



VALUATION OF THE MILITARY RETIREMENT SYSTEM

SEPTEMBER 30, 2012

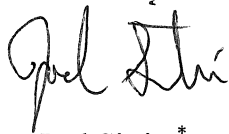
DoD Office of the Actuary
April 2014

ACTUARIAL CERTIFICATION

This report on the Military Retirement System as of September 30, 2012, 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 3.5% across-the-board salary increase, and a 5.5% interest rate.

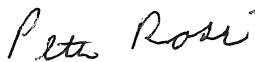
The actuarial methods and assumptions used in the preparation of this report are reasonable, and the valuation results present a fair picture of the financial condition of the Military Retirement System for purposes of meeting the requirements of Chapter 74, Title 10, United States Code. Future report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



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* 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).
- For a high-level summary and “bottom line” results, refer to the “*General Information 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’s 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

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

GENERAL INFORMATION AND KEY RESULTS
Military Retirement System – For Fiscal Year ending September 30, 2012

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:

Defined Benefit

4. Establishment of Funding Arrangement:

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

5. Administrative Costs:

Not borne by the Plan

6. Funding Arrangement:

Trust Fund

7. Actuarial Cost Method:

Aggregate Entry-Age Normal

8. 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 Gebhardtshauer

9. 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:	1,464	\$57.45
Selected Drilling Reservists:	762	\$7.50
Non-Selected Reservists – w/ 20 years:	216	(N/A)
Nondisability Retirees:	1,848	\$47.92
Disability Retirees:	96	\$1.38
Surviving Families:	293	\$3.72

*** 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, 2012

10. Valuation Input Data:

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

11. 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

12. Actuarial Assumptions:

A. Economic:

(Annual Rates)

- 1) Inflation – 3.0%
- 2) Salary – 3.5%
- 3) Interest – 5.5%

B. Demographic:

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

13. Accounting Results During Fiscal Year 2012:

(\$ in billions)

- A. Benefits paid to participants: \$ 52.6
- B. Contributions from Services: \$ 21.9
- C. Contributions from Treasury: \$ 70.1
- D. Investment Income: \$ 12.5

14. Actuarial Results at End of Fiscal Year 2012:

(\$ in billions)

- A. Present Value of Future Benefits: \$1,607.9
- B. Actuarial Accrued Liability: \$1,361.5
- C. Actuarial Value of Assets: \$ 428.0
- D. Unfunded Accrued Liability: \$ 933.5
- E. Funded Ratio (C./B.): 31%

15. Normal Cost Percentages Applied to Fiscal Year 2014 Basic Pay:

	<u>DoD</u>	<u>Treasury</u>	<u>Total</u>
Full-time:	32.4%	11.7%	44.1%
Part-time:	24.5%	2.9%	27.4%

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**SUMMARY OF 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.

Economic Assumptions (Interest and Salary Increase)

The Board approved a new long-term interest rate assumption of 5.5% (vs. 5.75%), and a new long-term, across-the-board salary increase assumption of 3.5% (vs. 3.75%). The new interest assumption increases the full-time DoD NCP* by 2.4 percentage points, and increases the part-time DoD NCP by 2.2 percentage points. The new salary assumption decreases the full-time DoD NCP by 1.1 percentage points, and decreases the part-time DoD NCP by 1.3 percentage points. The new assumptions led to an actuarial loss of \$47.8 billion (or 3.5% of the accrued liability) to the Fund. For the September 30, 2012, 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. The change led to an actuarial loss of \$5.9 billion (or 0.4%) to the Fund. For the September 30, 2012, 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. The change led to an actuarial gain of \$0.4 billion (or 0.0%) to the Fund. For the September 30, 2012, valuation, TDRL rates are described in Appendix I.

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. The new rates led to an actuarial loss of \$6.9 billion (or 0.5%) to the Fund. For the September 30, 2012, valuation, the rates are found in Appendices F, I, and J.

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

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

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. The new factors led to an actuarial gain of \$0.2 billion (or 0.0%) to the Fund. For the September 30, 2012, 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 1, 2012 through December 31, 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.

**SUMMARY OF ANTICIPATED CHANGES
FOR THE SEPTEMBER 30, 2013, VALUATION**

Changes in Actuarial Assumptions

At its July 2013 meeting, the DoD Board of Actuaries approved the following changes for the September 30, 2013, valuation. Note that all changes in accrued liabilities are estimated on a 9/30/2012 valuation basis.

Reserve Model Refinements

The Board approved refinements to the reserve model, which more accurately project new retirees, and refines the calculation of reserve officer new entrant pay. The refinements lower the full-time DoD NCP by 0.1 percentage point, and lower the part-time DoD NCP by 2.0 percentage points. OACT estimates the refinements lead to an actuarial gain of \$13.7 billion (or 1.0% of the accrued liability) to the Fund. For the September 30, 2012, valuation, reserve assumptions are shown in Appendix H.

Disability Factors

The Board approved new assumptions for average benefit multipliers for new temporary and permanently disabled retirees. The new assumptions increase the full- and part-time DoD NCPs slightly, but do not exceed the standard rounding threshold (i.e., the 3rd decimal place). OACT estimates the new assumptions lead to an actuarial loss of \$0.2 billion (or 0.0%) to the Fund. For the September 30, 2012, valuation, disability factor assumptions are shown in Appendix F.

Cell-Rounding Elimination

The Board approved the elimination of cell-rounding in the projection, which ends the setting of population cells equal to zero if they fall beneath a certain threshold (e.g., 0.1). It increases the full- and part-time DoD NCPs slightly, but do not exceed the standard rounding threshold (i.e., the 3rd decimal place). OACT estimates the change leads to an actuarial gain of \$0.1 billion (or 0.0%) to the Fund.

**SUMMARY OF ANTICIPATED CHANGES
FOR THE SEPTEMBER 30, 2013, VALUATION
(Continued)**

Changes in Benefits

Bipartisan Budget Act of 2013(Ryan/Murray) with subsequent amendments

The Bipartisan Budget Act of 2013 (BBA 2013) lowers the COLA by one percent (e.g., 2% instead of 3%) for “working-age” (pre-age 62), non-disabled military retirees, with a restoral at age 62 and full COLAs thereafter. The changes apply only to those entering after December 31, 2013. The change has no effect on the full- and part-time DoD NCPs for FYs 2014 and 2015. The FY 2016 full-time NCP is estimated to decrease by 0.1 percentage point and the part-time NCP is unchanged. OACT estimates no gain or loss to the Fund as of September 30, 2013. BBA 2013 is discussed further in Appendix A.

U.S. Supreme Court Overturn of the Defense of Marriage Act (DOMA)

While not a change to Title 10 U.S. military benefits per se, the June 26, 2013 ruling has the effect of allowing legal spouses of same-sex marriages to be eligible to receive SBP benefits. OACT estimates the change leads to a small increase to the DoD NCP, but do not exceed the standard rounding threshold (i.e., the 3rd decimal place). DOMA overturn 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.

Where applicable, dollar amounts include the subsequent January 1st, pay raise. These totals are summarized in Table 1.

	<u>2012</u>	<u>2011</u>
Total Active Duty Personnel + Full-Time Reservists	1,464,110	1,486,853
Total Annualized Basic Pay	\$57.45 billion	\$57.08 billion
Total Selected Drilling Reservists	762,375	771,080
Total Annualized Basic Pay	\$7.50 billion	\$5.80 billion
Total Non-Selected Reservists (with 20 years)	215,508	218,090
Total Annualized Basic Pay	(N/A)	(N/A)
Total Number of Nondisability Retirees	1,848,139	1,838,042
Total Annualized Retired Pay	\$47.92 billion	\$45.89 billion
Total Number of Disability Retirees	96,068	95,051
Total Annualized Retired Pay	\$1.38 billion	\$1.36 billion
Total Number of Surviving Families	293,124	294,794
Total Annualized Survivor Annuities	\$3.72 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 (GORGO¹). 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 manages certain risks.

For use in this model additional, slight adjustments to the pay projection are made outside of GORGO. Further, 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 3.5 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 5.5 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.

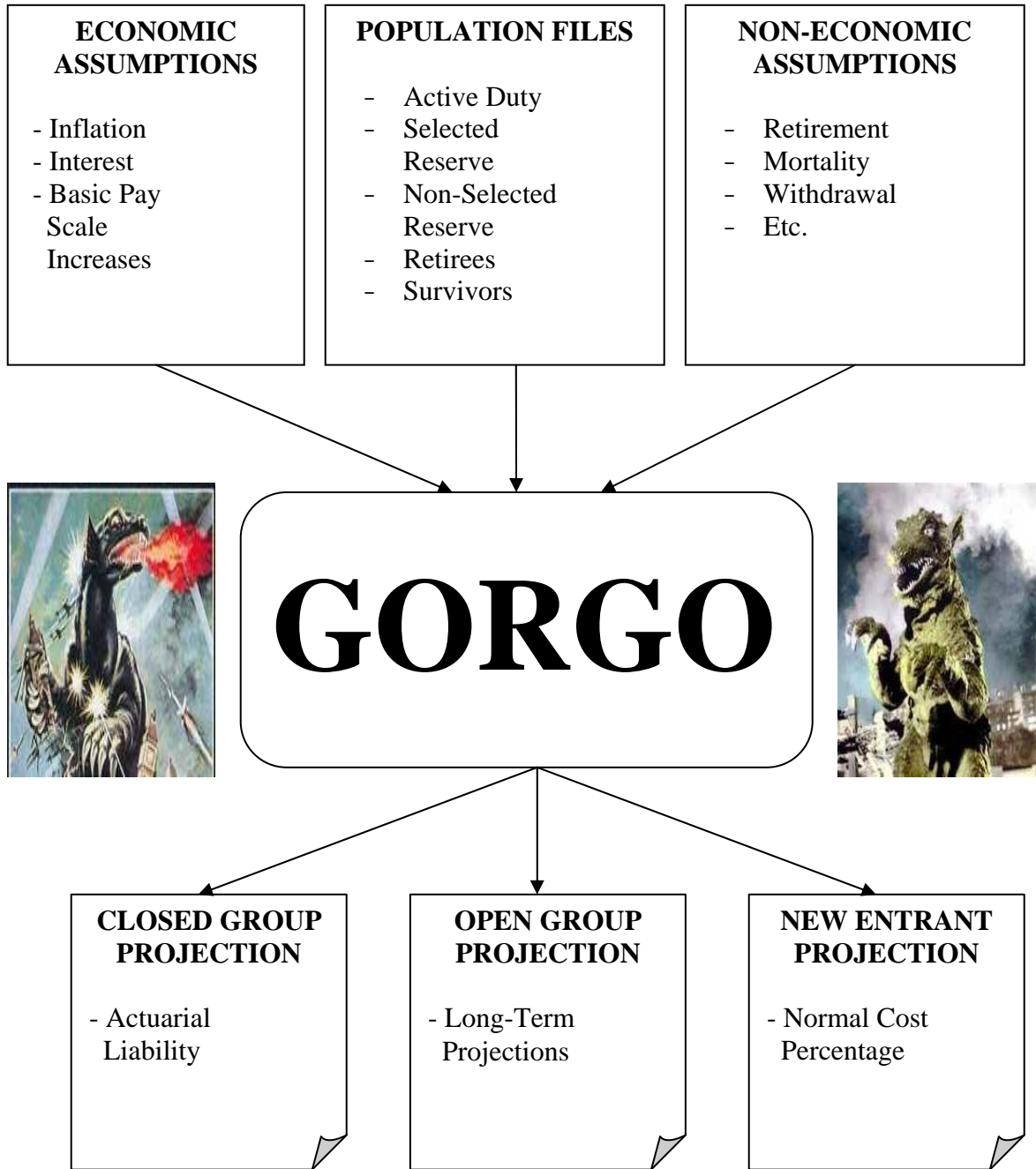
¹ GORGO was named after a monster featured in a 1961 British science fiction movie based on a variation of *Godzilla*.

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 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, 2012; 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 2018 (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, stationary².

When a population becomes stationary, the fund disbursements increase each year at the same rate as total pay, which is 3.5 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 3.5 percent.

A portion of the investment income must be used to generate the 3.5 percent Fund increases and cannot be used to pay benefits. For example, in the year 2037 (on Table 9), the projected normal cost payment (‘From DoD’ plus ‘From Treasury’) is \$51.8 billion, the investment income is \$164.0 billion, and Fund disbursements are \$111.9 billion. The beginning-of-year fund balance is \$2,997.7 billion. The two sources of Fund income will ultimately cover benefit payments plus 3.5 percent of the beginning-of-the-year fund balance. That is, the difference of \$51.8 billion plus \$164.0 billion and \$111.9 billion plus \$104.9 billion ($\$2,997.7 \text{ billion} \times .035$)—where \$104.9 billion represents the amount that would be required for the Fund to grow by 3.5 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, 2012, valuation.

² More precisely, the retired population would become nearly, but not completely stationary if the open group projection were extended many years beyond what’s shown in this report.

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

	For the Plan Year Ended September 30:	
<u>Assets</u>	<u>2012</u>	<u>2011</u>
1) Investments, at book value:		
U.S. Government securities ¹	\$424,194	\$372,066
2) Accounts receivable:		
a) Accrued interest ²	\$3,673	\$3,405
b) Due from military retirees or their survivors	\$67	\$47
c) Intragovernmental	\$0	\$186
3) Cash:	<u>\$23</u>	<u>\$370</u>
 <u>Actuarial value of assets</u>	 <u>\$427,957</u>	 <u>\$376,074</u>

¹ 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>2012</u>	<u>2011</u>
Investments, at book value (actual)	\$424,194	\$368,212
October Expenditures paid in September	<u>\$0</u>	<u>3,854</u>
Investments, at book value (adjusted)	\$424,194	\$372,066

² 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>2012</u>	<u>2011</u>
1) Actuarial value of assets at beginning of plan year:	\$376,074	\$321,749
2) Investment income:		
a) Interest/Inflation	\$16,102	\$20,179
b) Net appreciation (depreciation) in book value of investments ¹	\$(3,586)	\$(2,181)
3) Contributions:		
a) From Services	\$21,863	\$20,970
b) Appropriation to amortize the unfunded liability	\$64,751	\$61,404
c) Appropriation for Treasury Normal Cost Contribution	\$5,376	\$4,950
4) Total additions (2 + 3):	\$104,506	\$105,322
5) Change in Accounts Receivable	\$20	\$10
6) Benefits paid to participants:	<u>\$52,643</u>	<u>\$51,007</u>
Actuarial value of assets (1 + 4 + 5 - 6):	<u>\$427,957</u>	<u>\$376,074</u>

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

	<u>2012</u>	<u>2011</u>
Amortized discount	\$45	\$62
Amortized premium	\$(3,631)	\$(2,243)
Gain (loss) on sale *	<u>\$0</u>	<u>\$0</u>
	\$(3,586)	\$(2,181)

* 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 2013 NCPs are summarized below (with DoD NCPs in parentheses):

<u>Benefit Formula</u>	<u>Full-Time</u>	<u>Part-Time</u>
Final Pay	49.5% (36.7%)	29.0% (25.9%)
High-3	45.0% (33.4%)	27.4% (24.4%)
CSB/Redux ³	44.0% (32.3%)	-- 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 39 (or greater). (Note that starting with the FY 2012 valuation, different percentages are used for active and reserve duty personnel.) For example, during FY 2013 (t = 2013), 3 percent of the expected basic payroll will be paid to full-time personnel entering service in that fiscal year (k = 0), and 99 percent of the expected basic payroll will be paid to persons entering service since the beginning of FY 1981 (k = 32), while 66 percent will be paid to members entering since the beginning of FY 1998 (k = 15). The data and methodology used to derive this table are described in Appendix E.

