0	
31	1	764	595	0	1,360	0	0	0	0	0	0	0	0	0	0	0	0	0	
32	0	752	528	0	1,280	0	0	0	0	0	0	0	0	0	0	0	0	0	
33	1	706	442	0	1,149	0	0	0	0	0	0	0	0	0	0	0	0	0	
34	0	685	369	0	1,054	0	0	0	0	0	0	0	0	0	0	0	0	0	
35	0	703	346	0	1,049	0	0	0	0	0	0	0	0	0	0	0	0	0	
36	0	649	270	0	919	0	0	0	0	0	0	0	0	0	0	0	0	0	
37	1	672	262	0	935	0	0	0	0	0	0	0	0	0	0	0	0	0	
38	489	647	248	0	1,384	0	0	0	0	0	0	0	0	0	0	0	0	0	
39	2,560	735	208	0	3,503	0	0	0	0	0	0	0	0	0	0	0	0	0	
40	6,083	813	235	0	7,131	0	0	0	0	0	0	0	0	0	0	0	0	0	
41	9,251	913	245	0	10,409	0	0	0	0	0	0	0	0	0	0	0	0	0	
42	12,168	927	203	0	13,298	0	0	0	0	0	0	0	0	0	0	0	0	0	
43	15,817	933	177	0	16,927	2	0	0	0	0	0	0	0	0	0	0	0	0	
44	20,034	986	174	0	21,194	17	0	0	0	0	0	0	0	0	0	0	0	0	
45	24,386	1,093	158	0	25,637	37	0	0	0	0	0	0	0	0	0	0	0	0	
46	28,440	1,212	151	0	29,803	154	0	0	0	0	0	0	0	0	0	0	0	0	
47	33,046	1,327	119	0	34,492	378	0	0	0	0	0	0	0	0	0	0	0	0	
48	36,542	1,363	114	0	38,019	869	0	0	0	0	0	0	0	0	0	0	0	0	
49	39,614	1,499	109	0	41,222	1,690	0	0	0	0	0	0	0	0	0	0	0	0	
50	42,233	1,464	78	0	43,775	2,999	0	0	0	0	0	0	0	0	0	0	0	0	
51	43,927	1,487	88	1	45,503	4,199	0	0	0	0	0	0	0	0	0	0	0	0	
52	44,301	1,533	69	1	45,904	5,033	0	0	0	0	0	0	0	0	0	0	0	0	
53	44,229	1,484	57	2	45,772	5,659	0	0	0	0	0	0	0	0	0	0	0	0	
54	44,200	1,590	40	1	45,831	5,890	0	0	0	0	0	0	0	0	0	0	0	0	
55	43,138	1,609	32	0	44,779	5,412	0	0	0	0	0	0	0	0	0	0	0	0	
56	42,851	1,660	42	0	44,553	4,524	0	0	0	0	0	0	0	0	0	0	0	0	
57	42,743	1,770	28	5	44,546	3,688	0	0	0	0	0	0	0	0	0	0	0	0	
58	41,999	1,860	13	32	43,904	2,800	0	0	0	0	0	0	0	0	0	0	0	0	
59	41,930	1,935	22	124	44,011	2,075	0	0	0	0	0	0	0	0	0	0	0	0	
60	39,241	1,923	16	7,545	48,725	1,605	188	11	1	0	0	0	0	0	0	0	0	0	
61	38,362	2,248	12	19,735	60,357	1,146	427	1	0	0	0	0	0	0	0	0	0	0	
62	39,443	2,713	9	22,503	64,668	898	497	0	0	0	0	0	0	0	0	0	0	0	
63	40,488	3,072	6	24,721	68,287	756	525	2	0	0	0	0	0	0	0	0	0	0	
64	41,523	3,321	2	26,818	71,664	648	523	0	0	0	0	0	0	0	0	0	0	0	
65	42,109	3,091	0	27,336	72,536	540	498	0	0	0	0	0	0	0	0	0	0	0	
66	29,290	2,053	0	19,249	50,592	318	326	0	0	0	0	0	0	0	0	0	0	0	
67	29,811	1,866	0	18,315	49,992	226	273	0	0	0	0	0	0	0	0	0	0	0	
68	31,631	1,663	0	17,374	50,668	193	238	0	0	0	0	0	0	0	0	0	0	0	
69	33,244	1,629	0	16,808	51,681	144	216	0	0	0	0	0	0	0	0	0	0	0	
70	30,487	1,371	0	13,453	45,311	94	174	0	0	0	0	0	0	0	0	0	0	0	



DoD Retired Military Valuation Data as of Year-End FY 2011

All DoD

Age	Strength				Average Annual Net Retired Pay				Reserve Retired				TERRA			
	Non Disabled	Perm Disabled	Temp Disabled	Total	TERRA Non-Dis	TERRA Res Ret	CSB Non-Dis	CSB Dis	Reserve Retired	Total	TERRA Non-Dis	TERRA Res Ret	CSB Non-Dis	CSB Dis	Perm Disabled	Temp Disabled
71	29,790	1,276	0	42,894	50	138	0	0	\$13,774	\$24,510	\$23,488	\$8,236	\$0	\$0	0	0
72	29,585	1,077	0	42,032	32	144	0	0	\$13,507	\$24,621	\$29,019	\$7,703	\$0	\$0	0	0
73	30,092	1,077	0	42,456	37	166	0	0	\$13,110	\$24,331	\$25,469	\$7,665	\$0	\$0	0	0
74	31,222	1,044	0	43,336	24	181	0	0	\$12,764	\$24,362	\$28,259	\$6,738	\$0	\$0	0	0
75	30,322	972	0	41,755	19	130	0	0	\$12,827	\$24,127	\$28,115	\$6,128	\$0	\$0	0	0
76	29,517	966	0	40,421	11	144	0	0	\$12,714	\$24,792	\$33,227	\$6,656	\$0	\$0	0	0
77	28,143	1,008	0	38,340	7	87	0	0	\$13,181	\$38,746	\$38,746	\$6,596	\$0	\$0	0	0
78	26,025	992	0	34,970	6	74	0	0	\$13,803	\$26,481	\$42,778	\$6,462	\$0	\$0	0	0
79	25,427	1,138	0	34,371	8	23	0	0	\$13,680	\$26,780	\$41,984	\$8,920	\$0	\$0	0	0
80	23,861	1,281	0	33,028	5	9	0	0	\$13,332	\$26,641	\$44,885	\$13,200	\$0	\$0	0	0
81	23,785	1,297	0	32,898	1	2	0	0	\$13,336	\$26,610	\$26,472	\$14,296	\$0	\$0	0	0
82	20,954	1,281	0	28,975	1	5	0	0	\$13,554	\$26,826	\$41,028	\$15,366	\$0	\$0	0	0
83	16,413	1,031	0	22,973	1	4	0	0	\$13,692	\$27,346	\$34,104	\$17,583	\$0	\$0	0	0
84	12,525	746	0	17,089	1	2	0	0	\$14,082	\$27,356	\$24,840	\$11,952	\$0	\$0	0	0
85	9,184	541	0	13,102	2	1	0	0	\$14,173	\$27,564	\$49,607	\$23,892	\$0	\$0	0	0
86	8,139	520	0	12,125	0	0	0	0	\$14,129	\$28,531	\$0	\$0	\$0	\$0	0	0
87	7,579	539	0	11,868	0	1	0	0	\$14,442	\$29,200	\$0	\$11,351	\$0	\$0	0	0
88	6,801	604	0	10,950	0	0	0	0	\$14,169	\$29,401	\$0	\$0	\$0	\$0	0	0
89	5,902	590	0	9,835	0	0	0	0	\$14,397	\$30,058	\$0	\$0	\$0	\$0	0	0
90	5,574	576	0	9,294	0	0	0	0	\$14,676	\$30,834	\$0	\$0	\$0	\$0	0	0
91	4,435	544	0	7,648	0	1	0	0	\$15,825	\$30,983	\$0	\$8,616	\$0	\$0	0	0
92	3,578	480	0	6,113	0	0	0	0	\$16,817	\$31,810	\$0	\$0	\$0	\$0	0	0
93	2,460	339	0	4,412	0	0	0	0	\$17,748	\$32,044	\$0	\$0	\$0	\$0	0	0
94	1,693	255	0	3,102	0	0	0	0	\$17,821	\$31,272	\$0	\$0	\$0	\$0	0	0
95	1,020	163	0	1,941	0	0	0	0	\$18,549	\$32,510	\$0	\$0	\$0	\$0	0	0
96	704	111	0	1,291	0	0	0	0	\$19,542	\$32,303	\$0	\$0	\$0	\$0	0	0
97	393	68	0	800	0	0	0	0	\$19,956	\$31,688	\$0	\$0	\$0	\$0	0	0
98	216	40	0	434	0	0	0	0	\$20,606	\$31,589	\$0	\$0	\$0	\$0	0	0
99	99	27	0	225	0	0	0	0	\$20,866	\$30,721	\$0	\$0	\$0	\$0	0	0
100	81	6	0	146	0	0	0	0	\$20,432	\$29,797	\$0	\$0	\$0	\$0	0	0
101	37	7	0	87	0	0	0	0	\$18,936	\$28,191	\$0	\$0	\$0	\$0	0	0
102	15	4	0	26	0	0	0	0	\$17,663	\$23,079	\$0	\$0	\$0	\$0	0	0
103	11	2	0	20	0	0	0	0	\$18,430	\$27,487	\$0	\$0	\$0	\$0	0	0
104	11	3	0	16	0	0	0	0	\$9,156	\$36,733	\$0	\$0	\$0	\$0	0	0
105	4	1	0	6	0	0	0	0	\$12,612	\$27,098	\$0	\$0	\$0	\$0	0	0
106	4	0	0	5	0	0	0	0	\$20,976	\$21,509	\$0	\$0	\$0	\$0	0	0
107	1	0	0	1	0	0	0	0	\$49,224	\$31,206	\$0	\$0	\$0	\$0	0	0
108	0	0	0	1	0	0	0	0	\$11,508	\$11,508	\$0	\$0	\$0	\$0	0	0
109	0	0	0	0	0	0	0	0	\$0	\$0	\$0	\$0	\$0	\$0	0	0
110	0	0	0	1	0	0	0	0	\$10,632	\$10,632	\$0	\$0	\$0	\$0	0	0
Total	1,471,220	83,808	11,243	366,822	52,199	4,997	27,545	698	\$13,996	\$24,443	\$16,590	\$8,392	\$16,734	\$17,415	0	0
60+	811,231	45,536	45	366,656	6,773	4,997	14	1	\$13,989	\$24,819	\$22,048	\$8,392	\$27,874	\$20,256	0	0
62+	733,628	41,385	17	339,376	4,022	4,382	2	0	\$13,954	\$24,918	\$22,885	\$8,183	\$48,567	\$0	0	0
65+	612,174	32,279	0	265,334	909,787	1,720	2,837	0	\$13,930	\$25,399	\$24,502	\$7,771	\$0	\$0	0	0

Notes: Age is retiree's current age nearest birthday at end of fiscal year.  
 60+ is total for ages 60 and over.  
 62+ is total for ages 62 and over.  
 65+ is total for ages 65 and over.  
 Includes only retirees receiving payment from DoD.  
 Temporary Early Retirement Act (TERA) retirees and payments are shown for informational purposes only.  
 Career Status Bonus (CSB) retirees and payments are shown for informational purposes only.  
 TERA and CSB numbers and payments are included in the appropriate categories.  
 Pay amounts do not include the 12/1/11 cost of living increase of 3.6%.

DoD Survivor Valuation Data as of Year-End FY 2011

Age	Strength				Average Annual Net Survivor Pay				Total	
	SBP	RCSBP	Minimum Income	Death on Active Duty	SBP	RCSBP	Minimum Income	Death on Active Duty		RSFPP
0	3	1	0	11	\$17,360	\$18,396	\$0	\$7,993	\$0	\$10,560
1	0	0	0	59	\$0	\$0	\$0	\$6,567	\$0	\$6,567
2	0	0	0	107	\$0	\$0	\$0	\$7,679	\$0	\$7,679
3	0	0	0	199	\$0	\$0	\$0	\$6,786	\$0	\$6,786
4	2	1	0	257	\$3,030	\$4,992	\$0	\$7,063	\$0	\$7,024
5	8	0	0	307	\$5,717	\$0	\$0	\$6,947	\$0	\$6,916
6	18	0	0	373	\$5,450	\$0	\$0	\$6,831	\$0	\$6,764
7	393	1	0	418	\$7,182	\$5,316	\$0	\$6,789	\$0	\$6,803
8	24	2	0	418	\$6,228	\$5,556	\$0	\$6,934	\$0	\$6,890
9	39	1	0	409	\$7,558	\$1,692	\$0	\$7,450	\$0	\$7,447
10	43	1	0	406	\$6,269	\$1,752	\$0	\$6,473	\$0	\$6,443
11	64	3	0	388	\$9,056	\$4,419	\$0	\$6,919	\$0	\$7,203
12	72	6	0	328	\$7,503	\$6,632	\$0	\$6,914	\$0	\$7,014
13	82	9	0	313	\$7,643	\$6,195	\$0	\$7,055	\$0	\$7,155
14	113	7	0	244	\$7,437	\$5,563	\$0	\$7,016	\$0	\$7,119
15	103	10	0	245	\$7,765	\$4,571	\$0	\$7,203	\$0	\$7,217
16	109	17	0	243	\$9,163	\$5,358	\$0	\$8,224	\$0	\$8,370
17	163	19	0	194	\$8,974	\$4,099	\$0	\$7,267	\$0	\$7,847
18	129	22	0	137	\$8,962	\$4,772	\$0	\$8,052	\$0	\$8,209
19	99	15	0	51	\$11,583	\$3,739	\$0	\$11,447	\$9,457	\$10,811
20	89	15	0	29	\$11,846	\$6,455	\$0	\$10,320	\$0	\$10,905
21	99	17	0	21	\$11,820	\$5,863	\$0	\$11,775	\$0	\$11,074
22	77	5	0	20	\$11,117	\$5,712	\$0	\$9,635	\$0	\$10,561
23	19	2	0	9	\$8,660	\$4,782	\$0	\$8,740	\$0	\$8,425
24	29	3	0	3	\$12,279	\$2,808	\$0	\$8,864	\$2,760	\$10,719
25	27	1	0	31	\$14,162	\$5,094	\$0	\$3,064	\$0	\$12,795
26	19	4	0	6	\$12,252	\$3,468	\$0	\$6,836	\$0	\$9,920
27	26	4	0	14	\$11,851	\$8,694	\$0	\$5,926	\$0	\$9,679
28	30	4	0	14	\$12,158	\$3,705	\$0	\$6,342	\$0	\$9,758
29	27	2	0	15	\$11,806	\$1,866	\$0	\$5,039	\$8,628	\$9,038
30	41	3	0	34	\$11,322	\$10,616	\$0	\$7,961	\$1,596	\$9,795
31	30	11	0	34	\$9,179	\$4,262	\$0	\$5,731	\$0	\$6,895
32	30	7	0	33	\$10,723	\$7,059	\$0	\$5,828	\$0	\$8,049
33	38	4	0	40	\$10,421	\$6,504	\$0	\$7,434	\$1,812	\$8,689
34	32	6	0	69	\$13,196	\$3,238	\$0	\$6,010	\$10,644	\$8,028
35	40	10	0	56	\$10,370	\$4,648	\$0	\$7,125	\$2,088	\$8,060
36	42	5	0	56	\$9,653	\$6,449	\$0	\$6,692	\$1,742	\$7,657
37	55	10	0	81	\$12,798	\$7,643	\$0	\$6,729	\$3,509	\$8,966
38	60	11	0	68	\$10,158	\$6,034	\$0	\$6,865	\$1,733	\$7,995
39	63	19	0	81	\$10,897	\$5,699	\$0	\$6,866	\$0	\$8,288
40	83	25	0	85	\$11,537	\$5,196	\$0	\$7,741	\$2,023	\$8,698
41	102	32	0	89	\$12,834	\$6,482	\$0	\$8,095	\$4,350	\$9,741
42	106	34	0	80	\$11,559	\$6,173	\$0	\$8,351	\$1,665	\$9,454
43	119	40	0	125	\$11,985	\$6,856	\$0	\$9,106	\$2,097	\$9,885
44	143	38	0	80	\$12,379	\$6,690	\$0	\$9,066	\$0	\$10,535
45	174	53	0	89	\$12,345	\$5,946	\$0	\$11,014	\$2,771	\$10,623
46	242	61	0	113	\$11,320	\$6,473	\$0	\$8,833	\$2,704	\$9,715
47	282	70	0	102	\$12,158	\$6,497	\$0	\$8,954	\$3,985	\$10,451
48	296	120	0	77	\$11,695	\$6,495	\$0	\$11,134	\$1,662	\$10,102
49	337	133	0	78	\$11,079	\$7,189	\$0	\$12,345	\$3,783	\$10,119
50	449	154	0	81	\$11,360	\$6,546	\$0	\$12,988	\$3,756	\$10,269
51	547	184	0	69	\$11,727	\$6,706	\$0	\$12,764	\$3,357	\$10,398
52	562	217	0	53	\$11,296	\$6,412	\$0	\$13,461	\$3,292	\$9,937
53	642	229	0	56	\$11,849	\$7,361	\$0	\$13,235	\$3,695	\$10,622
54	767	298	0	51	\$11,534	\$6,539	\$0	\$11,817	\$2,673	\$10,107
55	815	361	0	69	\$11,701	\$7,276	\$0	\$12,455	\$4,123	\$10,360
56	941	371	0	56	\$11,846	\$6,856	\$0	\$16,199	\$4,673	\$10,627
57	1,093	470	0	52	\$11,831	\$7,157	\$0	\$14,352	\$3,946	\$10,515
58	1,207	499	0	59	\$11,878	\$7,133	\$0	\$14,434	\$3,436	\$10,546
59	1,329	653	0	48	\$11,672	\$6,820	\$0	\$14,899	\$4,287	\$10,147

DoD Survivor Valuation Data as of Year-End FY 2011

Age	Strength			Average Annual Net Survivor Pay									
	SBP	RCSBP	Minimum Income	Death on Active Duty	RSFP	Total	SBP	RCSBP	Minimum Income	Death on Active Duty	RSFP	Total	
60	1,456	799	0	48	9	2,312	\$11,693	\$6,698	\$0	\$12,746	\$2,217	\$9,952	
61	1,692	872	1	53	6	2,624	\$12,196	\$6,889	\$7,933	\$12,672	\$2,217	\$10,420	
62	1,870	972	0	47	13	2,902	\$12,204	\$6,750	\$0	\$14,542	\$3,271	\$10,375	
63	2,158	1,232	1	32	18	3,441	\$12,101	\$7,043	\$7,106	\$13,485	\$3,271	\$10,257	
64	2,490	1,414	0	51	14	3,969	\$12,295	\$7,050	\$0	\$12,358	\$2,625	\$10,393	
65	2,911	1,571	0	46	5	4,533	\$12,442	\$7,010	\$0	\$11,925	\$1,417	\$10,573	
66	2,576	1,235	0	34	9	3,854	\$12,575	\$7,100	\$0	\$9,755	\$4,512	\$10,748	
67	3,062	1,440	1	40	13	4,556	\$12,517	\$7,158	\$5,759	\$10,574	\$2,140	\$10,775	
68	3,632	1,624	0	41	12	5,309	\$12,546	\$7,067	\$0	\$9,620	\$1,738	\$10,823	
69	4,121	1,834	0	56	22	6,033	\$12,526	\$7,188	\$0	\$11,948	\$2,267	\$10,860	
70	4,382	1,804	1	45	14	6,245	\$12,398	\$7,105	\$0	\$9,489	\$2,266	\$10,826	
71	4,621	1,864	1	48	31	6,565	\$12,494	\$7,163	\$7,933	\$8,235	\$2,193	\$10,900	
72	5,188	2,013	1	51	45	7,298	\$12,776	\$7,081	\$9,229	\$9,229	\$1,600	\$11,111	
73	5,714	2,175	3	47	44	7,983	\$13,032	\$7,142	\$7,933	\$9,211	\$1,737	\$11,340	
74	6,227	2,200	2	48	65	8,542	\$13,059	\$7,197	\$7,933	\$12,691	\$2,349	\$11,465	
75	6,444	2,291	4	69	119	8,927	\$13,204	\$7,208	\$7,301	\$10,304	\$2,276	\$11,495	
76	7,157	2,588	7	51	134	9,937	\$13,426	\$7,229	\$6,808	\$10,577	\$1,985	\$11,638	
77	7,484	2,627	3	67	207	10,388	\$13,487	\$7,282	\$7,473	\$11,939	\$2,228	\$11,682	
78	7,344	2,571	3	78	262	10,258	\$13,921	\$7,434	\$6,653	\$12,537	\$2,085	\$11,980	
79	7,806	2,765	2	70	353	10,996	\$14,281	\$7,506	\$6,388	\$11,015	\$2,060	\$12,163	
80	7,749	2,926	2	65	325	11,067	\$14,753	\$7,635	\$5,930	\$11,856	\$2,539	\$12,494	
81	7,687	2,789	1	63	438	10,978	\$14,955	\$7,875	\$7,933	\$12,475	\$2,582	\$12,648	
82	7,416	2,855	3	44	392	10,710	\$15,082	\$6,909	\$6,909	\$11,928	\$2,221	\$12,643	
83	7,284	3,047	7	42	459	10,839	\$15,484	\$7,886	\$7,212	\$16,908	\$2,460	\$12,797	
84	7,108	3,039	8	37	472	10,664	\$15,641	\$8,201	\$7,532	\$11,894	\$2,386	\$12,915	
85	7,223	3,228	5	38	544	11,038	\$16,418	\$8,392	\$8,449	\$13,272	\$2,627	\$13,377	
86	7,333	3,258	4	43	557	11,195	\$17,039	\$8,493	\$7,933	\$15,381	\$2,915	\$13,840	
87	7,277	3,431	2	42	607	11,359	\$17,437	\$8,689	\$4,325	\$12,779	\$3,246	\$14,017	
88	7,084	3,376	7	35	614	11,116	\$18,127	\$8,743	\$7,261	\$16,057	\$3,208	\$14,439	
89	6,203	3,169	2	20	598	9,992	\$18,466	\$8,987	\$6,427	\$9,511	\$3,076	\$14,519	
90	5,655	3,031	7	30	551	9,274	\$18,741	\$9,278	\$7,923	\$14,584	\$3,285	\$14,708	
91	4,286	2,449	5	24	492	7,256	\$19,225	\$9,602	\$7,035	\$16,725	\$3,385	\$14,886	
92	3,183	1,993	7	8	363	5,554	\$19,281	\$9,628	\$6,774	\$8,484	\$3,564	\$14,759	
93	2,274	1,426	2	9	279	3,990	\$19,123	\$9,951	\$5,146	\$13,301	\$3,305	\$14,719	
94	1,650	1,101	6	3	199	2,939	\$19,044	\$10,158	\$7,827	\$19,240	\$2,727	\$14,588	
95	1,091	735	2	3	138	1,969	\$19,745	\$10,131	\$7,093	\$12,712	\$3,343	\$14,983	
96	779	501	2	3	110	1,395	\$19,433	\$10,262	\$7,932	\$9,744	\$3,676	\$14,859	
97	515	348	0	1	65	929	\$19,007	\$10,557	\$0	\$14,916	\$3,199	\$14,731	
98	366	245	1	2	54	668	\$18,985	\$10,411	\$7,933	\$18,882	\$2,914	\$14,524	
99	229	153	3	2	53	440	\$20,387	\$11,058	\$7,933	\$11,088	\$3,541	\$14,987	
100	145	86	1	0	20	252	\$17,877	\$10,888	\$5,433	\$0	\$2,587	\$14,229	
101	82	69	0	0	23	174	\$19,889	\$10,092	\$0	\$0	\$2,209	\$13,667	
102	47	44	3	0	19	113	\$17,834	\$10,711	\$9,053	\$0	\$4,322	\$12,556	
103	30	31	2	0	5	68	\$19,619	\$10,545	\$7,525	\$0	\$1,757	\$13,813	
104	9	13	1	0	3	26	\$24,255	\$8,806	\$7,933	\$0	\$4,279	\$13,598	
105	6	7	0	0	6	19	\$13,020	\$9,069	\$0	\$0	\$2,440	\$8,223	
106	1	7	0	0	1	9	\$10,212	\$9,370	\$0	\$0	\$1,464	\$8,585	
107	4	2	0	0	1	7	\$14,202	\$10,944	\$0	\$0	\$1,188	\$11,412	
108	1	0	0	0	0	1	\$10,176	\$0	\$0	\$0	\$0	\$10,176	
109	3	2	2	0	0	7	\$18,844	\$9,498	\$7,933	\$0	\$0	\$13,056	
Total	193,234	83,562	114	8,794	9,090	294,794	\$14,787	\$7,946	\$7,320	\$8,637	\$2,843	\$12,293	
60+	181,035	79,252	114	1,536	8,783	270,720	\$15,015	\$8,009	\$7,320	\$12,007	\$2,823	\$12,548	
62+	177,887	77,581	113	1,435	8,768	265,784	\$15,069	\$8,035	\$7,314	\$11,957	\$2,823	\$12,592	
65+	171,369	73,963	112	1,305	8,723	255,472	\$15,178	\$8,087	\$7,316	\$11,811	\$2,821	\$12,682	

Notes: Age is survivor's current age nearest birthday at end of fiscal year.  
 60+ is total for ages 60 and over.  
 62+ is total for ages 62 and over.  
 65+ is total for ages 65 and over.  
 Includes only survivors receiving payment from DoD.  
 Survivors receiving payment under SBP and RSFP are counted twice.  
 Two-life survivors are given by the age of the adult survivor.  
 Children of the same deceased member receiving separate benefit payments are counted individually.  
 RCSBP includes all reserve survivors, whether or not the reserve retiree elected RCSBP.  
 Pay amounts do not include the 12/1/11 cost of living increase of 3.6%.  
 Amounts do not include increased survivor benefits as part of Special Survivor Indemnity Allowance (NDAA 2008 and P.L. 111-31).  
 The liability calculated in this valuation, however, reflects the increased benefits.

APPENDIX D

ECONOMIC ASSUMPTIONS

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## **ECONOMIC ASSUMPTIONS**

In July, 2011, the DoD Board of Actuaries adopted the following economic assumptions for use in the valuation as of September 30, 2011: the rate of inflation (CPI) is assumed to be 3.00 percent per year; the investment return is 5.75 percent per year; and the basic pay scale increases are 3.75 percent per year. As noted in the “Valuation Data and Procedure” section in the main text, the valuation results are highly sensitive to changes in these three primary economic assumptions. As background for determining the economic assumptions, the Board receives presentations by economists and actuaries and is provided with extensive historical data on inflation, interest rates, and wage growth. The Board analyzes past trends, current environment, and future expectations. As part of their survey of the current environment, the Board also considers what other federal retirement systems are assuming as well as other government agencies and financial experts. Table D-1 shows the DoD Board of Actuaries’ long-term economic assumptions by valuation year since the Fund’s inception (1984).

The comparisons to Civil Service and Social Security in this appendix are not meant to imply an expectation that all three systems should use the same assumptions. They are different in terms of the trust funds themselves and the programs financed by the trust funds.

### **Inflation**

The CPI-W, one of the consumer price indexes published by the Bureau of Labor Statistics, is emphasized as an inflation measure since it is used in calculating military retired pay cost-of-living increases. The CPI-W measures the average price change for Urban Wage Earners and Clerical Workers and covers approximately 29 percent of the U.S population. (The CPI-W is a subset of the broader CPI-U measure which computes the average price change for All Urban Consumers and covers approximately 88 percent of the U.S. population). The CPI-W is the common index used to make cost-of-living adjustments for labor contracts.

Table D-2 shows the average annual CPI-W changes over various periods of time since 1930. Different periods experienced different rates of change. The average annual CPI change during successive 30-year periods since World War II has risen from 3.79 percent for the period ending in 1975 to 5.20 percent for the period ending in 1995. This reflects the high inflation during the 1970s. The average annual CPI change during the current 31-year period ending in 2011 is 3.01 percent.

The DoD assumption for CPI is reasonably consistent with what is used in other parts of the government. In its 2011 report, the Civil Service Retirement System (CSRS) assumes a 3.00 percent CPI increase. The Trustees of the Social Security Administration (SSA) in their 2011 Annual Report made projections under three alternative sets of assumptions. Their intermediate assumption for CPI was 2.8 percent (other assumptions: low cost – 1.8 percent; high cost – 3.8 percent). The Board has noted that in certain respects, the effect of the CPI on the valuation is

relatively minor in a system where retirement benefits are fully indexed and expressed as a percentage of payroll.

### **Interest Rate**

The Board analyzes Tables D-3 and D-4, as well as other material presented at the DoD Board of Actuaries annual meeting, when setting the interest assumption. The Board focuses on real interest rates. To simplify discussion, the real interest rate is defined as the difference between the nominal interest rate and the CPI. Other things being equal, a lower element of risk in an investment will give a lower real interest rate. Because the Military Retirement Fund must be invested in obligations of the U.S. Government, a highly secure investment, the real interest rates are expected to be relatively low. As noted in the “Assets” section in the main text, the Fund is currently heavily investing in Treasury Inflation-Protected Securities (TIPS). TIPS allow the investor/institution to lock in the real interest rate for the given period of time.

The Board examines past real interest rates that would have been earned by the types of public debt securities in which the Fund is invested. The Board recognizes the importance of selecting a real interest rate that would prevail on average over a long period of time and that would not unduly weight recent experience or expected results during the near-term future.

Table D-3 depicts the average real yield rates on new purchases of the Fund. Because the Fund was established in 1984, the DoD Office of the Actuary constructed a Composite Series to simulate what new purchases would have yielded in the past.

Table D-4 shows the average real Military Retirement Fund effective yield. The effective yield calculation uses a “dollar-weighted yield,” which is computed by dividing the investment income by the average amount of principal invested throughout the year. Since the Fund’s inception, the average annual real yield is 4.95 percent.

After analyzing past trends of government trust fund earnings, 2.75 percent was adopted as the assumed rate of real interest. Since 3.00 percent had been adopted as the inflation rate, the assumed nominal rate of interest is 5.75 percent (where  $5.75 = 2.75 + 3.00$ ). This is commonly known as the ‘Building Block Method’ in setting actuarial assumptions.

It is relevant to note the real interest rates being assumed by the other two major public benefit systems. The SSA Trustees used an intermediate ultimate real interest rate assumption of 2.9 percent in their 2011 report (other assumptions: low cost – 3.6 percent; high cost – 2.1 percent). The Board of Actuaries of the CSRS used a 2.75 percent real interest rate assumption in its 2011 valuation.

## **Wage Growth**

For the salary increase assumption, recent historical data is used as well as forecasts for the population at large. The Career Compensation Act of 1949 revamped the military compensation structure to provide an equitable pay and allowance system. Associated with this change was a large basic pay increase designed to establish rough comparability with the private sector. Additionally, the Army and Air Force Vitalization and Retirement Equalization Act of 1948 established for the first time a uniform voluntary retirement system authority among all branches of Service. The reserve retirement program was also established at this time. These two Acts provided the start of the modern-day compensation structure designed to attract and retain the number of Service members needed. In the analysis of basic pay scale increases, the Board looks at all data from this point forward.

The Military Pay Comparability Act of 2003 ensures that military pay increases are comparable to private sector pay growth, as measured by the Employment Cost Index (ECI) – Wages and Salaries index on a 15-month lag. (‘Wages and Salaries’ account for about 70 percent of the broader ‘Compensation’ costs, with ‘Benefits’ making up the remaining 30 percent.) Covenants are embedded within the act which give the President the authority to propose an alternate basic pay adjustment. This Act specifically referenced fiscal years through 2006. However, Congress has continued to use the basic framework of the Act in the subsequent fiscal years.

Table D-5 displays real military basic pay increases over various periods of time during the post-World War II era. From the early 1950s to the early 1970s, the average annual real military pay increase was approximately 1.79 percent. From the early 1950s to the present, the increase has averaged approximately 0.96 percent a year. Since the Vietnam War (~1970), annual real pay increases have averaged only 0.56 percent. (There was negative real pay growth in the late 1970s and late 1980s as well as numerous years since 2005.)

In making its recommendation for the real rate of the annual basic pay scale increase, the Board assumes that future pay increases in the military would not deviate much from pay increases in the private sector. In this light, the Board adopted a real basic pay growth assumption of 0.75 percent, leading to a nominal growth of 3.75 percent (where  $3.75 = 0.75 + 3.00 - \text{CPI assumption}$ ). The Board of Actuaries of the CSRS assumed 0.75 percent real wage growth for its 2011 valuation. The Social Security Trustees’ 2011 report had an intermediate ultimate assumption for real wage growth of 1.2 percent (other assumptions: low cost – 1.8 percent; high cost – 0.6 percent). (For the Military Retirement System and CSRS, wage increase relates to “across-the-board salary increase,” whereas for Social Security, wage increase generally relates to “total wage increase.”)

**TABLE D-1**  
**DOD BOARD OF ACTUARIES' LONG-TERM ECONOMIC ASSUMPTIONS**

Fiscal Year	Inflation (1)	Interest (2)	Salary Growth (3)	Real Interest (4)	Real Salary (5)
1984	5.00%	6.60%	6.20%	1.60%	1.20%
1985	5.00	6.60	6.20	1.60	1.20
1986	5.00	6.60	6.20	1.60	1.20
1987	5.00	6.60	6.20	1.60	1.20
1988	5.00	7.00	5.75	2.00	0.75
1989	5.00	7.00	5.75	2.00	0.75
1990	5.00	7.00	5.75	2.00	0.75
1991	5.00	7.50	5.50	2.50	0.50
1992	5.00	7.50	5.50	2.50	0.50
1993	5.00	7.50	5.50	2.50	0.50
1994	4.00	6.75	4.50	2.75	0.50
1995	4.00	6.75	4.50	2.75	0.50
1996	3.50	6.50	4.00	3.00	0.50
1997	3.50	6.50	4.00	3.00	0.50
1998	3.50	6.50	4.00	3.00	0.50
1999	3.00	6.25	3.50	3.25	0.50
2000	3.00	6.25	3.50	3.25	0.50
2001	3.00	6.25	3.50	3.25	0.50
2002	3.00	6.25	3.50	3.25	0.50
2003	3.00	6.25	3.75	3.25	0.75
2004	3.00	6.25	3.75	3.25	0.75
2005	3.00	6.25	3.75	3.25	0.75
2006	3.00	6.00	3.75	3.00	0.75
2007	3.00	6.00	3.75	3.00	0.75
2008	3.00	5.75	3.75	2.75	0.75
2009	3.00	5.75	3.75	2.75	0.75
2010	3.00	5.75	3.75	2.75	0.75
2011	3.00	5.75	3.75	2.75	0.75

NOTES:

- (1) Board Assumption
- (2) Board Assumption
- (3) Board Assumption
- (4) = (2) - (1)
- (5) = (3) - (1)



TABLE D-2  
AVERAGE CONSUMER PRICE INDEX (CPI-W) INCREASES

FROM PERIOD CORRESPONDING TO END OF:	1930	1935	1940	1945	1950	1955	1960	1965	1970	1975	1980	1985	1990	1995	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	
TO END OF:																										
1935	-3.04																									
1940	-1.34	0.38																								
1945	0.81	2.79	5.25																							
1950	2.22	4.03	5.91	6.57																						
1955	2.06	3.37	4.39	3.96	1.43																					
1960	2.07	3.12	3.82	3.35	1.77	2.12																				
1965	1.96	2.82	3.32	2.84	1.63	1.73	1.33																			
1970	2.28	3.07	3.52	3.18	2.35	2.65	2.92	4.54																		
1975	2.79	3.54	4.00	3.79	3.24	3.70	4.23	5.71	6.90																	
1980	3.41	4.16	4.64	4.55	4.22	4.79	5.46	6.88	8.07	9.24																
1985	3.45	4.12	4.55	4.46	4.16	4.62	5.13	6.10	6.63	6.50	3.82															
1990	3.49	4.10	4.48	4.40	4.13	4.52	4.93	5.66	5.95	5.63	3.87	3.91														
1995	3.45	4.01	4.34	4.25	4.00	4.32	4.64	5.20	5.34	4.95	3.56	3.42	2.94													
2000	3.37	3.88	4.18	4.08	3.84	4.11	4.36	4.80	4.85	4.44	3.28	3.09	2.69	2.44												
2001	3.36	3.86	4.16	4.06	3.82	4.08	4.32	4.74	4.77	4.37	3.24	3.06	2.68	2.46	2.60											
2002	3.34	3.83	4.11	4.01	3.77	4.02	4.25	4.65	4.67	4.26	3.16	2.96	2.57	2.31	2.00	1.40										
2003	3.32	3.80	4.08	3.98	3.74	3.98	4.20	4.58	4.59	4.18	3.11	2.92	2.54	2.29	2.03	1.75	2.10									
2004	3.31	3.79	4.06	3.96	3.72	3.95	4.16	4.53	4.53	4.13	3.10	2.90	2.55	2.33	2.20	2.07	2.40	2.70								
2005	3.32	3.79	4.06	3.96	3.72	3.96	4.16	4.52	4.52	4.13	3.14	2.96	2.65	2.51	2.58	2.57	2.96	3.40	4.10							
2006	3.32	3.78	4.05	3.95	3.72	3.94	4.14	4.49	4.49	4.10	3.14	2.98	2.69	2.58	2.70	2.72	3.05	3.37	3.70	3.30						
2007	3.31	3.76	4.02	3.92	3.69	3.91	4.10	4.44	4.43	4.04	3.11	2.95	2.67	2.56	2.64	2.65	2.90	3.10	3.23	2.80	2.30					
2008	3.34	3.79	4.05	3.95	3.73	3.95	4.14	4.47	4.46	4.10	3.20	3.07	2.84	2.80	3.03	3.09	3.38	3.63	3.87	3.79	4.04	5.80				
2009	3.30	3.74	3.99	3.89	3.66	3.87	4.05	4.37	4.35	3.97	3.09	2.94	2.69	2.60	2.69	2.70	2.89	3.02	3.08	2.83	2.67	2.86	0.00			
2010	3.25	3.69	3.93	3.83	3.60	3.80	3.97	4.27	4.23	3.86	2.99	2.82	2.55	2.42	2.42	2.40	2.52	2.58	2.56	2.26	2.00	1.90	0.00	0.00		
2011	3.26	3.69	3.92	3.82	3.60	3.80	3.96	4.25	4.22	3.85	3.01	2.85	2.60	2.50	2.52	2.52	2.64	2.71	2.71	2.48	2.32	1.19	1.78	3.60		

- All figures are average annual percentage increases.

Source: Bureau of Labor Statistics

\*\*\* CPI-W SERIES: DECEMBER TO DECEMBER INCREASES FROM 1930 TO 1984;

ACTUAL COST-OF-LIVING ADJUSTMENTS GIVEN TO MILITARY RETIREES BEGINNING FISCAL YEAR 1985.

- MRF COLAS ARE CALCULATED AS THE INCREASE FROM 3RD QUARTER TO 3RD QUARTER.



**TABLE D-4**  
**AVERAGE REAL MILITARY RETIREMENT FUND EFFECTIVE YIELD**

FROM PERIOD CORRESPONDING TO END OF FISCAL YEAR: TO END OF FISCAL YEAR:	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010			
1985	14.27																													
1986	12.32	10.41																												
1987	10.35	8.45	6.52																											
1988	8.47	7.06	5.97	6.24																										
1989	7.76	6.50	5.55	5.22	4.72	4.29																								
1990	7.49	6.40	5.62	5.39	5.11	5.09	5.90																							
1991	7.34	6.38	5.73	5.57	5.40	5.48	6.08	6.29																						
1992	7.22	6.37	5.81	5.69	5.58	5.69	6.16	6.29	6.32																					
1993	7.07	6.30	5.80	5.70	5.61	5.70	6.05	6.10	6.02	5.72																				
1994	6.96	6.26	5.81	5.72	5.64	5.73	6.02	6.05	5.97	5.80	5.87																			
1995	6.84	6.19	5.78	5.70	5.63	5.70	5.94	5.94	5.86	5.71	5.71	5.54																		
1996	6.80	6.20	5.83	5.76	5.70	5.77	5.99	6.00	5.95	5.85	5.90	5.91	6.29																	
1997	6.81	6.26	5.92	5.87	5.83	5.90	6.11	6.14	6.12	6.08	6.17	6.26	6.63																	
1998	6.73	6.21	5.89	5.84	5.80	5.87	6.05	6.07	6.04	5.99	6.04	6.09	6.27	6.26																
1999	6.58	6.09	5.78	5.73	5.68	5.73	5.88	5.88	5.83	5.76	5.74	5.79	5.63	6.97	5.56															
2000	6.50	6.03	5.75	5.69	5.65	5.69	5.82	5.81	5.76	5.69	5.69	5.66	5.68	5.53	5.05	4.80														
2001	6.45	6.01	5.74	5.69	5.65	5.69	5.81	5.80	5.75	5.69	5.69	5.66	5.68	5.56	5.21	5.09	5.45	5.68												
2002	6.29	5.86	5.60	5.54	5.50	5.52	5.62	5.59	5.53	5.45	5.42	5.37	5.34	5.19	4.83	4.65	4.74	4.50	3.34											
2003	6.10	5.69	5.43	5.37	5.31	5.33	5.40	5.36	5.29	5.19	5.14	5.06	5.00	4.82	4.46	4.25	4.21	3.88	2.99	2.64										
2004	5.87	5.47	5.22	5.14	5.08	5.07	5.13	5.07	4.98	4.87	4.79	4.69	4.59	4.38	4.02	3.76	3.64	3.25	2.45	2.01										
2005	5.72	5.33	5.08	5.01	4.94	4.92	4.96	4.90	4.81	4.69	4.60	4.49	4.39	4.18	3.83	3.59	3.46	3.11	2.48	2.19	1.97									
2006	5.57	5.19	4.95	4.87	4.80	4.78	4.81	4.74	4.64	4.52	4.43	4.31	4.20	3.99	3.67	3.43	3.30	2.98	2.45	2.23	2.09	2.55								
2007	5.35	4.98	4.74	4.65	4.57	4.54	4.56	4.48	4.37	4.24	4.14	4.00	3.88	3.66	3.34	3.09	2.93	2.61	2.11	1.86	1.67	2.34	2.45							
2008	5.17	4.81	4.57	4.48	4.40	4.36	4.37	4.28	4.17	4.03	3.92	3.79	3.65	3.44	3.12	2.88	2.71	2.40	1.95	1.71	1.53	1.76	1.37	0.40						
2009	5.10	4.74	4.52	4.43	4.35	4.31	4.31	4.23	4.11	3.99	3.88	3.75	3.62	3.42	3.13	2.91	2.76	2.49	2.10	1.93	1.81	1.90	1.73	1.24	0.99					
2010	4.95	4.61	4.38	4.29	4.21	4.17	4.16	4.08	3.96	3.83	3.72	3.59	3.46	3.26	2.98	2.77	2.63	2.37	2.01	1.84	1.73	1.79	1.63	1.46	1.81	2.23				
2011																														

- "Real" rates defined as the difference between the associated nominal rate and the CPI-W (Table D-2).  
- All figures are average annual percentages.

Source: Office of the Actuary, Department of Defense

\*\*\* THE EFFECTIVE YIELD CALCULATION USES A "DOLLAR-WEIGHTED YIELD". "DOLLAR-WEIGHTED YIELDS" ARE COMPUTED BY TAKING THE INVESTMENT INCOME OVER THE AVERAGE AMOUNT OF PRINCIPAL INVESTED THROUGHOUT THE YEAR.

TABLE D-5  
AVERAGE REAL MILITARY PERSONNEL BASIC PAY INCREASES

	1935	1940	1945	1950	1955	1960	1965	1970	1975	1980	1985	1990	1995	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	
FROM DECEMBER 31 OF:																									
1930	N/A																								
1935	N/A																								
1940	N/A																								
1945	N/A																								
1950	N/A																								
1955	N/A																								
1960	N/A																								
1965	N/A																								
1970	N/A																								
1975	N/A																								
1980	N/A																								
1985	N/A																								
1990	N/A																								
1995	N/A																								
2000	N/A																								
2001	N/A																								
2002	N/A																								
2003	N/A																								
2004	N/A																								
2005	N/A																								
2006	N/A																								
2007	N/A																								
2008	N/A																								
2009	N/A																								
2010	N/A																								
2011	N/A																								

"Real" rates defined as the difference between the associated nominal rate and the CPI-W (Table D-2).

- All figures are average annual percentage increases.

- Excludes annual targeted increases.

Source: House Armed Services Committee publication, [Title 37, United States Code \(Pay and Allowances of the Uniformed Services...\)](#)

APPENDIX E

NORMAL COST WEIGHTING FACTORS

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## NORMAL COST WEIGHTING FACTORS

There are three different retirement benefit formulas that apply to three populations within the Military Retirement System. (See Appendix A for a discussion of *Final Pay*, *High-3*, and *CSB/Redux* benefit formulas.) A single normal cost percentage (NCP) for the entire population is obtained by weighting the NCP for each retirement group by its expected percentage of payroll in the relevant year.

In order to continue to budget for NCPs well in advance of the valuation date, the DoD Board of Actuaries decided to create a set of projected weighting factors. The relative stability of past experience indicates that this method gives reasonable results.

Since the composite NCP developed at year-end is implemented each month during the next fiscal year, the weighting factors reflect mid-year experience. For example, when determining the percentage of the payroll during year  $t$  allocated to people who entered in year  $t-1$  or later, linear interpolation between 6 percent and 14 percent is used to obtain 10 percent at mid-year (see the far right column of Table E-1). These mid-year interpolated percentages of payroll are shown in Table 5 of the main text.

Current rates were created using 1987 through 1991 data. Table E-1 displays the active duty basic payroll percentage distribution by completed years of service at the end of each of these fiscal years, as well as average distributions for the two periods, 1982-1987 and 1987-1991. The 1982-1987 period is shown for comparability.

While the rates were developed based on the active duty basic payroll distribution, they are also applied in the same manner when computing the reserve duty (part-time) NCP.

**TABLE E-1**

**ALL UNIFORMED PERSONNEL BASIC PAYROLL PERCENTAGE DISTRIBUTION  
BY COMPLETED YEARS OF SERVICE**

Completed Years of Service	Percentage of Payroll on:					Average Percent 1982-1987	Average Percent 1987-1991
	9/30/87	9/30/88	9/30/89	9/30/90	9/30/91		
0	7%	7%	7%	6%	5%	8%	6%
1 or less	15	15	14	13	11	17	14
2 or less	24	23	22	21	19	25	22
3 or less	32	31	30	28	27	33	29
4 or less	37	36	35	34	32	39	35
5 or less	43	42	41	39	37	44	40
6 or less	47	46	45	44	42	49	45
7 or less	52	51	50	48	47	53	50
8 or less	56	55	54	53	51	57	54
9 or less	60	59	58	57	55	61	58
10 or less	64	63	62	60	59	64	62
11 or less	67	66	66	64	63	67	65
12 or less	70	70	69	68	66	72	69
13 or less	73	73	72	72	70	73	72
14 or less	76	76	75	75	74	76	75
15 or less	79	79	78	78	77	79	78
16 or less	82	82	82	81	81	82	81
17 or less	85	85	85	84	84	85	85
18 or less	88	88	88	88	87	88	88
19 or less	91	91	91	91	90	91	91
20 or less	93	93	93	93	93	93	93
21 or less	94	94	94	94	94	94	94
22 or less	96	96	96	96	95	95	96
23 or less	96	96	97	97	97	96	97
24 or less	97	97	97	98	98	97	97
25 or less	98	98	98	98	98	98	98
26 or less	99	99	99	99	99	99	99
27 or less	99	99	99	99	99	99	99
28 or less	99	99	99	99	99	99	99
29 or less	100	100	100	100	100	100	100
30 and greater	:	:	:	:	:	:	:
TOTAL FORCE	100	100	100	100	100	100	100

Notes:

- The same percentages are used for both active and reserve duty personnel.
- The period spanning 1987-1991 is used in computing valuation results.
- The period spanning 1982-1987 is only shown for comparability.

APPENDIX F

VALUATION PROGRAM PARAMETERS

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## **VALUATION PROGRAM PARAMETERS DESCRIPTION**

GORGO is an actuarial projection model run via a Microsoft Excel environment with embedded Visual Basic macros. The purpose is to simulate future cash flows impacting the Military Retirement Fund. The model is used to compute the aggregate entry-age normal cost percentage, unfunded liability, and make long-term projections, as needed. In addition to being affected by the decrement rates, GORGO has a number of parameters which affect its results. These parameters are generally summaries of recent experience. Examples include the rates of election of the Survivor Benefit Plan and member-spouse age differences.

Public Law (P.L.) 108-136 (“Concurrent Receipt”) requires additional breakouts of some parameters in order to calculate the DoD and Treasury normal cost components. Subsequent legislation required further breakouts.

A description of major valuation program parameters is given in Table F-1. The table is organized by population group with the economic factors reproduced for user convenience. Numerical values are also shown for selected items. To keep this report manageable and prevent unintentional misuse, other parameters not described as well as numerical values not shown in the table may be requested if needed.

**TABLE F-1**

**DESCRIPTION OF THE MAJOR VALUATION PROGRAM PARAMETERS**

**Economic Factors**

<u>Item</u>	<u>Description/Value</u>
1) Salary Increase	A parameter for each of the next ten fiscal years specifies the annual percentage increase in basic pay for the active duty and reserve duty members. An 11th parameter specifies the percentage increase for subsequent years. The value for the valuation is 3.75 percent.
2) CPI (Inflation)	A parameter for each of the next nine fiscal years specifies the annual inflation (Consumer Price Index - CPI) rate for that year. A tenth parameter specifies the inflation rate for all subsequent years. The value for the valuation is 3 percent.
3) Interest Rate	A parameter for each of the next nine fiscal years specifies the annual interest rate for that year. A tenth parameter specifies the interest rate for all subsequent years. The value for the valuation is 5.75 percent.

**Active Duty**

<u>Item</u>	<u>Description/Value</u>
1) Member Election of Spouse or Spouse/Child SBP Coverage	This gives the percentage of members by age, officer/enlisted status, and Career Status Bonus (CSB) election status who have elected spouse or spouse/child coverage under the Survivor Benefit Plan (SBP).

**TABLE F-1 (continued)**

<u>Item</u>	<u>Description/Value</u>
2) Full Offsets	A member who is disabled may waive all or part of his or her retired pay to receive benefits from the Veterans Administration (VA). Furthermore, a member who decides to convert his or her military service to receive a federal civilian retirement also waives his or her right to a military pension. These amounts are not included when computing normal costs or unfunded liabilities. The percent of retired pay of new retirees that is fully offset is given by officer/enlisted status, CSB election status, and type of retirement (disability/nondisability). Disability status is given further by those with over and under 20 years of service.
3) Partial VA Offsets	It is possible to have part of DoD retired pay offset by VA compensation. The parameter is defined as the percent of retired pay out of the total paid new retirees. They are given by officer/enlisted status, CSB election status, and disability/nondisability status. Disability status is given further by those with over and under 20 years of service.
4) Disability Factor	When an active duty member is disabled and receives DoD disability retirement, retired pay is based on a minimum (30%), a maximum (given by the conditions discussed in Appendix A regarding Disability Retirement), and a disability rating. These are combined into a single officer/enlisted factor, expressed as a percentage of Final, or High-3, pay and given by length of service and temporary disability or permanent disability retirement.

**TABLE F-1 (continued)**

<u>Item</u>	<u>Description/Value</u>
5) Percent Active Duty with Beneficiary	When a member dies from a Service-connected disability or on active duty, any surviving spouse is eligible for Dependency and Indemnity Compensation (DIC) from the Veterans Administration. In addition, if the member dies in the line of duty or after completing 20 years of service, the surviving spouse is eligible for an SBP annuity from DoD which would bring the total amount of the benefit up to 55 percent of the member's retired pay. The excess of the SBP annuity over DIC comes from the Military Retirement Fund. If no spouse is present, the benefit passes on to an eligible child. If both spouse and eligible child are present then, under certain tax provisions, it is advantageous for the spouse to pass the benefits to the child. Thus, it is necessary to estimate the percent of active duty members with beneficiaries. The percentages are given by officer/enlisted status, and further allocated by spouse/child.
6) Reduction Factors for SBP	Premium amounts, as a percent of retired pay, by age, officer/enlisted status, and CSB election status.
7) Rounding Assumptions for Partially Completed Years of Service	When retired pay is computed, years of service are rounded down to the nearest completed month. An assumption must be made for the computation. The value for the valuation is 0.017.
8) CSB/Redux election proportion	The proportion of members who elect CSB/Redux. For the unfunded liability and open group valuations, the proportion varies by entry year and officer/enlisted status. For the normal cost (new entrant) valuation, the proportion is 15 percent. This value is essentially a representative rate needed to approximate the floating proportions (of CSB/Redux electors) used in the unfunded liability and open group valuations.

**TABLE F-1 (continued)**

<u>Item</u>	<u>Description/Value</u>
9) Initial Annual Pay of 16-year-old Active Duty Officer	This value is used to allocate a portion of part-time benefits to full-time in normal cost valuations, thus linking the radixes (i.e., notional starting populations) and pay of full- and part-time members. The value for the valuation is \$33,727.
10) Accumulated Value of Partial Pay in the First Year of Service First Year of Service	This amount is used to properly align the decrement rates with the assumption, in a normal cost run, of a new entrant cohort starting with zero years of service.

**Reserve Duty**

<u>Item</u>	<u>Description/Value</u>
1) Blow-Up Factors for the Selected Reserve Transferring to Inactive Duty With 20 Good Years	Ratio of Individual Ready Reserve (IRR), Inactive National Guard (ING), and Standby Reserve to every Selected Reserve transferring to inactive duty with 20 good years. This is given by officer/enlisted status, age, and years of active service.
2) Blow-Up Factors for Reserves Transferring to Retired Pay Status	Ratio of IRR, ING, Standby Reserve, and other Reserve to every known Reserve transferring to retired pay status. This is given by officer/enlisted status, age, and years of active service.
3) Adjustment to Blow-Up Factors For Reserves	An additional adjustment to Item 2 (above) is made to the person blow-up factors to align the total number of retirees due to P.L. 110-181. This is given by officer/enlisted status. The adjustment is 1.5 percent for officers and 2.5 percent for enlisted.
4) Ratio of Net to Gross Retired Pay For Reserves	This is the ratio of reserve net retired pay to gross retired pay. This is given by officer/enlisted status, age, and years of active service.

**TABLE F-1 (continued)**

<u>Item</u>	<u>Description/Value</u>
5) Proportion of Points Based on Active Service	This amount is used to prorate the part of the reserve normal cost that should be paid for as a part of the active duty normal cost. This is given by officer/enlisted status, and years of active service.
6) Mean Age of Reservists Age 63	This value is used to model the average of a small percentage of retirement-eligible reservists who retire after age 63. It is given by officer/enlisted status. The values for the valuation are 65.8 for officer and 64.4 for enlisted.
7) Reserve Radix (i.e., notional starting population)	Used in normal cost valuations. The number who enter the military for the first time as a member of the Selected Reserve. See also discussion in Appendix H. The value is 21,913.
8) Reserve Points Earned	<u>Selected Reserve:</u> Average annual points earned for pay are given by officer/enlisted status, age, and years of active service. <u>Non-Selected Reserve with 20 or more Good Years:</u> Average career total points for retirement are given by officer/enlisted status, age, and years of active service.
9) Reserve Points Adjustment	A small adjustment is made to Reserve Points Earned to reflect the increase in the Inactive Duty Training (IDT) points from 90 to 130 as enacted in P.L. 110-181. The adjustment used in the valuation is 0.225 percent.
10) Initial Annual Pay of 25-year-old Selected Reserve member	This value is used to set an initial pay for a part-time member in a normal cost run. The value for the valuation is \$43,895.

**TABLE F-1 (continued)**

<u>Item</u>	<u>Description/Value</u>
11) Reserve Retirement Age FYs	An assumption is made to reflect the number of years, on average, reservists retire early due to performing certain active service, per P.L. 110-181. An average reduction of two years (age 58) is assumed. Fiscal years are needed to phase into this earlier retirement over time. The transition to an average retirement age of 59 is assumed to occur in 2013, and the transition to age 58 is assumed to occur in 2028. See also the 'Retiree Gain Statement' in Appendix K.

**Retiree**

<u>Item</u>	<u>Description/Value</u>
1) Retired Pay Adjustment Factors	Retired pay of current retirees is adjusted for VA compensation, SBP offset changes, and other effects during the year. They are given by officer/enlisted status, CSB election status, disability/nondisability, and whether or not the member has elected SBP spouse or spouse/child coverage.
2) Retired Pay Adjustment to Members With SBP Spouse Coverage	These factors model data that show mortality is better (or less), and non-death loss from paid status is generally higher, for those retired members who elect SBP spouse coverage. Rather than develop additional sets of mortality and loss rates, the respective retiree death and loss rates (Appendix I) are adjusted with these factors. This impacts retirees with SBP spouse coverage. The factors are given by active/reserve, disability/nondisability status, and officer/enlisted status.

**TABLE F-1 (continued)**

**Survivor**

<u>Item</u>	<u>Description/Value</u>
1) Member-Survivor Age Difference	When a member dies, a survivor is assumed to be a certain number of years younger (or older) than the member. This is given by active/reserve, age, officer/enlisted status, type of retirement (i.e., nondisability, temporary disability, permanent disability), and type of survivor (i.e., spouse, child, insurable interest).
2) Ratio of SBP Base Amount to Net Retired Pay	Under SBP the retiree may elect an amount less than his or her gross retired pay as a base in computing the survivor annuity. Base amounts can also exceed net retired pay because of factors that reduce gross retired pay to net. This is expressed as a percentage of net retired pay and is given by age, officer/enlisted status, CSB election status, and type of retirement (disability/nondisability/reserve). Additional adjustments are made to the factors as part of Concurrent Receipt.
3) Ratio of RSFPP Survivor Benefit To Net Retired Pay	For RSFPP (Retired Servicemen's Family Protection Plan), this gives the ratio of the survivor payment to the net amount of retired pay.
4) Reservists' Election of RCSBP	Proportion of reservists who have elected the Reserve Component Survivor Benefit Plan (RCSBP) by immediate and deferred annuity, age, and officer/enlisted status.
5) Partial DIC Offsets	The percent of survivor pay of new survivors whose pay is partially offset by DIC. They are given by the member's active/reserve status.
6) Full DIC Offsets	The percent of survivor pay of new survivors whose pay is fully offset by DIC. They are given by the member's active/reserve status.



**TABLE F-1 (continued)**

<u>Item</u>	<u>Description/Value</u>
7) Rates for Electing SBP Options	Given that a member elects SBP, there is still a choice of options: spouse only, child only, spouse and child, or insurable interest (some other designated beneficiary in the absence of a spouse or child). These are expressed as ratios to those electing spouse only or spouse/child coverage, and are given by age, officer/enlisted status, and type of retirement (disability/nondisability/reserve).
8) Rates for Election of RSFPP Options	Given that a member elected an RSFPP option, there was a choice of options: spouse only, child only, or spouse and child. These are expressed as ratios to those electing spouse only or spouse/child coverage, and are given by age and officer/enlisted status.
9) Survivor Pay Adjustment Factors	Survivor pay of current survivors is adjusted for changes in DIC and other effects during the year.
10) DIC Base Amount	Monthly amount by which DoD annuitant pay is offset by DIC. Future values are indexed to CPI. The first-year value for the valuation is \$1,196.

APPENDIX G

ACTIVE DUTY RATES

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## **ACTIVE DUTY RATE DESCRIPTION**

The active duty rates consist principally of decrement rates related to the probabilities of a member leaving a category of military service for a specific cause. In addition, they include a new entrant distribution, a set of reentrant ratios, and ratios for promotion and merit pay increases. For the purposes of active duty rate development, full-time support reservists (excluding Army National Guard) are included in the underlying data.

The active duty decrement rates are used to project active duty deaths, temporary and permanent disability retirements, nondisability retirements, and withdrawals (i.e., other active duty losses). As noted in the “Valuation Data and Procedure” section in the main text, the valuation results are highly sensitive to the withdrawal rates. In addition, the active duty decrements include rates of transfer between officer and enlisted status. The death rates are given by age nearest birthday for officers and enlistees separately. The remaining decrement rates are given by completed years of active service for officers and enlistees separately. The formulas used to derive the active duty rates are given on the following page. The fiscal years on which various rates are based are given on the subsequent page. The experience period was selected such that the sum of the active force size changes for the included periods was near zero. Full-time reservist experience is included in the data used to develop the rates.

Generally, the decrement rates were graduated (smoothed) using Whittaker-Henderson graduations. The typical active duty career has inherent discontinuities at select points (reenlistment, promotions, retirements, etc). Rates were separated into ranges where assumptions of continuity were reasonable. When real discontinuities were present, the rates were not smoothed.

A reentrant is defined as someone who is on active duty at year end, who was not on active duty a year earlier, and who is not a new entrant. The reentrant ratios give the expected number of reentrants per year, per active member, in each cell. The cells are defined by length of active service and by officer/enlisted status.

The new entrant distribution gives the percentages of new entrants to the military by age and by officer/enlisted status. This distribution is only used in the normal cost (new entrant) valuation and the open-group projection.

The promotion and merit increase scales (PAMS) give the expected annual percentage increase in pay regardless of whether or not there are across-the-board increases in the active duty pay table. The PAMS do not include adjustments for inflation or productivity increases. They are defined by length of service, by entry age, and by officer/enlisted status. The PAMS were created by first arraying the average pay for each entry along a dimension of increasing years of service. The PAMS were then computed by dividing the average pay at the next year of service by the average pay at the current year of service.

## ACTIVE DUTY RATE FORMULAS

ACTIVE DEATH (by age nearest birthday)

$$\frac{\text{Deaths during year}}{\text{[Number at beginning of year - } \frac{1}{2} \text{ (withdrawals + nondisability retirements during year)]}}$$

NONDISABILITY RETIREMENT (by completed years of service)

$$\frac{\text{New retirees during year}}{\text{Number at beginning of year}}$$

TEMPORARY DISABILITY RETIREMENT (by completed years of service)

$$\frac{\text{New temporary disabilities during year}}{\text{[Number at beginning of year - } \frac{1}{2} \text{ (withdrawals + nondisability retirements during year)]}}$$

PERMANENT DISABILITY RETIREMENT (by completed years of service)

$$\frac{\text{New permanent disabilities during year}}{\text{[Number at beginning of year - } \frac{1}{2} \text{ (withdrawals + nondisability retirements during year)]}}$$

WITHDRAWAL (by completed years of service)

$$\frac{\text{Withdrawals during year}}{\text{Number at beginning of year}}$$

REENTRANT RATIOS (by completed years of service)

$$\frac{\text{Number reentering during year}}{\text{Number at beginning of year}}$$

PERCENTAGE DISTRIBUTION OF NEW ENTRANTS (by age nearest birthday)

$$\frac{\text{New entrants during year}}{\text{Total new entrants}}$$

PAYGRADE TRANSFER (by completed years of service)

$$\frac{\text{Transfers to category during year}}{\text{[Number at beginning of year - } \frac{1}{2} \text{ (withdrawals + nondisability retirements during year)]}}$$

PROMOTION AND MERIT SCALES (by entry age and completed years of service)

$$\frac{\text{Average basic pay at next year of service}}{\text{Average basic pay at current year of service}}$$

**SUMMARY OF YEARS ON WHICH ACTIVE DUTY RATES ARE BASED**

**By Fiscal Year**

<u>RATE</u>	<u>1982-1989</u>	<u>1997-1999</u>	<u>2000-2008</u>	<u>2009</u>
Death			X	X
Nondisability Retirement	X	X	X	
Temporary Disability Retirement	X	X	X	
Permanent Disability Retirement	X	X	X	
Withdrawal (other losses)	X	X	X	
Reentrant Ratios	X	X	X	
New Entrant Distribution	X	X	X	
Paygrade Transfer	X	X	X	
Promotion and Merit Scales (PAMS)	X	X	X	

**DEATH RATES FOR NONRETIRED MILITARY**

(AGE NEAREST BIRTHDAY)

<b>Age</b>	<b>Officer</b>	<b>Enlisted</b>
16	0.00045	0.00073
17	0.00051	0.00085
18	0.00059	0.00097
19	0.00064	0.00104
20	0.00064	0.00105
21	0.00062	0.00102
22	0.00061	0.00097
23	0.00060	0.00090
24	0.00058	0.00084
25	0.00057	0.00078
26	0.00057	0.00075
27	0.00054	0.00071
28	0.00053	0.00067
29	0.00051	0.00063
30	0.00049	0.00060
31	0.00048	0.00058
32	0.00046	0.00056
33	0.00045	0.00054
34	0.00043	0.00052
35	0.00042	0.00050
36	0.00041	0.00049
37	0.00041	0.00049
38	0.00040	0.00048
39	0.00040	0.00048
40	0.00039	0.00049
41	0.00039	0.00049
42	0.00039	0.00051
43	0.00039	0.00052
44	0.00040	0.00054
45	0.00042	0.00057
46	0.00043	0.00061
47	0.00045	0.00065
48	0.00046	0.00071
49	0.00048	0.00077
50	0.00051	0.00084
51	0.00054	0.00091
52	0.00057	0.00100
53	0.00061	0.00110
54	0.00065	0.00120
55	0.00070	0.00134
56	0.00075	0.00148
57	0.00081	0.00162
58	0.00087	0.00177
59	0.00094	0.00191
60	0.00100	0.00205

Note: These death rates should not be compared to other published rates or used for other purposes without examining the exposure formula used in the derivation.

**NONDISABILITY, TEMPORARY DISABILITY &  
PERMANENT DISABILITY RETIREMENT RATES**

**OFFICERS (BY COMPLETED YEARS OF SERVICE)**

<u>Years of Service</u>	<u>Non- disability</u>	<u>Temporary Disability ***</u>	<u>Permanent Disability ***</u>
0	0.00000	0.00043	0.00007
1	0.00000	0.00085	0.00009
2	0.00000	0.00113	0.00017
3	0.00000	0.00124	0.00019
4	0.00000	0.00146	0.00020
5	0.00000	0.00126	0.00021
6	0.00000	0.00143	0.00033
7	0.00000	0.00153	0.00026
8	0.00000	0.00144	0.00034
9	0.00000	0.00144	0.00036
10	0.00000	0.00142	0.00033
11	0.00000	0.00133	0.00033
12	0.00000	0.00128	0.00032
13	0.00000	0.00112	0.00036
14	0.00000	0.00119	0.00037
15	0.00000	0.00104	0.00037
16	0.00000	0.00093	0.00044
17	0.00000	0.00082	0.00048
18	0.00000	0.00073	0.00059
19	0.24556	0.00192	0.00141
20	0.20352	0.00231	0.00198
21	0.16113	0.00169	0.00178
22	0.14428	0.00204	0.00150
23	0.14541	0.00222	0.00187
24	0.14305	0.00209	0.00176
25	0.18396	0.00214	0.00140
26	0.19135	0.00361	0.00210
27	0.22470	0.00322	0.00166
28	0.20692	0.00367	0.00262
29	0.49853	0.00505	0.00341
30	0.37879	0.00692	0.00435
31	0.28016	0.00534	0.00334
32	0.25438	0.00534	0.00334
33	0.26999	0.00534	0.00334
34	1.00000	0.00534	0.00334

\*\*\* The increase in disability rates shown between 18 and 19 years of service may be due to the removal of the 30% disability rating minimum for members with 20 years of service. The tax advantages accorded disability retired pay described in Appendix A may result in members choosing disability over nondisability retirements. Disabilities were increased by 35% to reflect recent trends.

Example: Nine completed years of service could include anything from 9.0 to 9.999 years of service. The associated rate applied to the number of people at the beginning of the year in the category will produce the expected number of occurrences during the following year.

**NONDISABILITY, TEMPORARY DISABILITY &  
PERMANENT DISABILITY RETIREMENT RATES**

**ENLISTED (BY COMPLETED YEARS OF SERVICE)**

<u>Years of Service</u>	<u>Non-disability</u>	<u>Temporary Disability ***</u>	<u>Permanent Disability ***</u>
0	0.00000	0.00170	0.00007
1	0.00000	0.00294	0.00025
2	0.00000	0.00376	0.00042
3	0.00000	0.00438	0.00058
4	0.00000	0.00420	0.00059
5	0.00000	0.00429	0.00063
6	0.00000	0.00421	0.00071
7	0.00000	0.00440	0.00073
8	0.00000	0.00443	0.00085
9	0.00000	0.00437	0.00090
10	0.00000	0.00423	0.00099
11	0.00000	0.00416	0.00109
12	0.00000	0.00396	0.00104
13	0.00000	0.00369	0.00108
14	0.00000	0.00346	0.00101
15	0.00000	0.00319	0.00126
16	0.00000	0.00299	0.00141
17	0.00000	0.00260	0.00160
18	0.00000	0.00198	0.00163
19	0.42256	0.00541	0.00551
20	0.30241	0.00521	0.00634
21	0.26793	0.00422	0.00482
22	0.23110	0.00433	0.00508
23	0.29343	0.00417	0.00419
24	0.18735	0.00362	0.00359
25	0.33712	0.00437	0.00322
26	0.24102	0.00511	0.00333
27	0.24118	0.00523	0.00343
28	0.19147	0.00545	0.00466
29	0.77601	0.00999	0.00586
30	0.64842	0.01644	0.00795
31	0.42640	0.01399	0.00340
32	0.50641	0.01399	0.00340
33	0.40749	0.01399	0.00340
34	1.00000	0.01399	0.00340

\*\*\* The increase in disability rates shown between 18 and 19 years of service may be due to the removal of the 30% disability rating minimum for members with 20 years of service. The tax advantages accorded disability retired pay described in Appendix A may result in members choosing disability over nondisability retirements. Disabilities were increased by 35% to reflect recent trends.

Example: Nine completed years of service could include anything from 9.0 to 9.999 years of service. The associated rate applied to the number of people at the beginning of the year in the category will produce the expected number of occurrences during the following year.



**WITHDRAWAL, REENTRANT, AND NET LOSS RATES  
FOR ACTIVE DUTY PERSONNEL**

**OFFICERS (BY COMPLETED YEARS OF SERVICE)**

<u>Years of Service</u>	<u>Withdrawal</u>	<u>Reentrant ***</u>	<u>Net Loss</u>
0	0.01815	0.11937	-0.10122
1	0.02192	0.03298	-0.01106
2	0.07042	0.02574	0.04468
3	0.12192	0.02898	0.09294
4	0.10839	0.01964	0.08875
5	0.09306	0.01703	0.07603
6	0.09686	0.01444	0.08242
7	0.08447	0.01400	0.07047
8	0.07687	0.01200	0.06487
9	0.06825	0.01155	0.05670
10	0.06616	0.00872	0.05744
11	0.05337	0.00798	0.04539
12	0.03556	0.00656	0.02900
13	0.02481	0.00557	0.01924
14	0.01650	0.00467	0.01183
15	0.01042	0.00368	0.00674
16	0.00761	0.00291	0.00470
17	0.00479	0.00252	0.00227
18	0.00236	0.00246	-0.00010
19	0.00000	0.00223	-0.00223
20	0.00000	0.00247	-0.00247
21	0.00000	0.00259	-0.00259
22	0.00000	0.00230	-0.00230
23	0.00000	0.00237	-0.00237
24	0.00000	0.00229	-0.00229
25	0.00000	0.00268	-0.00268
26	0.00000	0.00276	-0.00276
27	0.00000	0.00284	-0.00284
28	0.00000	0.00329	-0.00329
29	0.00000	0.00419	-0.00419
30	0.00000	0.00912	-0.00912
31	0.00000	0.00803	-0.00803
32	0.00000	0.01145	-0.01145
33	0.00000	0.01084	-0.01084
34	0.00000	0.00000	0.00000

\*\*\* The reentrant (and all other) rates are developed for valuation purposes to be consistent with the data sources used in the valuation. For example, high reentrant rates for members with zero completed years of service at the beginning of the year reflect members showing up on the valuation data files with one completed year of service at year end, who were not on the data files at the beginning of the year, and who were not new entrants. To the extent the valuation data files exclude these members from the zero-completed-years-of-service cell, use of this reentrant rate is appropriate for the valuation projection. However, this "valuation focus" of the rates should be considered if using them for other purposes, e.g., to estimate the probability a given individual will remain on active duty from zero to one or more completed years of service.

Example: Nine completed years of service could include anything from 9.0 to 9.999 years of service. The associated rate applied to the number of people at the beginning of the year in the category will produce the expected number of occurrences during the following year.

**WITHDRAWAL, REENTRANT, AND NET LOSS RATES  
FOR ACTIVE DUTY PERSONNEL**

**ENLISTED (BY COMPLETED YEARS OF SERVICE)**

<u>Years of Service</u>	<u>Withdrawal</u>	<u>Reentrant ***</u>	<u>Net Loss</u>
0	0.10458	0.03043	0.07415
1	0.10267	0.00769	0.09498
2	0.18351	0.01394	0.16957
3	0.35545	0.02745	0.32800
4	0.15999	0.01394	0.14605
5	0.15789	0.01128	0.14661
6	0.11543	0.00966	0.10577
7	0.12660	0.00918	0.11742
8	0.09560	0.00761	0.08799
9	0.09098	0.00682	0.08416
10	0.05673	0.00540	0.05133
11	0.04738	0.00453	0.04285
12	0.03728	0.00347	0.03381
13	0.02534	0.00282	0.02252
14	0.02207	0.00223	0.01984
15	0.01296	0.00188	0.01108
16	0.00827	0.00154	0.00673
17	0.00514	0.00145	0.00369
18	0.00227	0.00139	0.00088
19	0.00000	0.00126	-0.00126
20	0.00000	0.00157	-0.00157
21	0.00000	0.00148	-0.00148
22	0.00000	0.00167	-0.00167
23	0.00000	0.00156	-0.00156
24	0.00000	0.00212	-0.00212
25	0.00000	0.00169	-0.00169
26	0.00000	0.00247	-0.00247
27	0.00000	0.00180	-0.00180
28	0.00000	0.00212	-0.00212
29	0.00000	0.00168	-0.00168
30	0.00000	0.01403	-0.01403
31	0.00000	0.03693	-0.03693
32	0.00000	0.04974	-0.04974
33	0.00000	0.09762	-0.09762
34	0.00000	0.00000	0.00000

\*\*\* The reentrant (and all other) rates are developed for valuation purposes to be consistent with the data sources used in the valuation. For example, high reentrant rates for members with zero completed years of service at the beginning of the year reflect members showing up on the valuation data files with one completed year of service at year end, who were not on the data files at the beginning of the year, and who were not new entrants. To the extent the valuation data files exclude these members from the zero-completed-years-of-service cell, use of this reentrant rate is appropriate for the valuation projection. However, this "valuation focus" of the rates should be considered if using them for other purposes, e.g., to estimate the probability a given individual will remain on active duty from zero to one or more completed years of service.

Example: Nine completed years of service could include anything from 9.0 to 9.999 years of service. The associated rate applied to the number of people at the beginning of the year in the category will produce the expected number of occurrences during the following year.