³ 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 (Full-time)</u>	<u>Percentage (Part-time)</u>
t	3%	0%
t-1 or later	8	6
t-2 or later	13	11
t-3 or later	18	16
t-4 or later	24	20
t-5 or later	28	24
t-6 or later	32	27
t-7 or later	37	31
t-8 or later	41	35
t-9 or later	45	38
t-10 or later	49	41
t-11 or later	53	44
t-12 or later	56	46
t-13 or later	59	49
t-14 or later	63	51
t-15 or later	66	53
t-16 or later	68	55
t-17 or later	71	58
t-18 or later	75	60
t-19 or later	78	64
t-20 or later	81	67
t-21 or later	84	70
t-22 or later	86	74
t-23 or later	89	77
t-24 or later	91	80
t-25 or later	93	83
t-26 or later	95	86
t-27 or later	96	89
t-28 or later	97	91
t-29 or later	98	93
t-30 or later	98	94
t-31 or later	99	95
t-32 or later	99	96
t-33 or later	99	97
t-34 or later	100	98
t-35 (or greater)	:::	

Notes:

- Based on basic payroll data for Fiscal Year 2010, as described in Appendix E.
- The part-time percentage is first equal to 100% at t-38 years or later.

Thus, 99 percent of the full-time basic payroll for FY 2013 is expected to be paid to personnel entering service since the beginning of FY 1981, while the remaining 1 percent of the expected basic payroll for FY 2013 will be for personnel whose retirement benefits are based on FINAL PAY⁴. Of the post-FY 1980 new entrants, 95 percent is expected to be attributable to the CSB/Redux members (entering on or after August 1, 1986) and the remaining 4 percent to the High-3 members. The 95 percent was derived by interpolating between the factors for FY 1986 (k = 27) and FY 1987 (k = 26) years of entry. The FY 2013 weighted aggregate full-time NCPs are obtained by weighting their respective NCPs for the CSB/Redux formula by 95 percent, the NCPs for the High-3 formula by 4 percent, and the NCPs for the Final Pay formula by 1 percent. A similar calculation can be done for the part-time NCPs based on the part-time NCP weighting factors. The resulting sum of the DoD and Treasury components of the weighted aggregate full-time NCP is 44.1 percent, and the weighted aggregate part-time NCP is 27.4 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 2013 normal cost percentages.

<u>FULL-TIME</u>	<u>FINAL PAY</u>	<u>HIGH-3</u>	<u>CSB/REDUX</u>	FY 2013 <u>Weighted</u>
Nondisability benefits	47.1 (35.0)	42.8 (31.9)	41.9 (30.8)	42.0 (30.9)
Disability benefits	0.8 (0.5)	0.7 (0.4)	0.7 (0.4)	0.7 (0.4)
Survivor benefits	<u>1.6 (1.2)</u>	<u>1.4 (1.1)</u>	<u>1.4 (1.1)</u>	<u>1.4 (1.1)</u>
Total	49.5 (36.7)	45.0 (33.4)	44.0 (32.3)	44.1 (32.4)
 <u>PART-TIME</u>				
Nondisability benefits	26.5 (23.8)	25.0 (22.5)	-- N/A --	25.1 (22.6)
Disability benefits	0.6 (0.4)	0.5 (0.3)	-- N/A --	0.5 (0.3)
Survivor benefits	<u>1.9 (1.7)</u>	<u>1.8 (1.6)</u>	-- N/A --	<u>1.8 (1.6)</u>
Total	29.0 (25.9)	27.4 (24.4)	-- N/A --	27.4 (24.5)
<ul style="list-style-type: none"> - Note that columns may not add exactly due to rounding of the separate NCP components. - Disability benefits from part-time personnel are modeled for the first time in this valuation. - Only full-time personnel are under the CSB/Redux benefit formula, thus an analogous part-time NCP is not applicable (“N/A”). 				

⁴ 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.⁵ 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). Based on current reserve decrement rates, 14 percent of a typical group of members entering the reserves for the first time (including members with prior active or non-drilling reserve time) become eligible for a reserve nondisability retirement (49% for officers, and 13% for enlisted).

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 (generally) 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 2014, the full-time NCP is 44.1 percent ($44.1 = 32.4 + 11.7$) and the part-time NCP is 27.4 percent ($27.4 = 24.5 + 2.9$) [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.

⁵ As in past valuation reports, these percentages are stated from the perspective of a new entrant cohort still in active service at 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, who 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.

Effect on the reserve duty is more pronounced relative to the above active duty figures due to the inherent nature of the reserve career.

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 calendar year 2025 (FY 2026).

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 3.5 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, 2012

Table 7 summarizes the calculation of the unfunded accrued liability as of September 30, 2012. 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, 2012, and discounting these benefits back to the present (i.e. valuation date) at the assumed interest rate. 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, 2012, 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, 2012. 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 2013 are 44.1 percent full-time and 27.4 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 or benefits 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 \$933.5 billion as of September 30, 2012. This was 6 percent more than the expected unfunded liability of \$880.4 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 2012 loss of \$53.2 billion (\$933.5 billion minus \$880.4 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 (2.9%) earned by the Fund and the assumed interest rate (5.75%); (2) the gain due to the actual COLA (1.7%) increase being different from that assumed (3.0%); (3) the gain due to the actual salary (1.7%) increase being different from that assumed (3.75%); and (4) the loss due to the difference between the actual and assumed experience. See the Summary of Changes for the September 30, 2012, 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, 2013, unfunded liability payment. The total payment was determined to be \$72.885 billion. This total payment includes (1) a payment of \$81.373 billion to amortize the original unfunded liability, plus (2) an amount of \$3.150 billion to amortize changes in actuarial assumptions, plus (3) an amount of \$8.211 billion to amortize benefit changes, less (4) an amount of \$19.849 billion to amortize total combined experience gains and losses through FY 2012. 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, 2013, is \$79.222 billion (\$72.885 billion for the unfunded liability amortization + \$6.337 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>2012</u>	<u>2011</u>
1.	Present value of future benefits		
	a. Annuitants now on roll	\$854.6	\$807.3
	b. Nonretired reservists	\$187.5	\$174.2
	c. Active duty personnel ¹	<u>\$565.8</u>	<u>\$530.9</u>
	TOTAL	\$1,607.9	\$1,512.4
2.	Present value of future normal cost contributions	\$246.4	\$239.1
3.	Actuarial accrued liability (1. – 2.)	\$1,361.5	\$1,273.3
4.	Actuarial value of assets ²	\$428.0	\$376.1
5.	Unfunded accrued liability (3. – 4.)	\$933.5	\$897.2
6.	Funded Ratio (4. / 3.)	31%	30%
7.	DoD normal cost percentage (NCP) ³ to be applied to basic pay in fiscal year	<u>FY 2014</u>	<u>FY 2013</u>
	a. Full-time	32.4%	32.1%
	b. Part-time	24.5%	24.4%
8.	Treasury normal cost percentage (NCP) ⁴ to be applied to basic pay in fiscal year	<u>FY 2014</u>	<u>FY 2013</u>
	a. Full-time	11.7%	11.2%
	b. Part-time	2.9%	3.2%

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

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

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

³ 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.

⁴ 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
MILITARY RETIREMENT SYSTEM
FY 2012 CHANGE IN UNFUNDED LIABILITY
 (\$ in billions)

	For the Plan Year Ended September 30, 2012	
1. Actual unfunded accrued liability (9/30/12)	\$933.5	
2. Expected unfunded accrued liability (9/30/12)	\$880.4	
3. Total gain/(loss)	(\$53.2)	3.9%
a. Total experience gain/(loss)	\$6.9	0.5%
Interest assumption	(\$12.1)	2.8%
COLA assumption	\$10.4	0.8%
Salary assumption	\$8.7	0.6%
Non-economic assumptions	(\$0.1)	0.0%
b. Total benefit change gain/(loss)	\$0.0	0.0%
c. Total assumption change gain/(loss)	(\$60.1)	4.4%
New Survivor Rates	(\$6.9)	0.5%
New Temporary Disability Rates/Factors	\$0.4	0.0%
New NCP Weighting Factors	\$0.2	0.0%
Reserve Model/Rates	(\$5.9)	0.4%
New Economic Assumptions	(\$47.8)	3.5%

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 ASSETS¹**
(In Billions of Dollars and as a Proportion of Payroll)

Fiscal Year	Contributions Received										Fund Balance, End of Year ⁶		
	Basic Payroll ²	From DoD, for Normal Costs ³		From Treasury, for Normal Costs ³		From Treasury, for Amortization of Unfunded Liability ⁴		Investment Income		Fund Disbursements ⁵			
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)
2012	66.8	21.9	(32.8)	5.4	(8.1)	64.8	(97.0)	12.5	(18.7)	52.6	(78.7)	428.0	(640.7)
↑ ACTUAL ↑													
↓ PROJECTED ↓													
2013	\$64.9	\$20.2	(31.2%)	\$6.7	(10.3%)	\$67.7	(104.4%)	\$26.7	(41.1%)	\$54.2	(83.5%)	\$495.1	(763.2%)
2014	65.0	20.5	(31.5)	6.9	(10.7)	72.9	(112.1)	30.7	(47.2)	55.3	(85.1)	570.8	(877.8)
2015	65.0	20.4	(31.4)	6.9	(10.7)	75.4	(116.1)	34.9	(53.8)	56.7	(87.3)	651.7	(1,003.4)
2016	65.2	20.5	(31.4)	7.0	(10.7)	78.1	(119.8)	39.5	(60.6)	58.3	(89.5)	738.4	(1,132.8)
2017	65.7	20.6	(31.4)	7.0	(10.7)	80.8	(122.9)	44.4	(67.5)	60.0	(91.2)	831.2	(1,264.5)
2018	67.3	21.1	(31.3)	7.2	(10.7)	83.6	(124.3)	49.6	(73.7)	61.4	(91.2)	931.3	(1,384.1)
2019	69.1	21.6	(31.3)	7.3	(10.6)	86.6	(125.4)	55.2	(80.0)	63.0	(91.3)	1,039.1	(1,504.7)
2020	70.9	22.2	(31.3)	7.5	(10.6)	89.6	(126.5)	61.3	(86.5)	64.7	(91.4)	1,155.0	(1,630.1)
2021	72.7	22.8	(31.3)	7.7	(10.6)	92.7	(127.5)	67.8	(93.3)	66.5	(91.5)	1,279.6	(1,759.6)
2022	74.6	23.4	(31.3)	7.9	(10.6)	96.0	(128.6)	74.8	(100.3)	68.8	(92.2)	1,412.9	(1,893.2)
2023	77.1	24.1	(31.3)	8.2	(10.6)	99.3	(128.9)	82.3	(106.8)	71.3	(92.4)	1,555.6	(2,017.8)
2024	79.6	24.9	(31.3)	8.4	(10.6)	102.8	(129.1)	90.3	(113.4)	74.1	(93.0)	1,708.0	(2,145.2)
2025	82.2	25.7	(31.3)	8.7	(10.6)	106.4	(129.4)	98.9	(120.2)	76.9	(93.5)	1,870.9	(2,274.7)
2026	85.0	26.6	(31.3)	9.0	(10.6)	110.1	(129.6)	108.0	(127.1)	79.5	(93.6)	2,045.1	(2,406.0)
2027	87.8	27.5	(31.3)	9.3	(10.6)	113.3	(131.1)	110.8	(126.1)	82.2	(93.6)	2,097.1	(2,387.5)
2028	90.8	28.4	(31.3)	9.6	(10.6)	116.9	(131.4)	115.1	(126.8)	85.0	(93.7)	2,180.0	(2,401.3)
2029	93.8	29.3	(31.3)	9.9	(10.6)	120.0	(131.7)	119.9	(127.7)	87.9	(93.6)	2,270.3	(2,419.1)
2030	97.1	30.3	(31.2)	10.3	(10.6)	123.4	(132.0)	124.9	(128.6)	90.7	(93.5)	2,364.7	(2,436.2)
2031	100.5	31.4	(31.2)	10.6	(10.6)	126.0	(132.3)	130.1	(129.5)	93.6	(93.2)	2,463.6	(2,452.5)
2032	104.0	32.5	(31.2)	11.0	(10.6)	128.0	(132.6)	135.5	(130.3)	96.5	(92.8)	2,567.1	(2,468.3)
2033	107.6	33.6	(31.2)	11.4	(10.6)	130.0	(132.9)	141.2	(131.2)	99.7	(92.6)	2,675.5	(2,485.6)
2034	111.4	34.8	(31.2)	11.8	(10.6)	131.0	(133.2)	147.2	(132.1)	102.8	(92.3)	2,789.0	(2,503.3)
2035	115.4	36.1	(31.2)	12.2	(10.6)	131.0	(133.5)	152.6	(132.2)	105.8	(91.6)	2,891.6	(2,505.0)
2036	119.6	37.4	(31.2)	12.6	(10.6)	131.0	(133.8)	158.1	(132.2)	108.8	(91.0)	2,997.7	(2,505.9)
2037	124.0	38.7	(31.2)	13.1	(10.6)	131.0	(134.1)	164.0	(132.3)	111.9	(90.3)	3,108.4	(2,507.6)

TABLE 9 FOOTNOTES

NOTE REGARDING OPEN GROUP PROJECTIONS: The 25-year open group projection in this report is based on benefit provisions, data, methods and assumptions described herein. The values are displayed in future-year dollars. They are intended to provide the user with a general directional magnitude; uncertainty increases with the length of the projection period. Actual results are heavily dependent on the underlying assumptions being realized. Benefit changes, economic conditions, and other factors are not perfectly predictable.

In addition, the fundamental purpose of the OACT'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.

- ¹ 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.
- ² DoD-projected endstrengths are used through the end of FY 2018 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 2012 to FY 2013 reflects the expectation of decreased reserve (part-time) mobilizations as well as the inherent challenges of the reserve projection (discussed further in Appendix H).
- ³ 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, the part-time NCP has been charged against mobilized reserve pay. However, this report includes mobilized reserve pay as part of the full-time payroll from FY 2008 through FY 2010.

TABLE 9 FOOTNOTES (Continued)

- ⁴ Reflects amortization payments for FY 2014 and thereafter determined in the September 30, 2012, 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.
- ⁵ 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.
- ⁶ This fund balance (on a book value basis) reflects cash disbursements during the year. On September 30, 2012, assets in the Fund totaled \$428.0 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, 2012, 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>
2013	1.7%	1.7%	5.5%
2014	1.1	1.0	5.5
2015	2.1	1.0	5.5
2016	2.2	1.0	5.5
2017	2.2	1.5	5.5
2018-21	2.2	2.8	5.5
2022	3.0	2.8	5.5
2023+	3.0	3.5	5.5

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 1st. 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, 3.5% basic pay, and 5.5% 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)
2012	56.8	10.0	66.8	19.5	(34.3)	2.4	(24.3)	5.0	(8.8)	0.4	(3.6)	27.3	(40.8)
↑ ACTUAL ↑													
↓ PROJECTED ↓													
2013	\$57.3	\$7.5	\$64.9	\$18.4	(32.1%)	\$1.8	(24.4%)	\$6.4	(11.2%)	\$0.2	(3.2%)	\$26.9	(41.5%)
2014	57.4	7.6	65.0	18.6	(32.4)	1.9	(24.5)	6.7	(11.7)	0.2	(2.9)	27.4	(42.1)
2015	57.3	7.7	65.0	18.5	(32.3)	1.9	(24.5)	6.7	(11.7)	0.2	(2.9)	27.3	(42.1)
2016	57.4	7.8	65.2	18.5	(32.3)	1.9	(24.5)	6.7	(11.7)	0.2	(2.9)	27.4	(42.1)
2017	57.7	8.0	65.7	18.7	(32.3)	2.0	(24.5)	6.8	(11.7)	0.2	(2.9)	27.6	(42.0)
2018	59.0	8.3	67.3	19.1	(32.3)	2.0	(24.5)	6.9	(11.7)	0.2	(2.9)	28.3	(42.0)
2019	60.5	8.6	69.1	19.5	(32.3)	2.1	(24.4)	7.1	(11.7)	0.2	(2.9)	29.0	(42.0)
2020	62.0	8.8	70.9	20.0	(32.3)	2.2	(24.4)	7.3	(11.7)	0.3	(2.9)	29.7	(42.0)
2021	63.6	9.1	72.7	20.5	(32.3)	2.2	(24.4)	7.5	(11.7)	0.3	(2.9)	30.5	(41.9)
2022	65.2	9.4	74.6	21.1	(32.3)	2.3	(24.4)	7.7	(11.7)	0.3	(2.9)	31.3	(41.9)
2023	67.3	9.8	77.1	21.7	(32.3)	2.4	(24.4)	7.9	(11.7)	0.3	(2.9)	32.3	(41.9)
2024	69.4	10.2	79.6	22.4	(32.3)	2.5	(24.4)	8.1	(11.7)	0.3	(2.9)	33.4	(41.9)
2025	71.7	10.6	82.2	23.1	(32.3)	2.6	(24.4)	8.4	(11.7)	0.3	(2.9)	34.4	(41.9)
2026	74.0	11.0	85.0	23.9	(32.3)	2.7	(24.4)	8.7	(11.7)	0.3	(2.9)	35.6	(41.9)
2027	76.4	11.5	87.8	24.7	(32.3)	2.8	(24.4)	9.0	(11.7)	0.3	(2.9)	36.8	(41.9)
2028	78.9	11.9	90.8	25.5	(32.3)	2.9	(24.4)	9.3	(11.7)	0.3	(2.9)	38.0	(41.8)
2029	81.4	12.4	93.8	26.3	(32.3)	3.0	(24.4)	9.6	(11.7)	0.4	(2.9)	39.3	(41.8)
2030	84.2	12.9	97.1	27.2	(32.3)	3.2	(24.4)	9.9	(11.7)	0.4	(2.9)	40.6	(41.8)
2031	87.1	13.4	100.5	28.1	(32.3)	3.3	(24.4)	10.2	(11.7)	0.4	(2.9)	42.0	(41.8)
2032	90.1	13.9	104.0	29.1	(32.3)	3.4	(24.4)	10.6	(11.7)	0.4	(2.9)	43.5	(41.8)
2033	93.2	14.4	107.6	30.1	(32.3)	3.5	(24.4)	10.9	(11.7)	0.4	(2.9)	45.0	(41.8)
2034	96.5	15.0	111.4	31.1	(32.3)	3.7	(24.4)	11.3	(11.7)	0.4	(2.9)	46.6	(41.8)
2035	99.9	15.5	115.4	32.3	(32.3)	3.8	(24.4)	11.7	(11.7)	0.5	(2.9)	48.2	(41.8)
2036	103.5	16.1	119.6	33.4	(32.3)	3.9	(24.4)	12.2	(11.7)	0.5	(2.9)	50.0	(41.8)
2037	107.3	16.7	124.0	34.6	(32.3)	4.1	(24.4)	12.6	(11.7)	0.5	(2.9)	51.8	(41.8)

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
2012	78.598	0.386	7.930	-19.181	67.733
↑ ACTUAL ↑					
↓ PROJECTED ↓					
2013	\$81.373	\$3.150	\$8.211	-\$19.849	\$72.885
2014	84.221	3.260	8.498	-20.544	75.435
2015	87.169	3.374	8.796	-21.263	78.076
2016	90.220	3.492	9.104	-22.007	80.809
2017	93.378	3.614	9.422	-22.777	83.637
2018	96.646	3.741	9.752	-23.575	86.564
2019	100.029	3.872	10.093	-24.400	89.594
2020	103.530	4.007	10.447	-25.254	92.730
2021	107.153	4.148	10.812	-26.137	95.976
2022	110.904	4.293	11.191	-27.052	99.336
2023	114.785	4.443	11.582	-27.999	102.811
2024	118.803	4.598	11.988	-28.979	106.410
2025	122.962	4.759	12.407	-29.994	110.134
2026	0.000	4.926	12.841	-31.043	-13.276
2027	0.000	5.098	13.291	-3.525	14.864
2028	0.000	5.277	13.756	0.000	19.033
2029	0.000	5.462	14.237	0.000	19.699
2030	0.000	5.653	14.736	0.000	20.389
2031	0.000	5.851	15.252	0.000	21.103
2032	0.000	6.055	15.785	0.000	21.840
2033	0.000	6.267	16.338	0.000	22.605
2034	0.000	6.487	1.082	0.000	7.569
2035	0.000	6.714	0.000	0.000	6.714
2036	0.000	6.949	0.000	0.000	6.949
2037	0.000	7.192	0.000	0.000	7.192
2038	0.000	7.443	0.000	0.000	7.443
2039	0.000	7.704	0.000	0.000	7.704
2040	0.000	7.973	0.000	0.000	7.973
2041	0.000	8.253	0.000	0.000	8.253
2042	0.000	5.749	0.000	0.000	5.749
2043	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
2012	974.816	68.621	144.141	-254.041	933.537
↑ ACTUAL ↑					
↓ PROJECTED ↓					
2013	\$945.510	\$71.988	\$143.703	-\$247.778	\$913.423
2014	911.665	72.624	142.944	-240.465	886.767
2015	872.953	73.179	141.840	-232.016	855.956
2016	829.002	73.644	140.362	-222.345	820.663
2017	779.415	74.010	138.477	-211.356	780.546
2018	723.769	74.268	136.153	-198.951	735.239
2019	661.615	74.406	133.353	-185.022	684.352
2020	592.473	74.414	130.039	-169.456	627.470
2021	515.835	74.279	126.170	-152.133	564.151
2022	431.160	73.988	121.703	-132.926	493.924
2023	337.870	73.528	116.590	-111.697	416.291
2024	235.354	72.885	110.783	-88.302	330.721
2025	122.962	72.043	104.229	-62.585	236.648
2026	0.000	70.984	96.872	-34.384	133.473
2027	0.000	69.692	88.653	-3.525	154.820
2028	0.000	68.146	79.507	0.000	147.653
2029	0.000	66.327	69.367	0.000	135.694
2030	0.000	64.213	58.162	0.000	122.375
2031	0.000	61.780	45.815	0.000	107.595
2032	0.000	59.006	32.244	0.000	91.249
2033	0.000	55.863	17.364	0.000	73.227
2034	0.000	52.324	1.082	0.000	53.406
2035	0.000	48.358	0.000	0.000	48.358
2036	0.000	43.934	0.000	0.000	43.934
2037	0.000	39.019	0.000	0.000	39.019
2038	0.000	33.578	0.000	0.000	33.578
2039	0.000	27.572	0.000	0.000	27.572
2040	0.000	20.961	0.000	0.000	20.961
2041	0.000	13.702	0.000	0.000	13.702
2042	0.000	5.749	0.000	0.000	5.749
2043	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.

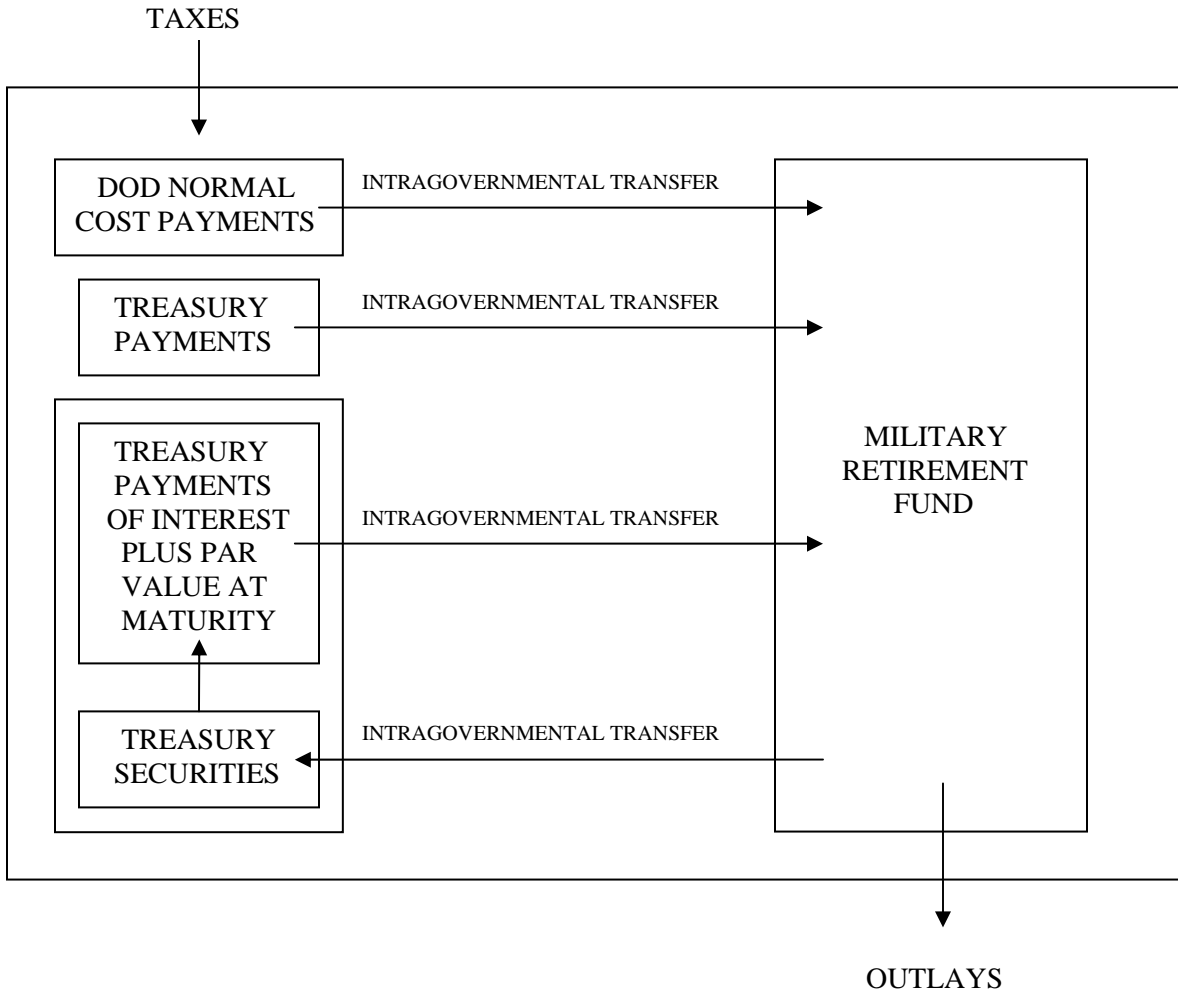
The Fund has two types of payouts: (1) payments to retirees and survivors of retirees and (2) purchases of U.S. Treasury securities. The purchase of a Treasury security is also an intragovernmental transfer, while a payment to a retiree or a survivor is not.

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 2012 the amount needed to pay retirees was \$50 billion and the Military Retirement Fund had grown to \$425 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, 2012

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). For member entering on or after January 1, 2014, the benefit adjustment provisions are different. Refer to the section “Cost-of-Living Increases” in this appendix for more information on the CPI. Receiving a benefit adjustment based on the percentage increase in the CPI 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 2012, 1.47 million nondisability retirees from active duty and full-time reserves were receiving an annualized retired pay entitlement totaling \$42.44 billion. Included in this number are a reported 34,800 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, 2001, and December 31, 2009, and potentially offer disability retirements. The PDBR is expected to review files for approximately 77,000 veterans.

As of September 2012, 96,000 disability retirees were receiving an annualized retired pay entitlement totaling \$1.38 billion. Included in this number are a reported 925 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 2012, 367,000 reserve retirees were receiving an annualized retired pay entitlement totaling \$5.47 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.

On June 26, 2013, the U.S. Supreme Court ruled to overturn the Defense of Marriage Act (DOMA). While not a change to Title 10 U.S. military benefits per se, the ruling has the effect of allowing legal spouses of same-sex marriages to be eligible to receive SBP benefits.