**PERCENTAGE DISTRIBUTION OF NEW ENTRANTS**

(AGE NEAREST BIRTHDAY)

<u>Age</u>	<u>Officers</u>	<u>Enlisted</u>	<u>Total</u>
16	0.00000	0.00000	0.00000
17	0.00000	0.00142	0.00142
18	0.00000	0.12146	0.12146
19	0.00001	0.25484	0.25485
20	0.00008	0.19288	0.19296
21	0.00045	0.11431	0.11476
22	0.01188	0.07357	0.08545
23	0.01920	0.05093	0.07013
24	0.01025	0.03619	0.04644
25	0.00470	0.02550	0.03020
26	0.00386	0.01783	0.02169
27	0.00327	0.01252	0.01579
28	0.00216	0.00929	0.01145
29	0.00163	0.00663	0.00826
30	0.00127	0.00475	0.00602
31	0.00097	0.00358	0.00455
32	0.00075	0.00285	0.00360
33	0.00058	0.00226	0.00284
34	0.00046	0.00187	0.00233
35	0.00038	0.00165	0.00203
36	0.00028	0.00063	0.00091
37	0.00020	0.00030	0.00050
38	0.00017	0.00024	0.00041
39	0.00015	0.00020	0.00035
40	0.00013	0.00018	0.00031
41	0.00010	0.00014	0.00024
42	0.00008	0.00014	0.00022
43	0.00007	0.00007	0.00014
44	0.00006	0.00004	0.00010
45	0.00005	0.00004	0.00009
46	0.00005	0.00003	0.00008
47	0.00004	0.00003	0.00007
48	0.00004	0.00003	0.00007
49	0.00003	0.00002	0.00005
50	0.00003	0.00002	0.00005
51	0.00002	0.00001	0.00003
52	0.00002	0.00001	0.00003
53	0.00002	0.00001	0.00003
54	0.00002	0.00001	0.00003
55	0.00002	0.00001	0.00003
56	0.00001	0.00000	0.00001
57	0.00001	0.00000	0.00001
58	0.00001	0.00000	0.00001
59	0.00001	0.00000	0.00001
60	0.00000	0.00000	
Total	0.06352	0.93648	1.00000

**PAYGRADE TRANSFER RATES**

**STATUS (BY COMPLETED YEARS OF SERVICE)**

<u>Years of Service</u>	<u>Officer to Enlisted</u>	<u>Enlisted to Officer</u>
0	0.00042	0.00304
1	0.00010	0.00096
2	0.00006	0.00112
3	0.00013	0.00145
4	0.00013	0.00227
5	0.00008	0.00282
6	0.00014	0.00393
7	0.00014	0.00515
8	0.00013	0.00718
9	0.00013	0.00874
10	0.00012	0.00968
11	0.00039	0.00969
12	0.00058	0.00907
13	0.00047	0.00778
14	0.00077	0.00613
15	0.00094	0.00472
16	0.00112	0.00306
17	0.00055	0.00179
18	0.00014	0.00137
19	0.00017	0.00096
20	0.00010	0.00115
21	0.00005	0.00105
22	0.00006	0.00093
23	0.00002	0.00088
24	0.00000	0.00044
25	0.00000	0.00005
26	0.00000	0.00002
27	0.00000	0.00007
28	0.00000	0.00000
29	0.00000	0.00000
30	0.00000	0.00000
31	0.00000	0.00000
32	0.00000	0.00000
33	0.00000	0.00000
34	0.00000	0.00000

Example: Nine completed years of service could include anything from 9.0 to 9.999 years of service. The associated rate applied to the number of people at the beginning of the year in the category will produce the expected number of occurrences during the following year.

PROMOTION AND MERIT BASIC PAY INCREASE SCALES

OFFICERS (BY ENTRY AGE)

Years of Service	Entry Age										
	16	17	18	19	20	21	22	23	24	25	26
1	1.01406	1.01406	1.01406	1.01406	1.01406	1.01406	1.01406	1.03788	1.06850	1.06863	1.03084
2	1.26101	1.26101	1.26101	1.26101	1.26101	1.26101	1.26101	1.26733	1.24639	1.22059	1.12813
3	1.16436	1.16436	1.16436	1.16436	1.16436	1.16436	1.16436	1.15592	1.14107	1.13118	1.08444
4	1.12838	1.12838	1.12838	1.12838	1.12838	1.12838	1.12838	1.12854	1.10999	1.09523	1.06425
5	1.01427	1.01427	1.01427	1.01427	1.01427	1.01427	1.01427	1.02410	1.02904	1.03108	1.02871
6	1.03943	1.03943	1.03943	1.03943	1.03943	1.03943	1.03943	1.04289	1.03995	1.04497	1.05461
7	0.99489	0.99489	0.99489	0.99489	0.99489	0.99489	0.99489	1.01191	1.02020	1.02535	1.02334
8	1.03290	1.03290	1.03290	1.03290	1.03290	1.03290	1.03290	1.04169	1.03766	1.04233	1.04014
9	0.99442	0.99442	0.99442	0.99442	0.99442	0.99442	0.99442	1.01394	1.02086	1.02143	1.02062
10	1.03956	1.03956	1.03956	1.03956	1.03956	1.03956	1.03956	1.05820	1.05017	1.04618	1.03943
11	1.01571	1.01571	1.01571	1.01571	1.01571	1.01571	1.01571	1.04944	1.05558	1.04535	1.02645
12	1.05143	1.05143	1.05143	1.05143	1.05143	1.05143	1.05143	1.05911	1.04767	1.04470	1.03802
13	1.00603	1.00603	1.00603	1.00603	1.00603	1.00603	1.00603	1.01511	1.01989	1.02090	1.01887
14	1.03458	1.03458	1.03458	1.03458	1.03458	1.03458	1.03458	1.02798	1.02367	1.02606	1.02729
15	1.01346	1.01346	1.01346	1.01346	1.01346	1.01346	1.01346	1.01512	1.02064	1.02177	1.01984
16	1.03810	1.03810	1.03810	1.03810	1.03810	1.03810	1.03810	1.04225	1.03899	1.03557	1.03369
17	1.02706	1.02706	1.02706	1.02706	1.02706	1.02706	1.02706	1.03034	1.02876	1.02850	1.02258
18	1.03826	1.03826	1.03826	1.03826	1.03826	1.03826	1.03826	1.02671	1.02287	1.02382	1.02758
19	1.01543	1.01543	1.01543	1.01543	1.01543	1.01543	1.01543	1.01051	1.01301	1.01426	1.01488
20	1.03350	1.03350	1.03350	1.03350	1.03350	1.03350	1.03350	1.03628	1.03721	1.03951	1.04114
21	1.02310	1.02310	1.02310	1.02310	1.02310	1.02310	1.02310	1.03595	1.03778	1.03563	1.02747
22	1.04475	1.04475	1.04475	1.04475	1.04475	1.04475	1.04475	1.06061	1.05316	1.04753	1.03385
23	1.02847	1.02847	1.02847	1.02847	1.02847	1.02847	1.02847	1.03169	1.03022	1.03020	1.02115
24	1.03200	1.03200	1.03200	1.03200	1.03200	1.03200	1.03200	1.02880	1.02749	1.02601	1.01918
25	1.02086	1.02086	1.02086	1.02086	1.02086	1.02086	1.02086	1.02065	1.02561	1.02340	1.01420
26	1.03961	1.03961	1.03961	1.03961	1.03961	1.03961	1.03961	1.03981	1.03084	1.02729	1.02475
27	1.01440	1.01440	1.01440	1.01440	1.01440	1.01440	1.01440	1.01278	1.00986	1.01164	1.00971
28	1.01850	1.01850	1.01850	1.01850	1.01850	1.01850	1.01850	1.02795	1.02738	1.02510	1.01871
29	1.01886	1.01886	1.01886	1.01886	1.01886	1.01886	1.01886	1.02296	1.01666	1.01419	1.00772
30	1.04665	1.04665	1.04665	1.04665	1.04665	1.04665	1.04665	1.06930	1.05109	1.04079	1.02158
31	1.03553	1.03553	1.03553	1.03553	1.03553	1.03553	1.03553	1.07120	1.05099	1.05582	1.01283
32	1.02979	1.02979	1.02979	1.02979	1.02979	1.02979	1.02979	1.04555	1.04030	1.04734	1.02783
33	1.02118	1.02118	1.02118	1.02118	1.02118	1.02118	1.02118	1.02422	1.02166	1.03341	1.02317
34	0.98796	0.98796	0.98796	0.98796	0.98796	0.98796	0.98796	0.94853	0.99750	1.00271	1.03332

Note: The number that appears, for example, in the column marked '20' and the row marked '2' is the ratio of basic pay at two years of service to basic pay at one year of service for a member who entered at age 20.

PROMOTION AND MERIT BASIC PAY INCREASE SCALES

ENLISTED (BY ENTRY AGE)

Years of Service	Entry Age										
	16	17	18	19	20	21	22	23	24	25	26
1	1.14463	1.14463	1.15192	1.13066	1.10499	1.09967	1.09485	1.08803	1.08174	1.07784	1.04388
2	1.11460	1.11460	1.11454	1.11191	1.11084	1.11190	1.11330	1.11410	1.11451	1.11391	1.10682
3	1.10585	1.10585	1.10336	1.10136	1.09840	1.09751	1.09578	1.09395	1.09251	1.09236	1.09052
4	1.09187	1.09187	1.08458	1.07787	1.07474	1.07408	1.07363	1.07388	1.07381	1.07393	1.07417
5	1.03813	1.03813	1.03342	1.03727	1.03777	1.03740	1.03826	1.03842	1.03976	1.04040	1.03887
6	1.08603	1.08603	1.08305	1.07612	1.07386	1.07369	1.07362	1.07384	1.07273	1.07226	1.06800
7	1.02569	1.02569	1.02685	1.03172	1.03395	1.03440	1.03456	1.03495	1.03490	1.03383	1.03581
8	1.08945	1.08945	1.08981	1.08241	1.07796	1.07646	1.07554	1.07405	1.07357	1.07271	1.06366
9	1.02372	1.02372	1.02136	1.02525	1.02709	1.02798	1.02772	1.02775	1.02740	1.02875	1.03084
10	1.05618	1.05618	1.06018	1.05735	1.05554	1.05409	1.05344	1.05256	1.05125	1.05021	1.04647
11	1.02443	1.02443	1.01796	1.02035	1.02207	1.02316	1.02245	1.02319	1.02343	1.02383	1.02399
12	1.06395	1.06395	1.06126	1.05530	1.05231	1.04959	1.04767	1.04687	1.04545	1.04561	1.03990
13	1.02883	1.02883	1.02147	1.02384	1.02456	1.02460	1.02476	1.02412	1.02438	1.02418	1.02288
14	1.03612	1.03612	1.04314	1.04047	1.03940	1.03772	1.03657	1.03541	1.03583	1.03424	1.03081
15	1.01461	1.01461	1.02312	1.02476	1.02479	1.02538	1.02514	1.02551	1.02446	1.02450	1.02351
16	1.03567	1.03567	1.03907	1.03689	1.03592	1.03480	1.03388	1.03283	1.03144	1.03022	1.02680
17	1.01696	1.01696	1.02141	1.02410	1.02454	1.02478	1.02413	1.02380	1.02323	1.02202	1.01908
18	1.04477	1.04477	1.04392	1.04034	1.03856	1.03586	1.03521	1.03422	1.03362	1.03169	1.02626
19	1.01797	1.01797	1.01812	1.01892	1.01876	1.01881	1.01845	1.01842	1.01786	1.01906	1.01495
20	1.04784	1.04784	1.05683	1.05989	1.06321	1.06664	1.06815	1.06936	1.07225	1.07401	1.08248
21	1.04156	1.04156	1.03878	1.04043	1.03946	1.03837	1.03962	1.04139	1.03968	1.04195	1.04150
22	1.06034	1.06034	1.06287	1.05641	1.05425	1.05316	1.05374	1.05449	1.05673	1.05100	1.04776
23	1.02863	1.02863	1.02731	1.03243	1.03388	1.03447	1.03473	1.03259	1.03274	1.03491	1.02869
24	1.05285	1.05285	1.06189	1.05931	1.05994	1.06183	1.06077	1.06046	1.06050	1.06188	1.05705
25	1.02562	1.02562	1.02998	1.03604	1.03767	1.03327	1.03183	1.03066	1.03112	1.03306	1.03074
26	1.08867	1.08867	1.09105	1.08810	1.08584	1.08542	1.08566	1.08473	1.07945	1.07139	1.05590
27	1.02419	1.02419	1.02080	1.02143	1.02065	1.02253	1.02540	1.02172	1.02343	1.02752	1.02455
28	0.99741	0.99741	1.01810	1.01911	1.02082	1.02168	1.02324	1.02113	1.02044	1.02451	1.02800
29	1.00414	1.00414	1.00950	1.01334	1.01506	1.01463	1.01298	1.01340	1.01243	1.01383	1.01924
30	1.02632	1.02632	1.05110	1.04098	1.03000	1.03513	1.02915	1.02501	1.02043	1.01257	1.00996
31	1.00002	1.00002	0.99460	0.98261	0.98840	1.00386	1.00729	1.00439	0.99995	0.99713	1.01452
32	0.99875	0.99875	1.00633	1.00144	1.00387	0.99960	1.02260	0.99998	1.00059	0.98624	0.99341
33	0.99973	0.99973	1.00337	0.99297	1.00241	1.01097	1.01385	0.99310	0.99612	0.97424	0.98173
34	0.99950	0.99950	1.02324	1.02368	1.00965	1.00437	1.01341	0.98561	0.99206	0.95993	0.98570

Note: The number that appears, for example, in the column marked '20' and the row marked '2' is the ratio of basic pay at two years of service to basic pay at one year of service for a member who entered at age 20.

APPENDIX H

RESERVE DUTY RATES

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## **RESERVE DUTY RATES DESCRIPTION**

The explicit projection of the reserves is a difficult task due to the complexity of the reserve career, evolving changes in how the reserves are used, and vagaries of the reserve data which is comprised of input from multiple reserve components. Reserves may have numerous breaks in service of varying lengths prior to attaining retirement eligibility. Also, Selected Reserves usually transfer to the Non-Selected Reserves before the retirement benefit is received. Below is a description of the rates used in the reserve valuation process.

The reserve rates consist of (1) separation rates (retirement, transfer, etc), (2) column-transfer rates, (3) the distribution of new entrants or reenrants into the Selected Reserve, (4) a table that shows the timing of when new entrants or reenrants enter, and (5) ratios for promotion and merit pay. As noted in the “Valuation Data and Procedure” section in the main text, the valuation results are highly sensitive to the separation rates.

The data for the rates were taken from the Reserve Component Common Personnel Data System (RCCPDS) files as of September 30 for the years 1997 through 2001. A summary of the years on which various rates are based is given on a subsequent page. Other appendices in this report show the rate derivations via formulas. This is not the case for the reserve rates, but may be requested if needed. A qualitative description is provided in the following text. The general formula derivation is similar to those of the Active Duty rates (Appendix G) and Retiree/Survivor rates (Appendix I).

The separation rates (1) give the probability that a member in a given status at the beginning of the fiscal year leaves the status during the fiscal year. Separation rates from the Selected Reserve include standard losses, transfers to active duty, discharge, and death. A transfer of a Selected Reservist from officer to enlisted status or vice versa is treated as a separation combined with an instantaneous reenrante. They do not include transfers to non-Selected Reserves with 20 good years, or retirement. Separation rates from the non-Selected Reserve with 20 good years, include transfer to Selected Reserve, death, discharge, and file corrections and timing delays. They do not include transfer to retirement status. The separation rates are given by age of reservist, number of years of active duty service, and whether the reservist is an officer or enlistee.

Due to Public Law (P.L.) 110-181 (see Appendix A), the set of separation rates shown apply in the early years of the projection. See Item 11 in the Reserve Duty section in Appendix F for a description of the parameter used to model the phase-in to an average age 58 reserve retirement. As the transitions to earlier average retirement ages occur, the ages applicable to some of the rates change.

Column-transfer rates (2) give the rate at which a member will accrue enough active service to move from one completed years of total active federal military service column to the next as a result of active duty for operational duty, mobilizations, summer camp, and initial active duty for training.



In most cases the separation rates are not smoothed (graduated). However, cells with numerators of fewer than 20 cases were combined with other cells or smoothed by fitting equations to the data using weighted-least-squares regression. The column-transfer rates are smoothed over all ages and years of active service using weighted-least-squares regression.

The distribution of new entrants and reentrants into the Selected Reserve (3) is used for both open group and closed group projections. This distribution gives the proportion of entrants by officer/enlisted status, age nearest birthday, and completed years of active duty service. The cell count for the complete table, including both officers and enlisted, is 100,000. For this purpose, a new entrant or reentrant is defined as someone who was actively on the RCCPDS file at the end of a fiscal year, but not at the beginning.

The timing table (4) has the same dimensions as the entrant/reentrant distribution and operates in concordance with it. Every cell of the timing table has an integer representing the year in which persons in that cell enter the military. Application of the table depends on the type of projection (Open Group, Normal Cost, or Closed Group). A detailed explanation is described further below.

The promotion and merit increase scales (PAMS) (5) give the expected annual percentage increase in pay independent of the across-the-board increases in the active duty pay scale. The PAMS do not include adjustments for inflation or productivity increases. The current PAMS are based on cross-sectional data. They are defined by length of active service, by age, and by officer/enlisted status. The PAMS were computed by dividing the average pay at age (x+1) by the average pay at the age (x) for a given year of active service. Cells based on few observations were combined with other cells.

The following is a detailed explanation of the timing table application in open group, normal cost, and closed group projections.

### Open Group

In an open group projection, new entrants and reentrants are used to bring the part-time Selected Reserve up to DoD Comptroller-provided projected strengths in future years. For an open group run, all cells of the entrant/reentrant distribution are treated equally. For example, if the needed number of new entrants and reentrants equals 150,000 for some future year, the number brought in corresponding to each cell of the entrant/reentrant distribution would be  $(n_{ij} / 100,000) \times 150,000$ , where  $n_{ij}$  is the cell count for row  $i$  and column  $j$  of the entrant/reentrant distribution. In this example, we would bring in 333 ( $1.5 \times 222$ ) officers aged 29 with under a year of service.

## Normal Cost

For normal cost runs, part of an entering cohort first goes to active duty or an ROTC program, but later shows up as a new entrant to the part-time Selected Reserves. In addition, some leave the part-time Selected Reserves and later show up as a reentrant.

This process is simulated in the normal cost run by having the new or reentrant Reservists corresponding to each cell of the timing table show up only when appropriate. In a normal cost run, all cells of the entrant/reentrant distribution will enter only once. Some cells enter the first year. Some cells enter the second year, and so on. Every cell enters, but no cell enters more than once.

The timing table is used to determine when various cells enter in a normal cost run. For example, 23-year-old officers with less than a year of active service are expected to enter the fourth year of the projection. Similarly, 56-year-old officers with 5 years of active service enter in the thirty-first year of the projection. The latter would most likely be reentrants, and the former, new entrants.

The new entrant/reentrant distribution does not distinguish between new entrants and reentrants. They represent people who are in the part-time Selected Reserves at the end of the fiscal year who were not there at the beginning. This is also true for the timing table. The one exception is that cases with a value of 1 are always new entrants. However, there are new entrants that have spent some time on active duty who show up in the same cells which also include reentrants.

The multiplier (or radix) for a normal cost run in one sense does not matter, because the present value of benefits and the present value of salary change proportionately with it. However, part of the Reserve retirements are paid for with the active duty normal cost, since part of the Reserve retirement is attributable to active duty service. For this reason the radix for part-time and full-time normal costs must be calibrated, so that in the steady state the part-time population is the proper size relative to the active duty force. The present value of Reserve retirement attributable to active duty service may then simply be added to the present value of retirement benefits attributable to active duty service. For the current valuation, this calibration results in 77,051 new entrants/reentrants to the Selected Reserves each year for every 100,000 new entrants to active duty. The portion of the 77,051 that are new entrants to the military is 21,913; this then is the Reserve normal cost radix. This radix is determined by allocating 77,051 according to the entrant/reentrant distribution and choosing the cells for which the value of the timing table equals 1. Thus, throughout the course of the normal cost projection, a total of 77,051 enter (or reenter) the Selected Reserve, 21,913 of whom enter the military for the first time as Selected Reservists.

## Closed Group

Closed-group runs form the basis of the calculation of the actuarial liability and exclude anyone who enters the military for the first time after the valuation date. For closed group runs, no new entrants or reentrants are brought in for cells with a value of 1 in the timing table. Doing so would effectively bring in a cohort whose first military service began after the date of the valuation. For cells whose value is 2, no new entrants or reentrants are brought in after the end of the first year, for the same reason. For cells whose value is 3, no new entrants or reentrants are brought in after the end of the second year, and so on. For closed group runs the value for a cell is one larger than the number of future cohorts to be brought in.

In addition to the above timing logic, a “multiplier” is needed to determine the number of entrants/reentrants to the Selected Reserve each year. None of these entrants/reentrants represent people entering the military for the first time; rather, they represent people transferring from active duty or people (veterans) reentering the Selected Reserves after a break in service, including members who were in the census at the beginning of the projection. The multiplier for closed group runs is set equal to the projected first year losses from the Selected Reserve. The assumption is that if new entrants to the military were included, roughly a constant population is maintained. The entrants are brought in to the Selected Reserve according to the entrant/reentrant distribution. For example, if the multiplier were 150,000, the number brought in to a Selected Reserve cell in a given year of the projection is  $(n_{ij} / 100,000) \times 150,000$ , where  $n_{ij}$  is the cell count for row  $i$  and column  $j$  of the entrant/reentrant distribution. Again, however, note that bringing in the entrants/reentrants is subject to the aforementioned timing table value restrictions in order to be consistent with closed-group requirements. For example, if the first-year losses were 150,000, the end-of-first-year entrants/reentrants would be approximately 109,000, determined using the  $(n_{ij} / 100,000) \times 150,000$  formula for every cell that has a value greater than 1 in the timing table. For each future year in the projection, the number of entrants/reentrants would get progressively smaller, as fewer cells would qualify, based upon the corresponding value of the timing table.

The timing table is based on a data element in the Reserve file called DIEUS, date of initial entry to uniformed services. The values represented in the timing table cells are the average number of fiscal years (or partial fiscal years) between the DIEUS date and the date of the end of the fiscal year in which they entered (or reentered). For example, if the timing table were based on one fiscal year of data and all the cases in a cell had a DIEUS date that fell in the fiscal year being studied, the timing table value for that cell would be 1. If all the cases entered (according to DIEUS) in the fiscal year that preceded the fiscal year being studied, the timing table value for that cell would be 2. In reality, some of the people in a timing table cell may have entered in different fiscal years. However, for simulation purposes, we assume everyone in a particular cell of the timing table enters in the same fiscal year.

**SUMMARY OF YEARS ON WHICH RESERVE RATES ARE BASED**

**By Fiscal Year**

<u>RATE</u>	<u>1997</u>	<u>1998</u>	<u>1999</u>	<u>2000</u>	<u>2001</u>
Separation	X	X	X	X	
Column-Transfer		X	X	X	X
New Entrant/Reentrant Distribution	X	X	X	X	
Timing Table	X	X	X	X	
Promotion and Merit Scales (PAMS)	X	X	X	X	

**Officer Selected Reserve Non-Transfer/Retirement Separation Rates \***

Completed Years Of Total Active Federal Military Service

Age	Under-1	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20+
16	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
17	0.046	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
18	0.046	0.217	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
19	0.046	0.217	0.113	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
20	0.046	0.217	0.113	0.105	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
21	0.119	0.217	0.113	0.105	0.122	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
22	0.183	0.217	0.113	0.105	0.122	0.138	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
23	0.160	0.217	0.113	0.105	0.122	0.138	0.150	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
24	0.117	0.143	0.113	0.105	0.122	0.138	0.150	0.127	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
25	0.098	0.102	0.162	0.105	0.122	0.138	0.150	0.127	0.180	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
26	0.104	0.106	0.160	0.152	0.122	0.138	0.150	0.127	0.180	0.141	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
27	0.112	0.104	0.145	0.156	0.172	0.138	0.150	0.127	0.180	0.141	0.105	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
28	0.138	0.096	0.119	0.153	0.187	0.186	0.150	0.127	0.180	0.141	0.105	0.157	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
29	0.135	0.122	0.130	0.158	0.185	0.201	0.121	0.127	0.180	0.141	0.105	0.157	0.192	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
30	0.165	0.102	0.132	0.145	0.171	0.189	0.172	0.152	0.180	0.141	0.105	0.157	0.192	0.152	0.000	0.000	0.000	0.000	0.000	0.000	0.000
31	0.149	0.110	0.111	0.130	0.132	0.164	0.183	0.190	0.097	0.141	0.105	0.157	0.192	0.152	0.150	0.000	0.000	0.000	0.000	0.000	0.000
32	0.130	0.096	0.114	0.123	0.127	0.138	0.145	0.135	0.131	0.114	0.105	0.157	0.192	0.152	0.150	0.060	0.000	0.000	0.000	0.000	0.000
33	0.115	0.092	0.096	0.132	0.117	0.119	0.125	0.144	0.126	0.134	0.119	0.157	0.192	0.152	0.150	0.106	0.072	0.000	0.000	0.000	0.000
34	0.120	0.084	0.108	0.120	0.108	0.135	0.122	0.124	0.135	0.137	0.137	0.128	0.192	0.152	0.150	0.106	0.072	0.073	0.000	0.000	0.000
35	0.116	0.077	0.100	0.103	0.104	0.111	0.114	0.124	0.130	0.127	0.122	0.132	0.157	0.152	0.150	0.106	0.072	0.073	0.071	0.000	0.000
36	0.112	0.079	0.093	0.107	0.099	0.089	0.094	0.103	0.113	0.101	0.092	0.127	0.122	0.127	0.127	0.106	0.072	0.073	0.071	0.134	0.000
37	0.111	0.083	0.089	0.100	0.094	0.091	0.099	0.113	0.119	0.098	0.095	0.093	0.095	0.100	0.107	0.106	0.072	0.073	0.071	0.134	0.121
38	0.112	0.071	0.086	0.104	0.089	0.081	0.092	0.115	0.109	0.102	0.098	0.112	0.087	0.093	0.106	0.106	0.072	0.073	0.071	0.134	0.121
39	0.111	0.067	0.075	0.098	0.083	0.087	0.090	0.090	0.099	0.101	0.111	0.095	0.096	0.079	0.111	0.106	0.072	0.073	0.071	0.134	0.121
40	0.104	0.066	0.072	0.083	0.080	0.073	0.072	0.097	0.074	0.090	0.085	0.091	0.078	0.074	0.094	0.106	0.072	0.073	0.071	0.134	0.121
41	0.093	0.063	0.064	0.074	0.066	0.080	0.078	0.090	0.089	0.074	0.108	0.100	0.097	0.076	0.076	0.106	0.072	0.073	0.071	0.134	0.121
42	0.092	0.060	0.065	0.083	0.076	0.067	0.078	0.080	0.097	0.082	0.100	0.097	0.086	0.080	0.093	0.092	0.072	0.073	0.071	0.134	0.121
43	0.087	0.062	0.058	0.071	0.076	0.073	0.069	0.076	0.074	0.068	0.086	0.088	0.090	0.099	0.089	0.070	0.072	0.073	0.071	0.134	0.121
44	0.078	0.056	0.054	0.070	0.065	0.054	0.058	0.073	0.065	0.053	0.067	0.080	0.068	0.055	0.069	0.051	0.072	0.073	0.071	0.134	0.121
45	0.079	0.049	0.062	0.062	0.054	0.047	0.064	0.074	0.066	0.049	0.050	0.052	0.060	0.060	0.051	0.066	0.051	0.072	0.073	0.071	0.134
46	0.080	0.042	0.046	0.060	0.048	0.038	0.047	0.049	0.046	0.056	0.055	0.085	0.046	0.049	0.067	0.051	0.072	0.073	0.071	0.134	0.121
47	0.080	0.040	0.042	0.048	0.035	0.050	0.046	0.037	0.050	0.047	0.050	0.055	0.056	0.034	0.044	0.051	0.072	0.073	0.071	0.134	0.121
48	0.082	0.035	0.049	0.042	0.045	0.037	0.036	0.049	0.037	0.026	0.037	0.035	0.044	0.034	0.044	0.051	0.072	0.073	0.071	0.134	0.121
49	0.078	0.038	0.043	0.043	0.037	0.034	0.037	0.036	0.042	0.050	0.037	0.035	0.044	0.034	0.044	0.051	0.072	0.073	0.071	0.134	0.121
50	0.084	0.036	0.039	0.051	0.052	0.045	0.041	0.029	0.039	0.044	0.037	0.035	0.044	0.034	0.044	0.051	0.072	0.073	0.071	0.134	0.121
51	0.075	0.046	0.051	0.043	0.052	0.037	0.042	0.034	0.046	0.039	0.037	0.035	0.044	0.034	0.044	0.051	0.072	0.073	0.071	0.134	0.121
52	0.092	0.047	0.054	0.058	0.037	0.036	0.041	0.045	0.044	0.039	0.037	0.035	0.044	0.034	0.044	0.051	0.072	0.073	0.071	0.134	0.121
53	0.088	0.050	0.040	0.067	0.041	0.046	0.046	0.051	0.044	0.039	0.037	0.035	0.044	0.034	0.044	0.051	0.072	0.073	0.071	0.134	0.121
54	0.074	0.054	0.076	0.051	0.049	0.034	0.054	0.051	0.044	0.039	0.037	0.035	0.044	0.034	0.044	0.051	0.072	0.073	0.071	0.134	0.121
55	0.079	0.051	0.054	0.036	0.049	0.054	0.054	0.051	0.044	0.039	0.037	0.035	0.044	0.034	0.044	0.051	0.072	0.073	0.071	0.134	0.121
56	0.077	0.055	0.052	0.066	0.047	0.043	0.054	0.051	0.044	0.039	0.037	0.035	0.044	0.034	0.044	0.051	0.072	0.073	0.071	0.134	0.121
57	0.083	0.051	0.054	0.057	0.047	0.044	0.054	0.051	0.044	0.039	0.037	0.035	0.044	0.034	0.044	0.051	0.072	0.073	0.071	0.134	0.121
58	0.090	0.036	0.042	0.032	0.047	0.044	0.054	0.051	0.044	0.039	0.037	0.035	0.044	0.034	0.044	0.051	0.072	0.073	0.071	0.134	0.121
59	0.136	0.058	0.099	0.079	0.047	0.044	0.054	0.051	0.044	0.039	0.037	0.035	0.044	0.034	0.044	0.051	0.072	0.073	0.071	0.134	0.121
60	0.217	0.060	0.065	0.025	0.047	0.044	0.054	0.051	0.044	0.039	0.037	0.035	0.044	0.034	0.044	0.051	0.072	0.073	0.071	0.134	0.121
61	0.106	0.106	0.106	0.106	0.106	0.106	0.106	0.106	0.106	0.106	0.106	0.106	0.106	0.106	0.106	0.106	0.106	0.106	0.106	0.106	0.106
62	0.143	0.143	0.143	0.143	0.143	0.143	0.143	0.143	0.143	0.143	0.143	0.143	0.143	0.143	0.143	0.143	0.143	0.143	0.143	0.143	0.143
63	0.143	0.143	0.143	0.143	0.143	0.143	0.143	0.143	0.143	0.143	0.143	0.143	0.143	0.143	0.143	0.143	0.143	0.143	0.143	0.143	0.143

Note: Due to P.L. 110-181 (see Appendix A) the rates shown above apply in the early years of the projection. See Item 11 in the Reserve section in Appendix F for a description of the parameter used to model the phase-in to an average age 58 reserve retirement. As the transitions to earlier average retirement ages occur, the ages applicable to some of the rates change.

\* Includes separations due to all causes except loss to non-Selected Reserve status with 20 or more good years, or retirement.

**Enlisted Selected Reserve Non-Transfer/Retirement Separation Rates \***

Completed Years Of Total Active Federal Military Service

Age	Under-1	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20+
16	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
17	0.142	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
18	0.194	0.191	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
19	0.213	0.224	0.246	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
20	0.182	0.201	0.259	0.294	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
21	0.173	0.193	0.231	0.241	0.282	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
22	0.179	0.205	0.239	0.280	0.308	0.247	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
23	0.235	0.240	0.259	0.285	0.324	0.275	0.241	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
24	0.269	0.273	0.269	0.299	0.325	0.302	0.327	0.249	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
25	0.280	0.277	0.305	0.325	0.330	0.340	0.363	0.329	0.361	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
26	0.274	0.273	0.326	0.346	0.331	0.337	0.334	0.303	0.268	0.281	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
27	0.255	0.233	0.303	0.320	0.296	0.303	0.307	0.279	0.265	0.264	0.185	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
28	0.226	0.205	0.266	0.278	0.261	0.280	0.282	0.274	0.257	0.245	0.296	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
29	0.209	0.191	0.243	0.249	0.234	0.240	0.261	0.259	0.242	0.252	0.247	0.248	0.349	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
30	0.197	0.168	0.208	0.228	0.206	0.210	0.234	0.238	0.233	0.223	0.208	0.260	0.280	0.241	0.000	0.000	0.000	0.000	0.000	0.000	0.000
31	0.176	0.150	0.187	0.196	0.186	0.188	0.207	0.207	0.196	0.214	0.201	0.208	0.232	0.214	0.107	0.000	0.000	0.000	0.000	0.000	0.000
32	0.163	0.126	0.159	0.176	0.168	0.165	0.176	0.185	0.185	0.167	0.177	0.204	0.222	0.178	0.295	0.162	0.000	0.000	0.000	0.000	0.000
33	0.149	0.115	0.145	0.155	0.148	0.158	0.160	0.176	0.154	0.152	0.156	0.193	0.199	0.197	0.242	0.152	0.283	0.000	0.000	0.000	0.000
34	0.139	0.094	0.143	0.142	0.132	0.136	0.155	0.148	0.139	0.153	0.148	0.156	0.168	0.172	0.170	0.130	0.133	0.637	0.000	0.000	0.000
35	0.126	0.086	0.137	0.124	0.118	0.121	0.138	0.121	0.138	0.121	0.138	0.132	0.138	0.140	0.166	0.162	0.138	0.219	0.159	0.133	0.000
36	0.112	0.073	0.120	0.114	0.102	0.100	0.105	0.120	0.110	0.109	0.122	0.123	0.128	0.123	0.136	0.144	0.193	0.125	0.133	0.190	0.000
37	0.111	0.074	0.110	0.109	0.095	0.086	0.096	0.100	0.095	0.100	0.112	0.116	0.108	0.113	0.139	0.133	0.183	0.127	0.133	0.190	0.174
38	0.116	0.076	0.102	0.104	0.092	0.077	0.090	0.092	0.092	0.098	0.096	0.099	0.122	0.106	0.123	0.119	0.148	0.167	0.133	0.190	0.174
39	0.115	0.078	0.086	0.099	0.084	0.072	0.086	0.094	0.090	0.094	0.102	0.099	0.100	0.110	0.119	0.122	0.132	0.138	0.133	0.190	0.174
40	0.115	0.076	0.079	0.093	0.078	0.065	0.078	0.083	0.095	0.087	0.079	0.090	0.089	0.099	0.102	0.123	0.115	0.109	0.106	0.133	0.190
41	0.117	0.068	0.077	0.085	0.074	0.065	0.071	0.089	0.083	0.085	0.085	0.090	0.094	0.082	0.112	0.108	0.110	0.127	0.133	0.190	0.174
42	0.105	0.071	0.072	0.080	0.066	0.052	0.069	0.083	0.066	0.076	0.069	0.100	0.104	0.102	0.106	0.108	0.135	0.096	0.133	0.190	0.174
43	0.104	0.064	0.067	0.072	0.063	0.048	0.067	0.063	0.070	0.074	0.075	0.084	0.104	0.100	0.111	0.095	0.081	0.096	0.133	0.190	0.174
44	0.098	0.059	0.065	0.075	0.052	0.049	0.065	0.065	0.063	0.059	0.066	0.087	0.079	0.077	0.067	0.094	0.130	0.096	0.133	0.190	0.174
45	0.082	0.052	0.055	0.071	0.059	0.045	0.050	0.045	0.057	0.058	0.070	0.065	0.096	0.107	0.094	0.077	0.094	0.096	0.133	0.190	0.174
46	0.075	0.049	0.056	0.064	0.050	0.037	0.050	0.067	0.048	0.047	0.083	0.067	0.068	0.070	0.093	0.070	0.094	0.096	0.133	0.190	0.174
47	0.074	0.048	0.045	0.057	0.047	0.034	0.055	0.048	0.040	0.052	0.047	0.085	0.062	0.056	0.063	0.070	0.094	0.096	0.133	0.190	0.174
48	0.079	0.046	0.050	0.052	0.045	0.024	0.054	0.049	0.039	0.060	0.059	0.060	0.063	0.056	0.063	0.070	0.094	0.096	0.133	0.190	0.174
49	0.068	0.043	0.051	0.051	0.039	0.030	0.034	0.035	0.033	0.050	0.055	0.054	0.048	0.056	0.063	0.070	0.094	0.096	0.133	0.190	0.174
50	0.074	0.050	0.047	0.054	0.039	0.020	0.046	0.054	0.056	0.045	0.060	0.054	0.048	0.056	0.063	0.070	0.094	0.096	0.133	0.190	0.174
51	0.076	0.047	0.046	0.053	0.038	0.022	0.032	0.044	0.047	0.045	0.066	0.054	0.048	0.056	0.063	0.070	0.094	0.096	0.133	0.190	0.174
52	0.067	0.045	0.053	0.048	0.039	0.019	0.047	0.041	0.037	0.044	0.058	0.054	0.048	0.056	0.063	0.070	0.094	0.096	0.133	0.190	0.174
53	0.066	0.050	0.047	0.047	0.037	0.023	0.035	0.043	0.037	0.031	0.058	0.054	0.048	0.056	0.063	0.070	0.094	0.096	0.133	0.190	0.174
54	0.068	0.047	0.047	0.049	0.040	0.018	0.037	0.046	0.037	0.031	0.058	0.054	0.048	0.056	0.063	0.070	0.094	0.096	0.133	0.190	0.174
55	0.061	0.047	0.052	0.043	0.048	0.022	0.038	0.047	0.037	0.031	0.058	0.054	0.048	0.056	0.063	0.070	0.094	0.096	0.133	0.190	0.174
56	0.070	0.055	0.055	0.047	0.048	0.027	0.054	0.047	0.037	0.031	0.058	0.054	0.048	0.056	0.063	0.070	0.094	0.096	0.133	0.190	0.174
57	0.081	0.054	0.055	0.057	0.045	0.024	0.054	0.047	0.037	0.031	0.058	0.054	0.048	0.056	0.063	0.070	0.094	0.096	0.133	0.190	0.174
58	0.049	0.028	0.047	0.054	0.038	0.033	0.054	0.047	0.037	0.031	0.058	0.054	0.048	0.056	0.063	0.070	0.094	0.096	0.133	0.190	0.174
59	0.124	0.124	0.113	0.126	0.118	0.082	0.054	0.047	0.037	0.031	0.058	0.054	0.048	0.056	0.063	0.070	0.094	0.096	0.133	0.190	0.174
60	0.126	0.067	0.062	0.065	0.059	0.029	0.054	0.047	0.037	0.031	0.058	0.054	0.048	0.056	0.063	0.070	0.094	0.096	0.133	0.190	0.174
61	0.143	0.143	0.143	0.143	0.143	0.143	0.143	0.143	0.143	0.143	0.143	0.143	0.143	0.143	0.143	0.143	0.143	0.143	0.143	0.143	0.143
62	0.151	0.151	0.151	0.151	0.151	0.151	0.151	0.151	0.151	0.151	0.151	0.151	0.151	0.151	0.151	0.151	0.151	0.151	0.151	0.151	0.151
>62	0.151	0.151	0.151	0.151	0.151	0.151	0.151	0.151	0.151	0.151	0.151	0.151	0.151	0.151	0.151	0.151	0.151	0.151	0.151	0.151	0.151

Note: Due to P.L. 110-181 (see Appendix A) the rates shown above apply in the early years of the projection. See Item 11 in the Reserve section in Appendix F for a description of the parameter used to model the phase-in to an average age 58 reserve retirement. As the transitions to earlier average retirement ages occur, the ages applicable to some of the rates change.

\* Includes separations due to all causes except loss to non-Selected Reserve status with 20 or more good years, or retirement.

**Officer Selected Reserve Transfer to Non-Selected Reserve Rates \***

Completed Years Of Total Active Federal Military Service

Age	Under 1	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20+
37	0.000	0.003	0.005	0.005	0.004	0.006	0.006	0.003	0.012	0.006	0.011	0.009	0.017	0.036	0.010	0.090	0.105	0.098	0.107	0.082	0.100
38	0.001	0.003	0.005	0.005	0.004	0.006	0.006	0.013	0.013	0.006	0.011	0.009	0.017	0.036	0.010	0.090	0.105	0.098	0.107	0.082	0.100
39	0.002	0.011	0.005	0.005	0.017	0.020	0.006	0.010	0.019	0.006	0.011	0.009	0.017	0.036	0.010	0.090	0.105	0.098	0.107	0.082	0.100
40	0.006	0.017	0.007	0.005	0.019	0.018	0.006	0.019	0.020	0.021	0.011	0.009	0.017	0.036	0.010	0.090	0.105	0.098	0.107	0.082	0.100
41	0.004	0.018	0.027	0.016	0.022	0.029	0.016	0.033	0.026	0.027	0.020	0.027	0.034	0.036	0.010	0.090	0.105	0.098	0.107	0.082	0.100
42	0.005	0.017	0.031	0.029	0.026	0.042	0.030	0.035	0.049	0.043	0.031	0.027	0.041	0.039	0.035	0.090	0.105	0.098	0.107	0.082	0.100
43	0.004	0.025	0.047	0.032	0.044	0.060	0.067	0.065	0.064	0.079	0.065	0.056	0.050	0.057	0.057	0.090	0.105	0.098	0.107	0.082	0.100
44	0.007	0.037	0.046	0.037	0.043	0.059	0.073	0.086	0.088	0.093	0.080	0.060	0.066	0.072	0.068	0.090	0.105	0.098	0.107	0.082	0.100
45	0.009	0.033	0.045	0.036	0.051	0.058	0.083	0.084	0.095	0.097	0.086	0.098	0.103	0.084	0.115	0.090	0.105	0.098	0.107	0.082	0.100
46	0.012	0.049	0.048	0.052	0.060	0.069	0.075	0.098	0.067	0.074	0.096	0.083	0.093	0.091	0.109	0.090	0.105	0.098	0.107	0.082	0.100
47	0.012	0.059	0.061	0.044	0.061	0.060	0.070	0.089	0.096	0.062	0.072	0.105	0.088	0.066	0.097	0.090	0.105	0.098	0.107	0.082	0.100
48	0.019	0.074	0.061	0.056	0.071	0.076	0.079	0.093	0.087	0.095	0.107	0.091	0.074	0.107	0.097	0.090	0.105	0.098	0.107	0.082	0.100
49	0.019	0.107	0.085	0.096	0.101	0.115	0.119	0.130	0.144	0.117	0.138	0.088	0.126	0.151	0.125	0.090	0.105	0.098	0.107	0.082	0.100
50	0.027	0.116	0.120	0.101	0.127	0.137	0.135	0.154	0.140	0.137	0.190	0.159	0.145	0.168	0.150	0.090	0.105	0.098	0.107	0.082	0.100
51	0.017	0.110	0.117	0.113	0.128	0.153	0.163	0.142	0.172	0.137	0.151	0.184	0.191	0.182	0.188	0.090	0.105	0.098	0.107	0.082	0.100
52	0.027	0.100	0.123	0.097	0.156	0.142	0.173	0.189	0.185	0.133	0.194	0.205	0.205	0.207	0.231	0.090	0.105	0.098	0.107	0.082	0.100
53	0.026	0.096	0.105	0.113	0.156	0.153	0.164	0.181	0.180	0.170	0.182	0.187	0.184	0.196	0.098	0.090	0.105	0.098	0.107	0.082	0.100
54	0.018	0.083	0.109	0.109	0.141	0.150	0.169	0.204	0.133	0.206	0.222	0.255	0.238	0.255	0.200	0.090	0.105	0.098	0.107	0.082	0.100
55	0.036	0.102	0.116	0.106	0.112	0.176	0.143	0.232	0.181	0.234	0.207	0.215	0.239	0.385	0.082	0.090	0.105	0.098	0.107	0.082	0.100
56	0.028	0.069	0.102	0.109	0.123	0.112	0.149	0.139	0.146	0.064	0.064	0.064	0.064	0.064	0.082	0.090	0.105	0.098	0.107	0.082	0.100
57	0.027	0.089	0.101	0.080	0.085	0.151	0.143	0.108	0.137	0.064	0.064	0.064	0.064	0.064	0.082	0.090	0.105	0.098	0.107	0.082	0.100
58	0.028	0.066	0.097	0.083	0.085	0.120	0.167	0.149	0.140	0.064	0.064	0.064	0.064	0.064	0.082	0.090	0.105	0.098	0.107	0.082	0.100
59	0.032	0.032	0.032	0.032	0.032	0.032	0.032	0.032	0.032	0.064	0.064	0.064	0.064	0.064	0.082	0.090	0.105	0.098	0.107	0.082	0.100
60	0.006	0.006	0.006	0.006	0.006	0.006	0.006	0.006	0.006	0.006	0.006	0.006	0.006	0.006	0.006	0.006	0.006	0.006	0.006	0.006	0.006
61	0.006	0.006	0.006	0.006	0.006	0.006	0.006	0.006	0.006	0.006	0.006	0.006	0.006	0.006	0.006	0.006	0.006	0.006	0.006	0.006	0.006
62	0.006	0.006	0.006	0.006	0.006	0.006	0.006	0.006	0.006	0.006	0.006	0.006	0.006	0.006	0.006	0.006	0.006	0.006	0.006	0.006	0.006
>62	0.006	0.006	0.006	0.006	0.006	0.006	0.006	0.006	0.006	0.006	0.006	0.006	0.006	0.006	0.006	0.006	0.006	0.006	0.006	0.006	0.006

Note: Due to P.L. 110-181 (see Appendix A) the rates shown above apply in the early years of the projection. See Item 11 in the Reserve section in Appendix F for a description of the parameter used to model the phase-in to an average age 58 reserve retirement. As the transitions to earlier average retirement ages occur, the ages applicable to some of the rates change.

\* Includes separations to non-Selected Reserve status with 20 or more good years.

**Enlisted Selected Reserve Transfer to Non-Selected Reserve Rates \***

Completed Years Of Total Active Federal Military Service

Age	Under 1	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20+
37	0.001	0.007	0.005	0.002	0.004	0.005	0.004	0.006	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004
38	0.005	0.023	0.011	0.011	0.014	0.013	0.018	0.011	0.020	0.020	0.021	0.018	0.022	0.016	0.009	0.009	0.009	0.009	0.009	0.009	0.009
39	0.009	0.033	0.032	0.024	0.023	0.037	0.032	0.030	0.036	0.037	0.036	0.033	0.039	0.043	0.022	0.018	0.018	0.018	0.018	0.018	0.018
40	0.010	0.041	0.034	0.033	0.032	0.045	0.047	0.039	0.049	0.049	0.050	0.047	0.043	0.042	0.052	0.035	0.041	0.018	0.018	0.018	0.018
41	0.014	0.044	0.048	0.042	0.043	0.050	0.042	0.056	0.051	0.052	0.062	0.059	0.052	0.059	0.055	0.060	0.049	0.023	0.023	0.023	0.023
42	0.010	0.043	0.042	0.052	0.052	0.047	0.045	0.048	0.056	0.065	0.055	0.053	0.058	0.070	0.073	0.068	0.047	0.047	0.047	0.047	0.047
43	0.015	0.045	0.048	0.052	0.052	0.061	0.056	0.054	0.074	0.074	0.082	0.072	0.062	0.071	0.063	0.060	0.054	0.054	0.054	0.054	0.054
44	0.019	0.054	0.056	0.055	0.059	0.066	0.066	0.068	0.079	0.085	0.102	0.074	0.083	0.069	0.097	0.069	0.069	0.069	0.069	0.069	0.069
45	0.022	0.057	0.058	0.064	0.064	0.066	0.061	0.067	0.082	0.076	0.097	0.094	0.076	0.078	0.075	0.075	0.075	0.075	0.075	0.075	0.075
46	0.025	0.063	0.068	0.069	0.068	0.075	0.077	0.075	0.079	0.101	0.109	0.112	0.085	0.073	0.078	0.078	0.078	0.078	0.078	0.078	0.078
47	0.024	0.065	0.072	0.074	0.072	0.073	0.067	0.070	0.089	0.119	0.081	0.090	0.096	0.101	0.093	0.093	0.093	0.093	0.093	0.093	0.093
48	0.023	0.070	0.070	0.071	0.077	0.085	0.073	0.076	0.096	0.098	0.118	0.095	0.117	0.133	0.112	0.112	0.112	0.112	0.112	0.112	0.112
49	0.032	0.076	0.074	0.081	0.085	0.073	0.070	0.083	0.091	0.104	0.084	0.093	0.124	0.104	0.105	0.105	0.105	0.105	0.105	0.105	0.105
50	0.035	0.079	0.076	0.081	0.080	0.075	0.070	0.084	0.099	0.096	0.116	0.116	0.123	0.109	0.109	0.109	0.109	0.109	0.109	0.109	0.109
51	0.036	0.079	0.082	0.082	0.089	0.080	0.079	0.083	0.087	0.107	0.092	0.097	0.106	0.090	0.090	0.090	0.090	0.090	0.090	0.090	0.090
52	0.039	0.085	0.080	0.088	0.096	0.102	0.091	0.106	0.119	0.107	0.112	0.132	0.149	0.096	0.096	0.096	0.096	0.096	0.096	0.096	0.096
53	0.036	0.080	0.082	0.089	0.095	0.097	0.115	0.104	0.102	0.134	0.092	0.162	0.113	0.113	0.113	0.113	0.113	0.113	0.113	0.113	0.113
54	0.050	0.097	0.107	0.094	0.102	0.122	0.114	0.134	0.141	0.172	0.119	0.151	0.151	0.151	0.151	0.151	0.151	0.151	0.151	0.151	0.151
55	0.058	0.107	0.121	0.115	0.112	0.179	0.185	0.154	0.170	0.169	0.169	0.170	0.170	0.170	0.170	0.170	0.170	0.170	0.170	0.170	0.170
56	0.063	0.109	0.113	0.109	0.126	0.139	0.111	0.129	0.153	0.170	0.135	0.176	0.176	0.176	0.176	0.176	0.176	0.176	0.176	0.176	0.176
57	0.055	0.114	0.134	0.107	0.126	0.152	0.116	0.131	0.149	0.149	0.122	0.199	0.199	0.199	0.199	0.199	0.199	0.199	0.199	0.199	0.199
58	0.082	0.113	0.130	0.119	0.134	0.157	0.135	0.122	0.174	0.185	0.236	0.160	0.160	0.160	0.160	0.160	0.160	0.160	0.160	0.160	0.160
59	0.033	0.082	0.067	0.085	0.092	0.119	0.119	0.086	0.133	0.094	0.107	0.102	0.102	0.102	0.102	0.102	0.102	0.102	0.102	0.102	0.102
60	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004
61	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004
62	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004
>62	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004

Note: Due to P.L. 110-181 (see Appendix A) the rates shown above apply in the early years of the projection. See Item 11 in the Reserve section in Appendix F for a description of the parameter used to model the phase-in to an average age 58 reserve retirement. As the transitions to earlier average retirement ages occur, the ages applicable to some of the rates change.

\* Includes separations to non-Selected Reserve status with 20 or more good years.



**Officer Non-Selected Reserve with 20 Good Years Non-Retirement Separation Rates \***

Completed Years Of Total Active Federal Military Service

Age	Under 1	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20+
37	0.318	0.206	0.164	0.153	0.143	0.063	0.043	0.026	0.022	0.104	0.071	0.051	0.084	0.078	0.049	0.047	0.025	0.180	0.032	0.043	0.028
38	0.318	0.206	0.164	0.153	0.143	0.063	0.043	0.026	0.022	0.104	0.071	0.051	0.084	0.078	0.049	0.047	0.025	0.180	0.032	0.043	0.028
39	0.318	0.206	0.164	0.153	0.143	0.063	0.043	0.026	0.022	0.104	0.071	0.051	0.084	0.078	0.049	0.047	0.025	0.180	0.032	0.043	0.028
40	0.318	0.106	0.164	0.153	0.136	0.063	0.043	0.026	0.022	0.104	0.071	0.051	0.084	0.078	0.049	0.047	0.025	0.180	0.032	0.043	0.028
41	0.220	0.069	0.164	0.097	0.105	0.063	0.077	0.026	0.022	0.085	0.119	0.051	0.084	0.078	0.049	0.047	0.025	0.180	0.032	0.043	0.028
42	0.127	0.105	0.095	0.096	0.073	0.046	0.061	0.046	0.032	0.044	0.096	0.051	0.084	0.078	0.049	0.047	0.025	0.180	0.032	0.043	0.028
43	0.127	0.063	0.066	0.087	0.048	0.045	0.044	0.040	0.043	0.041	0.072	0.053	0.048	0.078	0.049	0.047	0.025	0.180	0.032	0.043	0.028
44	0.154	0.078	0.029	0.048	0.064	0.033	0.046	0.035	0.049	0.044	0.021	0.035	0.047	0.062	0.104	0.047	0.025	0.180	0.032	0.043	0.028
45	0.061	0.051	0.077	0.076	0.058	0.040	0.035	0.035	0.040	0.049	0.028	0.028	0.028	0.051	0.084	0.047	0.025	0.180	0.032	0.043	0.028
46	0.141	0.052	0.046	0.041	0.048	0.032	0.041	0.017	0.032	0.032	0.036	0.040	0.029	0.041	0.064	0.047	0.025	0.151	0.032	0.043	0.028
47	0.097	0.045	0.049	0.058	0.040	0.029	0.032	0.033	0.031	0.019	0.018	0.021	0.039	0.036	0.056	0.056	0.025	0.027	0.032	0.043	0.028
48	0.072	0.035	0.059	0.042	0.034	0.022	0.022	0.015	0.015	0.020	0.014	0.034	0.049	0.026	0.047	0.053	0.025	0.027	0.032	0.043	0.028
49	0.069	0.031	0.036	0.034	0.025	0.027	0.021	0.012	0.029	0.014	0.010	0.020	0.016	0.021	0.043	0.014	0.025	0.027	0.032	0.043	0.028
50	0.047	0.024	0.027	0.030	0.026	0.016	0.023	0.016	0.021	0.014	0.011	0.011	0.015	0.021	0.039	0.014	0.025	0.027	0.032	0.043	0.028
51	0.055	0.021	0.031	0.028	0.024	0.019	0.013	0.012	0.012	0.014	0.012	0.010	0.013	0.009	0.011	0.014	0.025	0.027	0.032	0.043	0.028
52	0.047	0.014	0.021	0.015	0.021	0.012	0.010	0.008	0.018	0.012	0.008	0.011	0.012	0.009	0.011	0.014	0.025	0.027	0.032	0.043	0.028
53	0.038	0.023	0.020	0.016	0.012	0.013	0.011	0.011	0.010	0.013	0.008	0.010	0.005	0.009	0.011	0.014	0.025	0.027	0.032	0.043	0.028
54	0.032	0.026	0.014	0.011	0.010	0.008	0.008	0.008	0.010	0.012	0.009	0.008	0.005	0.009	0.011	0.014	0.025	0.027	0.032	0.043	0.028
55	0.044	0.024	0.020	0.012	0.013	0.011	0.007	0.009	0.007	0.012	0.011	0.007	0.005	0.009	0.011	0.014	0.025	0.027	0.032	0.043	0.028
56	0.020	0.023	0.014	0.009	0.006	0.011	0.007	0.009	0.007	0.017	0.011	0.006	0.005	0.009	0.011	0.014	0.025	0.027	0.032	0.043	0.028
57	0.029	0.014	0.011	0.012	0.006	0.008	0.009	0.010	0.007	0.011	0.012	0.006	0.005	0.009	0.011	0.024	0.025	0.027	0.032	0.043	0.028
58	0.031	0.018	0.014	0.007	0.008	0.010	0.007	0.008	0.010	0.011	0.048	0.006	0.005	0.009	0.023	0.021	0.025	0.027	0.032	0.043	0.028
59	0.157	0.108	0.124	0.110	0.090	0.091	0.083	0.077	0.074	0.088	0.084	0.081	0.114	0.099	0.105	0.098	0.064	0.080	0.174	0.043	0.028
60	0.077	0.083	0.045	0.036	0.016	0.019	0.161	0.023	0.017	0.017	0.017	0.017	0.017	0.017	0.017	0.017	0.017	0.017	0.017	0.017	0.017
61	0.266	0.338	0.347	0.296	0.191	0.239	0.239	0.239	0.239	0.239	0.239	0.239	0.239	0.239	0.239	0.239	0.239	0.239	0.239	0.239	0.239
62	0.266	0.477	0.327	0.376	0.205	0.216	0.216	0.216	0.216	0.216	0.216	0.216	0.216	0.216	0.216	0.216	0.216	0.216	0.216	0.216	0.216
>62	0.455	0.460	0.470	0.318	0.219	0.267	0.241	0.241	0.241	0.241	0.241	0.241	0.241	0.241	0.241	0.241	0.241	0.241	0.241	0.241	0.241

Note: Due to P.L. 110-181 (see Appendix A) the rates shown above apply in the early years of the projection. See Item 11 in the Reserve section in Appendix F for a description of the parameter used to model the phase-in to an average age 58 reserve retirement. As the transitions to earlier average retirement ages occur, the ages applicable to some of the rates change.

\* Includes separations from non-Selected Reserve status with 20 or more good years, except for paid retirement.

**Enlisted Non-Selected Reserve with 20 Good Years Non-Retirement Separation Rates \***

Completed Years Of Total Active Federal Military Service

Age	Under 1	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20+
37	0.165	0.174	0.144	0.274	0.172	0.057	0.112	0.066	0.039	0.086	0.031	0.072	0.044	0.069	0.062	0.194	0.052	0.069	0.122	0.185	0.130
38	0.175	0.123	0.144	0.246	0.113	0.057	0.168	0.066	0.039	0.086	0.031	0.072	0.044	0.069	0.062	0.194	0.052	0.069	0.122	0.185	0.130
39	0.182	0.104	0.103	0.090	0.055	0.057	0.110	0.111	0.082	0.086	0.031	0.072	0.044	0.069	0.062	0.194	0.052	0.069	0.122	0.185	0.130
40	0.175	0.072	0.050	0.095	0.071	0.049	0.052	0.068	0.054	0.050	0.031	0.072	0.044	0.069	0.062	0.215	0.052	0.069	0.122	0.185	0.130
41	0.103	0.070	0.047	0.094	0.051	0.044	0.031	0.034	0.027	0.043	0.033	0.041	0.044	0.062	0.062	0.174	0.052	0.069	0.122	0.185	0.130
42	0.099	0.062	0.044	0.066	0.042	0.038	0.034	0.038	0.030	0.037	0.046	0.036	0.044	0.054	0.062	0.038	0.052	0.069	0.122	0.185	0.130
43	0.101	0.051	0.034	0.056	0.036	0.023	0.029	0.040	0.035	0.030	0.020	0.036	0.043	0.050	0.062	0.038	0.052	0.069	0.122	0.185	0.130
44	0.078	0.040	0.033	0.047	0.031	0.024	0.032	0.047	0.036	0.029	0.020	0.032	0.033	0.042	0.064	0.038	0.052	0.069	0.122	0.185	0.130
45	0.054	0.032	0.037	0.045	0.024	0.027	0.036	0.024	0.028	0.026	0.019	0.026	0.026	0.043	0.064	0.038	0.052	0.069	0.122	0.185	0.130
46	0.047	0.025	0.027	0.043	0.021	0.016	0.023	0.027	0.014	0.014	0.026	0.034	0.022	0.053	0.065	0.080	0.052	0.069	0.122	0.185	0.130
47	0.049	0.023	0.035	0.037	0.025	0.026	0.024	0.024	0.013	0.022	0.010	0.035	0.019	0.029	0.057	0.028	0.052	0.069	0.122	0.185	0.130
48	0.048	0.020	0.034	0.038	0.019	0.019	0.028	0.014	0.010	0.017	0.012	0.017	0.020	0.062	0.047	0.028	0.052	0.069	0.122	0.185	0.130
49	0.053	0.016	0.031	0.033	0.021	0.015	0.028	0.021	0.018	0.014	0.017	0.018	0.024	0.045	0.040	0.028	0.052	0.069	0.122	0.185	0.130
50	0.033	0.016	0.031	0.028	0.016	0.015	0.020	0.018	0.018	0.016	0.020	0.019	0.020	0.045	0.034	0.028	0.052	0.069	0.122	0.185	0.130
51	0.038	0.021	0.025	0.029	0.019	0.016	0.024	0.022	0.019	0.014	0.023	0.020	0.014	0.027	0.016	0.028	0.052	0.069	0.122	0.185	0.130
52	0.044	0.017	0.027	0.030	0.018	0.014	0.017	0.020	0.010	0.010	0.012	0.017	0.020	0.031	0.016	0.052	0.052	0.069	0.122	0.185	0.130
53	0.042	0.022	0.025	0.027	0.012	0.011	0.023	0.020	0.015	0.022	0.021	0.014	0.013	0.034	0.016	0.022	0.052	0.069	0.122	0.185	0.130
54	0.048	0.019	0.021	0.032	0.017	0.012	0.014	0.016	0.014	0.013	0.020	0.019	0.016	0.023	0.016	0.022	0.052	0.069	0.122	0.185	0.130
55	0.046	0.024	0.022	0.027	0.016	0.014	0.015	0.022	0.010	0.019	0.023	0.021	0.027	0.022	0.016	0.022	0.052	0.069	0.122	0.185	0.130
56	0.044	0.024	0.023	0.030	0.016	0.009	0.013	0.019	0.014	0.012	0.023	0.025	0.025	0.029	0.016	0.022	0.052	0.069	0.122	0.185	0.130
57	0.033	0.026	0.022	0.024	0.015	0.012	0.014	0.022	0.007	0.022	0.026	0.019	0.024	0.027	0.029	0.038	0.052	0.069	0.122	0.185	0.130
58	0.030	0.035	0.028	0.027	0.018	0.010	0.013	0.018	0.012	0.015	0.031	0.013	0.026	0.026	0.066	0.091	0.052	0.069	0.122	0.185	0.130
59	0.145	0.133	0.120	0.120	0.096	0.083	0.099	0.098	0.107	0.093	0.076	0.130	0.093	0.143	0.102	0.143	0.109	0.069	0.122	0.185	0.130
60	0.077	0.065	0.059	0.048	0.022	0.021	0.039	0.034	0.029	0.030	0.025	0.028	0.035	0.046	0.233	0.074	0.100	0.100	0.100	0.100	0.100
61	0.314	0.358	0.209	0.263	0.184	0.176	0.352	0.415	0.456	0.365	0.365	0.365	0.365	0.365	0.365	0.365	0.365	0.365	0.365	0.365	0.365
62	0.396	0.392	0.415	0.349	0.242	0.215	0.355	0.355	0.355	0.355	0.355	0.355	0.355	0.355	0.355	0.355	0.355	0.355	0.355	0.355	0.355
>62	0.437	0.521	0.419	0.477	0.221	0.121	0.253	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350	0.350

Note: Due to P.L. 110-181 (see Appendix A) the rates shown above apply in the early years of the projection. See Item 11 in the Reserve section in Appendix F for a description of the parameter used to model the phase-in to an average age 58 reserve retirement. As the transitions to earlier average retirement ages occur, the ages applicable to some of the rates change.

\* Includes separations from non-Selected Reserve status with 20 or more good years, except for paid retirement.

**Officer Selected Reserve Retirement Rates**

Completed Years Of Total Active Federal Military Service

Age	Under 1	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20+
59	0.203	0.220	0.243	0.264	0.281	0.296	0.308	0.317	0.323	0.327	0.328	0.326	0.321	0.313	0.303	0.289	0.273	0.254	0.233	0.208	0.181
60	0.473	0.570	0.605	0.631	0.653	0.672	0.690	0.706	0.721	0.735	0.749	0.762	0.774	0.785	0.797	0.807	0.818	0.828	0.838	0.848	0.857
61	0.139	0.159	0.202	0.226	0.240	0.249	0.252	0.253	0.250	0.246	0.239	0.231	0.222	0.211	0.200	0.187	0.174	0.160	0.145	0.130	0.114
62	0.081	0.126	0.178	0.217	0.251	0.281	0.308	0.332	0.355	0.377	0.397	0.416	0.435	0.453	0.470	0.486	0.502	0.518	0.533	0.547	0.561
>62	0.108	0.116	0.163	0.200	0.231	0.258	0.283	0.306	0.327	0.347	0.365	0.383	0.400	0.417	0.432	0.447	0.462	0.476	0.490	0.504	0.517

Note: Due to P.L. 110-181 (see Appendix A) the rates shown above apply in the early years of the projection. See Item 11 in the Reserve section in Appendix F for a description of the parameter used to model the phase-in to an average age 58 reserve retirement. As the transitions to earlier average retirement ages occur, the ages applicable to some of the rates change.

**Enlisted Selected Reserve Retirement Rates**

Completed Years Of Total Active Federal Military Service

Age	Under 1	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20+
59	0.251	0.276	0.282	0.288	0.294	0.300	0.306	0.312	0.319	0.325	0.331	0.337	0.343	0.349	0.355	0.361	0.367	0.373	0.379	0.385	0.391
60	0.758	0.837	0.852	0.863	0.873	0.881	0.889	0.896	0.902	0.908	0.914	0.919	0.924	0.929	0.934	0.939	1.000	1.000	1.000	1.000	1.000
61	0.443	0.443	0.443	0.443	0.443	0.443	0.443	0.443	0.443	0.443	0.443	0.443	0.443	0.443	0.443	0.443	0.443	0.443	0.443	0.443	0.443
62	0.522	0.522	0.522	0.522	0.522	0.522	0.522	0.522	0.522	0.522	0.522	0.522	0.522	0.522	0.522	0.522	0.522	0.522	0.522	0.522	0.522
>62	0.209	0.209	0.209	0.209	0.209	0.209	0.209	0.209	0.209	0.209	0.209	0.209	0.209	0.209	0.209	0.209	0.209	0.209	0.209	0.209	0.209

Note: Due to P.L. 110-181 (see Appendix A) the rates shown above apply in the early years of the projection. See Item 11 in the Reserve section in Appendix F for a description of the parameter used to model the phase-in to an average age 58 reserve retirement. As the transitions to earlier average retirement ages occur, the ages applicable to some of the rates change.

**Officer Non-Selected Reserve with 20 Good Years Retirement Rates**

Completed Years Of Total Active Federal Military Service

Age	Under 1	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20+	
59	0.378	0.378	0.378	0.378	0.378	0.378	0.378	0.378	0.378	0.378	0.378	0.378	0.378	0.378	0.378	0.378	0.378	0.378	0.378	0.378	0.378	0.378
60	0.935	0.935	0.935	0.935	0.935	0.935	0.935	0.935	0.935	0.935	0.935	0.935	0.935	0.935	0.935	0.935	0.935	0.935	0.935	0.935	0.935	0.935
61	0.294	0.294	0.294	0.294	0.294	0.294	0.294	0.294	0.294	0.294	0.294	0.294	0.294	0.294	0.294	0.294	0.294	0.294	0.294	0.294	0.294	0.294
62	0.192	0.192	0.192	0.192	0.192	0.192	0.192	0.192	0.192	0.192	0.192	0.192	0.192	0.192	0.192	0.192	0.192	0.192	0.192	0.192	0.192	0.192
>62	0.121	0.121	0.121	0.121	0.121	0.121	0.121	0.121	0.121	0.121	0.121	0.121	0.121	0.121	0.121	0.121	0.121	0.121	0.121	0.121	0.121	0.121

Note: Due to P.L. 110-181 (see Appendix A) the rates shown above apply in the early years of the projection. See Item 11 in the Reserve section in Appendix F for a description of the parameter used to model the phase-in to an average age 58 reserve retirement. As the transitions to earlier average retirement ages occur, the ages applicable to some of the rates change.

**Enlisted Non-Selected Reserve with 20 Good Years Retirement Rates**

Completed Years Of Total Active Federal Military Service

Age	Under 1	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20+	
59	0.364	0.375	0.379	0.383	0.385	0.388	0.390	0.396	0.398	0.400	0.401	0.403	0.404	0.406	0.410	0.411	0.412	0.409	0.410	0.411	0.412	0.412
60	0.921	0.921	0.921	0.921	0.921	0.921	0.921	0.921	0.921	0.921	0.921	0.921	0.921	0.921	0.921	0.921	0.921	0.921	0.921	0.921	0.921	0.921
61	0.275	0.275	0.275	0.275	0.275	0.275	0.275	0.275	0.275	0.275	0.275	0.275	0.275	0.275	0.275	0.275	0.275	0.275	0.275	0.275	0.275	0.275
62	0.133	0.133	0.133	0.133	0.133	0.133	0.133	0.133	0.133	0.133	0.133	0.133	0.133	0.133	0.133	0.133	0.133	0.133	0.133	0.133	0.133	0.133
>62	0.084	0.084	0.084	0.084	0.084	0.084	0.084	0.084	0.084	0.084	0.084	0.084	0.084	0.084	0.084	0.084	0.084	0.084	0.084	0.084	0.084	0.084

Note: Due to P.L. 110-181 (see Appendix A) the rates shown above apply in the early years of the projection. See Item 11 in the Reserve section in Appendix F for a description of the parameter used to model the phase-in to an average age 58 reserve retirement. As the transitions to earlier average retirement ages occur, the ages applicable to some of the rates change.





**Officer Selected Reserve New Entrant/Reentrant Rates \***

Completed Years Of Total Active Federal Military Service

Age	Under 1	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20+
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	27	0	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	63	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	75	3	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23	122	5	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24	162	12	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25	153	20	42	11	5	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26	156	23	52	42	21	5	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27	179	29	45	53	69	23	5	1	1	1	0	0	0	0	0	0	0	0	0	0	0
28	203	43	41	56	97	53	12	5	2	2	1	0	0	0	0	0	0	0	0	0	0
29	222	39	35	54	83	73	52	15	5	2	3	1	1	0	0	0	0	0	0	0	0
30	213	47	33	56	81	64	66	54	15	5	5	3	1	0	0	0	0	0	0	0	0
31	177	50	33	54	77	43	48	70	52	36	7	3	3	1	1	0	0	0	0	0	0
32	153	55	26	56	77	43	42	50	81	115	26	3	3	3	2	0	0	0	0	0	0
33	134	46	24	52	72	41	35	42	61	142	87	20	5	3	1	1	2	0	0	0	0
34	136	48	28	52	68	39	34	34	47	92	89	60	14	5	5	1	1	1	0	0	0
35	123	50	25	42	57	39	37	37	43	65	66	79	51	9	6	2	0	1	0	0	0
36	95	37	16	32	43	33	33	33	39	53	46	65	56	27	16	2	1	1	1	1	0
37	84	30	17	21	32	23	25	25	32	35	44	44	37	29	44	7	2	1	0	0	0
38	57	26	10	20	26	16	21	20	23	24	30	42	32	18	37	15	5	2	1	0	0
39	54	18	8	23	27	17	18	17	21	20	26	34	26	17	21	14	9	3	0	0	0
40	52	16	3	18	20	17	18	16	15	16	20	28	21	14	10	11	5	2	0	0	1
41	34	19	7	17	23	15	16	17	17	16	21	25	18	15	12	6	2	3	1	1	0
42	35	11	7	11	24	17	11	15	14	14	14	18	14	12	8	8	3	1	1	1	1
43	27	8	8	14	15	16	11	10	11	11	11	15	15	9	10	3	2	2	1	1	1
44	21	10	6	15	15	10	11	11	9	8	11	14	9	7	9	5	3	1	0	0	1
45	25	10	6	11	15	8	7	7	10	10	7	10	9	7	7	3	3	1	0	1	1
46	20	8	5	10	14	8	10	7	8	6	7	6	8	7	3	3	2	1	1	0	0
47	19	8	8	8	11	7	6	6	3	5	5	6	3	2	5	2	1	0	1	0	0
48	16	7	5	9	8	6	5	6	5	3	1	5	3	2	3	1	1	0	1	1	1
49	16	8	6	9	7	5	2	2	3	5	5	3	5	2	1	1	2	1	0	1	1
50	14	6	5	7	7	3	3	5	5	3	3	3	2	3	1	2	0	1	1	0	0
51	10	5	5	6	6	3	2	2	3	2	1	2	2	2	1	2	1	0	1	0	1
52	9	5	5	5	3	3	2	2	2	2	2	2	1	1	1	1	1	1	0	0	0
53	8	3	5	3	5	2	2	3	1	1	1	2	1	0	1	1	0	0	1	1	1
54	7	2	1	2	2	2	2	1	1	1	1	1	0	1	1	0	0	0	0	0	0
55	6	2	0	2	1	1	1	1	2	0	0	0	0	0	1	0	0	0	0	0	0
56	3	1	1	2	1	1	1	0	0	0	1	0	1	0	0	0	0	0	0	0	0
57	2	1	0	0	1	0	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0
58	5	1	1	2	1	1	1	1	0	0	1	0	1	1	1	0	0	0	0	0	0

\* Rates per 100,000 reservists in the new entrant/reentrant distribution.

**Enlisted Selected Reserve New Entrant/Reentrant Rates \***

Completed Years Of Total Active Federal Military Service

Age	Under 1	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20+
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	1,346	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	10,929	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	9,492	21	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	5,812	55	32	76	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	3,291	115	520	489	19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	1,840	145	688	1,270	484	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23	1,353	159	454	1,403	1,608	69	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24	1,074	153	389	1,100	1,976	300	56	2	0	0	0	0	0	0	0	0	0	0	0	0	0
25	1,007	169	355	832	1,517	434	314	28	3	0	0	0	0	0	0	0	0	0	0	0	0
26	951	172	316	683	1,177	375	476	239	26	1	0	0	0	0	0	0	0	0	0	0	0
27	841	173	265	571	984	301	417	406	178	22	1	0	0	0	0	0	0	0	0	0	0
28	759	154	212	509	783	233	318	328	265	138	45	3	0	0	0	0	0	0	0	0	0
29	697	151	174	406	645	201	248	260	206	235	188	16	2	0	0	0	0	0	0	0	0
30	585	126	150	322	521	173	193	197	158	190	260	73	10	1	0	0	0	0	0	0	0
31	502	99	112	291	412	146	171	155	135	151	215	108	53	11	2	0	0	0	0	0	0
32	433	99	105	239	354	106	136	135	110	116	159	86	74	49	9	2	0	0	0	0	0
33	400	89	94	213	286	106	117	111	95	93	141	67	72	61	37	2	0	0	0	0	0
34	369	76	88	191	242	90	107	98	94	98	111	67	60	57	47	68	4	1	0	0	0
35	362	75	71	183	220	76	94	92	83	86	111	65	60	46	50	78	12	2	1	0	0
36	309	66	62	156	185	72	72	72	67	69	98	63	55	44	44	56	12	5	1	0	0
37	240	61	55	141	169	56	70	64	53	60	79	45	52	40	35	40	11	5	2	1	0
38	197	61	40	125	126	46	57	46	48	43	58	45	34	37	33	30	12	6	0	0	0
39	165	39	33	101	105	41	39	37	35	30	42	33	35	30	26	27	7	4	3	0	0
40	131	35	27	85	91	37	38	26	31	26	32	24	24	26	24	27	12	5	3	2	1
41	115	34	25	71	78	24	31	23	24	24	29	22	19	18	20	18	7	6	2	1	2
42	93	28	25	61	64	23	27	24	20	17	21	14	13	15	12	14	6	4	2	2	1
43	81	23	22	55	53	21	23	19	15	14	18	12	14	12	8	10	6	4	1	3	1
44	57	21	23	40	42	17	18	14	13	14	13	10	9	6	8	8	6	3	1	1	2
45	46	21	21	37	35	13	15	11	10	7	12	11	9	7	8	7	4	3	1	1	0
46	35	16	17	27	28	11	12	8	8	7	6	6	6	4	5	5	3	3	0	0	2
47	33	15	16	19	20	6	9	5	7	6	6	6	6	4	3	6	3	2	1	1	0
48	27	14	15	16	20	7	7	7	5	5	4	3	5	3	2	2	2	1	1	0	0
49	22	13	16	13	12	7	6	4	5	5	3	4	4	4	3	3	2	2	1	1	0
50	18	11	14	16	14	6	4	5	6	4	3	2	6	2	1	4	1	1	1	0	1
51	12	11	12	17	11	5	3	3	4	2	3	2	2	1	2	1	1	1	0	0	0
52	9	9	11	12	11	5	4	3	2	2	2	2	2	2	1	0	1	0	1	1	1
53	6	6	9	9	9	3	2	2	2	1	3	1	2	1	1	1	0	2	0	0	0
54	9	3	7	8	5	2	1	1	1	1	2	1	1	1	1	1	0	0	0	0	0
55	3	2	5	7	4	1	1	1	1	1	1	1	0	1	1	1	1	0	0	0	0
56	4	2	3	3	3	1	1	1	1	1	1	0	0	1	1	0	0	1	0	0	1
57	3	1	1	3	3	2	1	0	1	0	0	1	1	0	0	0	1	1	0	0	0
58	5	2	5	5	5	1	2	1	0	0	0	1	0	0	1	2	0	1	1	1	0

\* Rates per 100,000 reservists in the new entrant/reentrant distribution.