As of September 2012, 293,000 survivors of military members were receiving an annualized annuity entitlement totaling \$3.72 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 2012, 58,000 TERA retirees were receiving an annualized retired pay entitlement totaling \$950 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.

The Bipartisan Budget Act of 2013 (Public Law 113-67) lowers the COLA by one percent (e.g., 2% instead of 3%) for working-age (pre-age 62), non-disabled military retirees entering on or after January 1, 2014. Full COLAs are restored at age 62 prospectively. Subsequent legislation exempted disabled retirees and their survivors, as well as survivors of members who die on active duty from the COLA reduction. Members who enter on or after January 1, 2014 who elect CSB/Redux are subject to the COLA provisions described in the previous paragraph.

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 2012, there were 356,000 CRDP members and 78,000 CRSC members. These members were paid an additional monthly amount of \$511 million and \$79 million, respectively. As of September 2012, there were 59,000 survivors receiving annualized SSIA benefits of \$57 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 2012, 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
2012	1,361.5	428.0	854.6	933.5	31.4	50.1	2.9

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: HISTORY¹

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, Military Compensation and Retirement Modernization Commission, 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.”

¹ 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, analogous to members on active 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.

P.L. 113-67 (commonly referred to as the 'Bipartisan Budget Act of 2013'), enacted December 26, 2013, reduces the annual COLA by one percent (e.g., 2% instead of 3%) for "working-age" (i.e., members younger than age 62), non-disabled military retirees, with restoration at age 62 and full COLA thereafter. The changes apply only to those entering military service on or after January 1, 2014 (although those entering on or after that date who elect CSB/Redux are covered by the COLA provisions for CSB/Redux electors described in the previous paragraph). Subsequent legislation exempts medically disabled retirees and their survivors, as well as survivors of members who die on active duty, from the COLA reduction enacted in P.L. 113-67.

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, although the split funding caused by P.L. 108-136 decreases the transparency of the information.

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 Fund 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 full-time reservists 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, although deviations of actual compared to expected experience increase or decrease the unfunded liability over time.

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 1st 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 Members Who:	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> August 1, 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

Note: P.L. 113-67 (commonly referred to as the 'Bipartisan Budget Act of 2013'), enacted December 26, 2013, reduces the annual COLA by one percent (e.g., 2% instead of 3%) for "working-age" (i.e., members younger than age 62), non-disabled military retirees, with restoral at age 62 and full COLA thereafter. The changes apply only to those entering military service on or after January 1, 2014, although those entering on or after that date who elect the CSB are covered by CSB/Redux COLA provisions.

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 %	760.8 %
10/1/63		5.0	712.1
9/1/65		4.4	673.4
12/1/66		3.7	640.9
4/1/68		3.9	614.4
2/1/69		4.0	587.6
11/1/69		5.3	561.2
8/1/70		5.6	527.9
6/1/71		4.5	494.6
7/1/72	one percent over	4.8	469.0
7/1/73	inflation was	6.1	442.9
1/1/74	added during	5.5	411.7
7/1/74	these years	6.3	385.0
1/1/75		7.3	356.3
8/1/75		5.1	325.2
3/1/76		5.4	304.6
3/1/77		4.8	283.9
9/1/77		4.3	266.3
3/1/78		2.4	251.2
9/1/78	twice-a-year	4.9	243.0
3/1/79	increases	3.9	226.9
9/1/79		6.9	214.7
3/1/80		6.0	194.4
9/1/80		7.7	177.7
3/1/81	once-a-year	4.4	157.8
3/1/82	increases	8.7	147.0
4/1/83	(Dec to Dec)	3.9 (1)	127.2
12/1/84		3.5 (2)	118.7
12/1/85		0.0 (3)	111.3
12/1/86	once-a-year	1.3	111.3
12/1/87	increases (3rd	4.2	108.6
12/1/88	qtr to 3rd qtr)	4.0	100.2
12/1/89		4.7	92.5
12/1/90		5.4	83.8
12/1/91		3.7	74.4
12/1/92		3.0	68.2
3/1/94		2.6 (4)	63.3
3/1/95		2.8 (5)	59.1
3/1/96		2.6 (6)	54.8
12/1/96		2.9	50.9
12/1/97		2.1	46.6
12/1/98		1.3	43.6
12/1/99		2.4	41.8
12/1/00		3.5	38.5
12/1/01		2.6	33.8
12/1/02		1.4	30.4
12/1/03		2.1	28.6
12/1/04		2.7	25.9
12/1/05		4.1	22.6
12/1/06		3.3	17.8
12/1/07		2.3	14.0
12/1/08		5.8	11.5
12/1/09		0.0	5.4
12/1/10		0.0	5.4
12/1/11		3.6	5.4
12/1/12		1.7	1.7

(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 %	1,280.1 %
10/1/63	14.2	1,174.3
9/1/64	2.3	1,015.9
9/1/65	10.4	990.8
7/1/66	3.2	888.0
10/1/67	5.6	857.4
7/1/68	6.9	806.6
7/1/69	12.6	748.1
1/1/70	8.1	653.2
1/1/71	7.9	596.8
11/14/71	11.6	545.7
1/1/72	7.2	478.6
10/1/72	6.7	439.8
10/1/73	6.2	405.9
10/1/74	5.5	376.3
10/1/75	5.0	351.5
10/1/76	3.6	330.0
10/1/77	6.2	315.1
10/1/78	5.5	290.8
10/1/79	7.0	270.5
10/1/80	11.7	246.2
10/1/81	14.3 (1)	210.0
10/1/82	4.0 (2)	171.2
1/1/84	4.0 (2)	160.7
1/1/85	4.0	150.7
10/1/85	3.0	141.1
1/1/87	3.0	134.1
1/1/88	2.0	127.2
1/1/89	4.1	122.8
1/1/90	3.6	114.0
1/1/91	4.1	106.6
1/1/92	4.2	98.4
1/1/93	3.7	90.4
1/1/94	2.2	83.6
1/1/95	2.6	79.7
1/1/96	2.4	75.1
1/1/97	3.0	71.0
1/1/98	2.8	66.0
1/1/99	3.6	61.5
1/1/00	4.8 (3)	55.9
1/1/01	3.7 (3)	48.8
1/1/02	4.6 (3)	43.5
1/1/03	4.1 (3)	37.2
1/1/04	3.7 (3)	31.8
1/1/05	3.5	27.1
1/1/06	3.1	22.8
1/1/07	2.2 (3)	19.1
1/1/08	3.5	16.5
1/1/09	3.9	12.6
1/1/10	3.4	8.3
1/1/11	1.4	4.8
1/1/12	1.6	3.3
1/1/13	1.7	1.7

(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 Enlisted Active Duty Personnel by Years of Service and Age for FY 2012 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
17																																	17
18																																	10,976
19																																	42,225
20																																	67,149
21																																	81,717
22																																	90,045
23																																	87,016
24																																	78,987
25																																	73,210
26																																	68,723
27																																	63,772
28																																	56,922
29																																	51,283
30																																	46,993
31																																	41,926
32																																	37,910
33																																	34,745
34																																	31,475
35																																	28,873
36																																	26,826
37																																	25,384
38																																	24,645
39																																	22,228
40																																	19,881
41																																	17,940
42																																	16,257
43																																	12,934
44																																	10,209
45																																	8,056
46																																	6,668
47																																	5,666
48																																	4,707
49																																	3,673
50																																	2,743
51																																	2,044
52																																	1,549
53																																	1,144
54																																	724
55																																	541
56																																	382
57																																	325
58																																	191
59																																	143
60+																																	130
Total	144,862	133,033	131,563	114,028	83,594	67,089	61,343	50,414	49,325	42,616	37,723	34,375	31,802	29,355	27,696	26,228	24,499	21,874	21,533	22,506	14,279	10,089	8,585	7,259	3,997	3,383	1,993	1,611	1,576	1,014	490	1,208,954	

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

Average Age: 28.4

Average YAS: 6.6

All DoD Active Duty Personnel by Years of Service and Age for FY 2012 Valuation

Table with columns for Age (0-60+) and Years of Active Service (0-30+). Rows contain personnel counts for various age and service year combinations, with a 'Total' row at the bottom.

Average Age: 29.6

Average Age: 29.6

Average Age: 29.6

Average Age: 29.6

DoD Enlisted Selected Reserve Personnel by PEBD Years of Service and Age for FY 2012 Valuation

Completed Pay Entry Base Date (PEBD) Years of Service

Table with columns for Age (16-63) and PEBD Years of Service (0-41). Rows represent personnel counts for each age and service year combination. Total counts are provided at the end of each row and column.

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

Average Age: 30.5

Average PEBD Years of Service: 8.4

DoD Officers Non-Selected Reserve Personnel With 20 Good Years by PEBD Years of Service and Age for FY 2012 Valuation

Age	Completed Pay Entry Base Date (PEBD) Years Of Service																				Total				
	<19	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37		38	39	40	41
<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
37	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
38	0	2	14	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
39	0	2	23	27	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	18
40	0	1	17	44	47	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	119
41	0	2	14	33	73	112	20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	254
42	0	4	76	34	80	131	126	12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	463
43	0	4	82	159	60	102	160	168	20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	755
44	0	0	32	142	221	98	114	225	200	22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1,054
45	0	0	13	69	209	282	114	172	260	203	41	0	0	0	0	0	0	0	0	0	0	0	0	0	1,363
46	0	0	20	36	106	328	342	183	229	216	212	23	0	0	0	0	0	0	0	0	0	0	0	0	1,695
47	0	3	10	29	47	151	348	418	180	184	243	244	25	0	0	0	0	0	0	0	0	0	0	0	1,882
48	0	1	5	28	45	105	183	488	514	180	224	299	288	30	0	0	0	0	0	0	0	0	0	0	2,390
49	0	0	6	23	48	73	131	270	572	587	261	274	324	31	0	0	0	0	0	0	0	0	0	0	2,924
50	0	0	4	7	29	61	96	142	309	633	662	214	275	294	249	30	0	0	0	0	0	0	0	0	3,005
51	0	0	7	14	26	45	62	106	191	338	661	729	302	338	307	224	11	0	0	0	0	0	0	0	3,361
52	0	0	3	8	21	21	39	92	158	202	352	805	807	290	266	269	188	16	0	0	0	0	0	0	3,537
53	0	0	1	6	19	31	36	64	107	155	193	441	793	844	274	238	264	219	8	0	0	0	0	0	3,693
54	0	0	5	8	17	23	42	39	67	106	170	253	429	843	820	233	221	318	199	9	0	0	0	0	3,802
55	0	1	5	9	14	29	33	47	61	88	117	202	252	433	879	890	231	265	313	192	9	0	0	0	4,070
56	0	0	1	11	13	19	25	40	60	54	93	147	204	260	423	884	1,038	283	282	310	173	8	0	0	4,328
57	0	0	2	8	21	20	37	52	41	65	61	112	158	242	280	473	937	988	300	289	265	128	3	0	4,482
58	0	0	4	3	20	23	40	36	44	53	73	68	128	186	203	259	461	920	279	266	245	145	6	0	4,359
59	0	0	2	3	13	16	37	23	42	44	50	73	91	128	161	212	301	467	859	277	289	295	140	0	4,418
60	0	0	0	2	4	9	17	25	22	25	29	33	55	49	73	86	101	126	267	515	317	149	237	174	2,315
61	0	0	1	0	2	1	0	1	1	2	3	1	1	0	2	1	7	4	8	14	16	13	6	6	90
62	0	0	0	0	1	1	0	0	0	3	2	3	0	0	3	3	1	3	2	3	5	8	7	13	58
63	0	0	0	0	1	1	0	1	0	1	3	3	0	0	3	3	1	1	1	1	8	12	20	175	234
Total	0	20	348	706	1,146	1,691	2,003	2,603	3,078	3,161	3,450	3,924	4,132	4,264	3,971	3,805	3,762	3,586	3,159	2,507	1,336	882	713	514	54,731

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.

Average PEBD Years of Service: 30.6

Average Age: 53.1

DoD Enlisted Non-Selected Reserve Personnel With 20 Good Years by PEBD Years of Service and Age for FY 2012 Valuation

Age	Completed Pay Entry Base Date (PEBD) Years Of Service																				Total					
	<19	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37		38	39	40	41	42
<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	0
37	0	17	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	20
38	0	12	89	13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	114
39	0	18	153	157	33	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	361
40	0	9	136	300	409	66	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	920
41	0	9	95	302	657	637	73	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1,773
42	0	13	69	201	533	988	797	49	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2,650
43	0	7	40	144	314	719	1,160	957	91	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3,432
44	0	3	40	113	227	502	905	1,479	1,133	108	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4,510
45	0	4	40	85	179	329	601	1,120	1,609	1,190	209	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5,366
46	0	7	20	66	149	280	465	816	1,329	1,431	1,498	157	0	0	0	0	0	0	0	0	0	0	0	0	0	6,218
47	0	6	29	55	133	244	373	577	924	1,116	1,911	1,478	148	0	0	0	0	0	0	0	0	0	0	0	0	6,994
48	0	4	17	63	109	185	311	511	718	874	1,576	2,101	1,732	222	0	0	0	0	0	0	0	0	0	0	0	8,423
49	0	2	18	65	99	192	283	414	609	744	1,070	1,675	2,205	1,869	202	0	0	0	0	0	0	0	0	0	0	9,447
50	0	3	17	54	97	138	246	335	489	594	844	1,172	1,683	2,391	1,871	147	0	0	0	0	0	0	0	0	0	10,081
51	0	3	15	43	86	124	212	285	383	435	708	911	1,287	1,668	2,617	1,695	122	0	0	0	0	0	0	0	0	10,594
52	0	1	12	58	73	118	167	268	324	408	562	761	964	1,277	1,952	2,209	1,393	132	0	0	0	0	0	0	0	10,679
53	0	3	11	37	75	86	123	224	266	350	468	570	746	878	1,320	1,642	1,927	1,512	91	0	0	0	0	0	0	10,329
54	0	2	8	26	62	91	115	187	221	277	331	451	597	729	929	1,123	1,484	2,071	1,286	49	0	0	0	0	0	10,039
55	0	5	14	34	53	82	112	158	177	232	330	417	438	629	816	958	1,171	1,735	1,986	1,089	64	0	0	0	0	10,500
56	0	1	15	37	47	63	87	142	186	212	247	347	450	536	741	764	909	1,283	1,675	1,925	916	38	0	0	10,621	
57	0	1	11	30	59	68	77	115	164	191	254	302	344	477	577	662	784	1,060	1,299	1,551	1,651	704	25	0	10,406	
58	0	2	9	26	60	59	56	96	140	154	226	288	317	411	500	567	678	886	1,029	1,249	1,348	1,240	610	17	9,968	
59	0	1	4	15	39	34	79	98	126	158	174	212	325	351	430	497	582	781	913	1,044	1,044	1,280	1,523	519	10,229	
60	0	0	2	4	13	21	29	52	60	65	89	109	132	165	220	231	288	371	410	487	517	642	1,270	768	5,945	
61	0	0	0	0	0	2	1	2	4	1	0	4	5	4	4	15	6	13	10	12	11	17	45	75	231	
62	0	0	0	0	0	0	0	1	1	1	3	3	1	4	3	5	6	8	13	11	15	13	12	70	175	
63	0	0	0	0	0	0	0	1	3	3	7	7	8	8	15	20	22	31	30	31	34	20	39	473	752	
Total	0	133	867	1,928	3,506	5,028	6,272	7,887	8,957	8,546	10,507	10,963	11,385	11,618	12,199	10,536	9,372	9,883	8,742	7,448	5,600	3,954	3,524	1,922	160,777	

Notes: Data taken from the actuarial valuation file created by the DoD Office of the Actuary. Average Age: 52.1 Average PEBD Years of Service: 30.8 Age is age nearest birthday as of the end of the fiscal year.