**Officer Selected Reserve Timing Table**

Completed Years Of Total Active Federal Military Service

Age	Under 1	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20+
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	3	3	3	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	3	3	4	4	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	4	4	4	5	5	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23	4	4	5	5	6	6	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24	5	5	5	6	6	7	7	8	0	0	0	0	0	0	0	0	0	0	0	0	0
25	5	6	5	6	6	7	7	8	9	0	0	0	0	0	0	0	0	0	0	0	0
26	6	7	6	7	7	8	8	9	10	0	0	0	0	0	0	0	0	0	0	0	0
27	6	7	7	8	8	9	9	10	11	0	0	0	0	0	0	0	0	0	0	0	0
28	7	8	8	9	9	10	10	11	12	0	0	0	0	0	0	0	0	0	0	0	0
29	8	9	9	10	10	11	11	12	13	0	0	0	0	0	0	0	0	0	0	0	0
30	9	10	10	11	11	12	12	13	14	0	0	0	0	0	0	0	0	0	0	0	0
31	9	10	11	11	12	12	13	14	15	0	0	0	0	0	0	0	0	0	0	0	0
32	10	11	11	12	12	13	13	14	15	16	0	0	0	0	0	0	0	0	0	0	0
33	10	12	12	13	13	14	14	15	16	17	0	0	0	0	0	0	0	0	0	0	0
34	11	13	13	14	14	15	15	16	17	18	0	0	0	0	0	0	0	0	0	0	0
35	12	14	14	15	15	16	16	17	18	19	0	0	0	0	0	0	0	0	0	0	0
36	13	15	14	15	15	16	16	17	18	19	0	0	0	0	0	0	0	0	0	0	0
37	14	16	16	17	17	18	18	19	20	21	0	0	0	0	0	0	0	0	0	0	0
38	13	16	16	17	17	18	18	19	20	21	0	0	0	0	0	0	0	0	0	0	0
39	14	16	16	17	17	18	18	19	20	21	0	0	0	0	0	0	0	0	0	0	0
40	14	16	17	17	18	18	19	20	21	22	0	0	0	0	0	0	0	0	0	0	0
41	15	17	18	18	19	19	20	21	22	23	0	0	0	0	0	0	0	0	0	0	0
42	16	17	18	19	20	20	21	22	23	24	0	0	0	0	0	0	0	0	0	0	0
43	16	18	19	20	21	21	22	23	24	25	0	0	0	0	0	0	0	0	0	0	0
44	16	19	20	21	22	22	23	24	25	26	0	0	0	0	0	0	0	0	0	0	0
45	15	19	21	22	23	23	24	25	26	27	0	0	0	0	0	0	0	0	0	0	0
46	17	20	23	24	25	25	26	27	28	29	0	0	0	0	0	0	0	0	0	0	0
47	17	21	25	26	27	27	28	29	30	31	0	0	0	0	0	0	0	0	0	0	0
48	18	25	23	24	25	26	27	28	29	30	0	0	0	0	0	0	0	0	0	0	0
49	18	26	27	28	29	30	31	32	33	34	0	0	0	0	0	0	0	0	0	0	0
50	19	27	28	29	30	31	32	33	34	35	0	0	0	0	0	0	0	0	0	0	0
51	18	28	27	28	29	30	31	32	33	34	0	0	0	0	0	0	0	0	0	0	0
52	21	29	28	29	30	31	32	33	34	35	0	0	0	0	0	0	0	0	0	0	0
53	19	30	31	32	33	34	35	36	37	38	0	0	0	0	0	0	0	0	0	0	0
54	19	30	32	33	34	35	36	37	38	39	0	0	0	0	0	0	0	0	0	0	0
55	19	31	32	33	34	35	36	37	38	39	0	0	0	0	0	0	0	0	0	0	0
56	22	31	33	34	35	36	37	38	39	40	0	0	0	0	0	0	0	0	0	0	0
57	22	31	34	35	36	37	38	39	40	41	0	0	0	0	0	0	0	0	0	0	0
58	22	31	34	35	36	37	38	39	40	41	0	0	0	0	0	0	0	0	0	0	0

**Enlisted Selected Reserve Timing Table**  
 Completed Years Of Total Active Federal Military Service

Age	Under 1	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20+
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	1	2	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	1	3	3	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	2	3	4	4	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	2	4	4	5	5	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23	3	5	4	5	6	6	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24	4	5	5	6	7	7	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25	5	6	6	6	6	7	8	8	9	0	0	0	0	0	0	0	0	0	0	0	0
26	6	7	7	6	7	7	8	9	9	10	0	0	0	0	0	0	0	0	0	0	0
27	6	8	7	7	8	8	8	9	10	10	11	0	0	0	0	0	0	0	0	0	0
28	7	8	8	8	8	9	9	9	10	11	11	12	0	0	0	0	0	0	0	0	0
29	8	10	9	9	9	10	10	10	10	11	12	12	13	0	0	0	0	0	0	0	0
30	9	10	10	10	10	10	10	11	11	11	12	13	14	0	0	0	0	0	0	0	0
31	10	11	11	11	11	11	11	11	12	12	12	13	14	15	0	0	0	0	0	0	0
32	10	12	12	12	12	12	12	12	12	12	13	14	15	16	17	0	0	0	0	0	0
33	11	13	13	13	13	13	13	13	13	13	14	15	16	17	18	19	0	0	0	0	0
34	12	14	14	14	14	14	14	14	14	14	15	16	17	18	19	20	0	0	0	0	0
35	13	15	14	15	14	14	14	14	15	15	15	16	16	17	17	18	19	20	21	21	21
36	14	16	15	16	15	15	15	15	16	16	16	17	17	17	18	18	19	20	21	22	22
37	15	16	16	17	17	16	16	17	17	17	17	18	18	18	19	19	20	20	21	22	23
38	16	17	16	17	17	17	17	17	18	18	18	19	19	19	20	20	21	21	22	23	24
39	17	18	18	19	18	18	18	18	19	19	19	20	20	20	21	21	22	22	23	24	25
40	17	18	19	20	19	19	19	19	20	20	20	21	21	21	22	22	23	24	25	26	27
41	18	20	21	21	20	20	20	20	21	21	21	22	22	22	23	23	24	25	26	27	28
42	18	21	21	21	21	21	21	21	22	22	22	23	23	23	24	24	25	26	27	28	29
43	19	21	23	23	22	22	22	22	23	23	23	24	24	24	25	25	26	27	28	29	30
44	20	22	24	24	24	24	24	24	25	25	25	26	26	26	27	27	28	28	29	30	31
45	21	23	24	25	24	24	24	24	25	25	25	26	26	27	27	28	28	29	30	31	32
46	21	23	26	25	26	25	25	25	26	26	26	27	27	28	28	29	29	30	31	32	33
47	22	24	27	26	26	25	25	25	26	26	26	27	27	28	28	29	29	30	31	32	33
48	23	25	28	27	27	25	26	28	27	27	27	28	28	29	29	30	30	31	32	33	34
49	24	27	29	29	29	28	28	27	28	28	28	29	29	30	30	31	31	32	33	34	35
50	25	28	29	30	29	28	26	30	30	30	30	30	31	31	32	32	33	33	34	35	36
51	25	27	30	31	31	30	31	31	31	31	31	31	32	32	33	33	34	34	35	36	37
52	27	29	31	32	32	31	32	32	32	32	32	33	33	34	34	35	35	36	37	38	39
53	26	30	32	33	33	33	33	33	33	33	34	34	35	35	36	36	37	37	38	39	40
54	26	30	31	33	34	34	34	34	34	34	35	35	36	36	37	37	38	38	39	40	41
55	22	28	34	35	35	35	35	35	35	35	36	36	37	37	38	38	39	39	40	41	42
56	27	32	34	33	36	36	36	36	36	36	37	37	38	38	39	39	40	40	41	42	43
57	29	33	35	37	37	37	37	37	37	37	38	38	39	39	40	40	41	41	42	43	44
58	27	33	36	34	38	38	38	38	38	38	39	39	40	40	41	41	42	42	43	44	45

Officer Selected Reserve Promotion and Merit Basic Pay Increase Scales

Completed Years Of Total Active Federal Military Service

Age	Under 1	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20+
16	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
17	1.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
18	1.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
19	1.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
20	1.000	1.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
21	1.039	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
22	1.014	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
23	1.010	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
24	1.053	1.068	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
25	1.068	1.054	1.036	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
26	1.049	1.019	1.024	1.036	1.103	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
27	1.040	1.049	1.010	1.031	1.030	1.081	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
28	1.041	1.040	1.028	1.036	1.025	1.030	1.150	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
29	1.044	1.051	1.057	1.050	1.020	1.018	1.039	1.152	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
30	1.049	1.064	1.054	1.038	1.034	1.016	1.019	1.023	1.139	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
31	1.041	1.043	1.036	1.042	1.030	1.035	1.021	1.029	1.043	1.063	1.083	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
32	1.038	1.042	1.038	1.021	1.030	1.036	1.032	1.033	1.041	1.023	1.041	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
33	1.028	1.034	1.032	1.031	1.037	1.036	1.041	1.042	1.028	1.029	1.035	1.129	1.077	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
34	1.024	1.029	1.033	1.035	1.026	1.025	1.030	1.025	1.033	1.027	1.024	1.036	1.070	1.054	1.000	1.000	1.000	1.000	1.000	1.000	1.000
35	1.020	1.031	1.047	1.041	1.040	1.031	1.033	1.038	1.039	1.041	1.038	1.038	1.059	1.062	1.000	1.000	1.000	1.000	1.000	1.000	1.000
36	1.025	1.028	1.031	1.040	1.040	1.031	1.035	1.034	1.026	1.026	1.030	1.038	1.029	1.054	1.132	1.000	1.000	1.000	1.000	1.000	1.000
37	1.017	1.023	1.024	1.031	1.034	1.028	1.025	1.030	1.032	1.029	1.022	1.024	1.021	1.032	1.018	1.194	1.000	1.000	1.000	1.000	1.000
38	1.015	1.017	1.018	1.019	1.031	1.029	1.032	1.023	1.016	1.023	1.019	1.016	1.031	1.009	1.017	1.035	1.133	1.000	1.000	1.000	1.000
39	1.007	1.019	1.019	1.013	1.024	1.022	1.025	1.026	1.024	1.020	1.033	1.018	1.019	1.030	1.018	1.018	1.018	1.046	1.046	1.046	1.000
40	1.015	1.007	1.017	1.022	1.016	1.025	1.019	1.025	1.021	1.024	1.018	1.025	1.023	1.029	1.027	1.016	1.002	1.038	1.038	1.038	1.000
41	1.013	1.019	1.020	1.018	1.017	1.020	1.019	1.014	1.024	1.013	1.013	1.024	1.030	1.027	1.030	1.040	1.040	1.038	1.038	1.038	1.000
42	1.012	1.019	1.017	1.018	1.026	1.030	1.019	1.025	1.021	1.029	1.020	1.028	1.017	1.020	1.020	1.028	1.017	1.028	1.028	1.028	1.038
43	1.009	1.026	1.031	1.025	1.020	1.030	1.027	1.018	1.021	1.024	1.028	1.020	1.033	1.027	1.024	1.013	1.030	1.001	0.981	0.981	1.030
44	1.015	1.023	1.018	1.013	1.018	1.024	1.028	1.022	1.020	1.014	1.013	1.023	1.021	1.025	1.018	1.025	1.033	1.025	1.047	1.047	1.046
45	1.016	1.015	1.014	1.031	1.015	1.014	1.029	1.024	1.019	1.011	1.017	1.001	1.016	1.007	1.011	1.005	1.013	1.025	1.042	1.042	1.035
46	1.021	1.023	1.025	1.020	1.021	1.016	1.017	1.027	1.027	1.028	1.024	1.016	1.008	1.018	1.010	1.018	1.009	1.032	0.993	0.993	0.994
47	1.022	1.028	1.023	1.021	1.023	1.013	1.039	1.026	1.019	1.015	1.019	1.022	1.019	1.024	1.019	1.033	1.014	1.010	1.019	1.019	1.019
48	1.021	1.024	1.036	1.018	1.017	1.017	1.007	1.024	1.015	1.026	1.015	1.028	1.003	1.002	1.014	1.007	1.010	1.033	1.031	1.031	1.031
49	1.023	1.025	1.012	1.023	1.016	1.023	1.016	1.009	1.020	1.022	1.037	1.037	1.018	1.024	0.999	1.017	1.041	0.983	1.070	1.070	1.070
50	1.016	1.005	1.012	1.017	1.010	1.003	1.016	1.021	1.011	1.015	1.025	1.029	1.046	1.040	1.032	1.011	1.015	1.024	0.990	0.990	0.990
51	0.998	1.007	1.018	1.013	1.010	1.008	1.021	1.011	1.009	1.000	1.013	1.023	1.014	1.022	1.017	1.022	1.009	0.987	1.022	1.022	1.022
52	1.013	1.001	1.005	1.009	1.011	1.015	0.993	1.000	1.013	1.048	0.996	1.017	1.029	1.017	1.044	1.028	1.027	1.044	1.047	1.047	1.047
53	0.994	1.021	1.005	0.999	1.004	1.008	1.001	1.011	1.004	1.001	1.017	0.972	1.013	1.020	1.055	0.990	1.001	1.065	0.990	0.990	0.990
54	0.994	1.013	0.994	1.011	0.997	1.002	1.018	1.002	1.001	0.980	1.001	0.980	1.027	0.994	0.989	1.002	1.038	1.009	0.977	0.977	0.977
55	1.013	0.996	1.011	0.981	0.998	0.980	1.001	0.950	0.994	0.996	1.011	1.011	0.987	1.011	0.995	1.040	1.062	1.062	1.062	1.062	1.062
56	0.994	1.002	1.022	1.015	1.019	0.995	1.020	0.973	1.005	1.028	0.982	1.002	0.949	1.047	0.999	0.999	0.999	0.999	0.999	0.999	0.999
57	1.014	1.011	1.010	1.004	0.995	1.012	0.992	1.049	0.950	1.001	1.056	1.014	1.016	1.016	0.980	1.004	1.004	1.004	1.004	1.004	1.004
58	1.023	1.011	0.995	0.996	0.984	1.009	0.994	0.993	1.040	0.968	0.989	1.006	1.016	1.039	0.980	0.980	0.980	0.980	0.980	0.980	0.980
59	0.982	1.026	1.010	1.007	1.028	1.005	1.002	0.960	0.975	1.066	1.005	0.969	1.041	0.992	0.992	0.992	0.992	0.992	0.992	0.992	0.992
60	1.040	1.054	1.055	1.048	1.051	1.030	0.989	1.068	1.003	0.921	0.951	0.951	0.951	0.951	0.951	0.951	0.951	0.951	0.951	0.951	0.951
61	1.013	1.023	1.015	1.011	1.001	1.001	1.001	1.001	1.001	1.001	1.001	1.001	1.001	1.001	1.001	1.001	1.001	1.001	1.001	1.001	1.001
62	1.024	0.978	1.022	1.035	1.062	1.056	1.056	1.056	1.056	1.056	1.056	1.056	1.056	1.056	1.056	1.056	1.056	1.056	1.056	1.056	1.056

Note: The number that appears in the column marked 'under 1' and the row marked '62' is the ratio of average basic pay at age 63 and above to basic pay at 62 for a member with less than a completed year of active duty service.

**Enlisted Selected Reserve Promotion and Merit Basic Pay Increase Scales**

Completed Years Of Total Active Federal Military Service

Age	Under 1	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20+
16	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
17	1.042	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
18	1.120	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
19	1.079	1.077	1.044	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
20	1.063	1.060	1.065	1.289	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
21	1.051	1.043	1.024	1.041	1.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
22	1.038	1.030	1.017	1.007	1.076	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
23	1.030	1.031	1.020	1.012	1.028	1.127	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
24	1.030	1.030	1.027	1.021	1.019	1.022	1.067	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
25	1.030	1.040	1.025	1.024	1.022	1.019	1.017	1.038	1.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
26	1.028	1.052	1.030	1.027	1.024	1.027	1.018	1.013	1.047	1.140	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
27	1.030	1.048	1.034	1.029	1.030	1.026	1.021	1.014	1.011	1.039	1.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
28	1.030	1.042	1.039	1.035	1.032	1.033	1.028	1.020	1.018	1.013	1.038	1.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
29	1.030	1.038	1.042	1.037	1.032	1.031	1.024	1.019	1.023	1.017	1.027	1.071	1.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
30	1.026	1.039	1.039	1.035	1.034	1.031	1.026	1.018	1.021	1.011	1.022	1.012	1.081	1.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
31	1.022	1.034	1.032	1.032	1.030	1.029	1.028	1.024	1.023	1.020	1.025	1.022	1.002	1.053	1.000	0.000	0.000	0.000	0.000	0.000	0.000
32	1.021	1.024	1.028	1.029	1.031	1.031	1.025	1.022	1.018	1.019	1.020	1.001	0.999	1.015	1.004	0.000	0.000	0.000	0.000	0.000	0.000
33	1.020	1.021	1.022	1.027	1.026	1.025	1.027	1.032	1.023	1.017	1.021	1.015	1.010	1.010	1.007	1.007	1.000	0.000	0.000	0.000	0.000
34	1.018	1.022	1.025	1.018	1.026	1.030	1.024	1.023	1.031	1.021	1.021	1.011	1.021	1.012	1.005	1.016	1.098	1.000	0.000	0.000	0.000
35	1.017	1.022	1.022	1.015	1.026	1.023	1.027	1.032	1.028	1.016	1.022	1.015	1.010	1.024	1.016	1.018	1.019	1.000	0.000	0.000	0.000
36	1.013	1.017	1.013	1.013	1.017	1.025	1.021	1.025	1.031	1.020	1.018	1.023	1.016	1.012	1.032	1.017	1.021	1.109	1.173	1.000	0.000
37	1.016	1.008	1.022	1.016	1.016	1.023	1.019	1.023	1.019	1.018	1.019	1.010	1.016	1.009	1.000	1.028	0.995	1.028	1.038	1.000	0.000
38	1.016	1.012	1.014	1.012	1.014	1.019	1.017	1.014	1.015	1.020	1.018	1.013	1.005	1.012	1.017	1.019	1.041	0.988	0.971	1.183	1.000
39	1.011	1.011	1.026	1.019	1.015	1.022	1.008	1.022	1.013	1.018	1.014	1.014	1.005	1.004	1.010	1.015	1.007	1.000	1.000	1.000	1.000
40	1.013	1.012	1.016	1.022	1.022	1.026	1.017	1.023	1.007	1.011	1.021	1.011	1.003	1.004	1.005	1.017	1.001	1.017	1.017	1.017	1.000
41	1.018	1.011	1.013	1.020	1.018	1.015	1.021	1.005	1.010	1.010	1.033	1.017	1.027	1.009	1.022	1.017	1.029	0.989	0.989	0.989	0.989
42	1.017	1.007	1.012	1.009	1.022	1.022	1.016	1.020	1.020	1.012	1.022	1.015	1.015	1.000	1.017	0.996	0.982	1.002	1.002	1.002	1.108
43	1.026	1.009	1.008	1.017	1.015	1.013	1.021	1.018	1.026	1.024	1.018	1.013	1.005	1.022	1.009	0.996	1.007	1.015	1.015	1.015	1.015
44	1.048	1.021	1.025	1.023	1.014	1.018	1.018	1.030	1.019	1.030	1.026	1.026	1.029	1.000	0.996	1.001	1.009	0.991	0.991	0.991	0.991
45	1.029	1.029	1.026	1.025	1.013	1.017	1.011	1.011	1.031	1.027	1.024	1.025	1.029	1.034	1.010	1.023	1.005	1.030	1.030	1.030	1.030
46	1.035	1.024	1.031	1.028	1.018	1.022	1.010	1.007	1.015	1.010	1.033	1.017	1.027	1.009	1.022	1.017	1.029	0.989	0.989	0.989	0.989
47	1.027	1.017	1.024	1.019	1.025	1.019	1.028	1.013	1.024	1.019	1.030	1.031	1.016	1.013	0.999	1.012	1.000	1.015	1.015	1.015	1.015
48	1.018	1.011	1.009	1.024	1.014	1.037	1.014	1.024	1.014	1.010	1.004	1.014	1.014	1.010	1.037	0.986	0.997	1.042	1.042	1.042	1.042
49	1.021	1.006	1.007	1.011	1.016	1.020	1.038	1.025	1.006	1.022	1.023	1.011	1.011	1.034	1.054	1.035	1.017	0.976	0.976	0.976	0.976
50	1.009	1.013	1.005	1.015	1.015	1.018	1.024	1.026	1.026	1.014	0.994	1.002	1.026	1.025	0.989	1.031	1.022	0.982	0.982	0.982	0.982
51	1.018	1.011	1.003	1.006	1.011	1.018	1.033	1.015	1.003	1.043	1.004	1.000	0.997	1.006	0.996	1.010	1.034	1.047	1.047	1.047	1.047
52	1.016	1.004	1.009	1.011	1.007	1.006	1.028	1.012	1.009	1.015	1.008	0.998	1.011	1.042	1.042	1.029	1.017	1.017	1.017	1.017	1.017
53	1.003	1.006	1.017	1.007	1.002	1.002	1.021	1.021	1.003	0.995	1.014	1.028	1.025	1.012	1.040	1.032	1.033	1.033	1.033	1.033	1.033
54	1.007	0.998	1.010	1.001	0.993	0.994	0.999	1.013	1.029	0.996	1.006	1.035	1.039	0.992	0.993	1.003	1.015	1.015	1.015	1.015	1.015
55	0.987	1.002	1.002	0.998	0.993	0.985	0.991	1.005	0.987	1.000	1.011	1.018	0.964	1.030	1.059	0.975	1.046	1.046	1.046	1.046	1.046
56	1.007	1.002	0.996	1.005	1.002	1.002	1.003	0.989	0.993	1.016	0.998	1.031	0.999	0.962	0.921	1.017	0.934	0.934	0.934	0.934	0.934
57	1.015	1.012	1.012	0.999	1.020	0.995	1.012	1.032	1.047	0.993	1.080	0.986	1.029	1.042	1.042	1.029	1.029	1.029	1.029	1.029	1.029
58	0.995	1.004	1.009	1.019	1.012	1.009	0.999	1.003	1.002	1.032	0.995	1.010	1.019	0.974	1.086	1.086	1.086	1.086	1.086	1.086	1.086
59	0.997	0.989	0.985	0.979	0.990	0.993	1.028	1.009	1.018	0.979	0.978	1.001	1.104	1.025	0.939	0.939	0.939	0.939	0.939	0.939	0.939
60	0.862	0.899	0.846	0.868	0.850	0.853	0.883	0.963	0.902	0.700	0.779	0.800	0.754	0.851	0.851	0.851	0.851	0.851	0.851	0.851	0.851
61	1.034	0.974	1.024	1.020	1.024	0.959	0.861	0.885	0.876	1.148	1.020	0.994	0.994	0.994	0.994	0.994	0.994	0.994	0.994	0.994	0.994
62	0.885	0.885	0.885	0.885	0.885	0.885	0.885	0.885	0.885	0.885	0.885	0.885	0.885	0.885	0.885	0.885	0.885	0.885	0.885	0.885	0.885

Note: The number that appears in the column marked 'under 1' and the row marked '62' is the ratio of average basic pay at age 63 and above to basic pay at 62 for a member with less than a completed year of active duty service.

APPENDIX I

RETIREE AND SURVIVOR RATES

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## **RETIREE AND SURVIVOR RATES DESCRIPTION**

The military retiree and survivor decrement rates are used to estimate death, “other” losses from pay status, and rates of transfer from temporary disability to permanent disability. The “other” losses consist primarily of returns to active duty and full waiver of retired pay to receive a higher annuity from the Veterans Affairs or Civil Service. In order to compute the normal cost contributions with and without regard to Concurrent Receipt benefits (Public Law (P.L.) 108-136), DoD- and Treasury-specific “other” loss rates, among others, are used to calculate the appropriate amounts. These rates were developed by age nearest birthday for officers and enlistees separately, and were further subdivided by three types of retirement: nondisability, temporary disability, and permanent disability. For temporary disability retirees, select rates were created for each of the first five years of retirement. After five years, those who are still in the temporary disability status are transferred to a permanent disability status.

The data for the rates were taken from the Defense Manpower Data Center Retiree and Survivor Files as of September 30 for the years 2000 through 2009. These files were created by the Finance Centers of the military services (now consolidated under the Defense Finance and Accounting Service), which have responsibility for sending monthly retired pay checks to military retirees. A military retiree can be in “paid status” or “nonpaid status.” Nonpaid status indicates that a retiree has an entitlement to an annuity, but the annuity is fully reduced by offsets. Retirees who terminate from paid status during a fiscal year are on the retiree file at the end of that fiscal year with a termination code indicating the type of termination.

The rate development process begins by matching two consecutive fiscal year-end files by Social Security number. Cases no longer in paid status are categorized by type of loss. Cases returned to paid status (from non-paid status at the start of the year) are subtracted from a given type of loss. After following the above procedures, crude rates are created using the formulas given on the following pages. These rates are smoothed using a Whittaker-Henderson type B (“Method B”) graduation, or by fitting a polynomial to the crude rates. Where there is reason to suspect valid discontinuities in the underlying rates, those segments are not smoothed. A summary of the years on which various rates are based is given on the page following the formulas.

## RETIREE AND SURVIVOR DECREMENT RATE FORMULAS

DEATH OF NONDISABILITY RETIREES (by age nearest birthday and retired from active/reserve duty)

$$\frac{\text{Nondisability deaths during the year}}{[\text{Number at beginning of year} - \frac{1}{2}(\text{Nondisability deaths} + \text{other losses})]}$$

DEATH OF PERMANENT DISABILITY RETIREES (by age nearest birthday)

$$\frac{\text{Permanent disability deaths during the year}}{[\text{Number at beginning of year} - \frac{1}{2}(\text{Permanent disability deaths} + \text{other losses})]}$$

DEATH OF TEMPORARY DISABILITY RETIREES (by age nearest birthday and years retired)

$$\frac{\text{Temporary disability deaths in category during the year}^1}{[\text{Number at beginning of year} - \frac{1}{2}(\text{Deaths} + \text{transfers} + \text{other losses})]}$$

OTHER LOSSES FROM NONDISABILITY (by age nearest birthday and retired from active/reserve duty)

$$\frac{\text{Losses other than death during the year}}{\text{Number at beginning of year}}$$

OTHER AND NON-TRANSFER LOSSES FROM TEMPORARY DISABILITY (by age nearest birthday and years retired)

$$\frac{\text{Losses other than death or transfers to permanent disability during the year}}{\text{Number at beginning of year}}$$

TRANSFER FROM TEMPORARY TO PERMANENT DISABILITY (by age nearest birthday and years retired)

$$\frac{\text{Transfers to permanent disability during the year}}{\text{Number at beginning of year}}$$

OTHER LOSSES FROM PERMANENT DISABILITY (by age nearest birthday)

$$\frac{\text{Losses other than death during the year}}{\text{Number at beginning of year}}$$

---

<sup>1</sup> Includes deaths of members who were temporarily disabled at the beginning of the year, then transferred to permanent disability, and later died before the end of the year. Determined for each year of the temporary disability retirement category (1 – 5).

**RETIREE AND SURVIVOR DECREMENT RATE FORMULAS  
(cont.)**

DIVORCE OF RETIREE (weighted by coverage amount, by age nearest birthday)

$$\frac{\text{Net retiree divorces during the year}}{\text{Number at beginning of year}}$$

REMARRIAGE OF SURVIVING SPOUSE (by age nearest birthday)

$$\frac{\text{Surviving spouse remarriages during the year}}{\text{Number at beginning of year}}$$

TERMINATION OF SURVIVING CHILD (by age nearest birthday)

$$\frac{\text{Child terminations during the year}}{\text{Number at beginning of year}}$$

DEATH OF SURVIVING SPOUSE (by age nearest birthday)<sup>2</sup>

$$\frac{\text{Surviving spouse deaths during the year}}{\text{Number at beginning of year}}$$

OTHER LOSS OF SURVIVING SPOUSE (by age nearest birthday)

$$\frac{\text{Survivor losses other than deaths during the year}}{\text{Number at beginning of year}}$$

---

<sup>2</sup> Death rates of spouses of living retirees who elected SBP spouse, or spouse & child, coverage are based on a standard actuarial mortality table incorporating U.S. population experience. This table is published by the Society of Actuaries (SOA) as GAM-94\_Female (Group Annuity Mortality, study year 1994, females).



**SUMMARY OF YEARS ON WHICH RETIREE AND SURVIVOR RATES ARE BASED**

**By Fiscal Year**

<u>DEATH RATES</u>	<u>2000-2003</u>	<u>2004</u>	<u>2005</u>	<u>2006</u>	<u>2007</u>	<u>2008</u>	<u>2009</u>
ND Officers						X	X
ND Enlistees						X	X
PD Officers				X	X	X	
PD Enlistees				X	X	X	
TD Officers	X	X	X				
TD Enlistees	X	X	X				
 <u>OTHER LOSS RATES</u>							
ND Officers						X	X
ND Enlistees						X	X
PD Officers				X	X	X	
PD Enlistees				X	X	X	
TD Officers	X	X	X				
TD Enlistees	X	X	X				
 <u>TRANSFER RATES FROM TD</u>							
<u>TO PD</u>							
Officers	X	X	X				
Enlistees	X	X	X				
 <u>RETIREE DIVORCE</u>							
	X	X					
 <u>SURVIVOR RATES</u>							
Remarriage		X	X	X			
Child Termination		X	X	X			
Surviving Spouse Death		X	X	X			
Surviving Spouse Other Loss		X	X	X			

Key: ND = Nondisabled

PD = Permanently Disabled

TD = Temporarily Disabled

**OFFICER RETIRED DEATH RATES**

(Age Nearest Birthday)

Age	Non-Disability		Permanent Disability	Temporary Disability				
	Active	Reserve		Year of Retirement				
				One	Two	Three	Four	Five
16	0.00031	0.00031	0.00533	0.02302	0.01162	0.00595	0.00232	0.00234
17	0.00031	0.00031	0.00533	0.02145	0.01083	0.00554	0.00216	0.00218
18	0.00031	0.00031	0.00533	0.01999	0.01009	0.00516	0.00201	0.00203
19	0.00031	0.00031	0.00533	0.01863	0.00940	0.00481	0.00187	0.00189
20	0.00031	0.00031	0.00533	0.01735	0.00876	0.00448	0.00175	0.00176
21	0.00031	0.00031	0.00533	0.01621	0.00818	0.00419	0.00163	0.00165
22	0.00031	0.00031	0.00533	0.01521	0.00768	0.00393	0.00153	0.00154
23	0.00031	0.00031	0.00533	0.01434	0.00724	0.00370	0.00144	0.00146
24	0.00031	0.00031	0.00533	0.01360	0.00687	0.00351	0.00137	0.00138
25	0.00031	0.00031	0.00533	0.01302	0.00657	0.00336	0.00131	0.00132
26	0.00031	0.00031	0.00533	0.01258	0.00635	0.00325	0.00127	0.00128
27	0.00031	0.00031	0.00533	0.01230	0.00621	0.00318	0.00124	0.00125
28	0.00031	0.00031	0.00533	0.01218	0.00615	0.00315	0.00123	0.00124
29	0.00031	0.00031	0.00533	0.01223	0.00617	0.00316	0.00123	0.00124
30	0.00031	0.00032	0.00533	0.01245	0.00628	0.00322	0.00125	0.00126
31	0.00031	0.00032	0.00533	0.01285	0.00648	0.00332	0.00129	0.00130
32	0.00031	0.00032	0.00533	0.01343	0.00678	0.00347	0.00135	0.00136
33	0.00031	0.00032	0.00533	0.01420	0.00717	0.00367	0.00143	0.00144
34	0.00031	0.00032	0.00533	0.01517	0.00766	0.00392	0.00153	0.00154
35	0.00031	0.00032	0.00533	0.01635	0.00825	0.00422	0.00164	0.00166
36	0.00031	0.00032	0.00533	0.01774	0.00895	0.00458	0.00178	0.00180
37	0.00031	0.00032	0.00533	0.01935	0.00977	0.00500	0.00195	0.00197
38	0.00031	0.00032	0.00533	0.02119	0.01070	0.00547	0.00213	0.00215
39	0.00031	0.00032	0.00533	0.02327	0.01174	0.00601	0.00234	0.00236
40	0.00041	0.00041	0.00533	0.02559	0.01291	0.00661	0.00257	0.00260
41	0.00050	0.00051	0.00533	0.02816	0.01421	0.00727	0.00283	0.00286
42	0.00060	0.00061	0.00533	0.03099	0.01564	0.00800	0.00312	0.00315
43	0.00061	0.00063	0.00533	0.03409	0.01721	0.00881	0.00343	0.00346
44	0.00064	0.00065	0.00533	0.03747	0.01891	0.00968	0.00377	0.00381
45	0.00067	0.00069	0.00533	0.04113	0.02076	0.01062	0.00414	0.00418
46	0.00072	0.00073	0.00533	0.04509	0.02276	0.01165	0.00453	0.00458
47	0.00078	0.00079	0.00533	0.04935	0.02491	0.01275	0.00496	0.00501
48	0.00086	0.00087	0.00533	0.05392	0.02722	0.01393	0.00542	0.00548
49	0.00094	0.00096	0.00533	0.05882	0.02969	0.01519	0.00592	0.00597
50	0.00105	0.00107	0.00574	0.06405	0.03233	0.01655	0.00644	0.00651
51	0.00117	0.00119	0.00596	0.06962	0.03514	0.01798	0.00700	0.00707
52	0.00130	0.00132	0.00620	0.07554	0.03813	0.01951	0.00760	0.00767
53	0.00145	0.00148	0.00647	0.08182	0.04130	0.02114	0.00823	0.00831
54	0.00163	0.00167	0.00677	0.08847	0.04465	0.02285	0.00890	0.00899
55	0.00186	0.00189	0.00710	0.09550	0.04820	0.02467	0.00961	0.00970
56	0.00211	0.00214	0.00747	0.10292	0.05195	0.02659	0.01035	0.01045
57	0.00240	0.00243	0.00791	0.11074	0.05590	0.02861	0.01114	0.01125
58	0.00275	0.00277	0.00843	0.11897	0.06005	0.03073	0.01197	0.01208
59	0.00315	0.00316	0.00905	0.12762	0.06442	0.03297	0.01284	0.01296
60	0.00361	0.00350	0.00981	0.13670	0.06900	0.03531	0.01375	0.01388
61	0.00414	0.00354	0.01072	0.14623	0.07381	0.03777	0.01471	0.01485

\*\*\* As noted in Item 2 in the Retiree section of Appendix F, additional adjustments are made for retirees who elect SBP spouse coverage.

**OFFICER RETIRED DEATH RATES (continued)**

(Age Nearest Birthday)

Age	Non-Disability		Permanent Disability	Temporary Disability				
	Active	Reserve		Year of Retirement				
				One	Two	Three	Four	Five
62	0.00474	0.00375	0.01180	0.15642	0.07895	0.04041	0.01573	0.01589
63	0.00543	0.00418	0.01307	0.16731	0.08445	0.04322	0.01683	0.01699
64	0.00618	0.00485	0.01455	0.17897	0.09033	0.04623	0.01800	0.01818
65	0.00703	0.00566	0.01626	0.19144	0.09663	0.04945	0.01925	0.01944
66	0.00797	0.00635	0.01820					
67	0.00903	0.00705	0.02036					
68	0.01020	0.00798	0.02272					
69	0.01154	0.00913	0.02526					
70	0.01305	0.01059	0.02799					
71	0.01471	0.01236	0.03089					
72	0.01666	0.01451	0.03397					
73	0.01890	0.01696	0.03723					
74	0.02145	0.01948	0.04069					
75	0.02437	0.02205	0.04440					
76	0.02770	0.02503	0.04839					
77	0.03151	0.02879	0.05272					
78	0.03585	0.03331	0.05746					
79	0.04080	0.03843	0.06273					
80	0.04645	0.04378	0.06866					
81	0.05289	0.04963	0.07538					
82	0.06022	0.05624	0.08299					
83	0.06856	0.06345	0.09158					
84	0.07800	0.07122	0.10114					
85	0.08866	0.08031	0.11163					
86	0.10064	0.09176	0.12303					
87	0.11402	0.10571	0.13536					
88	0.12890	0.12164	0.14869					
89	0.14538	0.13856	0.16318					
90	0.16291	0.15611	0.17906					
91	0.18266	0.17562	0.19663					
92	0.20416	0.19755	0.21622					
93	0.22742	0.22279	0.23813					
94	0.25248	0.25126	0.26260					
95	0.27937	0.28230	0.28982					
96	0.30810	0.31492	0.31992					
97	0.33868	0.34799	0.35296					
98	0.36984	0.38066	0.38897					
99	0.40266	0.41081	0.42795					
100	0.43712	0.43889	0.45779					
101	0.47324	0.46424	0.48763					
102	0.51101	0.48643	0.51747					
103	0.55042	0.50531	0.54731					
104	0.59149	0.52083	0.57715					
105	0.62858	0.55349	0.60699					
106	0.66461	0.58521	0.63683					
107	0.66667	0.61404	0.66667					
108	0.66667	0.64218	0.66667					
109	0.66667	0.66667	0.66667					
110	0.66667	0.66667	0.66667					

\*\*\* As noted in Item 2 in the Retiree section of Appendix F, additional adjustments are made for retirees who elect SBP spouse coverage.

**ENLISTED RETIRED DEATH RATES**

(Age Nearest Birthday)

Age	Non-Disability		Permanent Disability	Temporary Disability				
	Active	Reserve		Year of Retirement				
				One	Two	Three	Four	Five
16	0.00038	0.00040	0.00290	0.01100	0.00566	0.00407	0.00594	0.00516
17	0.00038	0.00040	0.00290	0.01025	0.00528	0.00380	0.00554	0.00481
18	0.00038	0.00040	0.00290	0.00955	0.00492	0.00354	0.00516	0.00448
19	0.00038	0.00040	0.00290	0.00890	0.00458	0.00330	0.00481	0.00418
20	0.00038	0.00040	0.00290	0.00829	0.00427	0.00307	0.00448	0.00389
21	0.00038	0.00040	0.00290	0.00775	0.00399	0.00287	0.00418	0.00363
22	0.00038	0.00040	0.00290	0.00727	0.00374	0.00269	0.00392	0.00341
23	0.00038	0.00040	0.00290	0.00685	0.00353	0.00254	0.00370	0.00321
24	0.00038	0.00040	0.00290	0.00650	0.00335	0.00241	0.00351	0.00305
25	0.00038	0.00040	0.00290	0.00622	0.00320	0.00230	0.00336	0.00292
26	0.00038	0.00040	0.00290	0.00601	0.00310	0.00223	0.00325	0.00282
27	0.00038	0.00040	0.00290	0.00588	0.00303	0.00218	0.00318	0.00276
28	0.00038	0.00040	0.00290	0.00582	0.00300	0.00216	0.00314	0.00273
29	0.00038	0.00040	0.00290	0.00585	0.00301	0.00216	0.00316	0.00274
30	0.00038	0.00040	0.00290	0.00595	0.00306	0.00220	0.00321	0.00279
31	0.00038	0.00040	0.00290	0.00614	0.00316	0.00227	0.00331	0.00288
32	0.00038	0.00040	0.00290	0.00642	0.00330	0.00238	0.00347	0.00301
33	0.00038	0.00040	0.00290	0.00679	0.00349	0.00251	0.00366	0.00318
34	0.00038	0.00040	0.00290	0.00725	0.00373	0.00268	0.00392	0.00340
35	0.00038	0.00040	0.00290	0.00781	0.00402	0.00289	0.00422	0.00367
36	0.00038	0.00040	0.00290	0.00848	0.00436	0.00314	0.00458	0.00398
37	0.00038	0.00040	0.00290	0.00925	0.00476	0.00342	0.00499	0.00434
38	0.00038	0.00040	0.00290	0.01013	0.00521	0.00375	0.00547	0.00475
39	0.00038	0.00040	0.00351	0.01112	0.00572	0.00412	0.00600	0.00522
40	0.00051	0.00053	0.00369	0.01223	0.00629	0.00453	0.00660	0.00574
41	0.00062	0.00065	0.00393	0.01346	0.00693	0.00498	0.00727	0.00631
42	0.00073	0.00077	0.00421	0.01481	0.00762	0.00548	0.00800	0.00695
43	0.00086	0.00090	0.00455	0.01629	0.00839	0.00603	0.00880	0.00764
44	0.00098	0.00103	0.00493	0.01791	0.00922	0.00663	0.00967	0.00840
45	0.00113	0.00118	0.00534	0.01966	0.01012	0.00728	0.01061	0.00922
46	0.00127	0.00132	0.00580	0.02155	0.01109	0.00798	0.01164	0.01011
47	0.00143	0.00149	0.00629	0.02359	0.01214	0.00873	0.01274	0.01106
48	0.00161	0.00167	0.00680	0.02577	0.01327	0.00954	0.01392	0.01209
49	0.00182	0.00188	0.00734	0.02811	0.01447	0.01041	0.01518	0.01319
50	0.00206	0.00213	0.00790	0.03061	0.01576	0.01133	0.01653	0.01436
51	0.00235	0.00242	0.00848	0.03328	0.01713	0.01232	0.01797	0.01561
52	0.00269	0.00276	0.00910	0.03610	0.01858	0.01337	0.01949	0.01694
53	0.00308	0.00315	0.00975	0.03911	0.02013	0.01448	0.02112	0.01834
54	0.00354	0.00362	0.01047	0.04229	0.02176	0.01566	0.02283	0.01983
55	0.00409	0.00416	0.01127	0.04565	0.02349	0.01690	0.02465	0.02141
56	0.00472	0.00479	0.01217	0.04919	0.02532	0.01821	0.02656	0.02307
57	0.00543	0.00549	0.01320	0.05293	0.02724	0.01960	0.02858	0.02483
58	0.00622	0.00629	0.01438	0.05686	0.02927	0.02105	0.03070	0.02667
59	0.00713	0.00637	0.01571	0.06100	0.03139	0.02258	0.03294	0.02861
60	0.00813	0.00643	0.01719	0.06534	0.03363	0.02419	0.03528	0.03065
61	0.00922	0.00676	0.01884	0.06989	0.03597	0.02588	0.03774	0.03278

\*\*\* As noted in Item 2 in the Retiree section of Appendix F, additional adjustments are made for retirees who elect SBP spouse coverage.

**ENLISTED RETIRED DEATH RATES (continued)**

(Age Nearest Birthday)

Age	Non-Disability		Permanent Disability	Temporary Disability				
	Active	Reserve		Year of Retirement				
				One	Two	Three	Four	Five
62	0.01042	0.00726	0.02065	0.07476	0.03848	0.02768	0.04037	0.03507
63	0.01167	0.00802	0.02262	0.07997	0.04116	0.02961	0.04318	0.03751
64	0.01306	0.00898	0.02476	0.08554	0.04403	0.03167	0.04619	0.04012
65	0.01457	0.01015	0.02706	0.09150	0.04709	0.03388	0.04940	0.04292
66	0.01618	0.01147	0.02953					
67	0.01788	0.01302	0.03219					
68	0.01980	0.01474	0.03506					
69	0.02192	0.01664	0.03815					
70	0.02428	0.01866	0.04149					
71	0.02680	0.02095	0.04511					
72	0.02971	0.02351	0.04902					
73	0.03299	0.02642	0.05327					
74	0.03667	0.02962	0.05789					
75	0.04064	0.03337	0.06292					
76	0.04525	0.03764	0.06842					
77	0.05040	0.04247	0.07442					
78	0.05616	0.04777	0.08100					
79	0.06235	0.05392	0.08819					
80	0.06945	0.06081	0.09606					
81	0.07732	0.06851	0.10466					
82	0.08603	0.07677	0.11403					
83	0.09528	0.08617	0.12422					
84	0.10578	0.09648	0.13526					
85	0.11727	0.10775	0.14718					
86	0.12981	0.11961	0.16000					
87	0.14295	0.13291	0.17374					
88	0.15767	0.14734	0.18843					
89	0.17358	0.16293	0.20407					
90	0.19067	0.17914	0.22067					
91	0.20827	0.19721	0.23826					
92	0.22777	0.21661	0.25683					
93	0.24853	0.23656	0.27638					
94	0.26962	0.25780	0.29693					
95	0.29184	0.28035	0.31846					
96	0.31519	0.30423	0.34098					
97	0.33967	0.32946	0.36604					
98	0.36528	0.35604	0.39109					
99	0.39202	0.38398	0.41614					
100	0.41989	0.41327	0.44119					
101	0.44890	0.44392	0.46625					
102	0.47903	0.47114	0.49130					
103	0.50955	0.50117	0.51635					
104	0.54268	0.53375	0.54140					
105	0.57671	0.56722	0.56646					
106	0.60977	0.59973	0.59151					
107	0.63981	0.62928	0.61656					
108	0.66667	0.65812	0.64161					
109	0.66667	0.66667	0.66667					
110	0.66667	0.66667	0.66667					

\*\*\* As noted in Item 2 in the Retiree section of Appendix F, additional adjustments are made for retirees who elect SBP spouse coverage.

**ACTIVE DUTY OTHER LOSSES FROM NONDISABILITY**

(Age Nearest Birthday)

Age	DoD		Treasury		Age	DoD		Treasury	
	Officer	Enlisted	Officer	Enlisted		Officer	Enlisted	Officer	Enlisted
16	0.0000	0.0000	0.0000	0.0000	56	0.0005	0.0047	0.0000	0.0000
17	0.0000	0.0000	0.0000	0.0000	57	0.0010	0.0051	0.0000	0.0000
18	0.0000	0.0000	0.0000	0.0000	58	0.0013	0.0059	0.0000	0.0000
19	0.0000	0.0000	0.0000	0.0000	59	0.0012	0.0069	0.0000	0.0000
20	0.0000	0.0000	0.0000	0.0000	60	0.0010	0.0077	0.0000	0.0000
21	0.0000	0.0000	0.0000	0.0000	61	0.0007	0.0077	0.0000	0.0000
22	0.0000	0.0000	0.0000	0.0000	62	0.0007	0.0081	0.0000	0.0000
23	0.0000	0.0000	0.0000	0.0000	63	0.0011	0.0087	0.0000	0.0000
24	0.0000	0.0000	0.0000	0.0000	64	0.0016	0.0088	0.0000	0.0000
25	0.0000	0.0000	0.0000	0.0000	65	0.0019	0.0088	0.0000	0.0000
26	0.0000	0.0000	0.0000	0.0000	66	0.0019	0.0084	0.0000	0.0000
27	0.0000	0.0000	0.0000	0.0000	67	0.0018	0.0082	0.0000	0.0000
28	0.0000	0.0000	0.0000	0.0000	68	0.0017	0.0084	0.0000	0.0000
29	0.0000	0.0000	0.0000	0.0000	69	0.0018	0.0080	0.0000	0.0000
30	0.0163	0.0700	0.0000	0.0000	70	0.0018	0.0072	0.0000	0.0000
31	0.0163	0.0700	0.0000	0.0000	71	0.0017	0.0068	0.0000	0.0000
32	0.0163	0.0700	0.0000	0.0000	72	0.0014	0.0069	0.0000	0.0000
33	0.0163	0.0700	0.0000	0.0000	73	0.0010	0.0071	0.0000	0.0000
34	0.0163	0.0700	0.0000	0.0000	74	0.0009	0.0073	0.0000	0.0000
35	0.0163	0.0700	0.0000	0.0000	75	0.0008	0.0073	0.0000	0.0000
36	0.0163	0.0700	0.0000	0.0000	76	0.0008	0.0067	0.0000	0.0000
37	0.0163	0.0700	0.0000	0.0000	77	0.0000	0.0058	0.0000	0.0000
38	0.0163	0.0700	0.0000	0.0000	78	0.0000	0.0051	0.0000	0.0000
39	0.0163	0.0404	0.0000	0.0000	79	0.0000	0.0049	0.0000	0.0000
40	0.0096	0.0234	0.0000	0.0000	80	0.0000	0.0048	0.0000	0.0000
41	0.0055	0.0154	0.0000	0.0000	81	0.0000	0.0045	0.0000	0.0000
42	0.0034	0.0111	0.0000	0.0000	82	0.0000	0.0041	0.0000	0.0000
43	0.0022	0.0084	0.0000	0.0000	83	0.0000	0.0034	0.0000	0.0000
44	0.0015	0.0063	0.0000	0.0000	84	0.0000	0.0028	0.0000	0.0000
45	0.0011	0.0054	0.0000	0.0000	85	0.0000	0.0024	0.0000	0.0000
46	0.0007	0.0049	0.0000	0.0000	86	0.0000	0.0022	0.0000	0.0000
47	0.0005	0.0044	0.0000	0.0000	87	0.0000	0.0022	0.0000	0.0000
48	0.0004	0.0041	0.0000	0.0000	88	0.0000	0.0025	0.0000	0.0000
49	0.0007	0.0039	0.0000	0.0000	89	0.0000	0.0029	0.0000	0.0000
50	0.0012	0.0037	0.0000	0.0000	90	0.0000	0.0033	0.0000	0.0000
51	0.0011	0.0038	0.0000	0.0000	91	0.0000	0.0034	0.0000	0.0000
52	0.0006	0.0041	0.0000	0.0000	92	0.0000	0.0028	0.0000	0.0000
53	0.0002	0.0040	0.0000	0.0000	93	0.0000	0.0017	0.0000	0.0000
54	0.0001	0.0039	0.0000	0.0000	94	0.0000	0.0010	0.0000	0.0000
55	0.0002	0.0043	0.0000	0.0000	95	0.0000	0.0006	0.0000	0.0000

\*\*\* The above DoD/Treasury distinction is needed for P.L. 108-136 calculations.  
 "Treasury" rates of '0.0000' are shown for effect.

\*\*\* As noted in Item 2 in the Retiree section of Appendix F, additional adjustments are made for retirees who elect SBP spouse coverage.

**RESERVE DUTY OTHER LOSSES FROM NONDISABILITY**

(Age Nearest Birthday)

Age	DoD		Treasury		Age	DoD		Treasury	
	Officer	Enlisted	Officer	Enlisted		Officer	Enlisted	Officer	Enlisted
16	0.0000	0.0000	0.0000	0.0000	56	0.0000	0.0000	0.0000	0.0000
17	0.0000	0.0000	0.0000	0.0000	57	0.0000	0.0000	0.0000	0.0000
18	0.0000	0.0000	0.0000	0.0000	58	0.0000	0.0000	0.0000	0.0000
19	0.0000	0.0000	0.0000	0.0000	59	0.0000	0.0000	0.0000	0.0000
20	0.0000	0.0000	0.0000	0.0000	60	0.0060	0.0277	0.0000	0.0000
21	0.0000	0.0000	0.0000	0.0000	61	0.0042	0.0241	0.0000	0.0000
22	0.0000	0.0000	0.0000	0.0000	62	0.0012	0.0108	0.0000	0.0000
23	0.0000	0.0000	0.0000	0.0000	63	0.0012	0.0064	0.0000	0.0000
24	0.0000	0.0000	0.0000	0.0000	64	0.0021	0.0054	0.0000	0.0000
25	0.0000	0.0000	0.0000	0.0000	65	0.0024	0.0048	0.0000	0.0000
26	0.0000	0.0000	0.0000	0.0000	66	0.0020	0.0036	0.0000	0.0000
27	0.0000	0.0000	0.0000	0.0000	67	0.0022	0.0032	0.0000	0.0000
28	0.0000	0.0000	0.0000	0.0000	68	0.0019	0.0029	0.0000	0.0000
29	0.0000	0.0000	0.0000	0.0000	69	0.0016	0.0029	0.0000	0.0000
30	0.0000	0.0000	0.0000	0.0000	70	0.0013	0.0019	0.0000	0.0000
31	0.0000	0.0000	0.0000	0.0000	71	0.0009	0.0017	0.0000	0.0000
32	0.0000	0.0000	0.0000	0.0000	72	0.0009	0.0024	0.0000	0.0000
33	0.0000	0.0000	0.0000	0.0000	73	0.0011	0.0026	0.0000	0.0000
34	0.0000	0.0000	0.0000	0.0000	74	0.0008	0.0021	0.0000	0.0000
35	0.0000	0.0000	0.0000	0.0000	75	0.0008	0.0016	0.0000	0.0000
36	0.0000	0.0000	0.0000	0.0000	76	0.0011	0.0019	0.0000	0.0000
37	0.0000	0.0000	0.0000	0.0000	77	0.0010	0.0021	0.0000	0.0000
38	0.0000	0.0000	0.0000	0.0000	78	0.0009	0.0023	0.0000	0.0000
39	0.0000	0.0000	0.0000	0.0000	79	0.0013	0.0024	0.0000	0.0000
40	0.0000	0.0000	0.0000	0.0000	80	0.0013	0.0023	0.0000	0.0000
41	0.0000	0.0000	0.0000	0.0000	81	0.0009	0.0024	0.0000	0.0000
42	0.0000	0.0000	0.0000	0.0000	82	0.0007	0.0033	0.0000	0.0000
43	0.0000	0.0000	0.0000	0.0000	83	0.0014	0.0033	0.0000	0.0000
44	0.0000	0.0000	0.0000	0.0000	84	0.0020	0.0030	0.0000	0.0000
45	0.0000	0.0000	0.0000	0.0000	85	0.0026	0.0028	0.0000	0.0000
46	0.0000	0.0000	0.0000	0.0000	86	0.0023	0.0029	0.0000	0.0000
47	0.0000	0.0000	0.0000	0.0000	87	0.0016	0.0033	0.0000	0.0000
48	0.0000	0.0000	0.0000	0.0000	88	0.0018	0.0037	0.0000	0.0000
49	0.0000	0.0000	0.0000	0.0000	89	0.0020	0.0039	0.0000	0.0000
50	0.0000	0.0000	0.0000	0.0000	90	0.0015	0.0042	0.0000	0.0000
51	0.0000	0.0000	0.0000	0.0000	91	0.0010	0.0041	0.0000	0.0000
52	0.0000	0.0000	0.0000	0.0000	92	0.0008	0.0041	0.0000	0.0000
53	0.0000	0.0000	0.0000	0.0000	93	0.0006	0.0041	0.0000	0.0000
54	0.0000	0.0000	0.0000	0.0000	94	0.0005	0.0040	0.0000	0.0000
55	0.0000	0.0000	0.0000	0.0000	95	0.0004	0.0040	0.0000	0.0000

\*\*\* The above DoD/Treasury distinction is needed for P.L. 108-136 calculations.  
 "Treasury" rates of '0.0000' are shown for effect.

\*\*\* As noted in Item 2 in the Retiree section of Appendix F, additional adjustments are made for retirees who elect SBP spouse coverage.

**OTHER LOSS AND NONTRANSFER LOSSES FROM TEMPORARY DISABILITY \*\*\***

(Age Nearest Birthday)

Age	Officers					Enlisted				
	Year of Retirement					Year of Retirement				
	One	Two	Three	Four	Five	One	Two	Three	Four	Five
16	0.0872	0.1055	0.0707	0.0710	0.3687	0.1913	0.1723	0.1155	0.1264	0.4020
17	0.0895	0.1083	0.0726	0.0729	0.3787	0.2019	0.1818	0.1220	0.1334	0.4244
18	0.0920	0.1113	0.0746	0.0749	0.3889	0.2132	0.1920	0.1287	0.1408	0.4480
19	0.0944	0.1143	0.0766	0.0769	0.3995	0.2250	0.2027	0.1359	0.1487	0.4730
20	0.0970	0.1173	0.0787	0.0790	0.4103	0.2376	0.2140	0.1435	0.1570	0.4993
21	0.0996	0.1205	0.0808	0.0811	0.4213	0.2480	0.2234	0.1498	0.1639	0.5213
22	0.1023	0.1238	0.0830	0.0833	0.4327	0.2565	0.2310	0.1549	0.1695	0.5391
23	0.1051	0.1271	0.0852	0.0856	0.4444	0.2631	0.2370	0.1589	0.1739	0.5531
24	0.1079	0.1306	0.0875	0.0879	0.4564	0.2681	0.2414	0.1619	0.1771	0.5634
25	0.1103	0.1335	0.0895	0.0899	0.4667	0.2714	0.2444	0.1639	0.1793	0.5704
26	0.1123	0.1359	0.0911	0.0915	0.4752	0.2732	0.2461	0.1650	0.1805	0.5742
27	0.1139	0.1378	0.0924	0.0928	0.4817	0.2737	0.2465	0.1653	0.1808	0.5752
28	0.1150	0.1391	0.0933	0.0937	0.4864	0.2728	0.2457	0.1648	0.1803	0.5734
29	0.1157	0.1399	0.0938	0.0942	0.4892	0.2708	0.2439	0.1636	0.1790	0.5693
30	0.1159	0.1402	0.0940	0.0944	0.4901	0.2678	0.2412	0.1618	0.1770	0.5629
31	0.1156	0.1399	0.0938	0.0942	0.4891	0.2638	0.2376	0.1593	0.1743	0.5545
32	0.1149	0.1391	0.0932	0.0936	0.4861	0.2590	0.2332	0.1564	0.1711	0.5443
33	0.1138	0.1377	0.0923	0.0927	0.4814	0.2534	0.2282	0.1530	0.1674	0.5326
34	0.1123	0.1358	0.0910	0.0914	0.4748	0.2472	0.2226	0.1493	0.1633	0.5195
35	0.1103	0.1334	0.0894	0.0898	0.4665	0.2404	0.2165	0.1452	0.1589	0.5053
36	0.1080	0.1306	0.0875	0.0879	0.4567	0.2332	0.2101	0.1409	0.1541	0.4902
37	0.1053	0.1274	0.0854	0.0857	0.4452	0.2257	0.2033	0.1364	0.1492	0.4745
38	0.1022	0.1237	0.0829	0.0833	0.4324	0.2180	0.1964	0.1317	0.1441	0.4583
39	0.0989	0.1197	0.0802	0.0806	0.4184	0.2102	0.1893	0.1270	0.1389	0.4418
40	0.0953	0.1153	0.0773	0.0777	0.4032	0.2024	0.1823	0.1222	0.1337	0.4253
41	0.0915	0.1107	0.0742	0.0746	0.3872	0.1946	0.1753	0.1176	0.1286	0.4091
42	0.0876	0.1059	0.0710	0.0713	0.3704	0.1871	0.1685	0.1130	0.1236	0.3932
43	0.0835	0.1010	0.0677	0.0680	0.3531	0.1799	0.1620	0.1086	0.1188	0.3780
44	0.0793	0.0960	0.0643	0.0646	0.3356	0.1730	0.1558	0.1045	0.1143	0.3637
45	0.0752	0.0910	0.0610	0.0612	0.3181	0.1667	0.1502	0.1007	0.1102	0.3504
46	0.0711	0.0860	0.0577	0.0579	0.3008	0.1611	0.1451	0.0973	0.1064	0.3385
47	0.0672	0.0813	0.0545	0.0547	0.2841	0.1561	0.1406	0.0943	0.1032	0.3281
48	0.0634	0.0767	0.0514	0.0517	0.2683	0.1520	0.1369	0.0918	0.1004	0.3195
49	0.0600	0.0726	0.0487	0.0489	0.2538	0.1488	0.1341	0.0899	0.0984	0.3128
50	0.0569	0.0689	0.0462	0.0464	0.2408	0.1467	0.1322	0.0886	0.0970	0.3084
51	0.0543	0.0657	0.0441	0.0443	0.2298	0.1458	0.1313	0.0881	0.0963	0.3064
52	0.0523	0.0633	0.0424	0.0426	0.2212	0.1461	0.1316	0.0883	0.0966	0.3071
53	0.0509	0.0616	0.0413	0.0415	0.2154	0.1478	0.1331	0.0893	0.0977	0.3107
54	0.0503	0.0609	0.0408	0.0410	0.2129	0.1510	0.1360	0.0912	0.0998	0.3174
55	0.0506	0.0612	0.0411	0.0412	0.2141	0.1558	0.1403	0.0941	0.1030	0.3275
56	0.0519	0.0628	0.0421	0.0423	0.2196	0.1623	0.1462	0.0980	0.1072	0.3411
57	0.0543	0.0657	0.0441	0.0443	0.2298	0.1706	0.1537	0.1031	0.1127	0.3586
58	0.0580	0.0702	0.0470	0.0472	0.2453	0.1809	0.1629	0.1092	0.1195	0.3801
59	0.0631	0.0763	0.0511	0.0514	0.2668	0.1931	0.1740	0.1167	0.1276	0.4059
60	0.0697	0.0843	0.0565	0.0567	0.2947	0.2076	0.1870	0.1254	0.1372	0.4363
61	0.0779	0.0943	0.0632	0.0635	0.3296	0.2231	0.2009	0.1347	0.1474	0.4689
62	0.0880	0.1065	0.0714	0.0717	0.3724	0.2398	0.2159	0.1448	0.1584	0.5039
63	0.0995	0.1203	0.0806	0.0810	0.4207	0.2577	0.2321	0.1556	0.1703	0.5416
64	0.1124	0.1359	0.0911	0.0915	0.4752	0.2769	0.2494	0.1673	0.1830	0.5821
65	0.1269	0.1536	0.1029	0.1034	0.5368	0.2976	0.2681	0.1798	0.1967	0.6255

\*\*\* The above Other/Nontransfer Loss rates are used to calculate both the DoD and Treasury NCPs per P.L. 108-136.



**TRANSFER RATES FROM TEMPORARY DISABILITY TO PERMANENT DISABILITY**

(Age Nearest Birthday)

Age	Officers				Enlisted			
	Year of Retirement				Year of Retirement			
	One	Two	Three	Four	One	Two	Three	Four
16	0.0401	0.0830	0.0648	0.1020	0.0111	0.0243	0.0196	0.0286
17	0.0417	0.0864	0.0674	0.1062	0.0128	0.0281	0.0226	0.0331
18	0.0435	0.0900	0.0702	0.1106	0.0148	0.0325	0.0261	0.0382
19	0.0452	0.0937	0.0731	0.1152	0.0171	0.0375	0.0302	0.0441
20	0.0471	0.0976	0.0761	0.1199	0.0197	0.0433	0.0348	0.0509
21	0.0491	0.1016	0.0793	0.1249	0.0228	0.0500	0.0402	0.0588
22	0.0511	0.1058	0.0825	0.1300	0.0258	0.0568	0.0456	0.0667
23	0.0532	0.1102	0.0859	0.1354	0.0289	0.0635	0.0511	0.0747
24	0.0554	0.1147	0.0895	0.1410	0.0320	0.0703	0.0565	0.0826
25	0.0577	0.1195	0.0932	0.1468	0.0350	0.0771	0.0619	0.0906
26	0.0600	0.1244	0.0970	0.1529	0.0381	0.0838	0.0674	0.0985
27	0.0624	0.1293	0.1009	0.1589	0.0412	0.0905	0.0727	0.1064
28	0.0648	0.1342	0.1047	0.1650	0.0442	0.0971	0.0781	0.1142
29	0.0672	0.1392	0.1086	0.1710	0.0472	0.1038	0.0834	0.1220
30	0.0696	0.1441	0.1124	0.1771	0.0502	0.1103	0.0887	0.1296
31	0.0719	0.1490	0.1162	0.1832	0.0531	0.1168	0.0939	0.1372
32	0.0743	0.1540	0.1201	0.1892	0.0560	0.1231	0.0990	0.1447
33	0.0767	0.1589	0.1239	0.1953	0.0589	0.1294	0.1040	0.1521
34	0.0791	0.1638	0.1278	0.2013	0.0617	0.1356	0.1090	0.1593
35	0.0815	0.1687	0.1316	0.2074	0.0644	0.1416	0.1138	0.1664
36	0.0838	0.1737	0.1355	0.2134	0.0671	0.1475	0.1186	0.1734
37	0.0862	0.1786	0.1393	0.2195	0.0697	0.1533	0.1232	0.1802
38	0.0886	0.1835	0.1431	0.2256	0.0723	0.1589	0.1277	0.1868
39	0.0910	0.1885	0.1470	0.2316	0.0747	0.1643	0.1321	0.1932
40	0.0934	0.1934	0.1508	0.2377	0.0771	0.1696	0.1364	0.1994
41	0.0957	0.1983	0.1547	0.2437	0.0795	0.1747	0.1404	0.2054
42	0.0981	0.2032	0.1585	0.2498	0.0817	0.1796	0.1444	0.2111
43	0.1005	0.2082	0.1624	0.2558	0.0838	0.1843	0.1482	0.2166
44	0.1029	0.2131	0.1662	0.2619	0.0859	0.1888	0.1518	0.2219
45	0.1052	0.2180	0.1701	0.2680	0.0878	0.1930	0.1552	0.2269
46	0.1076	0.2230	0.1739	0.2740	0.0896	0.1971	0.1584	0.2317
47	0.1100	0.2279	0.1777	0.2801	0.0914	0.2009	0.1615	0.2361
48	0.1124	0.2328	0.1816	0.2861	0.0930	0.2044	0.1643	0.2403
49	0.1148	0.2377	0.1854	0.2922	0.0945	0.2077	0.1669	0.2441
50	0.1171	0.2427	0.1893	0.2982	0.0958	0.2107	0.1694	0.2476
51	0.1195	0.2476	0.1931	0.3043	0.0971	0.2134	0.1715	0.2508
52	0.1219	0.2525	0.1970	0.3104	0.0982	0.2158	0.1735	0.2537
53	0.1243	0.2575	0.2008	0.3164	0.0991	0.2179	0.1752	0.2562
54	0.1267	0.2624	0.2047	0.3225	0.1000	0.2197	0.1767	0.2583
55	0.1290	0.2673	0.2085	0.3285	0.1006	0.2212	0.1779	0.2601
56	0.1314	0.2722	0.2123	0.3346	0.1012	0.2224	0.1788	0.2614
57	0.1338	0.2772	0.2162	0.3406	0.1015	0.2232	0.1795	0.2624
58	0.1362	0.2821	0.2200	0.3467	0.1018	0.2237	0.1798	0.2630
59	0.1386	0.2870	0.2239	0.3528	0.1018	0.2238	0.1799	0.2631
60	0.1409	0.2920	0.2277	0.3588	0.1017	0.2236	0.1797	0.2628
61	0.1433	0.2969	0.2316	0.3649	0.1014	0.2230	0.1792	0.2621
62	0.1457	0.3018	0.2354	0.3709	0.1011	0.2224	0.1787	0.2614
63	0.1481	0.3067	0.2393	0.3770	0.1009	0.2217	0.1783	0.2606
64	0.1505	0.3118	0.2432	0.3831	0.1006	0.2211	0.1778	0.2599
65	0.1529	0.3168	0.2471	0.3894	0.1003	0.2205	0.1773	0.2592

**OTHER LOSSES FROM PERMANENT DISABILITY**

(Age Nearest Birthday)

Age	DoD		Treasury		Age	DoD		Treasury	
	Officer	Enlisted	Officer	Enlisted		Officer	Enlisted	Officer	Enlisted
16	0.0703	0.4892	0.0294	0.4046	54	0.0110	0.0309	0.0070	0.0182
17	0.0703	0.4892	0.0294	0.4046	55	0.0106	0.0339	0.0066	0.0203
18	0.0703	0.4892	0.0294	0.4046	56	0.0101	0.0363	0.0062	0.0218
19	0.0703	0.4892	0.0294	0.4046	57	0.0098	0.0381	0.0058	0.0229
20	0.0703	0.4892	0.0294	0.4046	58	0.0095	0.0391	0.0055	0.0236
21	0.0703	0.4222	0.0294	0.4046	59	0.0092	0.0394	0.0052	0.0233
22	0.0703	0.3595	0.0294	0.4046	60	0.0090	0.0384	0.0050	0.0212
23	0.0703	0.3012	0.0294	0.3165	61	0.0089	0.0373	0.0048	0.0193
24	0.0703	0.2484	0.0294	0.2461	62	0.0087	0.0379	0.0046	0.0184
25	0.0703	0.2024	0.0294	0.1924	63	0.0086	0.0391	0.0044	0.0174
26	0.0703	0.1646	0.0294	0.1536	64	0.0085	0.0396	0.0043	0.0151
27	0.0703	0.1349	0.0294	0.1263	65	0.0085	0.0390	0.0041	0.0123
28	0.0703	0.1127	0.0294	0.1071	66	0.0084	0.0379	0.0041	0.0098
29	0.0703	0.0967	0.0294	0.0936	67	0.0083	0.0367	0.0040	0.0084
30	0.0703	0.0856	0.0294	0.0843	68	0.0082	0.0360	0.0039	0.0082
31	0.0703	0.0770	0.0294	0.0771	69	0.0080	0.0353	0.0039	0.0081
32	0.0317	0.0690	0.0294	0.0699	70	0.0079	0.0344	0.0039	0.0078
33	0.0301	0.0607	0.0294	0.0623	71	0.0077	0.0336	0.0039	0.0072
34	0.0286	0.0531	0.0294	0.0554	72	0.0075	0.0330	0.0040	0.0065
35	0.0272	0.0467	0.0294	0.0495	73	0.0072	0.0329	0.0040	0.0060
36	0.0258	0.0419	0.0294	0.0445	74	0.0070	0.0328	0.0035	0.0057
37	0.0246	0.0386	0.0294	0.0402	75	0.0067	0.0322	0.0030	0.0056
38	0.0234	0.0362	0.0294	0.0355	76	0.0065	0.0309	0.0025	0.0053
39	0.0223	0.0351	0.0294	0.0313	77	0.0062	0.0288	0.0020	0.0045
40	0.0212	0.0355	0.0166	0.0285	78	0.0060	0.0268	0.0015	0.0036
41	0.0203	0.0367	0.0156	0.0269	79	0.0058	0.0258	0.0022	0.0034
42	0.0193	0.0373	0.0148	0.0261	80	0.0056	0.0257	0.0029	0.0037
43	0.0185	0.0363	0.0139	0.0256	81	0.0054	0.0255	0.0035	0.0041
44	0.0176	0.0345	0.0131	0.0252	82	0.0053	0.0255	0.0038	0.0042
45	0.0169	0.0330	0.0123	0.0248	83	0.0053	0.0260	0.0038	0.0036
46	0.0161	0.0323	0.0116	0.0240	84	0.0052	0.0270	0.0035	0.0042
47	0.0154	0.0328	0.0109	0.0237	85	0.0052	0.0282	0.0033	0.0042
48	0.0147	0.0329	0.0102	0.0229	86	0.0053	0.0292	0.0034	0.0042
49	0.0140	0.0319	0.0096	0.0214	87	0.0053	0.0297	0.0039	0.0042
50	0.0133	0.0304	0.0090	0.0201	88	0.0054	0.0295	0.0044	0.0042
51	0.0127	0.0290	0.0084	0.0190	89	0.0056	0.0289	0.0053	0.0042
52	0.0121	0.0281	0.0079	0.0176	90	0.0057	0.0291	0.0068	0.0042
53	0.0116	0.0287	0.0074	0.0171					

\*\*\* The above DoD/Treasury distinction is needed for P.L. 108-136 calculations.

\*\*\* As noted in Item 2 in the Retiree section of Appendix F, additional adjustments are made for retirees who elect SBP spouse coverage.

**RETIREE DIVORCE RATES \*\*\***

(Age Nearest Birthday)

Age	Active		Reserve		Age	Active		Reserve	
	Officer	Enlisted	Officer	Enlisted		Officer	Enlisted	Officer	Enlisted
16	0.0900	0.0900	0.0900	0.0900	50	0.0080	0.0080	0.0080	0.0080
17	0.0900	0.0900	0.0900	0.0900	51	0.0070	0.0070	0.0070	0.0070
18	0.0900	0.0900	0.0900	0.0900	52	0.0060	0.0060	0.0060	0.0060
19	0.0900	0.0900	0.0900	0.0900	53	0.0050	0.0050	0.0050	0.0050
20	0.0830	0.0830	0.0830	0.0830	54	0.0050	0.0050	0.0050	0.0050
21	0.0750	0.0750	0.0750	0.0750	55	0.0040	0.0040	0.0040	0.0040
22	0.0680	0.0680	0.0680	0.0680	56	0.0040	0.0040	0.0040	0.0040
23	0.0610	0.0610	0.0610	0.0610	57	0.0030	0.0030	0.0030	0.0030
24	0.0530	0.0530	0.0530	0.0530	58	0.0010	0.0010	0.0010	0.0010
25	0.0460	0.0460	0.0460	0.0460	59	0.0020	0.0020	0.0020	0.0020
26	0.0420	0.0420	0.0420	0.0420	60	0.0040	0.0040	0.0040	0.0040
27	0.0380	0.0380	0.0380	0.0380	61	0.0020	0.0020	0.0020	0.0020
28	0.0360	0.0360	0.0360	0.0360	62	0.0030	0.0030	0.0030	0.0030
29	0.0360	0.0360	0.0360	0.0360	63	0.0010	0.0010	0.0010	0.0010
30	0.0330	0.0330	0.0330	0.0330	64	0.0010	0.0010	0.0010	0.0010
31	0.0310	0.0310	0.0310	0.0310	65	0.0000	0.0000	0.0000	0.0000
32	0.0280	0.0280	0.0280	0.0280	66	0.0000	0.0000	0.0000	0.0000
33	0.0240	0.0240	0.0240	0.0240	67	0.0000	0.0000	0.0000	0.0000
34	0.0200	0.0200	0.0200	0.0200	68	0.0000	0.0000	0.0000	0.0000
35	0.0210	0.0210	0.0210	0.0210	69	0.0000	0.0000	0.0000	0.0000
36	0.0240	0.0240	0.0240	0.0240	70	0.0000	0.0000	0.0000	0.0000
37	0.0310	0.0310	0.0310	0.0310	71	0.0000	0.0000	0.0000	0.0000
38	0.0390	0.0390	0.0390	0.0390	72	0.0000	0.0000	0.0000	0.0000
39	0.0420	0.0420	0.0420	0.0420	73	0.0000	0.0000	0.0000	0.0000
40	0.0370	0.0370	0.0370	0.0370	74	0.0000	0.0000	0.0000	0.0000
41	0.0300	0.0300	0.0300	0.0300	75	0.0000	0.0000	0.0000	0.0000
42	0.0250	0.0250	0.0250	0.0250	76	0.0000	0.0000	0.0000	0.0000
43	0.0190	0.0190	0.0190	0.0190	77	0.0000	0.0000	0.0000	0.0000
44	0.0170	0.0170	0.0170	0.0170	78	0.0000	0.0000	0.0000	0.0000
45	0.0140	0.0140	0.0140	0.0140	79	0.0000	0.0000	0.0000	0.0000
46	0.0130	0.0130	0.0130	0.0130	80	0.0000	0.0000	0.0000	0.0000
47	0.0110	0.0110	0.0110	0.0110	81	0.0000	0.0000	0.0000	0.0000
48	0.0100	0.0100	0.0100	0.0100	82	0.0000	0.0000	0.0000	0.0000
49	0.0080	0.0080	0.0080	0.0080					

\*\*\* Due to Section 647 of NDAA 2008 (P.L. 110-181) the reserve rates shown above apply in the early years of the projection. See Item 11 in the Reserve Duty section in Appendix F for a description of the parameter used to model the phase-in to an average age 58 reserve retirement. As the transitions to earlier average retirement ages occur, the ages applicable to some of the rates change.