All DoD Non-Selected Reserve Personnel With 20 Good Years by PEBD Years of Service and Age for FY 2012 Valuation

Age	Completed Pay Entry Base Date (PEBD) Years Of Service																				Total				
	<19	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37		38	39	40	41
<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
37	0	17	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
38	0	14	103	15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	21
39	0	20	176	184	42	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	132
40	0	10	153	344	456	76	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	422
41	0	11	109	335	730	749	93	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1,039
42	0	17	145	235	613	1,119	923	61	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2,027
43	0	11	122	303	374	821	1,320	1,125	111	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3,113
44	0	3	72	255	448	600	1,019	1,704	1,333	130	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4,187
45	0	4	53	154	388	611	715	1,292	1,869	1,393	250	0	0	0	0	0	0	0	0	0	0	0	0	0	5,564
46	0	7	40	102	255	608	807	999	1,558	1,647	1,710	180	0	0	0	0	0	0	0	0	0	0	0	0	6,729
47	0	9	39	84	180	395	721	995	1,104	1,300	2,154	1,722	173	0	0	0	0	0	0	0	0	0	0	0	7,913
48	0	5	22	91	154	290	494	999	1,232	1,054	1,800	2,400	2,020	252	0	0	0	0	0	0	0	0	0	0	8,876
49	0	2	24	88	147	265	414	684	1,181	1,331	1,331	1,949	2,529	2,193	233	0	0	0	0	0	0	0	0	0	10,813
50	0	3	21	61	126	199	342	477	798	1,227	1,506	1,386	1,958	2,685	2,120	177	0	0	0	0	0	0	0	0	12,371
51	0	3	22	57	112	169	274	391	574	773	1,369	1,640	1,589	2,006	2,924	1,919	133	0	0	0	0	0	0	0	13,086
52	0	1	15	66	94	139	206	360	482	610	914	1,566	1,771	1,567	2,218	2,478	1,581	148	0	0	0	0	0	0	15,955
53	0	3	12	43	94	117	159	288	373	505	661	1,011	1,539	1,722	1,594	1,880	2,191	1,731	99	0	0	0	0	0	14,216
54	0	2	13	34	79	114	157	226	288	383	501	704	1,026	1,572	1,749	1,356	1,705	2,389	1,485	58	0	0	0	0	14,022
55	0	6	19	43	67	111	145	205	238	320	447	619	690	1,062	1,695	1,848	1,402	2,000	2,299	1,281	73	0	0	0	13,841
56	0	1	16	48	60	82	112	182	246	266	340	494	654	796	1,164	1,648	1,947	1,566	1,957	2,235	1,089	46	0	0	14,570
57	0	1	13	38	80	88	114	167	205	256	315	414	502	719	857	1,135	1,721	2,048	1,599	1,840	1,916	832	28	0	14,949
58	0	2	13	29	80	82	96	132	184	207	299	356	445	597	703	826	1,139	1,783	1,949	1,528	1,614	1,485	755	23	14,888
59	0	1	6	18	52	50	116	121	168	202	224	285	416	479	591	709	883	1,248	1,772	1,939	1,321	1,569	1,818	659	14,327
60	0	0	2	6	17	30	46	77	82	90	118	142	187	214	293	317	389	497	677	1,002	834	791	1,507	942	14,647
61	0	0	1	0	2	3	1	3	5	3	3	5	6	4	6	16	13	17	18	26	27	30	51	81	8,260
62	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	321
63	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	21
Total	0	153	1,215	2,634	4,652	6,719	8,275	10,490	12,035	11,707	13,957	14,887	15,517	15,882	16,170	14,341	13,134	13,469	11,901	9,955	6,936	4,806	4,237	2,436	215,508

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.

Average Age: 52.3

Average PEBD Years of Service: 30.8

DoD Retired Military Valuation Data as of Year-End FY 2012

All Officers

Age	Strength			Average Annual Net Retired Pay			TERRA			CSB			
	Non Disabled	Perm Disabled	Temp Disabled	Reserve Retired	Total	TERRA Non-Dis	TERRA Res Ret	CSB Non-Dis	CSB Dis	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
17	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
19	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
21	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
23	0	0	1	0	1	0	0	0	0	0	0	0	0
24	0	0	1	0	1	0	0	0	0	0	0	0	0
25	0	5	6	0	11	0	0	0	0	0	0	0	0
26	0	14	8	0	22	0	0	0	0	0	0	0	0
27	0	68	18	0	86	0	0	0	0	0	0	0	0
28	0	19	17	0	36	0	0	0	0	0	0	0	0
29	0	40	20	0	60	0	0	0	0	0	0	0	0
30	0	48	30	0	78	0	0	0	0	0	0	0	0
31	0	66	36	0	102	0	0	0	0	0	0	0	0
32	0	68	37	0	105	0	0	0	0	0	0	0	0
33	0	100	27	0	127	0	0	0	0	0	0	0	0
34	0	69	21	0	90	0	0	0	0	0	0	0	0
35	0	87	34	0	121	0	0	0	0	0	0	0	0
36	0	93	27	0	120	0	0	0	0	0	0	0	0
37	0	97	28	0	125	0	0	0	0	0	0	0	0
38	28	107	20	0	155	0	0	0	0	0	0	0	0
39	97	98	30	0	225	0	0	0	0	0	0	0	0
40	313	113	23	0	449	2	0	0	0	0	0	0	0
41	551	134	26	0	711	0	0	0	0	0	0	0	0
42	991	159	42	0	1,192	0	0	0	0	0	0	0	0
43	1,596	166	21	0	1,783	0	0	0	0	0	0	0	0
44	2,307	160	35	0	2,502	0	0	0	0	0	0	0	0
45	3,056	179	23	0	3,258	0	0	0	0	0	0	0	0
46	3,846	163	30	0	4,039	0	0	0	0	0	0	0	0
47	4,713	197	24	0	4,934	0	0	0	0	0	0	0	0
48	5,538	214	27	0	5,779	0	0	0	0	0	0	0	0
49	6,379	204	26	0	6,609	27	0	0	0	0	0	0	0
50	6,761	231	13	0	7,005	62	0	0	0	0	0	0	0
51	7,172	231	14	0	7,417	101	0	0	0	0	0	0	0
52	7,610	223	15	0	7,848	219	0	0	0	0	0	0	0
53	8,057	232	12	0	8,301	432	0	0	0	0	0	0	0
54	8,590	248	9	1	8,848	719	0	0	0	0	0	0	0
55	9,201	251	6	1	9,459	1,090	0	0	0	0	0	0	0
56	9,480	265	6	2	9,753	1,301	0	0	0	0	0	0	0
57	9,994	251	9	11	10,265	1,440	0	0	0	0	0	0	0
58	10,143	285	2	48	10,478	1,428	1	0	0	0	0	0	0
59	10,468	305	6	101	10,880	1,232	0	0	0	0	0	0	0
60	10,494	302	7	2,559	13,162	941	80	0	0	0	0	0	0
61	10,333	299	5	5,328	15,965	698	141	5	1	0	0	0	0
62	10,631	323	3	5,931	16,888	460	119	1	1	0	0	0	0
63	11,291	376	4	6,935	18,606	381	132	1	0	0	0	0	0
64	12,091	388	0	8,056	20,535	299	108	2	0	0	0	0	0
65	12,962	519	0	8,923	22,404	260	91	0	0	0	0	0	0
66	13,775	616	0	9,547	23,938	213	102	0	0	0	0	0	0
67	9,556	460	0	6,789	16,805	126	59	0	0	0	0	0	0
68	9,633	479	0	6,748	16,860	83	42	0	0	0	0	0	0
69	9,828	441	0	6,349	16,618	75	36	0	0	0	0	0	0
70	9,639	462	0	6,287	16,388	62	43	0	0	0	0	0	0

DoD Retired Military Valuation Data as of Year-End FY 2012

All Officers

Age	Strength				Average Annual Net Retired Pay				Reserve				TERRA				CSB	
	Non Disabled	Perm Disabled	Temp Disabled	Total	Non Disabled	Perm Disabled	Temp Disabled	Total	Non-Dis	Res Ret	Non-Dis	Res Ret	Non-Dis	Res Ret	Non-Dis	Res Ret	Non-Dis	Dis
71	8,467	338	0	5,098	13,903	40	30	0	0	\$38,122	\$37,923	\$21,699	\$21,699	\$12,111	\$12,111	\$0	\$0	
72	8,538	352	0	4,549	13,439	15	33	0	0	\$35,628	\$38,720	\$21,760	\$21,760	\$14,541	\$14,541	\$0	\$0	
73	8,544	295	0	4,256	13,095	12	36	0	0	\$44,844	\$36,559	\$21,527	\$21,527	\$14,558	\$14,558	\$0	\$0	
74	8,108	274	0	4,244	12,626	9	40	0	0	\$46,458	\$38,822	\$20,703	\$20,703	\$14,326	\$14,326	\$0	\$0	
75	7,733	248	0	4,091	12,072	11	33	0	0	\$43,828	\$39,433	\$20,087	\$20,087	\$14,631	\$14,631	\$0	\$0	
76	7,346	245	0	3,849	11,440	9	16	0	0	\$36,624	\$39,633	\$20,022	\$20,022	\$13,597	\$13,597	\$0	\$0	
77	7,129	240	0	3,668	11,037	8	16	0	0	\$39,173	\$39,976	\$19,669	\$19,669	\$13,489	\$13,489	\$0	\$0	
78	7,426	239	0	3,728	11,393	6	16	0	0	\$40,446	\$41,004	\$19,472	\$19,472	\$11,718	\$11,718	\$0	\$0	
79	7,004	206	0	3,398	10,608	5	10	0	0	\$30,345	\$40,446	\$19,502	\$19,502	\$12,307	\$12,307	\$0	\$0	
80	6,980	229	0	3,444	10,653	8	6	0	0	\$43,535	\$42,076	\$19,467	\$19,467	\$17,208	\$17,208	\$0	\$0	
81	6,476	270	0	3,539	10,285	5	5	0	0	\$46,525	\$41,643	\$18,650	\$18,650	\$17,450	\$17,450	\$0	\$0	
82	6,299	239	0	3,680	10,218	1	1	0	0	\$27,420	\$41,545	\$18,260	\$18,260	\$24,801	\$24,801	\$0	\$0	
83	5,558	268	0	3,437	9,263	1	5	0	0	\$42,504	\$41,317	\$17,876	\$17,876	\$15,915	\$15,915	\$0	\$0	
84	4,461	224	0	2,864	7,549	1	4	0	0	\$35,328	\$42,111	\$17,679	\$17,679	\$18,210	\$18,210	\$0	\$0	
85	3,103	163	0	1,982	5,248	1	1	0	0	\$25,727	\$43,245	\$18,505	\$18,505	\$18,828	\$18,828	\$0	\$0	
86	2,394	157	0	1,803	4,354	1	0	0	0	\$42,657	\$37,126	\$18,130	\$18,130	\$0	\$0	\$0	\$0	
87	2,535	153	0	2,011	4,699	0	0	0	0	\$42,422	\$38,205	\$17,238	\$17,238	\$0	\$0	\$0	\$0	
88	2,650	224	0	2,364	5,238	0	0	0	0	\$40,592	\$39,708	\$17,168	\$17,168	\$0	\$0	\$0	\$0	
89	2,576	310	0	2,312	5,198	0	0	0	0	\$38,981	\$39,708	\$16,490	\$16,490	\$0	\$0	\$0	\$0	
90	2,432	345	0	2,258	5,035	0	0	0	0	\$38,981	\$38,981	\$16,611	\$16,611	\$0	\$0	\$0	\$0	
91	2,447	375	0	2,097	4,919	0	0	0	0	\$39,246	\$39,246	\$16,948	\$16,948	\$0	\$0	\$0	\$0	
92	2,069	358	0	1,827	4,254	0	1	0	0	\$38,205	\$38,205	\$17,627	\$17,627	\$8,916	\$8,916	\$0	\$0	
93	1,654	330	0	1,375	3,359	0	0	0	0	\$39,638	\$39,638	\$18,763	\$18,763	\$0	\$0	\$0	\$0	
94	1,205	220	0	1,100	2,525	0	0	0	0	\$38,612	\$38,612	\$19,536	\$19,536	\$0	\$0	\$0	\$0	
95	757	158	0	766	1,681	0	0	0	0	\$37,126	\$37,126	\$19,680	\$19,680	\$0	\$0	\$0	\$0	
96	479	94	0	494	1,067	0	0	0	0	\$38,518	\$38,518	\$20,620	\$20,620	\$0	\$0	\$0	\$0	
97	336	73	0	299	708	0	0	0	0	\$38,842	\$38,842	\$21,730	\$21,730	\$0	\$0	\$0	\$0	
98	181	43	0	218	442	0	0	0	0	\$37,385	\$37,385	\$22,160	\$22,160	\$0	\$0	\$0	\$0	
99	101	30	0	110	241	0	0	0	0	\$36,413	\$36,413	\$22,908	\$22,908	\$0	\$0	\$0	\$0	
100	30	17	0	68	115	0	0	0	0	\$32,607	\$32,607	\$22,502	\$22,502	\$0	\$0	\$0	\$0	
101	34	1	0	30	65	0	0	0	0	\$32,883	\$32,883	\$23,068	\$23,068	\$0	\$0	\$0	\$0	
102	18	3	0	26	47	0	0	0	0	\$33,263	\$33,263	\$21,705	\$21,705	\$0	\$0	\$0	\$0	
103	5	2	0	12	19	0	0	0	0	\$27,860	\$27,860	\$22,325	\$22,325	\$0	\$0	\$0	\$0	
104	3	0	0	4	7	0	0	0	0	\$37,766	\$37,766	\$21,789	\$21,789	\$0	\$0	\$0	\$0	
105	4	0	0	0	4	0	0	0	0	\$54,849	\$54,849	\$0	\$0	\$0	\$0	\$0	\$0	
106	0	1	0	1	2	0	0	0	0	\$14,832	\$14,832	\$13,056	\$13,056	\$0	\$0	\$0	\$0	
107	0	0	0	0	0	0	0	0	0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
108	0	0	0	1	1	0	0	0	0	\$50,988	\$50,988	\$0	\$0	\$0	\$0	\$0	\$0	
109	0	0	0	1	1	0	0	0	0	\$11,916	\$11,916	\$11,916	\$11,916	\$0	\$0	\$0	\$0	
110	0	0	0	0	0	0	0	0	0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
Total	362,206	16,508	749	148,420	527,883	11,797	1,207	1,285	77	\$49,102	\$30,379	\$21,347	\$21,347	\$16,678	\$16,678	\$30,649	\$30,143	
60+	245,315	11,389	19	148,256	404,979	3,731	1,206	13	1	\$50,440	\$34,544	\$21,329	\$21,329	\$16,665	\$16,665	\$36,336	\$20,592	
62+	224,488	10,788	7	140,569	375,852	2,092	985	4	0	\$51,555	\$34,915	\$21,097	\$21,097	\$16,238	\$16,238	\$43,226	\$0	
65+	190,475	9,701	0	119,647	319,823	952	626	0	0	\$35,502	\$35,502	\$20,693	\$20,693	\$15,179	\$15,179	\$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 12/1/12 cost of living increase of 1.7%.