\*\*\* The "Retiree Divorce" rates are the same for officer/enlisted status, and by active/reserve. The rates are displayed for effect.

**SURVIVING SPOUSE REMARRIAGE RATES**

(Age Nearest Birthday)

<u>Age</u>	<u>Rate</u>	<u>Age</u>	<u>Rate</u>
16	0.0634	38	0.0248
17	0.0634	39	0.0205
18	0.0634	40	0.0175
19	0.0634	41	0.0161
20	0.0634	42	0.0157
21	0.0634	43	0.0153
22	0.0634	44	0.0148
23	0.0634	45	0.0139
24	0.0634	46	0.0128
25	0.0634	47	0.0117
26	0.0634	48	0.0103
27	0.0598	49	0.0089
28	0.0573	50	0.0077
29	0.0558	51	0.0067
30	0.0548	52	0.0058
31	0.0538	53	0.0048
32	0.0523	54	0.0034
33	0.0500	55	0.0019
34	0.0465	56	0.0000
35	0.0418	57	0.0000
36	0.0362	58	0.0000
37	0.0303	59	0.0000

## SURVIVING CHILD TERMINATION RATES

(Age Nearest Birthday)

<u>Age</u>	<u>Rate</u>
0	0.005
1	0.000
2	0.000
3	0.000
4	0.000
5	0.000
6	0.000
7	0.000
8	0.000
9	0.000
10	0.000
11	0.000
12	0.000
13	0.000
14	0.000
15	0.000
16	0.000
17	0.224
18	0.306
19	0.227
20	0.185
21	0.384
22	0.734
23	0.068

**SURVIVING SPOUSE DEATH RATES \*\*\***

(Age Nearest Birthday)

Age	Rate	Age	Rate
0	0.00476	55	0.00497
1	0.00106	56	0.00590
2	0.00069	57	0.00682
3	0.00052	58	0.00767
4	0.00039	59	0.00796
5	0.00035	60	0.00770
6	0.00033	61	0.00771
7	0.00031	62	0.00878
8	0.00027	63	0.01070
9	0.00026	64	0.01218
10	0.00026	65	0.01260
11	0.00028	66	0.01312
12	0.00030	67	0.01420
13	0.00033	68	0.01570
14	0.00039	69	0.01739
15	0.00045	70	0.01872
16	0.00047	71	0.02039
17	0.00051	72	0.02245
18	0.00053	73	0.02509
19	0.00054	74	0.02764
20	0.00054	75	0.02987
21	0.00053	76	0.03139
22	0.00054	77	0.03346
23	0.00055	78	0.03687
24	0.00056	79	0.04117
25	0.00057	80	0.04519
26	0.00060	81	0.04880
27	0.00061	82	0.05291
28	0.00063	83	0.05918
29	0.00067	84	0.06504
30	0.00073	85	0.07224
31	0.00081	86	0.08254
32	0.00086	87	0.09428
33	0.00090	88	0.10461
34	0.00094	89	0.11623
35	0.00098	90	0.12895
36	0.00104	91	0.14306
37	0.00110	92	0.15849
38	0.00118	93	0.17626
39	0.00126	94	0.19346
40	0.00137	95	0.21006
41	0.00148	96	0.22595
42	0.00159	97	0.24366
43	0.00169	98	0.25988
44	0.00178	99	0.27560
45	0.00184	100	0.29118
46	0.00192	101	0.30829
47	0.00204	102	0.32281
48	0.00221	103	0.33614
49	0.00240	104	0.34800
50	0.00266	105	0.35860
51	0.00297	106	0.36815
52	0.00340	107	0.38599
53	0.00387	108	0.40372
54	0.00437	109	0.42198

\*\*\* "Surviving Spouses" are defined as spouses of deceased retirees who elected SBP spouse, or spouse & child, coverage.  
Rates based on actual plan experience.

**SPOUSE DEATH RATES \*\*\***

(Age Nearest Birthday)

Age	Rate	Age	Rate
0	0.00412	55	0.00199
1	0.00037	56	0.00230
2	0.00024	57	0.00267
3	0.00018	58	0.00307
4	0.00013	59	0.00353
5	0.00012	60	0.00406
6	0.00011	61	0.00465
7	0.00011	62	0.00533
8	0.00010	63	0.00610
9	0.00009	64	0.00696
10	0.00009	65	0.00789
11	0.00010	66	0.00886
12	0.00010	67	0.00984
13	0.00011	68	0.01075
14	0.00014	69	0.01161
15	0.00016	70	0.01255
16	0.00018	71	0.01342
17	0.00020	72	0.01481
18	0.00021	73	0.01617
19	0.00021	74	0.01796
20	0.00021	75	0.01963
21	0.00021	76	0.02192
22	0.00021	77	0.02500
23	0.00022	78	0.02796
24	0.00022	79	0.03116
25	0.00023	80	0.03472
26	0.00024	81	0.03873
27	0.00024	82	0.04331
28	0.00025	83	0.04834
29	0.00027	84	0.05374
30	0.00029	85	0.06078
31	0.00032	86	0.06885
32	0.00034	87	0.07817
33	0.00036	88	0.08729
34	0.00037	89	0.09909
35	0.00039	90	0.11014
36	0.00041	91	0.12197
37	0.00044	92	0.13450
38	0.00046	93	0.15041
39	0.00050	94	0.16464
40	0.00054	95	0.17962
41	0.00059	96	0.19537
42	0.00063	97	0.21573
43	0.00067	98	0.23347
44	0.00070	99	0.25213
45	0.00073	100	0.27149
46	0.00076	101	0.29663
47	0.00080	102	0.31709
48	0.00087	103	0.33851
49	0.00094	104	0.36102
50	0.00105	105	0.38360
51	0.00117	106	0.40522
52	0.00135	107	0.42485
53	0.00153	108	0.44437
54	0.00174	109	0.46447

\*\*\* "Spouses" are defined as spouses of living retirees who elected SBP spouse, or spouse & child, coverage.  
 Rates based on standard actuarial mortality table -- SOA GAM-94\_Female'

**SURVIVING SPOUSE OTHER LOSS RATES**

(Age Nearest Birthday)

<u>Age</u>	<u>Rate</u>	<u>Age</u>	<u>Rate</u>
0	0.0000	55	0.0106
1	0.0000	56	0.0106
2	0.0000	57	0.0096
3	0.0000	58	0.0052
4	0.0000	59	0.0071
5	0.0000	60	0.0120
6	0.0000	61	0.0093
7	0.0000	62	0.0068
8	0.0000	63	0.0098
9	0.0000	64	0.0055
10	0.0000	65	0.0070
11	0.0000	66	0.0069
12	0.0000	67	0.0065
13	0.0000	68	0.0067
14	0.0000	69	0.0072
15	0.0000	70	0.0056
16	0.0000	71	0.0057
17	0.0000	72	0.0047
18	0.0000	73	0.0054
19	0.0000	74	0.0044
20	0.0000	75	0.0038
21	0.0000	76	0.0051
22	0.0000	77	0.0044
23	0.0000	78	0.0044
24	0.0000	79	0.0044
25	0.0000	80	0.0044
26	0.0000	81	0.0044
27	0.0181	82	0.0044
28	0.0181	83	0.0041
29	0.0181	84	0.0041
30	0.0181	85	0.0041
31	0.0181	86	0.0041
32	0.0181	87	0.0041
33	0.0181	88	0.0041
34	0.0181	89	0.0062
35	0.0181	90	0.0062
36	0.0181	91	0.0062
37	0.0181	92	0.0062
38	0.0181	93	0.0062
39	0.0175	94	0.0062
40	0.0175	95	0.0062
41	0.0175	96	0.0000
42	0.0175	97	0.0000
43	0.0175	98	0.0000
44	0.0164	99	0.0000
45	0.0164	100	0.0000
46	0.0121	101	0.0000
47	0.0121	102	0.0000
48	0.0121	103	0.0000
49	0.0121	104	0.0000
50	0.0121	105	0.0000
51	0.0121	106	0.0000
52	0.0121	107	0.0000
53	0.0106	108	0.0000
54	0.0106	109	0.0000

\*\*\* The above Other Loss rates are used to calculate both the DoD and Treasury NCPs per P.L. 108-136.



APPENDIX J

MORTALITY IMPROVEMENT FACTORS

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## **MORTALITY IMPROVEMENT FACTORS DESCRIPTION**

Mortality rates in the valuation for active duty members, nondisabled retirees (from Active and Reserve Duty), and survivors/spouses are decreased (or “improved”) over time in order to reflect the long-term trend toward such declines. No mortality improvement is assumed for disabled retirees because their mortality patterns are too easily affected by economic variables, periods of war, and by the policies of administering the disability retirement program (i.e., periods of relative laxity or stringency in determining an individual’s degree of disability or recovery from disability).

The factors are not year-specific; therefore, the same set is used year after year. Mortality improvement factors are generally based on plan experience. Nondisabled retiree factors are based on military mortality experience over the period 1975-2010. These factors are graduated (smoothed) using least squares regression technique.

Active duty and survivor/spouse factors were formed using Scale AA, a trend created by the Society of Actuaries in 1995 to project the 1994 Uninsured Pensioner Mortality Table (UP-94). It is based on based on Civil Service and Social Security 1977-1993 experience. Adjustments were made to reflect the military-specific gender mix by officer/enlisted status for the active duty factors and an overall gender blend for the survivor/spouse factors.

Even though some mortality improvement factors are based on Social Security and Civil Service data, they should apply reasonably well to the Military Retirement System. While the average military person may be somewhat healthier than the average person in these populations, the mortality improvement factors are in the form of percentages. If the mortality for relatively healthy military lives is already small, then the improvement in terms of fewer deaths is slight, even though the percentage improvement is the same as for relatively less healthy lives.

Projecting future mortality trends is an inherently uncertain exercise. Care will be taken to ensure emerging experience is continually monitored and new concepts developed by the research community reflected as appropriate.

**ACTIVE DUTY MORTALITY IMPROVEMENT FACTORS**

(Age Nearest Birthday)

<u>Age</u>	<u>Officer</u>	<u>Enlisted</u>
16	0.982	0.982
17	0.982	0.982
18	0.982	0.982
19	0.982	0.982
20	0.981	0.981
21	0.982	0.982
22	0.983	0.983
23	0.985	0.985
24	0.987	0.987
25	0.989	0.989
26	0.993	0.993
27	0.994	0.994
28	0.994	0.994
29	0.994	0.994
30	0.994	0.994
31	0.995	0.995
32	0.995	0.995
33	0.994	0.994
34	0.994	0.994
35	0.994	0.994
36	0.994	0.994
37	0.994	0.994
38	0.993	0.993
39	0.992	0.992
40	0.991	0.991
41	0.990	0.990
42	0.989	0.989
43	0.988	0.988
44	0.988	0.988
45	0.987	0.987
46	0.986	0.986
47	0.985	0.985
48	0.984	0.984
49	0.983	0.983
50	0.982	0.982
51	0.981	0.981
52	0.981	0.981
53	0.981	0.981
54	0.982	0.981
55	0.983	0.983
56	0.984	0.984
57	0.985	0.985
58	0.986	0.986
59	0.986	0.986
60	0.986	0.986

**NONDISABLED RETIRED MORTALITY IMPROVEMENT FACTORS**

(Age Nearest Birthday)

Age	Active Duty		Reserve Duty		Age	Active Duty		Reserve Duty	
	Officer	Enlisted	Officer	Enlisted		Officer	Enlisted	Officer	Enlisted
16	1.000	1.000	1.000	1.000	64	0.969	0.978	0.969	0.979
17	1.000	1.000	1.000	1.000	65	0.970	0.979	0.970	0.980
18	1.000	1.000	1.000	1.000	66	0.971	0.980	0.971	0.980
19	1.000	1.000	1.000	1.000	67	0.972	0.980	0.971	0.981
20	1.000	1.000	1.000	1.000	68	0.973	0.981	0.972	0.982
21	1.000	1.000	1.000	1.000	69	0.974	0.982	0.973	0.983
22	1.000	1.000	1.000	1.000	70	0.975	0.983	0.974	0.983
23	1.000	1.000	1.000	1.000	71	0.975	0.983	0.975	0.984
24	1.000	1.000	1.000	1.000	72	0.976	0.984	0.976	0.985
25	1.000	1.000	1.000	1.000	73	0.977	0.985	0.977	0.986
26	1.000	1.000	1.000	1.000	74	0.978	0.986	0.978	0.986
27	1.000	1.000	1.000	1.000	75	0.979	0.986	0.979	0.987
28	1.000	1.000	1.000	1.000	76	0.980	0.987	0.980	0.988
29	1.000	1.000	1.000	1.000	77	0.981	0.988	0.981	0.989
30	0.959	0.962	0.965	0.976	78	0.982	0.989	0.981	0.989
31	0.959	0.962	0.965	0.976	79	0.983	0.989	0.982	0.990
32	0.959	0.962	0.965	0.976	80	0.984	0.990	0.983	0.991
33	0.959	0.962	0.965	0.976	81	0.985	0.991	0.984	0.992
34	0.959	0.962	0.965	0.976	82	0.986	0.992	0.985	0.992
35	0.959	0.962	0.965	0.976	83	0.987	0.992	0.986	0.993
36	0.959	0.962	0.965	0.976	84	0.988	0.993	0.987	0.994
37	0.959	0.962	0.965	0.976	85	0.989	0.994	0.988	0.995
38	0.959	0.962	0.965	0.976	86	0.990	0.995	0.989	0.995
39	0.959	0.962	0.965	0.976	87	0.991	0.995	0.990	0.996
40	0.959	0.962	0.965	0.976	88	0.992	0.996	0.991	0.997
41	0.959	0.962	0.965	0.976	89	0.993	0.997	0.992	0.998
42	0.959	0.962	0.965	0.976	90	0.993	0.998	0.992	0.998
43	0.959	0.962	0.965	0.976	91	0.994	0.998	0.993	0.999
44	0.959	0.963	0.965	0.976	92	0.995	0.999	0.994	1.000
45	0.959	0.964	0.965	0.976	93	0.996	1.000	0.995	1.000
46	0.959	0.964	0.965	0.976	94	0.997	1.000	0.996	1.000
47	0.959	0.965	0.965	0.976	95	0.998	1.000	0.997	1.000
48	0.959	0.966	0.965	0.976	96	0.999	1.000	0.998	1.000
49	0.959	0.967	0.965	0.976	97	1.000	1.000	0.999	1.000
50	0.959	0.967	0.965	0.976	98	1.000	1.000	1.000	1.000
51	0.959	0.968	0.965	0.976	99	1.000	1.000	1.000	1.000
52	0.959	0.969	0.965	0.976	100	1.000	1.000	1.000	1.000
53	0.959	0.970	0.965	0.976	101	1.000	1.000	1.000	1.000
54	0.959	0.970	0.965	0.976	102	1.000	1.000	1.000	1.000
55	0.960	0.971	0.965	0.976	103	1.000	1.000	1.000	1.000
56	0.961	0.972	0.965	0.976	104	1.000	1.000	1.000	1.000
57	0.962	0.973	0.965	0.976	105	1.000	1.000	1.000	1.000
58	0.963	0.973	0.965	0.976	106	1.000	1.000	1.000	1.000
59	0.964	0.974	0.965	0.976	107	1.000	1.000	1.000	1.000
60	0.965	0.975	0.965	0.976	108	1.000	1.000	1.000	1.000
61	0.966	0.976	0.966	0.977	109	1.000	1.000	1.000	1.000
62	0.967	0.977	0.967	0.977	110	1.000	1.000	1.000	1.000
63	0.968	0.977	0.968	0.978					

**SURVIVOR/SPOUSE MORTALITY IMPROVEMENT FACTORS**

(Age Nearest Birthday)

Age	Rate	Age	Rate
0	1.000	56	0.994
1	1.000	57	0.995
2	1.000	58	0.995
3	1.000	59	0.995
4	1.000	60	0.995
5	1.000	61	0.995
6	1.000	62	0.995
7	1.000	63	0.995
8	1.000	64	0.995
9	1.000	65	0.995
10	1.000	66	0.995
11	1.000	67	0.995
12	1.000	68	0.995
13	1.000	69	0.995
14	1.000	70	0.995
15	1.000	71	0.994
16	0.985	72	0.994
17	0.986	73	0.993
18	0.986	74	0.993
19	0.985	75	0.992
20	0.984	76	0.992
21	0.983	77	0.993
22	0.983	78	0.993
23	0.984	79	0.993
24	0.985	80	0.993
25	0.986	81	0.993
26	0.988	82	0.993
27	0.988	83	0.993
28	0.988	84	0.993
29	0.988	85	0.994
30	0.990	86	0.995
31	0.992	87	0.996
32	0.992	88	0.996
33	0.991	89	0.997
34	0.990	90	0.997
35	0.989	91	0.997
36	0.988	92	0.997
37	0.987	93	0.998
38	0.986	94	0.998
39	0.985	95	0.998
40	0.985	96	0.998
41	0.985	97	0.999
42	0.985	98	0.999
43	0.985	99	0.999
44	0.985	100	0.999
45	0.984	101	1.000
46	0.983	102	1.000
47	0.982	103	1.000
48	0.982	104	1.000
49	0.982	105	1.000
50	0.983	106	1.000
51	0.984	107	1.000
52	0.986	108	1.000
53	0.988	109	1.000
54	0.990	110	1.000
55	0.992		

APPENDIX K

25 YEAR PROJECTIONS

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### **PROJECTION NOTES**

The following are relevant notes to the projections depicted in this appendix:

- Refer to the “NOTE REGARDING OPEN GROUP PROJECTIONS” in the Table 9 Footnotes for important caveats related to this appendix.
- Columns in this appendix may not add due to rounding.
- In some cases the number of personnel may show zero with the corresponding pay showing a non-zero value. This is a result of rounding the display to the nearest person.
- Future mortality improvement is assumed throughout this appendix (with the exception of disabled retirees).
- Although Combat Related Special Compensation (CRSC) is not technically considered retired pay, it is paid from the MRF; hence these projections include CRSC.
- The FY 2011 National Defense Authorization Act (P.L. 111-383) allowed for retired pay to be paid on the previous business day if the first of the month falls on a weekend or holiday. This is not accounted for in the projected Fund Disbursements/Outlays in order to give the projection a smooth trajectory.
- The following economic assumptions are applied to the projection of pay only. This table is partially replicated from the Table 9 footnotes in the main text.

#### ANNUAL ECONOMIC ASSUMPTIONS USED IN PROJECTIONS OF BASIC PAY AND RETIRED OUTLAY

<u>Fiscal Year</u>	<u>Full COLA</u>	<u>Basic Pay</u>
2012	3.6%	1.6%
2013	1.9	2.0
2014	1.9	3.5
2015	2.0	3.5
2016	2.0	3.5
2017	2.1	3.5
2018	2.1	3.5
2019	2.1	3.5
2020	2.1	3.5
2021	3.0	3.5
2022+	3.0	3.75

**ACTIVE DUTY PERSONNEL AND PAY BY FISCAL YEAR**

(Dollar Amounts in Thousands)

Fiscal Year	People at Year End (September 30th)			Dollars During Fiscal Year		
	Officers	Enlisted	Total	Officers	Enlisted	Total
2011	254,396	1,232,457	1,486,853			
2012	253,722	1,234,340	1,488,062	\$18,094,406	\$38,865,072	\$56,959,477
2013	253,938	1,211,977	1,465,915	\$18,329,787	\$39,355,224	\$57,685,010
2014	250,526	1,177,934	1,428,460	\$18,853,492	\$40,116,392	\$58,969,884
2015	246,274	1,165,551	1,411,825	\$19,310,412	\$40,938,264	\$60,248,675
2016	240,110	1,156,926	1,397,036	\$19,712,187	\$42,037,216	\$61,749,403
2017	237,462	1,147,617	1,385,079	\$20,095,357	\$43,187,505	\$63,282,862
2018	237,462	1,147,617	1,385,079	\$20,589,864	\$44,469,079	\$65,058,943
2019	237,462	1,147,617	1,385,079	\$21,162,880	\$45,920,480	\$67,083,360
2020	237,462	1,147,617	1,385,079	\$21,787,481	\$47,406,024	\$69,193,505
2021	237,462	1,147,617	1,385,079	\$22,467,367	\$48,950,041	\$71,417,408
2022	237,462	1,147,617	1,385,079	\$23,241,210	\$50,663,176	\$73,904,386
2023	237,462	1,147,617	1,385,079	\$24,040,434	\$52,412,925	\$76,453,358
2024	237,462	1,147,617	1,385,079	\$24,868,711	\$54,181,691	\$79,050,401
2025	237,462	1,147,617	1,385,079	\$25,734,151	\$56,005,020	\$81,739,172
2026	237,462	1,147,617	1,385,079	\$26,639,850	\$57,905,717	\$84,545,567
2027	237,462	1,147,617	1,385,079	\$27,585,017	\$59,850,674	\$87,435,691
2028	237,462	1,147,617	1,385,079	\$28,574,266	\$61,869,991	\$90,444,258
2029	237,462	1,147,617	1,385,079	\$29,617,664	\$64,016,180	\$93,633,845
2030	237,462	1,147,617	1,385,079	\$30,718,082	\$66,306,367	\$97,024,449
2031	237,462	1,147,617	1,385,079	\$31,861,666	\$68,727,291	\$100,588,957
2032	237,462	1,147,617	1,385,079	\$33,033,596	\$71,227,570	\$104,261,166
2033	237,462	1,147,617	1,385,079	\$34,238,318	\$73,811,806	\$108,050,124
2034	237,462	1,147,617	1,385,079	\$35,520,348	\$76,590,903	\$112,111,251
2035	237,462	1,147,617	1,385,079	\$36,908,266	\$79,537,992	\$116,446,258
2036	237,462	1,147,617	1,385,079	\$38,389,048	\$82,582,985	\$120,972,033



**NONRETIRED RESERVISTS PERSONNEL AND PAY BY FISCAL YEAR**

(Dollar Amounts in Thousands)

Fiscal Year	People at Year End (September 30th)			Dollars During Fiscal Year		
	Officers	Enlisted	Total	Officers	Enlisted	Total
2011	108,982	662,098	771,080			
2012	117,149	651,537	768,686	\$1,879,288	\$3,953,233	\$5,832,521
2013	117,763	641,732	759,495	\$1,991,178	\$3,996,186	\$5,987,364
2014	117,473	637,691	755,164	\$2,060,760	\$4,110,879	\$6,171,640
2015	118,203	633,942	752,145	\$2,131,922	\$4,251,582	\$6,383,504
2016	117,978	632,167	750,145	\$2,209,161	\$4,400,917	\$6,610,078
2017	117,675	630,127	747,802	\$2,281,359	\$4,559,060	\$6,840,419
2018	117,675	630,127	747,802	\$2,359,723	\$4,724,572	\$7,084,294
2019	117,675	630,127	747,802	\$2,445,207	\$4,901,337	\$7,346,544
2020	117,675	630,127	747,802	\$2,534,177	\$5,082,874	\$7,617,051
2021	117,675	630,127	747,802	\$2,626,591	\$5,269,565	\$7,896,156
2022	117,675	630,127	747,802	\$2,729,429	\$5,475,231	\$8,204,660
2023	117,675	630,127	747,802	\$2,837,015	\$5,688,542	\$8,525,557
2024	117,675	630,127	747,802	\$2,949,574	\$5,910,274	\$8,859,848
2025	117,675	630,127	747,802	\$3,067,203	\$6,140,852	\$9,208,055
2026	117,675	630,127	747,802	\$3,189,888	\$6,380,612	\$9,570,500
2027	117,675	630,127	747,802	\$3,317,750	\$6,629,696	\$9,947,446
2028	117,675	630,127	747,802	\$3,448,583	\$6,881,541	\$10,330,125
2029	117,675	630,127	747,802	\$3,583,335	\$7,140,014	\$10,723,349
2030	117,675	630,127	747,802	\$3,725,733	\$7,418,621	\$11,144,354
2031	117,675	630,127	747,802	\$3,872,868	\$7,708,483	\$11,581,351
2032	117,675	630,127	747,802	\$4,024,885	\$8,009,111	\$12,033,996
2033	117,675	630,127	747,802	\$4,181,877	\$8,320,048	\$12,501,925
2034	117,675	630,127	747,802	\$4,344,021	\$8,641,220	\$12,985,240
2035	117,675	630,127	747,802	\$4,511,507	\$8,972,796	\$13,484,303
2036	117,675	630,127	747,802	\$4,684,452	\$9,315,062	\$13,999,514

**TOTAL NUMBER OF RETIREES ON SEPTEMBER 30 OF EACH FISCAL YEAR**

Fiscal Year	Nondisabled (non-CSB/Redux)			Nondisabled (CSB/Redux)			Disabled			Grand Total
	Officers	Enlisted	Total	Officers	Enlisted	Total	Officers	Enlisted	Total	
2011	508,014	1,302,483	1,810,497	908	26,637	27,545	17,638	86,653	104,291	1,942,333
2012	510,438	1,303,285	1,813,723	1,409	36,723	38,132	16,938	84,492	101,430	1,953,285
2013	518,279	1,316,603	1,834,882	1,904	46,136	48,040	16,295	82,516	98,811	1,981,733
2014	520,105	1,314,172	1,834,277	2,382	54,507	56,890	15,699	80,502	96,201	1,987,368
2015	521,921	1,311,381	1,833,302	2,855	62,146	65,001	15,167	78,670	93,837	1,992,140
2016	523,652	1,309,287	1,832,939	3,322	69,348	72,670	14,694	77,037	91,731	1,997,341
2017	525,325	1,307,387	1,832,712	3,793	76,431	80,224	14,260	75,487	89,747	2,002,683
2018	526,951	1,306,486	1,833,437	4,239	83,038	87,277	13,870	74,023	87,892	2,008,606
2019	528,688	1,306,889	1,835,577	4,654	89,099	93,753	13,518	72,644	86,162	2,015,492
2020	530,600	1,308,763	1,839,363	5,012	94,432	99,444	13,204	71,344	84,548	2,023,355
2021	532,595	1,311,561	1,844,156	5,326	98,955	104,281	12,921	70,118	83,039	2,031,477
2022	534,739	1,314,946	1,849,685	5,621	102,866	108,487	12,665	68,958	81,624	2,039,796
2023	537,025	1,318,809	1,855,834	5,871	106,110	111,981	12,431	67,853	80,284	2,048,100
2024	538,874	1,323,309	1,862,183	6,083	108,640	114,724	12,214	66,810	79,025	2,055,932
2025	540,363	1,325,940	1,866,302	6,244	110,331	116,575	12,011	65,801	77,812	2,060,689
2026	541,614	1,329,067	1,870,681	6,368	111,347	117,715	11,819	64,828	76,647	2,065,044
2027	542,463	1,331,890	1,874,353	6,463	111,944	118,408	11,637	63,895	75,532	2,068,292
2028	548,801	1,347,204	1,896,005	6,538	112,240	118,778	11,463	62,987	74,450	2,089,233
2029	548,967	1,347,081	1,896,048	6,594	112,292	118,885	11,296	62,095	73,391	2,088,324
2030	548,489	1,344,713	1,893,202	6,631	112,147	118,779	11,135	61,220	72,356	2,084,336
2031	547,687	1,340,293	1,887,980	6,654	111,835	118,489	10,982	60,364	71,346	2,077,816
2032	546,944	1,336,848	1,883,792	6,665	111,383	118,048	10,838	59,551	70,389	2,072,229
2033	546,131	1,331,897	1,878,027	6,663	110,810	117,473	10,702	58,765	69,467	2,064,968
2034	544,774	1,325,465	1,870,239	6,652	110,124	116,777	10,571	57,994	68,564	2,055,580
2035	543,180	1,319,418	1,862,598	6,631	109,324	115,955	10,444	57,259	67,703	2,046,256
2036	541,276	1,314,026	1,855,302	6,603	108,420	115,023	10,323	56,567	66,890	2,037,215

\*This projection includes retired from active and reserve duty.

Non-CSB/Redux figures include both active and reserve duty retirees, while CSB/Redux figures include only active duty retirees.

\*\*The number of retirees projected only considers those receiving non-zero retired pay from the Military Retirement Fund.

\*\*\*Disabled enlisted retirees include overturned cases from the Physical Disability Board of Review (PDBR) established as part of the 2008 NDAA.

**TOTAL ANNUAL RETIRED PAY FOR EACH FISCAL YEAR**

(Dollar Amounts in Thousands)

Fiscal Year	Nondisabled (non-CSB/Redux)			Nondisabled (CSB/Redux)			Disabled			Grand Total
	Officers	Enlisted	Total	Officers	Enlisted	Total	Officers	Enlisted	Total	
2012	\$20,736,925	\$26,139,083	\$46,876,008	\$36,655	\$561,090	\$597,745	\$533,895	\$921,813	\$1,455,707	\$48,929,460
2013	\$21,491,940	\$26,871,623	\$48,363,563	\$57,300	\$778,554	\$835,854	\$518,872	\$910,019	\$1,428,891	\$50,628,308
2014	\$22,145,575	\$27,467,292	\$49,612,868	\$79,319	\$989,833	\$1,069,152	\$502,565	\$896,733	\$1,399,297	\$52,081,317
2015	\$22,753,794	\$27,993,917	\$50,747,711	\$102,801	\$1,194,480	\$1,297,282	\$488,119	\$886,681	\$1,374,800	\$53,419,793
2016	\$23,384,785	\$28,545,891	\$51,930,675	\$127,982	\$1,396,630	\$1,524,612	\$475,546	\$879,203	\$1,354,749	\$54,810,036
2017	\$24,051,187	\$29,142,285	\$53,193,472	\$155,889	\$1,610,054	\$1,765,943	\$464,888	\$874,127	\$1,339,016	\$56,298,431
2018	\$24,743,903	\$29,779,780	\$54,523,683	\$185,939	\$1,831,735	\$2,017,674	\$455,832	\$871,109	\$1,326,941	\$57,868,299
2019	\$25,462,734	\$30,472,206	\$55,934,940	\$216,220	\$2,049,360	\$2,265,580	\$448,368	\$869,811	\$1,318,179	\$59,518,699
2020	\$26,212,706	\$31,224,151	\$57,436,857	\$245,230	\$2,256,563	\$2,501,793	\$442,477	\$870,032	\$1,312,509	\$61,251,159
2021	\$27,170,073	\$32,243,355	\$59,413,428	\$274,308	\$2,462,493	\$2,736,801	\$440,876	\$876,549	\$1,317,425	\$63,467,654
2022	\$28,225,410	\$33,395,543	\$61,620,954	\$303,801	\$2,662,233	\$2,966,035	\$441,329	\$885,385	\$1,326,714	\$65,913,702
2023	\$29,323,799	\$34,621,831	\$63,945,630	\$333,224	\$2,853,653	\$3,186,876	\$442,876	\$895,148	\$1,338,023	\$68,470,530
2024	\$30,455,616	\$35,932,170	\$66,387,786	\$361,689	\$3,036,489	\$3,398,178	\$445,494	\$906,193	\$1,351,687	\$71,137,651
2025	\$31,610,991	\$37,294,977	\$68,905,969	\$389,027	\$3,207,193	\$3,596,220	\$449,004	\$918,347	\$1,367,351	\$73,869,540
2026	\$32,800,636	\$38,713,097	\$71,513,732	\$416,046	\$3,367,810	\$3,783,856	\$453,317	\$931,278	\$1,384,595	\$76,682,183
2027	\$34,016,233	\$40,208,365	\$74,224,598	\$443,864	\$3,522,098	\$3,965,962	\$458,409	\$945,234	\$1,403,642	\$79,594,203
2028	\$35,375,020	\$41,880,558	\$77,255,578	\$472,544	\$3,677,320	\$4,149,865	\$464,297	\$960,082	\$1,424,379	\$82,829,822
2029	\$36,754,013	\$43,566,037	\$80,320,049	\$501,002	\$3,838,542	\$4,339,545	\$470,766	\$975,337	\$1,446,104	\$86,105,698
2030	\$38,047,814	\$45,144,542	\$83,192,356	\$529,041	\$4,016,818	\$4,545,859	\$477,875	\$990,916	\$1,468,791	\$89,207,006
2031	\$39,370,798	\$46,730,977	\$86,101,775	\$557,007	\$4,224,192	\$4,781,199	\$485,700	\$1,006,930	\$1,492,630	\$92,375,604
2032	\$40,741,301	\$48,380,252	\$89,121,553	\$585,032	\$4,453,069	\$5,038,102	\$494,291	\$1,023,962	\$1,518,253	\$95,677,907
2033	\$42,165,836	\$50,083,599	\$92,249,435	\$611,620	\$4,677,460	\$5,289,080	\$503,771	\$1,042,303	\$1,546,074	\$99,084,590
2034	\$43,618,953	\$51,785,516	\$95,404,469	\$635,474	\$4,881,055	\$5,516,530	\$513,888	\$1,061,099	\$1,574,986	\$102,495,985
2035	\$45,090,438	\$53,521,464	\$98,611,902	\$656,833	\$5,060,889	\$5,717,722	\$524,497	\$1,080,405	\$1,604,901	\$105,934,525
2036	\$46,583,752	\$55,339,058	\$101,922,810	\$676,644	\$5,225,381	\$5,902,024	\$535,650	\$1,101,052	\$1,636,702	\$109,461,536

\*This projection includes retired from active and reserve duty.

Non-CSB/Redux figures include both active and reserve duty retirees, while CSB/Redux figures include only active duty retirees.

\*\*Disabled enlisted retirees include overturned cases from the Physical Disability Board of Review (PDBR) established as part of the 2008 NDAA.

**RETIREE GAIN STATEMENT**

Fiscal Year	Gains During the Fiscal Year						Average Starting Net Retired Pay Before CPI Increase					
	Nondisabled (non-CSB/Redux)		Nondisabled (CSB/Redux)		Disabled		Nondisabled (non-CSB/Redux)		Nondisabled (CSB/Redux)		Disabled	
	Officers	Enlisted	Officers	Enlisted	Officers	Enlisted	Officers	Enlisted	Officers	Enlisted	Officers	Enlisted
2012	15,967	30,175	501	10,117	454	4,036	\$44,510	\$19,667	\$39,201	\$20,952	\$37,566	\$14,274
2013	21,372	43,495	497	9,456	450	3,982	\$39,296	\$17,547	\$42,109	\$22,571	\$37,958	\$14,537
2014	15,325	28,514	480	8,429	448	3,928	\$45,306	\$20,923	\$45,689	\$23,856	\$38,643	\$14,837
2015	15,261	28,844	475	7,709	445	3,855	\$46,711	\$21,344	\$49,512	\$25,247	\$39,706	\$15,295
2016	15,121	30,196	469	7,288	442	3,798	\$48,136	\$22,029	\$52,838	\$26,236	\$41,122	\$15,872
2017	15,018	31,005	474	7,184	435	3,758	\$49,712	\$22,448	\$59,087	\$28,972	\$42,757	\$16,518
2018	14,937	32,579	450	6,725	429	3,740	\$51,256	\$23,347	\$63,027	\$30,245	\$44,457	\$17,159
2019	15,035	34,419	419	6,199	424	3,731	\$52,823	\$24,188	\$65,976	\$31,438	\$46,050	\$17,786
2020	15,219	36,390	364	5,490	423	3,722	\$54,220	\$24,913	\$69,630	\$32,238	\$47,468	\$18,403
2021	15,336	37,776	320	4,703	420	3,718	\$55,697	\$25,755	\$72,692	\$33,077	\$48,929	\$19,038
2022	15,546	38,782	302	4,115	420	3,716	\$56,900	\$26,813	\$76,922	\$34,516	\$50,416	\$19,711
2023	15,773	39,647	258	3,474	419	3,716	\$58,429	\$28,096	\$82,260	\$36,625	\$52,042	\$20,436
2024	15,442	40,636	221	2,790	418	3,727	\$60,724	\$29,564	\$85,961	\$39,289	\$53,757	\$21,219
2025	15,202	39,089	170	1,982	417	3,716	\$62,877	\$31,111	\$94,281	\$44,473	\$55,535	\$21,993
2026	15,099	39,881	135	1,343	416	3,713	\$64,928	\$32,533	\$102,194	\$51,938	\$57,374	\$22,753
2027	14,836	39,866	107	962	416	3,716	\$67,424	\$34,060	\$109,665	\$58,735	\$59,340	\$23,574
2028	20,474	52,666	88	703	416	3,709	\$60,737	\$30,699	\$117,821	\$65,220	\$61,388	\$24,358
2029	14,454	37,536	71	506	414	3,694	\$72,317	\$36,750	\$126,003	\$72,146	\$63,467	\$25,129
2030	13,962	35,561	54	360	413	3,681	\$76,064	\$38,832	\$134,663	\$78,761	\$65,651	\$25,919
2031	13,793	33,784	42	247	413	3,667	\$79,446	\$40,837	\$145,173	\$85,907	\$67,953	\$26,760
2032	14,007	35,038	32	168	414	3,676	\$82,274	\$42,368	\$153,544	\$93,476	\$70,410	\$27,710
2033	14,091	33,811	21	111	415	3,672	\$85,227	\$43,807	\$165,998	\$100,162	\$73,069	\$28,702
2034	13,698	32,601	15	69	412	3,652	\$88,245	\$45,177	\$176,976	\$106,059	\$75,751	\$29,606
2035	13,600	33,254	8	31	408	3,651	\$90,822	\$46,219	\$195,989	\$113,669	\$78,297	\$30,617
2036	13,412	34,161	5	9	405	3,657	\$93,429	\$47,603	\$216,431	\$126,408	\$81,052	\$31,760

\*This projection includes retired from active and reserve duty.