DoD Retired Military Valuation Data as of Year-End FY 2012

All Enlisted

Age	Strength			Average Annual Net Retired Pay			Reserve			Total			TERRA		CSB		
	Non Disabled	Perm Disabled	Temp Disabled	Reserve Retired	Total	TERRA Non-Dis	TERRA Res Ret	CSB Non-Dis	CSB Dis	Total	TERRA Non-Dis	TERRA Res Ret	CSB Non-Dis	CSB Dis	Total	TERRA Res Ret	CSB Non-Dis
71	21,352	967	0	8,184	30,503	54	143	0	0	\$22,832	\$14,774	\$0	\$0	\$18,966	\$6,268	\$0	\$0
72	20,568	877	0	7,046	28,491	34	102	0	0	\$22,707	\$16,924	\$0	\$0	\$19,476	\$6,506	\$0	\$0
73	20,202	730	0	6,882	27,814	20	103	0	0	\$22,584	\$16,400	\$0	\$0	\$21,407	\$5,907	\$0	\$0
74	21,097	748	0	6,798	28,643	27	120	0	0	\$22,703	\$16,810	\$0	\$0	\$19,902	\$5,847	\$0	\$0
75	22,464	736	0	6,692	29,892	13	145	0	0	\$19,821	\$16,835	\$0	\$0	\$17,384	\$5,224	\$0	\$0
76	21,829	671	0	6,286	28,786	9	110	0	0	\$23,306	\$17,299	\$0	\$0	\$20,458	\$5,239	\$0	\$0
77	21,334	676	0	5,958	27,868	3	123	0	0	\$23,371	\$16,949	\$0	\$0	\$21,858	\$6,086	\$0	\$0
78	19,458	701	0	5,157	25,316	69	69	0	0	\$23,465	\$17,132	\$0	\$0	\$20,440	\$5,685	\$0	\$0
79	17,716	703	0	4,271	22,690	1	63	0	0	\$23,752	\$16,513	\$0	\$0	\$14,172	\$5,884	\$0	\$0
80	17,008	836	0	4,008	21,852	0	15	0	0	\$23,959	\$16,193	\$0	\$0	\$21,052	\$5,815	\$0	\$0
81	15,945	902	0	3,954	20,801	0	3	0	0	\$24,071	\$15,221	\$0	\$0	\$20,937	\$8,979	\$0	\$0
82	15,819	937	0	3,703	20,459	0	1	0	0	\$23,859	\$16,157	\$0	\$0	\$20,908	\$4,806	\$0	\$0
83	13,769	910	0	2,888	17,567	0	0	0	0	\$23,724	\$16,364	\$0	\$0	\$21,026	\$0	\$0	\$0
84	10,585	685	0	2,231	13,501	0	0	0	0	\$23,808	\$16,990	\$0	\$0	\$21,140	\$0	\$0	\$0
85	8,257	507	0	1,559	10,323	0	1	0	0	\$23,315	\$17,971	\$0	\$0	\$21,032	\$5,928	\$0	\$0
86	5,811	317	0	1,276	7,404	0	0	0	0	\$23,038	\$18,578	\$0	\$0	\$20,603	\$0	\$0	\$0
87	4,679	295	0	1,130	6,104	0	0	0	0	\$22,775	\$18,923	\$0	\$0	\$20,226	\$0	\$0	\$0
88	3,984	238	0	988	5,210	0	0	0	0	\$22,961	\$19,981	\$0	\$0	\$20,348	\$0	\$0	\$0
89	3,566	199	0	782	4,347	0	0	0	0	\$22,647	\$19,707	\$0	\$0	\$20,221	\$0	\$0	\$0
90	2,607	155	0	625	3,387	0	0	0	0	\$22,474	\$22,108	\$0	\$0	\$20,151	\$0	\$0	\$0
91	2,199	114	0	568	2,881	0	0	0	0	\$21,330	\$24,076	\$0	\$0	\$19,894	\$0	\$0	\$0
92	1,598	83	0	381	2,062	0	0	0	0	\$22,891	\$22,318	\$0	\$0	\$20,594	\$0	\$0	\$0
93	1,246	65	0	279	1,590	0	0	0	0	\$22,678	\$26,098	\$0	\$0	\$20,759	\$0	\$0	\$0
94	750	45	0	175	970	0	0	0	0	\$22,503	\$28,101	\$0	\$0	\$20,722	\$0	\$0	\$0
95	483	21	0	125	629	0	0	0	0	\$22,210	\$32,309	\$0	\$0	\$20,355	\$0	\$0	\$0
96	278	19	0	68	365	0	0	0	0	\$21,330	\$26,433	\$0	\$0	\$19,643	\$0	\$0	\$0
97	172	11	0	54	237	0	0	0	0	\$20,746	\$23,731	\$0	\$0	\$18,758	\$0	\$0	\$0
98	107	7	0	39	153	0	0	0	0	\$22,826	\$16,557	\$0	\$0	\$19,630	\$0	\$0	\$0
99	45	4	0	21	66	0	0	0	0	\$19,096	\$19,096	\$0	\$0	\$16,727	\$0	\$0	\$0
100	23	1	0	7	31	0	0	0	0	\$23,511	\$24,948	\$0	\$0	\$20,913	\$0	\$0	\$0
101	18	0	0	3	21	0	0	0	0	\$18,018	\$0	\$0	\$0	\$16,952	\$0	\$0	\$0
102	6	0	0	1	7	0	0	0	0	\$16,104	\$0	\$0	\$0	\$14,875	\$0	\$0	\$0
103	4	0	0	1	5	0	0	0	0	\$18,639	\$0	\$0	\$0	\$16,596	\$0	\$0	\$0
104	3	1	0	0	4	0	0	0	0	\$20,000	\$768	\$0	\$0	\$15,192	\$0	\$0	\$0
105	1	0	0	0	1	0	0	0	0	\$13,656	\$0	\$0	\$0	\$13,656	\$0	\$0	\$0
106	0	0	0	0	0	0	0	0	0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
107	0	0	0	0	0	0	0	0	0	\$0	\$0	\$0	\$0	\$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	\$0	\$0	\$0	\$0	\$0
Total	1,109,881	68,770	10,041	227,632	1,416,324	40,563	4,235	848	33,515	\$22,218	\$11,175	\$9,019	\$19,643	\$13,715	\$6,639	\$17,487	\$17,416
60+	577,129	33,453	32	227,477	838,091	5,108	4,235	33	33	\$22,870	\$13,395	\$17,530	\$19,028	\$15,540	\$6,639	\$15,283	\$0
62+	517,089	30,245	11	208,948	756,293	3,087	3,775	0	0	\$23,031	\$13,526	\$20,176	\$19,058	\$16,316	\$6,558	\$0	\$0
65+	433,692	23,438	0	162,394	619,524	1,393	2,674	0	0	\$23,187	\$14,495	\$0	\$19,370	\$17,390	\$6,456	\$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.
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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 12/1/12 cost of living increase of 1.7%.

DoD Retired Military Valuation Data as of Year-End FY 2012

AllDoD

Age	Strength				Average Annual Net Retired Pay				Reserve					
	Non Disabled	Perm Disabled	Temp Disabled	Total	TERA Non-Dis	TERA Res Ret	CSB Non-Dis	CSB Dis	TERA Non-Dis	TERA Total	Reserve Retired	Total	CSB Non-Dis	CSB Dis
16												\$3,252		\$0
17												\$0		\$0
18												\$0		\$0
19												\$6,438		\$0
20			3	6								\$7,866		\$0
21			24	42								\$0		\$0
22			18	34								\$0		\$0
23			34	58								\$0		\$0
24			75	231								\$0		\$0
25			171	666								\$0		\$0
26			284	294								\$0		\$0
27			440	660								\$0		\$0
28			602	1,281								\$0		\$0
29			775	1,524								\$0		\$0
30			901	1,654								\$0		\$0
31			972	1,711								\$0		\$0
32			978	1,679								\$0		\$0
33			943	1,568								\$0		\$0
34			777	1,114								\$0		\$0
35			41	524								\$0		\$0
36			512	1,418								\$13,856	\$29,040	\$16,074
37			934	1,418								\$0		\$0
38			60	1,328								\$0		\$0
39			849	1,284								\$0		\$0
40			838	1,284								\$0		\$0
41			827	1,203								\$0		\$0
42			777	1,114								\$0		\$0
43			802	1,542								\$0		\$0
44			2,386	3,379								\$0		\$0
45			5,380	6,444								\$0		\$0
46			8,996	10,196								\$0		\$0
47			26,573	27,908								\$0		\$0
48			30,291	31,753								\$0		\$0
49			34,691	36,191								\$0		\$0
50			38,240	39,749								\$0		\$0
51			44,653	46,157								\$0		\$0
52			22,478	23,706								\$0		\$0
53			1,884	2,001								\$0		\$0
54			1,076	1,184								\$0		\$0
55			1,527	1,689								\$0		\$0
56			1,522	1,689								\$0		\$0
57			1,549	1,689								\$0		\$0
58			1,474	1,689								\$0		\$0
59			1,583	1,689								\$0		\$0
60			1,500	1,689								\$0		\$0
61			1,909	2,060								\$0		\$0
62			2,215	2,441								\$0		\$0
63			2,667	2,888								\$0		\$0
64			3,012	3,262								\$0		\$0
65			3,262	3,510								\$0		\$0
66			4,104	4,358								\$0		\$0
67			4,601	4,858								\$0		\$0
68			28,872	30,131								\$0		\$0
69			29,290	30,643								\$0		\$0
70			31,053	32,542								\$0		\$0

DoD Retired Military Valuation Data as of Year-End FY 2012

All DoD

Age	Non Disabled			Perm Disabled			Temp Disabled			Reserve Retired			Average Annual Net Retired Pay			TERRA		CSB	
	Age	Non Disabled	Perm Disabled	Temp Disabled	Reserve Retired	Total	TERRA Non-Dis	TERRA Res Ret	CSB Non-Dis	CSB Dis	CSB Non-Dis	CSB Dis	Total	TERRA Non-Dis	TERRA Res Ret	CSB Non-Dis	CSB Dis		
71	29,819	1,305	0	13,282	44,406	94	173	0	0	\$29,979	\$18,746	\$0	\$14,242	\$24,942	\$27,117	\$7,282	\$0		
72	29,106	1,229	0	11,595	41,930	49	135	0	0	\$30,128	\$21,448	\$0	\$14,281	\$25,491	\$24,420	\$8,470	\$0		
73	28,746	1,025	0	11,138	40,909	32	139	0	0	\$30,269	\$22,202	\$0	\$14,016	\$25,642	\$30,196	\$8,147	\$0		
74	29,205	1,022	0	11,042	41,269	36	160	0	0	\$29,831	\$22,135	\$0	\$13,611	\$25,301	\$26,541	\$7,967	\$0		
75	30,197	984	0	10,783	41,964	24	178	0	0	\$29,765	\$22,500	\$0	\$13,239	\$25,349	\$29,504	\$6,968	\$0		
76	29,175	916	0	10,135	40,226	18	126	0	0	\$30,014	\$22,960	\$0	\$13,318	\$25,647	\$28,541	\$6,300	\$0		
77	28,563	916	0	9,626	38,905	11	139	0	0	\$30,183	\$22,587	\$0	\$13,207	\$25,804	\$34,450	\$6,938	\$0		
78	26,884	940	0	8,885	36,709	6	85	0	0	\$31,313	\$22,687	\$0	\$13,671	\$26,822	\$40,446	\$6,796	\$0		
79	24,720	909	0	7,669	33,298	6	73	0	0	\$31,867	\$22,267	\$0	\$14,509	\$27,561	\$44,316	\$6,764	\$0		
80	23,988	1,065	0	7,452	32,505	8	21	0	0	\$32,464	\$22,041	\$0	\$14,231	\$27,943	\$43,535	\$9,070	\$0		
81	22,421	1,172	0	7,493	31,086	5	8	0	0	\$32,757	\$21,676	\$0	\$13,876	\$27,788	\$46,525	\$14,274	\$0		
82	22,118	1,176	0	7,383	30,677	1	2	0	0	\$32,746	\$21,772	\$0	\$13,869	\$27,420	\$47,404	\$14,804	\$0		
83	19,327	1,178	0	6,325	26,830	1	5	0	0	\$32,955	\$21,987	\$0	\$14,112	\$28,031	\$42,504	\$15,915	\$0		
84	15,046	909	0	5,095	21,050	1	4	0	0	\$33,837	\$23,970	\$0	\$14,210	\$28,660	\$35,338	\$18,210	\$0		
85	11,560	670	0	3,541	15,571	1	2	0	0	\$33,075	\$24,726	\$0	\$14,619	\$28,538	\$25,378	\$12,578	\$0		
86	8,205	474	0	3,079	11,758	1	1	0	0	\$34,061	\$28,129	\$0	\$14,768	\$28,769	\$52,537	\$0	\$0		
87	7,214	448	0	3,141	10,803	0	0	0	0	\$36,618	\$28,257	\$0	\$14,639	\$29,881	\$0	\$0	\$0		
88	6,634	462	0	3,352	10,448	0	0	0	0	\$32,401	\$29,253	\$0	\$15,026	\$30,497	\$0	\$0	\$0		
89	5,942	509	0	3,094	9,545	0	0	0	0	\$39,201	\$30,446	\$0	\$14,827	\$30,833	\$0	\$0	\$0		
90	5,039	500	0	2,883	8,422	0	0	0	0	\$40,665	\$31,730	\$0	\$15,172	\$31,408	\$0	\$0	\$0		
91	4,646	489	0	2,665	7,800	0	0	0	0	\$41,505	\$33,209	\$0	\$15,495	\$32,098	\$0	\$0	\$0		
92	3,667	441	0	2,208	6,316	0	1	0	0	\$42,143	\$32,230	\$0	\$16,411	\$32,456	\$0	\$0	\$0		
93	2,900	395	0	1,654	4,949	0	0	0	0	\$43,659	\$33,548	\$0	\$20,529	\$32,819	\$0	\$0	\$0		
94	1,955	265	0	1,275	3,495	0	0	0	0	\$43,236	\$36,278	\$0	\$21,103	\$33,573	\$0	\$0	\$0		
95	1,240	179	0	891	2,310	0	0	0	0	\$43,236	\$36,307	\$0	\$18,391	\$33,647	\$0	\$0	\$0		
96	757	113	0	562	1,432	0	0	0	0	\$42,114	\$36,421	\$0	\$18,487	\$32,560	\$0	\$0	\$0		
97	508	84	0	353	945	0	0	0	0	\$43,368	\$39,957	\$0	\$19,438	\$33,707	\$0	\$0	\$0		
98	288	50	0	257	595	0	0	0	0	\$42,818	\$36,675	\$0	\$20,151	\$33,805	\$0	\$0	\$0		
99	146	30	0	131	307	0	0	0	0	\$43,659	\$33,548	\$0	\$20,529	\$32,819	\$0	\$0	\$0		
100	53	18	0	75	146	0	0	0	0	\$41,133	\$36,984	\$0	\$21,103	\$33,180	\$0	\$0	\$0		
101	52	1	0	33	86	0	0	0	0	\$39,475	\$38,511	\$0	\$21,503	\$30,124	\$0	\$0	\$0		
102	24	3	0	27	54	0	0	0	0	\$38,902	\$32,808	\$0	\$21,930	\$32,318	\$0	\$0	\$0		
103	9	2	0	13	24	0	0	0	0	\$39,855	\$46,384	\$0	\$21,179	\$30,880	\$0	\$0	\$0		
104	6	1	0	4	11	0	0	0	0	\$32,516	\$32,678	\$0	\$21,256	\$25,514	\$0	\$0	\$0		
105	5	0	0	0	5	0	0	0	0	\$768	\$768	\$0	\$21,789	\$29,557	\$0	\$0	\$0		
106	0	1	0	1	2	0	0	0	0	\$46,610	\$16,608	\$0	\$13,056	\$46,610	\$0	\$0	\$0		
107	0	0	0	0	0	0	0	0	0	\$0	\$0	\$0	\$0	\$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	\$11,916	\$11,916	\$0	\$0	\$0		
110	0	0	0	0	0	0	0	0	0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0		
Total	1,472,087	85,278	10,790	376,052	1,944,207	52,360	5,442	34,800	925	\$28,833	\$14,892	\$10,088	\$14,549	\$25,354	\$17,217	\$8,866	\$18,476		
60+	822,444	44,842	51	375,733	1,243,070	8,839	5,441	46	1	\$31,093	\$18,767	\$26,555	\$14,536	\$25,644	\$22,674	\$8,861	\$20,592		
62+	741,577	41,033	18	349,517	1,132,145	5,179	4,760	4	0	\$31,400	\$19,149	\$30,045	\$14,478	\$25,732	\$23,289	\$8,561	\$0		
65+	624,167	33,139	0	282,041	939,347	2,345	3,300	0	0	\$31,745	\$20,645	\$0	\$14,466	\$26,165	\$24,807	\$8,110	\$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 12/1/12 cost of living increase of 1.7%.

DoD Survivor Valuation Data as of Year-End FY 2012

Age	Strength				Average Annual Net Survivor Pay				Total	
	SBP	RCSBP	Minimum Income	Death on Active Duty	SBP	RCSBP	Minimum Income	Death on Active Duty		Total
0	0	0	0	0	\$24,451	\$19,056	\$0	\$7,298	\$0	\$13,394
1	0	0	0	50	\$0	\$0	\$0	\$7,556	\$0	\$7,556
2	0	0	0	84	\$3,085	\$0	\$0	\$7,923	\$0	\$7,923
3	0	0	0	195	\$11,753	\$0	\$0	\$8,055	\$0	\$8,111
4	0	0	0	257	\$0	\$0	\$0	\$7,053	\$0	\$7,053
5	4	1	0	274	\$4,325	\$5,160	\$0	\$7,373	\$0	\$7,321
6	14	0	0	401	\$9,248	\$0	\$0	\$7,163	\$0	\$7,233
7	23	1	0	396	\$5,720	\$3,852	\$0	\$7,167	\$0	\$7,075
8	25	1	0	447	\$7,612	\$5,502	\$0	\$7,208	\$0	\$7,226
9	34	2	0	455	\$7,739	\$5,748	\$0	\$7,456	\$0	\$7,469
10	38	2	0	429	\$7,509	\$1,768	\$0	\$7,871	\$0	\$7,816
11	47	2	0	423	\$7,062	\$3,450	\$0	\$6,737	\$0	\$6,756
12	63	7	0	409	\$9,979	\$3,865	\$0	\$7,320	\$0	\$7,619
13	88	14	0	359	\$8,292	\$4,727	\$0	\$7,343	\$9,727	\$7,454
14	90	14	0	324	\$8,608	\$5,359	\$0	\$7,292	\$0	\$7,505
15	121	16	0	279	\$8,066	\$4,798	\$0	\$7,475	\$0	\$7,544
16	115	20	0	264	\$8,374	\$4,748	\$0	\$8,035	\$0	\$7,968
17	122	27	0	248	\$9,392	\$4,889	\$0	\$8,576	\$0	\$8,576
18	144	16	0	163	\$9,653	\$4,784	\$0	\$8,084	\$0	\$8,620
19	95	24	0	59	\$10,362	\$5,238	\$0	\$9,387	\$4,836	\$9,323
20	97	6	0	46	\$12,466	\$4,394	\$0	\$10,991	\$0	\$11,685
21	80	22	0	25	\$12,971	\$6,223	\$0	\$12,304	\$0	\$11,671
22	59	10	0	14	\$11,684	\$5,344	\$0	\$9,542	\$0	\$10,559
23	25	1	0	12	\$9,684	\$1,260	\$0	\$9,232	\$0	\$9,319
24	29	3	0	12	\$11,150	\$4,040	\$0	\$9,040	\$8,928	\$10,064
25	22	2	0	7	\$12,193	\$4,830	\$0	\$6,887	\$0	\$10,520
26	27	1	0	5	\$14,579	\$5,274	\$0	\$4,260	\$0	\$12,734
27	18	4	0	11	\$12,797	\$3,588	\$0	\$7,347	\$0	\$9,864
28	25	4	0	21	\$11,539	\$9,000	\$0	\$5,999	\$0	\$9,009
29	32	7	0	14	\$12,298	\$7,227	\$0	\$6,770	\$1,812	\$10,013
30	29	2	0	21	\$12,661	\$5,118	\$0	\$6,672	\$0	\$9,953
31	41	3	0	26	\$11,231	\$11,128	\$0	\$9,101	\$1,596	\$10,311
32	29	12	0	35	\$9,397	\$4,830	\$0	\$5,726	\$0	\$6,985
33	29	7	0	40	\$12,507	\$5,731	\$0	\$6,296	\$3,534	\$8,548
34	39	7	0	63	\$10,297	\$6,432	\$0	\$7,024	\$0	\$8,157
35	34	7	0	55	\$12,988	\$3,286	\$0	\$6,579	\$11,016	\$8,633
36	42	10	0	56	\$11,316	\$4,997	\$0	\$7,239	\$2,088	\$8,557
37	52	8	0	85	\$11,348	\$7,014	\$0	\$6,492	\$2,678	\$8,076
38	53	11	0	59	\$13,012	\$7,956	\$0	\$8,368	\$3,581	\$10,224
39	62	10	0	78	\$10,863	\$6,118	\$0	\$7,482	\$0	\$8,789
40	76	22	0	113	\$10,823	\$6,610	\$0	\$7,450	\$1,745	\$8,419
41	85	26	0	63	\$11,997	\$5,374	\$0	\$8,284	\$3,327	\$9,223
42	107	37	0	92	\$13,357	\$6,449	\$0	\$8,701	\$3,307	\$10,253
43	113	43	0	106	\$12,259	\$6,821	\$0	\$9,739	\$1,665	\$10,249
44	126	46	0	101	\$12,196	\$6,758	\$0	\$9,373	\$1,308	\$10,203
45	150	50	0	83	\$13,318	\$6,972	\$0	\$10,035	\$2,308	\$11,110
46	197	68	0	117	\$12,830	\$6,662	\$0	\$12,054	\$2,753	\$11,228
47	255	73	0	84	\$11,714	\$6,706	\$0	\$9,477	\$2,725	\$10,189
48	306	82	0	101	\$12,328	\$6,946	\$0	\$10,036	\$3,795	\$10,809
49	339	127	0	83	\$11,909	\$6,873	\$0	\$12,018	\$2,301	\$10,536
50	363	156	0	75	\$12,020	\$7,682	\$0	\$13,151	\$3,807	\$10,834
51	496	179	0	82	\$12,104	\$6,554	\$0	\$13,989	\$3,610	\$10,778
52	612	204	0	78	\$12,415	\$7,124	\$0	\$13,566	\$3,377	\$10,991
53	53	252	0	50	\$11,951	\$7,094	\$0	\$14,730	\$3,817	\$10,510
54	672	249	0	60	\$12,059	\$7,573	\$0	\$13,249	\$2,194	\$10,904
55	823	322	0	57	\$11,861	\$6,763	\$0	\$13,111	\$2,558	\$10,443
56	897	391	0	71	\$12,226	\$7,583	\$0	\$13,501	\$4,279	\$10,855
57	1,001	429	0	52	\$12,395	\$7,096	\$0	\$16,783	\$4,745	\$10,973
58	1,183	535	0	51	\$12,315	\$7,443	\$0	\$14,280	\$4,357	\$10,869
59	1,317	567	0	60	\$12,292	\$7,433	\$0	\$15,397	\$3,288	\$10,889

DoD Survivor Valuation Data as of Year-End FY 2012

Age	Strength				Average Annual Net Survivor Pay				Total	
	SBP	RCSBP	Minimum Income	Death on Active Duty	SBP	RCSBP	Minimum Income	Death on Active Duty		Total
60	1,434	720	0	47	12,073	7,257	\$0	15,852	\$4,627	\$10,543
61	1,567	902	0	46	12,397	\$7,011	\$0	12,823	\$2,129	\$10,447
62	1,787	981	0	52	12,656	\$7,170	\$0	13,445	\$3,330	\$10,746
63	2,009	1,081	0	47	12,614	\$7,207	\$0	14,618	\$3,179	\$10,752
64	2,297	1,366	1	33	12,707	\$7,193	\$7,392	13,794	\$3,586	\$10,642
65	2,648	1,529	0	49	12,816	\$7,272	\$0	12,607	\$2,687	\$10,779
66	3,039	1,696	0	45	12,895	\$7,354	\$0	12,065	\$1,417	\$10,911
67	2,710	1,329	0	33	13,052	\$7,362	\$0	11,342	\$4,312	\$11,154
68	3,185	1,555	0	41	13,071	\$7,418	\$0	11,153	\$2,063	\$11,189
69	3,756	1,740	0	41	13,107	\$7,378	\$0	9,633	\$1,738	\$11,260
70	4,343	1,977	0	52	13,058	\$7,477	\$0	12,875	\$2,256	\$11,292
71	4,553	1,922	0	44	12,986	\$7,267	\$0	9,937	\$2,266	\$11,260
72	4,807	1,984	1	45	13,003	\$7,401	\$8,219	8,406	\$2,097	\$11,297
73	5,380	2,151	1	52	13,272	\$7,379	\$8,219	9,715	\$1,567	\$11,517
74	5,891	2,327	3	46	13,576	\$7,438	\$8,219	9,729	\$1,849	\$11,774
75	6,389	2,315	3	48	13,580	\$7,484	\$7,444	13,213	\$2,362	\$11,893
76	6,631	2,418	4	67	13,719	\$7,464	\$7,587	10,812	\$2,360	\$11,906
77	7,295	2,713	6	50	13,977	\$7,540	\$6,906	11,102	\$2,017	\$12,088
78	7,581	2,702	2	64	14,062	\$7,558	\$7,505	12,033	\$2,227	\$12,154
79	7,457	2,667	3	75	14,556	\$7,722	\$6,895	13,317	\$2,249	\$12,500
80	7,820	2,819	2	65	14,873	\$7,797	\$6,674	11,376	\$1,990	\$12,652
81	7,762	3,001	1	61	15,447	\$7,901	\$5,193	12,553	\$2,702	\$13,021
82	7,738	2,817	1	62	15,577	\$8,163	\$8,219	12,789	\$2,507	\$13,170
83	7,555	2,899	2	43	15,759	\$8,030	\$6,993	12,419	\$2,214	\$13,164
84	7,101	3,035	7	41	16,092	\$8,177	\$7,498	17,187	\$2,486	\$13,269
85	6,901	3,011	7	31	16,406	\$8,530	\$7,929	11,060	\$2,415	\$13,493
86	6,899	3,187	5	38	17,208	\$8,727	\$7,572	13,751	\$2,677	\$13,944
87	6,954	3,150	3	42	17,833	\$8,813	\$8,219	16,113	\$2,914	\$14,430
88	6,781	3,260	1	34	18,262	\$8,997	\$6,907	10,987	\$3,256	\$14,610
89	6,561	3,197	5	35	18,935	\$9,064	\$7,300	16,635	\$3,224	\$15,019
90	5,639	2,954	2	19	19,246	\$9,390	\$6,659	9,585	\$2,982	\$15,066
91	5,090	2,754	5	25	19,492	\$9,590	\$8,205	14,532	\$3,398	\$15,261
92	3,775	2,208	4	20	20,044	\$9,977	\$8,195	16,982	\$3,248	\$15,465
93	2,767	1,725	4	7	20,409	\$9,897	\$7,747	\$9,012	\$3,667	\$15,497
94	1,920	1,234	2	8	19,910	\$10,347	\$5,432	15,207	\$3,311	\$15,289
95	1,316	918	6	157	20,192	\$10,536	\$8,213	18,708	\$2,771	\$15,326
96	867	592	2	2	20,674	\$10,476	\$7,380	29,328	\$3,071	\$15,631
97	598	395	1	2	20,014	\$10,600	\$8,219	11,820	\$3,716	\$15,160
98	402	262	3	0	19,585	\$10,713	\$0	15,456	\$2,450	\$15,148
99	274	170	0	2	19,361	\$10,726	\$0	19,560	\$2,984	\$14,944
100	159	114	2	1	20,588	\$11,435	\$8,219	15,444	\$3,543	\$15,219
101	92	59	1	0	18,196	\$11,777	\$5,719	\$0	\$3,091	\$14,777
102	56	53	0	15	19,745	\$10,580	\$0	\$0	\$2,332	\$13,721
103	35	26	3	0	16,388	\$11,104	\$9,379	\$0	\$4,281	\$12,392
104	14	24	1	0	22,666	\$10,764	\$7,602	\$0	\$1,497	\$13,994
105	3	8	1	0	28,336	\$8,852	\$8,219	\$0	\$0	\$13,670
106	2	4	0	2	11,346	\$8,712	\$0	\$0	\$1,836	\$7,652
107	1	0	1	0	10,572	\$0	\$8,219	\$0	\$0	\$9,396
108	2	1	0	0	17,430	\$9,564	\$0	\$0	\$0	\$14,808
109	1	1	2	0	8,432	\$8,760	\$8,219	\$0	\$0	\$7,398
Total	191,233	84,096	95	9,284	8,416	293,124	\$7,641	88,983	\$2,830	\$12,677
60+	179,644	79,953	95	1,518	8,122	269,332	\$7,641	12,480	\$2,809	\$12,934
62+	176,643	78,331	95	1,425	8,101	264,595	\$7,641	12,358	\$2,806	\$12,978
65+	170,550	74,903	94	1,293	8,064	254,904	\$7,643	12,195	\$2,803	\$13,064