Non-CSB/Redux figures include both new active and reserve duty retirements, while CSB/Redux figures include only new active duty retirements.

\*\*Gains during the year include those people who die before year end. All figures are after total and partial VA offsets.

\*\*\*The dramatic retiree gain increases in FY 2013 and FY 2028 are a result of the modeling due to section 647 of the 2008 NDAA.

Please refer to Appendix F and Appendix H for more information.

**TOTAL NUMBER OF SURVIVORS ON SEPTEMBER 30 OF EACH FISCAL YEAR**

<b>Fiscal Year</b>	<b>SBP Non-CSB/Redux</b>	<b>SBP CSB/Redux</b>	<b>RCSBP</b>	<b>Minimum Income</b>	<b>Death on Active Duty</b>	<b>RSFPP</b>	<b>Special Survivor Indemnity Allowance</b>	<b>Total</b>
2011	193,234	0	83,562	114	8,794	9,090	58,347	294,794
2012	195,133	6	85,185	99	8,871	8,371	58,470	297,667
2013	196,561	16	86,675	88	8,920	7,656	58,467	299,916
2014	197,585	29	88,097	77	8,939	6,966	58,393	301,693
2015	198,211	47	89,481	68	8,931	6,307	58,237	303,046
2016	198,466	69	90,857	60	8,890	5,683	57,938	304,024
2017	198,388	96	92,243	53	8,811	5,095	57,509	304,685
2018	198,003	129	93,659	46	8,690	4,545	0	305,073
2019	197,323	170	95,122	40	8,536	4,035	0	305,227
2020	196,366	218	96,641	35	8,353	3,565	0	305,179
2021	195,145	276	98,218	31	8,133	3,136	0	304,938
2022	193,674	342	99,854	27	7,895	2,745	0	304,538
2023	191,964	420	101,548	23	7,641	2,394	0	303,990
2024	190,035	509	103,291	20	7,388	2,079	0	303,321
2025	187,913	611	105,074	17	7,148	1,800	0	302,563
2026	185,630	727	106,892	15	6,931	1,554	0	301,749
2027	183,218	859	108,735	12	6,749	1,340	0	300,914
2028	180,721	1,008	110,652	10	6,604	1,155	0	300,151
2029	178,181	1,175	112,529	9	6,489	996	0	299,379
2030	175,649	1,363	114,384	7	6,394	861	0	298,658
2031	173,172	1,571	116,203	6	6,322	747	0	298,022
2032	170,798	1,803	117,966	5	6,269	652	0	297,493
2033	168,560	2,058	119,652	4	6,227	573	0	297,074
2034	166,482	2,339	121,239	3	6,192	509	0	296,764
2035	164,584	2,648	122,706	3	6,170	455	0	296,566
2036	162,868	2,985	124,013	2	6,152	411	0	296,432

\*This projection includes retired from active and reserve duty.

Non-CSB/Redux figures include both survivors of active and reserve duty retirees, while CSB/Redux figures include only survivors of active duty retirees.

\*\*The number of survivors projected only considers those receiving non-zero pay from the Military Retirement Fund.

\*\*\*RCSBP survivors include all survivors of reservists, not just those electing pre-age 60 coverage.

\*\*\*\*The Special Survivor Indemnity Allowance counts are shown for informational purposes and are not included in the Total column. They include the impact of both the 2008 NDAA and P.L. 110-181.

**TOTAL ANNUAL SURVIVOR BENEFITS FOR EACH FISCAL YEAR**

(Dollar Amounts in Thousands)

<b>Fiscal Year</b>	<b>SBP Non-CSB/Redux</b>	<b>SBP CSB/Redux</b>	<b>RCSBP</b>	<b>Minimum Income</b>	<b>Death on Active Duty</b>	<b>RSFPP</b>	<b>Special Survivor Indemnity Allowance</b>	<b>Total</b>
2012	\$2,946,465	\$29	\$687,407	\$810	\$78,288	\$25,090	\$56,132	\$3,794,222
2013	\$3,010,954	\$116	\$712,193	\$724	\$82,526	\$23,192	\$63,145	\$3,892,850
2014	\$3,058,817	\$252	\$733,834	\$652	\$86,318	\$21,269	\$105,107	\$4,006,249
2015	\$3,104,787	\$450	\$756,357	\$587	\$90,167	\$19,415	\$139,768	\$4,111,530
2016	\$3,147,573	\$719	\$779,758	\$528	\$93,980	\$17,648	\$191,196	\$4,231,402
2017	\$3,189,149	\$1,072	\$804,782	\$475	\$97,718	\$15,979	\$213,935	\$4,323,109
2018	\$3,228,333	\$1,529	\$831,406	\$426	\$101,310	\$14,412	\$0	\$4,177,416
2019	\$3,264,607	\$2,116	\$859,717	\$381	\$104,597	\$12,952	\$0	\$4,244,370
2020	\$3,298,047	\$2,854	\$890,033	\$341	\$107,679	\$11,594	\$0	\$4,310,547
2021	\$3,350,758	\$3,792	\$928,624	\$306	\$110,849	\$10,356	\$0	\$4,404,684
2022	\$3,408,663	\$4,954	\$972,152	\$275	\$113,730	\$9,231	\$0	\$4,509,005
2023	\$3,464,433	\$6,370	\$1,018,830	\$245	\$116,147	\$8,206	\$0	\$4,614,230
2024	\$3,518,351	\$8,078	\$1,069,003	\$219	\$118,200	\$7,282	\$0	\$4,721,132
2025	\$3,570,449	\$10,129	\$1,122,742	\$194	\$119,924	\$6,452	\$0	\$4,829,890
2026	\$3,621,058	\$12,583	\$1,180,176	\$172	\$121,394	\$5,715	\$0	\$4,941,098
2027	\$3,670,387	\$15,498	\$1,241,437	\$151	\$123,069	\$5,066	\$0	\$5,055,608
2028	\$3,718,966	\$18,955	\$1,306,862	\$132	\$124,981	\$4,501	\$0	\$5,174,398
2029	\$3,767,574	\$23,057	\$1,376,501	\$114	\$127,136	\$4,015	\$0	\$5,298,397
2030	\$3,816,904	\$27,865	\$1,449,734	\$98	\$129,507	\$3,599	\$0	\$5,427,708
2031	\$3,868,008	\$33,403	\$1,526,860	\$84	\$132,181	\$3,249	\$0	\$5,563,785
2032	\$3,922,087	\$39,711	\$1,607,819	\$71	\$135,159	\$2,955	\$0	\$5,707,802
2033	\$3,980,356	\$46,876	\$1,692,443	\$60	\$138,405	\$2,712	\$0	\$5,860,852
2034	\$4,043,787	\$55,027	\$1,780,600	\$51	\$141,864	\$2,513	\$0	\$6,023,842
2035	\$4,113,506	\$64,276	\$1,872,037	\$43	\$145,541	\$2,353	\$0	\$6,197,755
2036	\$4,190,143	\$74,728	\$1,966,251	\$36	\$149,472	\$2,222	\$0	\$6,382,851

\*This projection includes retired from active and reserve duty.

Non-CSB/Redux figures include both survivors of active and reserve duty retirees, while CSB/Redux figures include only survivors of active duty retirees.

\*\*RCSBP survivors include all survivors of reservists, not just those electing pre-age 60 coverage.

\*\*\*The Special Survivor Indemnity Allowance dollars are included in the Total column. They include the impact of both the 2008 NDAA and P.L. 110-181.

**TOTAL PROJECTED BASIC PAY AND RETIRED OUTLAYS**

(Dollar Amounts in Thousands)

<u>Fiscal Year</u>	<u>Total Projected Basic Pay</u>	<u>Total Projected Outlays</u>	<u>Retired Outlays Over Basic Pay</u>
2012	\$62,791,998	\$52,723,682	84.0%
2013	\$63,672,375	\$54,521,157	85.6%
2014	\$65,141,524	\$56,087,566	86.1%
2015	\$66,632,179	\$57,531,323	86.3%
2016	\$68,359,481	\$59,041,439	86.4%
2017	\$70,123,281	\$60,621,541	86.4%
2018	\$72,143,237	\$62,045,715	86.0%
2019	\$74,429,903	\$63,763,069	85.7%
2020	\$76,810,556	\$65,561,706	85.4%
2021	\$79,313,564	\$67,872,339	85.6%
2022	\$82,109,045	\$70,422,707	85.8%
2023	\$84,978,915	\$73,084,760	86.0%
2024	\$87,910,250	\$75,858,783	86.3%
2025	\$90,947,227	\$78,699,429	86.5%
2026	\$94,116,067	\$81,623,281	86.7%
2027	\$97,383,137	\$84,649,811	86.9%
2028	\$100,774,382	\$88,004,220	87.3%
2029	\$104,357,194	\$91,404,094	87.6%
2030	\$108,168,803	\$94,634,714	87.5%
2031	\$112,170,308	\$97,939,389	87.3%
2032	\$116,295,162	\$101,385,708	87.2%
2033	\$120,552,048	\$104,945,441	87.1%
2034	\$125,096,491	\$108,519,827	86.7%
2035	\$129,930,561	\$112,132,280	86.3%
2036	\$134,971,546	\$115,844,388	85.8%

\*Basic pay includes reserve and active duty basic pay; outlays include retired pay and survivor benefits.

\*\*This projection includes retired from active and reserve duty.

\*\*\*This projection includes pay for those retirees eligible for Concurrent Receipt.

\*\*\*\*This projection is adjusted for the increase in survivor benefits due to P.L. 110-181.

\*\*\*\*\*This projection includes overturned cases from the Physical Disability Board of Review (PDBR) established as part of the 2008 NDAA.

APPENDIX L

FINANCIAL STATEMENT DISCLOSURES

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## STATEMENT OF NET ASSETS AVAILABLE FOR BENEFITS

Federal trust funds like the Military Retirement Fund are not subject to the same pension regulations as private sector and state/local governmental plans. Under generally accepted accounting principles (GAAP), both private sector and state/local pension plans are required to include a table showing the “Statement of Net Assets Available for Benefits” and a “Statement of Changes in Net Assets Available for Benefits,” where assets are valued at fair market value in their accounting statements. For the Military Retirement Fund, fair market value is based on the bid prices of public issue securities with the same maturity dates and coupon rates as the special issue securities held by the Fund. These statements are included in Tables L-1 and L-2, respectively.

Measures of a retirement system’s liabilities (required for private sector plans under GAAP) are the “Accumulated Plan Benefits” and the “Market Value of Assets.” In prior years, both these items and explanatory notes were included in this appendix. Only the “Market Value of Assets” is currently shown for informational purposes.

The market values shown in this appendix can be found in the *Fiscal Year 2011 Military Retirement Fund Audited Financial Statements*. The financial statements are available through the website of the Office of the Under Secretary of Defense (Comptroller) at <http://www.defenselink.mil/comptroller/>.

TABLE L-1

DEPARTMENT OF DEFENSE  
MILITARY RETIREMENT FUND  
STATEMENT OF NET ASSETS AVAILABLE FOR BENEFITS  
(\$ in millions)

	For the Plan Year Ended September 30:	
<u>Assets</u>	<u>2011</u>	<u>2010</u>
1) Investments, at fair market value, in U.S. Government securities: <sup>1</sup>	\$436,596	\$351,051
2) Accounts receivable:		
a) Accrued interest <sup>2</sup>	\$3,405	\$3,122
b) Due from military retirees or their survivors	\$47	\$37
c) Intragovernmental	\$186	\$0
3) Cash:	\$370	\$25
<u>Total Assets (1 + 2 + 3):</u>	<u>\$440,603</u>	<u>\$354,235</u>
Accounts payable:	\$(4,200)	\$(4,210)
<u>Total Assets Available for Benefits</u>	<u>\$436,404</u>	<u>\$350,025</u>

<sup>1</sup> Fair market value of securities has been measured by quoted prices (bid price) in the active U.S. Government securities market. Bid price used represents the over-the-counter quotations as of 4 p.m. eastern time as reported by the U.S. Department of Treasury – Bureau of Public Debt on September 30, 2011, and September 30, 2010, respectively. Additional adjustment made as a result of FY 2011 National Defense Authorization Act (P.L. 111-383) regarding retired pay date as follows:

	<u>2011</u>	<u>2010</u>
Investments, at fair market value (actual)	\$432,742	\$351,051
October Expenditures paid in September	<u>\$3,854</u>	<u>\$0</u>
Investments, at fair market value (adjusted)	\$436,596	\$351,051

<sup>2</sup> Includes accrued interest receivable and interest purchased.

TABLE L-2

DEPARTMENT OF DEFENSE  
MILITARY RETIREMENT FUND  
STATEMENT OF CHANGES IN NET ASSETS  
AVAILABLE FOR BENEFITS  
(\$ in millions)

	For the Plan Year Ended September 30:	
	<u>2011</u>	<u>2010</u>
Net assets available for benefits at beginning of plan year:	\$350,025	\$282,517
1) Investment/Inflation income (coupons received)	\$20,179	\$12,251
2) Net appreciation (depreciation) in fair market value of investments	\$29,873	\$22,841
3) Contributions from services	\$20,970	\$20,377
4) Appropriation to amortize the initial unfunded liability	\$61,404	\$58,619
5) Appropriation for Treasury Normal Cost Contribution	\$4,950	\$4,516
Total additions (1 + 2 + 3 + 4 + 5)	<u>\$137,376</u>	<u>\$118,604</u>
Less: Benefits paid to participants <sup>1</sup>	<u>\$50,997</u>	<u>\$51,096</u>
Net assets available for benefits at end of plan year	<u>\$436,404</u>	<u>\$350,025</u>

---

<sup>1</sup> The statement has been revised to show benefits paid to participants on an accrual basis:

	<u>2011</u>	<u>2010</u>
Benefits paid on cash basis	\$51,007	\$50,585
Change in liability for benefits due at end of year	<u>\$(10)</u>	<u>\$511</u>
Benefits paid on accrual basis	\$50,997	\$51,096

## COMPARISON OF DOD BOARD AND SFFAS 33 ACTUARIAL LIABILITIES

For Military Retirement Fund liabilities, DoD Office of the Actuary (OACT) performs two annual valuations. The primary one is for funding purposes—this valuation is governed by Chapter 74 of Title 10 U.S.C. and must use methods and assumptions approved by the DoD Board of Actuaries (Board). The other is for financial statement purposes and is governed by Federal Accounting Standards Advisory Board (FASAB) standards.

Historically, OACT has used Board valuation methods and assumptions to calculate liabilities for financial statement purposes. However, even using the same assumptions, liabilities from the Board valuation differ from financial statement numbers because of financial statement deadlines. For example, the September 30, 2011, actuarial liability for the financial statements was projected based on the September 30, 2010, Board valuation (it was due in early October 2011). The September 30, 2011, Board valuation (documented in this report) was performed at a later time, based on actual September 30, 2011 data, and therefore resulted in a different September 30, 2011 actuarial liability. A comparison of these respective actuarial liabilities is shown in Table L-3. Note that the ‘*Actuarial Certification*’ (page 2) only applies to Board valuation results for purposes of meeting the requirements of Chapter 74, Title 10, United State Code.

Currently, a separate financial statement valuation (i.e., with different assumptions) is necessary to satisfy a recently published financial statement regulation called the Statement of Federal Financial Accounting Standards 33 (SFFAS 33). A separate financial statement valuation is needed because SFFAS 33 requires the use of a yield curve to discount cash flows, whereas the Board valuation uses an interest rate assumption based on methodologies described in Appendix D..

SFFAS 33 requires a minimum of five years of historical rates for the yield curve input and a consistency in the number of historical rates used from period to period. OACT used ten years of quarterly zero coupon Treasury spot rates (as published by the Office of Thrift Supervision), from June 30, 2001 to March 31, 2011 (40 quarterly interest rates), which resulted in a single-equivalent interest rate of 4.80%. This is comparable to the Board valuation interest rate of 5.75%.

SFFAS 33 also directs the interest rate, underlying inflation rates, and other economic assumptions to be consistent with one another. A change in the interest rate may cause other assumptions to change as well. For the September 30, 2011, financial statement valuation, SFFAS 33 required the long-term inflation and salary increase assumptions to be consistent with the underlying Treasury spot rates used in the valuation. The September 30, 2011, SFFAS 33 economic assumptions are shown in the concluding note of Table L-3.

SFFAS 33 permits the use of a single average interest rate if the resulting present value is not materially different from what would be obtained using the yield curve. Using the SFFAS 33 as opposed to Board economic assumptions increases the MRF actuarial liability by approximately 7%.

TABLE L-3  
**MILITARY RETIREMENT SYSTEM**  
**COMPARISON OF DOD BOARD AND SFFAS 33 ACTUARIAL LIABILITIES**  
 (\$ in billions)

		Valuation For the Plan Year Ended September 30, 2011:	
		<u>DoD Board</u> <sup>1</sup>	<u>SFFAS 33</u> <sup>2</sup>
1.	Present value of future benefits		
	a. Annuitants now on roll	\$807.3	-----
	b. Nonretired reservists	\$174.2	-----
	c. Active duty personnel <sup>3</sup>	<u>\$530.9</u>	<u>-----</u>
	TOTAL	\$1,512.4	\$1,622.9
2.	Present value of future normal cost contributions	\$239.1	\$262.0
3.	Actuarial accrued liability	\$1,273.3	\$1,360.9
4.	Actuarial value of assets <sup>4</sup>	\$376.1	\$368.2
5.	Unfunded accrued liability	\$897.2	\$992.7
6.	Funded Ratio (4. / 3.)	30%	27%

<sup>1</sup> Reproduced from Table 7 in main text.

<sup>2</sup> Reproduced from the 'Fiscal Year 2011 Military Retirement Fund Audited Financial Statements.' The financial statements are available through the website of the Office of the Under Secretary of Defense (Comptroller) at <http://www.defenselink.mil/comptroller/>. The 'Actuarial Certification' (page 2) does not apply to these figures. Line 1 components are not displayed ("-----"). The more comparable figure is the line 1 total.

<sup>3</sup> The future benefits of active duty personnel expected to retire as reservists are counted on line 1.b.

<sup>4</sup> For DoD Board results, the actuarial value of assets is determined using the amortized cost method from Table 4 in main text. For SFFAS 33 results, the actuarial value of assets is reduced by the accounts receivable (i.e., accrued interest) and accounts payable.

**NOTE:** The following long-term economic assumptions are used in computing the respective actuarial liabilities:

	<u>DoD Board</u>	<u>SFFAS 33</u>
Full COLA:	3.00%	2.50%
Basic Pay:	3.75%	3.30%
Interest:	5.75%	4.80%

APPENDIX M

TREASURY PAYMENTS

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## **METHOD OF AMORTIZING CHANGES IN THE UNFUNDED LIABILITY OF THE MILITARY RETIREMENT SYSTEM**

### **Introduction**

Section 1465 of Title 10 states that the Secretary of Defense shall determine amortization methods and schedules for the annual amortization of changes in the unfunded liability (UFL) of the Military Retirement System. The section also states that these methods and assumptions must be approved by the DoD Board of Actuaries. The resulting payments are made by the Department of the Treasury to the Military Retirement Fund and do not affect the DoD budget.

There are three causes of change in the Military Retirement System's unfunded liability: (1) changes in benefits, (2) annual experience gains or losses resulting from actual experience deviating from expected experience, and (3) changes in actuarial assumptions used in the projected liability calculations. When a change in the unfunded liability does not fit perfectly into one of the three categories, the Board of Actuaries will determine the most appropriate one. The following describes the technical procedure of amortizing these types of changes, as approved by the Board.

### **Amortization Procedure**

All three types of changes in the UFL are amortized by means of payment schedules so that: (1) the annual amortization payments increase each year by the long-term basic pay scale assumption (currently 3.75 percent); (2) the payment stream completely liquidates the additional liability over 30 years; and (3) the payments are expressed to the nearest million dollars. The amortization payments increase at the same rate as the increase in the total basic payroll for a particular year—an outcome that is consistent with the way the normal cost payments and payments to amortize the system's initial UFL are determined. This method is no longer common for many private sector pension plans and has given way to an amortization schedule with level payments in order to cover interest costs. It is also required for these pension plans to amortize changes in unfunded liabilities over shorter than a 30-year schedule. However, the methods applied to the Military Retirement Fund are similar to those of other federal and public sector pension plans. Additionally, the Board has annual discussions regarding the appropriateness of the amortization procedure.

Experience gains and losses, which create changes in the UFL, occur every year. Because these changes are usually small in relative terms, the payment streams to amortize them are combined. This produces one single payment stream for the category of experience gains and losses and eliminates the tedious tracking of up to thirty different small amortization schedules. The DoD Office of the Actuary can identify the separate segments if the need arises.

A similar method of combining amortization schedules is used for changes in the UFL caused by changes in actuarial assumptions. Beginning with the September 30, 1995, valuation,

changes to the UFL due to all benefit changes are being combined and amortized in a single stream of payments. Detailed examples of how the amortization payments are calculated follow.

Actuarial gains and losses are changes in the UFL that result from actual experience in a pension plan deviating from what was expected. An actuarial gain is a *decrease* in the UFL and is expressed as a positive number. Conversely, a loss represents an *increase* in the UFL and is expressed as a negative number. To avoid confusion, the terms negative and positive “experience changes” will be used in place of “experience gains” and “experience losses.”

The amortization payment for a positive experience change (gain) is also expressed as a positive number. These positive amortization payments reduce any positive amortization payments otherwise payable, including the (negative) payments amortizing the system’s initial UFL.

Amortization payments for changes in the UFL are structured to increase each year with the basic pay scale increase. When the payments are negative, their absolute values are made to increase. Although this means that the payments are actually decreasing mathematically, for simplicity of expression both positive and negative amortization payments are said to “increase” by the basic pay scale increase.

### **Benefit and Experience Changes**

Below is an example of how three years’ changes in UFL due to actual experience differing from expected experience would be amortized. The amortization schedules would be identical if these changes in the UFL had been due to changes in benefits. This example is hypothetical.

In FY 2011 there is an assumed experience change of -\$13,800 million (representing a loss of \$13,800 million) determined as of the end of the fiscal year, or September 30, 2011. Since this is the first experience change in the example, it does not need to be combined with a schedule for a prior year. It is amortized with 30 annual payments that increase each year at the rate of the assumed annual increase in basic pay. The payment stream commences on October 1, 2012, and the last payment is made on October 1, 2041. The final payment reduces the amortization base to zero.

The amount of the first payment, -\$633 million, is determined by means of the following steps:

1. Bring forward unamortized balance with interest to September 30, 2012:

$$-\$13,800 \text{ million} \times (1 + \mathbf{i}) = -\$14,594 \text{ million}$$

2. Calculate annuity due factor for 30 years at interest rate  $\mathbf{j} = [(1 + \mathbf{i}) \div (1 + \mathbf{s})] - 1$ :

$$= 23.056743$$



3. Divide unamortized balance by annuity factor to get annual payment:

$$-\$14,594 \text{ million} \div 23.056743 = -\$633 \text{ million}$$

where the annual increase in the basic pay scale  $s = .0375$  and the valuation rate of interest  $i = .0575$ . The amortization period is 30 years. In general, the amortization interest rate,  $j$ , is defined by

$$j = [(1 + i) \div (1 + s)] - 1.$$

A hypothetical experience gain in FY 2012 creates a change in the UFL of +\$8,400 million, calculated as of the end of that fiscal year, or September 30, 2012. The amortization schedules for this change and for the FY 2011 change are combined as follows. First, the unamortized balance of the FY 2011 experience change is determined. After the -\$633 million amortization payment is made on October 1, 2012, the remaining unamortized balance is -\$13,961 million. This balance is calculated as  $[-13,961 = (-13,800 \times 1.0575) - (-633)]$ . The +\$8,400 million experience change for FY 2012 is then added to the -\$13,961 unamortized balance, leaving a combined balance of -\$5,561 million  $(-5,561 = -13,961 + 8,400)$ .

This combined balance will be amortized over a “combined amortization period.” The combined amortization period is equal to the weighted average of the remaining 29-year amortization period for the FY 2011 experience change and a new 30-year period for the FY 2012 experience change. The weights used in the calculation are the absolute values of the -\$13,961 million unamortized balance and the +\$8,400 million experience change, respectively.

Thus the combined amortization period is equal to:

$$\frac{(13,961 \times 29) + (8,400 \times 30)}{13,961 + 8,400} = 29.38 \text{ years}$$

An initial combined amortization payment of -\$259 million is determined by the following procedure:

1. Bring forward unamortized balance with interest to September 30, 2013:

$$-\$5,561 \text{ million} \times (1 + i) = -\$5,880 \text{ million}$$

2. Calculate annuity due factor for 29.38 years at interest rate  $j = [(1 + i) \div (1 + s)] - 1$ :

$$= 22.699155$$

3. Divide unamortized balance by annuity factor to get annual payment:

$$-\$5,880 \text{ million} \div 22.699155 = -\$259 \text{ million}$$

The payments in the amortization streams will increase at 3.75 percent (the annual increase in the basic pay scale) per year. The payment at the end of the 29th year is -\$726 million. A final, partial payment will be made at the end of the 30th year and is equal to the unamortized balance, or -\$285 million.

Because experience changes normally occur every year, the only payment that would actually be made under this particular combined schedule is the -\$259 million on October 1, 2013. A new combined amortization schedule covering FY 2011, FY 2012, and the new UFL caused by experience changes in FY 2013 is determined as follows.

First, the combined FY 2011 and FY 2012 amortization base of -\$5,561 million is increased by one year's interest and credited with the payment of -\$259 million. The remaining unamortized balance as of October 1, 2012, is -\$5,621 million [ $-5,621 = (-5,561 \times 1.0575) - (-259)$ ]. This amount (-\$5,621) is then combined with an assumed FY 2013 experience change of +\$10,300 million, resulting in a new combined unamortized balance of \$4,679 million ( $4,679 = -5,621 + 10,300$ ). This combined amortization base of \$4,679 million is then amortized over a new combined amortization period of 29.43 years, which is equal to the weighted average of the 28.38 years remaining for the old schedule and the 30-year period for the FY 2013 change. The new combined amortization period is calculated as follows:

$$\frac{(5,621 \times 28.38) + (10,300 \times 30)}{5,621 + 10,300} = 29.43 \text{ years}$$

The October 1, 2014, payment to amortize the new combined base of \$4,679 million is \$218 million and is determined by means of the following procedure:

1. Bring forward unamortized balance with interest to September 30, 2014:

$$\$4,679 \text{ million} \times (1 + i) = \$4,948 \text{ million}$$

2. Calculate annuity due factor for 29.43 years at interest rate  $j = [(1 + i) \div (1 + s)] - 1$ :

$$= 22.728433$$

3. Divide unamortized balance by annuity factor to get annual payment:

$$\$4,948 \text{ million} \div 22.728433 = \$218 \text{ million}$$

This is the payment to amortize the combined experience changes for all three years. This procedure continues for the active lifetime of the Military Retirement Fund.

Table M-1 shows the schedule of amortization payments for the experience changes in FY 2011; FY 2011 and FY 2012 combined; and FY 2011, FY 2012, and FY 2013 combined.

**TABLE M-1**  
**Projected Amortization Payments for Experience Changes**  
 (Amounts in Millions)

<u>Date</u>	<u>Payment on the FY 2011 Experience Change</u>	<u>Payment on the Combined FY 2011 and FY 2012 Experience Change</u>	<u>Payment on the Combined FY 2011, FY 2012 and FY 2013 Experience Change</u>
10/1/12	\$ -633		
10/1/13	-657	\$ -259	
10/1/14	-681	-269	\$ 218
10/1/15	-707	-279	226
10/1/16	-733	-289	234
10/1/17	-761	-300	243

**Changes in Actuarial Assumptions**

The third type of change in the UFL is due to changes in actuarial assumptions. These assumption changes are amortized by the same method used for experience gains and losses and for benefit changes, i.e., by means of a combined schedule with initial 30-year payments that increase at the rate of the assumed basic pay scale increases.

If changes in economic assumptions include a change in either the valuation interest rate or the assumed basic pay scale increase, the amortization payments that have already been scheduled for all three categories of change in the UFL will be modified. Specifically, new series of payments will be determined to amortize the current amortization bases over their remaining periods, with payments that increase with the new basic pay scale assumption and are computed using the new valuation interest rate. The following example illustrates how this is done.

Suppose that on October 1 of a particular fiscal year, an amortization base is \$27,405 million, calculated immediately after the scheduled amortization payment is made. Say the remaining amortization period is 18 years. Also suppose that the valuation interest rate is changed to 5.5 percent and that the basic pay scale increase is changed to 3.0 percent.

The initial, revised payment, to be made on the following October 1, is determined by the following procedure:

1. Bring forward unamortized balance with interest to September 30 of next year:

$$\$27,405 \text{ million} \times (1 + \mathbf{i}) = \$28,912 \text{ million}$$

where in this case,  $\mathbf{i} = .055$

2. Calculate annuity due factor for 18 years at interest rate  $\mathbf{j} = [(1 + \mathbf{i}) \div (1 + \mathbf{s})] - 1$ :

$$= 14.794469$$

where  $\mathbf{i} = .055$  and  $\mathbf{s} = .03$

3. Divide unamortized balance by annuity factor to get annual payment:

$$\$28,912 \text{ million} \div 14.794469 = \$1,954 \text{ million}$$

The second and succeeding payments will increase at the rate of 3.0 percent per year, which is the new basic pay scale increase. The \$27,405 million amortization base will be credited with 5.5 percent interest. This new series of amortization payments will reduce the \$27,405 million amortization base to zero at the end of the 18th year.

**CALCULATION OF THE OCTOBER 1, 2012,  
TREASURY PAYMENT**

The following pages (Tables M-2 through M-6) display the calculation of the October 1, 2012, Treasury payment based on the September 30, 2011, valuation results and on amortization methods and assumptions approved by the DoD Board of Actuaries. In order to avoid a projected shortfall in the Military Retirement Fund, the Board determined that, beginning with the FY 1998 payment, the total amortization period of the initial unfunded liability would be decreased from 60 to 50 years. The Board again shortened the initial unfunded liability amortization period in 2007 to 42 years in order for the payments to cover interest on the unfunded liability each year.

Public Law (P.L.) 108-136 required the Department of Treasury to pay for the increase in the normal cost due to Concurrent Receipt. Beginning with FY 2005, Treasury includes the annual normal cost payment due to Concurrent Receipt along with the unfunded liability payment in the October 1st contribution. For the October 1, 2012, Treasury payment, the amount due to Concurrent Receipt totals \$6.791 billion. This is computed using the full- and part-time normal cost percentages (NCPs) in Table 7 of the main text (item 8). The NCPs are multiplied by the DoD Comptroller budgeted FY 2013 full- and part-time basic pay, \$58.0 billion and \$9.1 billion, respectively. Hence, \$6.791 billion is the sum of \$58.0 billion x 11.2% and \$9.1 billion x 3.2% (The numbers may not add exactly due to rounding). The above FY 2013 budgeted basic pay for part-time personnel differs from the projected amount shown in Table 10 of the main text due to recent mobilizations. The inherent challenges of the reserve projection are discussed further in Appendix H.

TABLE M-2  
TOTAL TREASURY PAYMENT  
OCTOBER 1, 2012 AND OCTOBER 1, 2011

(\$ in billions)

	<u>October 1, 2012</u>	<u>October 1, 2011</u>
Amortization payment for:		
1. Initial unfunded liability	\$78.598	\$75.757
2. Changes in benefits	\$7.930	\$7.643
3. Gains and Losses Amortization		
a. Changes in actuarial assumptions	\$0.386	\$0.171
b. Actuarial experience	\$(19.181)	\$(18.820)
Total amortization payment	<u>\$67.733</u>	<u>\$64.751</u>
Normal cost payment	<u>\$6.791</u>	<u>\$5.376</u>
Total Treasury payment	<u>\$74.524</u>	<u>\$70.127</u>

TABLE M-3

CALCULATION OF OCTOBER 1, 2012,  
PAYMENT ON INITIAL UNFUNDED LIABILITY (UFL)

(\$ in billions)

1.	Unamortized balance of initial UFL (10/1/10 balance × 1.0575)	9/30/11	\$ 997.569
2.	Payment on UFL	10/1/11	\$ 75.757
3.	Unamortized balance of initial UFL (1. - 2.)	10/1/11	\$ 921.812
4.	Balance on 9/30/12 (3. × 1.0575)	9/30/12	\$ 974.816
5.	Number of Annual Payments Remaining	9/30/12	14
6.	Value of an annuity due for remaining amortization period at interest rate equal to $(1.0575 \div 1.0375) - 1$		12.4026
7.	Payment on initial UFL due 10/1/12 (4. ÷ 6.)		<u>\$ 78.598</u>

TABLE M-4

CALCULATION OF OCTOBER 1, 2012,  
PAYMENT ON UNFUNDED LIABILITY (UFL)  
RESULTING FROM BENEFIT CHANGES

(\$ in billions)

1. Unamortized UFL balance due to benefit changes (10/1/10 balance x 1.0575)	9/30/11	\$ 143.947
2. Payment on UFL	10/1/11	\$ 7.643
3. Unamortized UFL balance after payment (1. - 2.)	10/1/11	\$ 136.304
4. Additional (new) UFL due to benefit changes	9/30/11	\$ 0.000
5. Unamortized UFL balance due to benefit changes (3. + 4.)	10/1/11	\$ 136.304
6. Balance on 9/30/12 (5. × 1.0575)	9/30/12	\$ 144.141
7. Total number of years of prior amortization schedule		23.06
8. Remaining number of years of prior amortization schedule (7. - 1)		22.06
9. Total number of years of new amortization schedule (absolute values used for all numbers) [(3. × 8.) + (4. × 30)] ÷ (3. + 4.)		22.06
10. Value of an annuity due for remaining amortization period at interest rate equal to (1.0575 ÷ 1.0375) - 1		18.1778
11. Payment on UFL due to benefit changes (6. ÷ 10.)	10/1/12	<u>\$ 7.930</u>



TABLE M-5

CALCULATION OF OCTOBER 1, 2012,  
PAYMENT ON UNFUNDED LIABILITY (UFL)  
RESULTING FROM ASSUMPTION CHANGES

(\$ in billions)

1. Unamortized balance of UFL due to assumption changes (10/1/10 balance $\times$ 1.0575)	9/30/11	\$ 3.624
2. Payment on UFL	10/1/11	\$ 0.171
3. Unamortized UFL balance after payment (1. - 2.)	10/1/11	\$ 3.453
4. Additional (new) UFL	9/30/11	\$ 4.584
5. Unamortized UFL balance due to assumption changes (3. + 4.)	10/1/11	\$ 8.037
6. Balance on 9/30/12 (5. $\times$ 1.0575)	9/30/12	\$ 8.499
7. Number of years in prior amortization schedule		26.89
8. Remaining number of years in prior amortization schedule (7. - 1)		25.89
9. Number of years in new amortization schedule (absolute values used for all numbers) [(3. $\times$ 8.) + (4. $\times$ 30)] $\div$ (3. + 4.)		28.23
10. Value of an annuity due for remaining amortization period at interest rate equal to (1.0575 $\div$ 1.0375) - 1		22.0336
11. Payment on UFL due to assumption changes (6. $\div$ 10.)	10/1/12	<u>\$ 0.386</u>

TABLE M-6

CALCULATION OF OCTOBER 1, 2012,  
PAYMENT ON UNFUNDED LIABILITY (UFL)  
RESULTING FROM EXPERIENCE GAINS AND LOSSES

(\$ in billions)

1. Unamortized UFL balance due to experience gains and losses (10/1/10 balance × 1.0575)	9/30/11	\$ (254.664)
2. Payment on UFL	10/1/11	\$ (18.820)
3. Unamortized UFL balance after payment (1. - 2.)	10/1/11	\$ (235.844)
4. Additional (new) UFL	9/30/11	\$ 2.187
5. Unamortized UFL balance due to experience gains and losses (3. + 4.)	10/1/11	\$ (233.658)
6. Balance on 9/30/12 (5. × 1.0575)	9/30/12	\$ (247.093)
7. Number of years in prior amortization schedule		15.48
8. Remaining number of years in prior amortization schedule (7. - 1)		14.48
9. Number of years in new amortization schedule (absolute values used for all numbers) [(3. × 8.) + (4. × 30)] ÷ (3. + 4.)		14.62
10. Value of an annuity due for remaining amortization period at interest rate equal to (1.0575 ÷ 1.0375) - 1		12.8822
11. Payment on UFL due to experience gains and losses (6. ÷ 10.)	10/1/12	<u>\$ (19.181)</u>

## **OACT ENDNOTES**

### **VISION STATEMENT** **DoD OFFICE OF THE ACTUARY**

To be the leading professionals in the measurement of contingent events and risk related to military benefits and to provide world-class actuarial support to the Department and other stakeholders on matters related to military benefits.

### **MISSION STATEMENT** **DoD OFFICE OF THE ACTUARY**

The Office of the Actuary is responsible for performing annual valuations and providing actuarial cost estimates by applying theories, methods and techniques of actuarial science to the Department for four trust funds: the Military Retirement Fund, Medicare-Eligible Retiree Health Care Fund, Education Benefits Fund, and Voluntary Separation Incentive Fund. We provide requisite actuarial support to the DoD Boards of Actuaries, and are responsible for calculating actuarial liabilities and providing actuarial input for the Department's and government-wide financial statements, producing actuarial analysis and products for the Survivor Benefit Plan, developing quarterly incurred claim reserves for the Medicare-Eligible Retiree Health Care Fund, and providing statistical information about the Military Retirement System for analysts and other interested offices and individuals.

### **CONTACT INFORMATION** **DoD OFFICE OF THE ACTUARY**

Located in the 'Actuarial Certification' section of this report (page 2).

### **VALUATION OF THE MILITARY RETIREMENT SYSTEM** **SEPTEMBER 30, 2012**

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