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 12/1/12 cost of living increase of 1.7%.
 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, 2012, the DoD Board of Actuaries adopted the following economic assumptions for use in the valuation as of September 30, 2012: the rate of inflation (CPI) is assumed to be 3.00 percent per year; the investment return (interest rate) is 5.50 percent per year; and the basic pay scale increases are 3.50 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 (BLS), 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 32-year period ending in 2012 is 2.97 percent.

The DoD assumption for CPI is reasonably consistent with what is used in other parts of the government. In its 2012 report, the Civil Service Retirement System (CSRS) assumes a 3.00 percent CPI increase. The Trustees of the Social Security Administration (SSA) in their 2012 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 4.82 percent.

After analyzing past trends of government trust fund earnings, 2.50 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 5.50 percent (where $5.50 = 2.50 + 3.00$). 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 2012 report (other assumptions: low cost – 3.4 percent; high cost – 2.4 percent). The Board of Actuaries of the CSRS used a 2.25 percent real interest rate assumption in its 2012 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 0.95 percent a year. Since the Vietnam War (~1970), annual real pay increases have averaged only 0.55 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 0.50 percent, leading to a nominal growth of 3.50 percent (where $3.50 = 0.50 + 3.00$ – CPI assumption). The Board of Actuaries of the CSRS assumed 0.25 percent real wage growth for its 2012 valuation. The Social Security Trustees’ 2012 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
2012	3.00	5.50	3.50	2.50	0.50

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	2011	
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	2.38	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	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				
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	2.48	2.32	2.00	1.90	0.00				
2012	3.24	3.66	3.89	3.79	3.57	3.76	3.92	4.20	4.16	3.79	2.97	2.81	2.56	2.45	2.45	2.44	2.55	2.60	2.58	2.37	2.21	2.20	1.31	1.76	2.65	1.70	

- 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.

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

TABLE D-3
AVERAGE REAL YIELD RATES ON NEW PURCHASES

	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	2011		
FROM DECEMBER 31 OF:																												
1935	6.51																											
1940	4.31	2.17																										
1945	1.72	-0.59	-3.28																									
1950	0.15	-1.88	-3.85	-4.41																								
1955	0.32	-1.17	-2.25	-1.73	1.02																							
1960	0.52	-0.64	-1.33	-0.67	1.25	1.48																						
1965	0.82	-0.10	-0.55	0.15	1.71	2.06	2.64																					
1970	0.88	0.10	-0.24	0.38	1.62	1.82	1.99	1.34																				
1975	0.77	0.08	-0.22	0.30	1.27	1.34	1.29	0.62	-0.10																			
1980	0.64	0.01	-0.25	0.19	0.97	0.96	0.83	0.24	-0.30	-0.51																		
1985	1.32	0.81	0.66	1.17	1.99	2.15	2.29	2.20	2.49	3.81	8.31																	
1990	1.62	1.19	1.09	1.59	2.37	2.56	2.74	2.77	3.13	4.22	6.67	5.06																
1995	1.72	1.33	1.26	1.73	2.43	2.61	2.77	2.79	3.09	3.90	5.41	3.99	2.93															
2000	1.84	1.49	1.43	1.87	2.52	2.69	2.84	2.87	3.12	3.78	4.88	3.76	3.12	3.31														
2001	1.82	1.47	1.41	1.84	2.48	2.64	2.78	2.80	3.04	3.65	4.67	3.56	2.88	2.85	0.55													
2002	1.82	1.47	1.42	1.84	2.46	2.62	2.75	2.77	2.99	3.58	4.53	3.44	2.78	2.67	1.08	1.61	1.32											
2003	1.81	1.47	1.42	1.83	2.44	2.59	2.72	2.73	2.94	3.50	4.39	3.32	2.66	2.50	1.16	1.47	1.33	1.33										
2004	1.80	1.47	1.41	1.82	2.42	2.56	2.69	2.69	2.90	3.42	4.26	3.22	2.57	2.37	1.20	1.42	1.33	1.57	1.80									
2005	1.80	1.47	1.42	1.82	2.41	2.55	2.67	2.67	2.86	3.37	4.16	3.15	2.52	2.31	1.32	1.52	1.48	1.57	1.80	2.04								
2006	1.81	1.49	1.43	1.83	2.41	2.54	2.66	2.66	2.85	3.33	4.09	3.10	2.50	2.31	1.48	1.67	1.68	1.80	2.04	2.27	2.27							
2007	1.81	1.50	1.45	1.84	2.40	2.54	2.65	2.65	2.83	3.30	4.02	3.06	2.48	2.30	1.58	1.76	1.79	1.90	2.09	2.24	2.20	2.07						
2008	1.81	1.50	1.45	1.84	2.40	2.53	2.64	2.63	2.81	3.25	3.94	3.01	2.45	2.27	1.63	1.78	1.81	1.91	2.05	2.14	2.07	1.94						
2009	1.82	1.51	1.46	1.84	2.39	2.52	2.62	2.62	2.79	3.22	3.87	2.97	2.43	2.25	1.67	1.81	1.84	1.93	2.05	2.11	2.05	1.98	2.01					
2010	1.81	1.50	1.46	1.83	2.37	2.49	2.60	2.59	2.75	3.16	3.79	2.90	2.37	2.19	1.63	1.75	1.77	1.83	1.91	1.94	1.85	1.74	1.64	1.26				
2011	1.78	1.48	1.43	1.79	2.32	2.44	2.53	2.52	2.66	3.05	3.64	2.76	2.23	2.01	1.42	1.51	1.50	1.52	1.55	1.50	1.35	1.14	0.87	0.31	-0.64			
2012	1.76	1.46	1.41	1.77	2.29	2.40	2.49	2.47	2.60	2.98	3.53	2.67	2.13	1.90	1.32	1.39	1.37	1.37	1.38	1.32	1.16	0.95	0.70	0.27	-0.22	0.19		

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

- All figures are average annual percentages.

- Real yields for non-TIPS securities are computed as the nominal yield at purchase offset by inflation in the year of purchase.

For TIPS securities, the real yield is known and constant throughout the life of the security.

Source: Office of the Actuary, Office of Personnel Management, Office of the Actuary, Department of Defense

*** COMPOSITE SERIES: TREASURY LONG TERM SECURITIES WITH REMAINING MATURITIES OF 10 OR MORE YEARS FROM 1931 TO 1941;
AVERAGE OF TREASURY LONG TERM AND TREASURY 3-5 YEARS REMAINING MATURITY FROM 1941 TO 1961;
SPECIAL TREASURY CERTIFICATES (CSRS) FROM 1962 TO 1984;
MILITARY RETIREMENT SYSTEM TRUST FUND NEW INVESTMENTS BEGINNING WITH 1985

TABLE D-4
AVERAGE REAL MILITARY RETIREMENT FUND EFFECTIVE YIELD

FROM PERIOD CORRESPONDING 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	2011				
TO END OF FISCAL YEAR:																																
1985	14.27																															
1986	12.32	10.41																														
1987	10.35	8.45	6.52																													
1988	9.31	7.71	6.38	6.24																												
1989	8.47	7.06	5.97	5.70	5.15																											
1990	7.76	6.50	5.55	5.22	4.72	4.29																										
1991	7.49	6.40	5.62	5.39	5.11	5.09	5.90																									
1992	7.34	6.38	5.73	5.57	5.40	5.48	6.08	6.08																								
1993	7.22	6.37	5.81	5.69	5.58	5.69	6.16	6.29	6.32																							
1994	7.07	6.30	5.80	5.70	5.61	5.70	6.05	6.10	6.02	5.72																						
1995	6.96	6.26	5.81	5.72	5.64	5.73	6.02	6.05	5.97	5.80	5.87																					
1996	6.84	6.19	5.78	5.70	5.63	5.70	5.94	5.94	5.86	5.71	5.71	5.54																				
1997	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																			
1998	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	6.97																		
1999	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	5.56																	
2000	6.58	6.09	5.78	5.73	5.68	5.73	5.88	5.88	5.83	5.76	5.76	5.74	5.79	5.63	4.96	4.37																
2001	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	5.23															
2002	6.45	6.01	5.74	5.69	5.65	5.69	5.81	5.80	5.75	5.69	5.69	5.66	5.66	5.56	5.21	5.09	5.45	5.68														
2003	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													
2004	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												
2005	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	4.42	4.02	3.76	3.64	3.25	2.45	2.01	1.39											
2006	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	4.20	3.83	3.59	3.46	3.11	2.48	2.23	1.97	2.85										
2007	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	2.45	2.85									
2008	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	2.95	2.61	2.11	1.86	1.67	2.45	2.85	0.40								
2009	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	1.57	1.24	0.70	0.99							
2010	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	1.53	2.10	3.22						
2011	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	1.25					
2012	4.82	4.48	4.26	4.17	4.08	4.04	4.03	3.94	3.82	3.69	3.58	3.45	3.32	3.12	2.86	2.65	2.51	2.26	1.93	1.77	1.67	1.57	1.41	1.66	1.89	1.23	1.22					

- "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

	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	2011	
FROM DECEMBER 31 OF:																											
1930	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
1935	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
1940	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
1945	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
1950	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
1955	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
1960	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
1965	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
1970	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
1975	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
1980	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
1985	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
1990	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
1995	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2001	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2002	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2003	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2004	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2005	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2006	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2007	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2008	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2009	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2010	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2011	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2012	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	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 System¹. (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.

Current rates were created using 2010 data. Table E-1 displays the active duty and reserve basic payroll percentage distributions by completed years of service at the end of FY 2010.

¹ The Bipartisan Budget Act of 2013 (Public Law 113-67) creates a fourth tier for those who enter military service on or after January 1, 2014.

TABLE E-1

**BASIC PAYROLL PERCENTAGE DISTRIBUTION
BY COMPLETED YEARS OF SERVICE**

Completed Years of Service	Percentage of Payroll on 9/30/2010:	
	Full-time	Part-time
0	3%	0%
1 or less	8%	6%
2 or less	13%	11%
3 or less	18%	16%
4 or less	24%	20%
5 or less	28%	24%
6 or less	32%	27%
7 or less	37%	31%
8 or less	41%	35%
9 or less	45%	38%
10 or less	49%	41%
11 or less	53%	44%
12 or less	56%	46%
13 or less	59%	49%
14 or less	63%	51%
15 or less	66%	53%
16 or less	68%	55%
17 or less	71%	58%
18 or less	75%	60%
19 or less	78%	64%
20 or less	81%	67%
21 or less	84%	70%
22 or less	86%	74%
23 or less	89%	77%
24 or less	91%	80%
25 or less	93%	83%
26 or less	95%	86%
27 or less	96%	89%
28 or less	97%	91%
29 or less	98%	93%
30 or less	98%	94%
31 or less	99%	95%
32 or less	99%	96%
33 or less	99%	97%
34 or less	100%	98%
35 or less	100%	98%
36 or less	100%	99%
37 or less	100%	99%
38 or less	100%	100%
39 and greater	:	:
TOTAL FORCE	100%	100%

Notes:

- Previous reports used the same percentages for both active and reserve duty personnel.
- Additionally, a multi-year experience period was used in computing valuation results.

APPENDIX F

VALUATION PROGRAM PARAMETERS

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VALUATION PROGRAM PARAMETERS DESCRIPTION

GORGO is an actuarial projection model run in a spreadsheet environment with embedded Visual Basic programming. 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 and/or future expectations. 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 3.5 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 3.0 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 5.5 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 \$34,301.
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) 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.
2) Proportion of Points Based on Active Service	This amount is used to allocate the part of the reserve normal cost that should be paid for as a part of the active duty normal cost. The value for the valuation is 51%.
3) Initial Annual Pay of new Selected Reserve member	This array is used to set initial pay for a new Selected Reserve member in a normal cost run. The values for the valuation are updated with an across-the-board salary increase each year.

TABLE F-1 (continued)

<u>Item</u>	<u>Description/Value</u>
4) 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 2024, and the transition to age 58 is assumed to occur in 2033. See also the 'Retiree Gain Statement' in Appendix K.
5) Ratio of Reserve to Active Payroll	For the purposes of the allocation referred to in item 2) above, this value represents the assumed ratio of reserve duty to active duty basic payroll. The value for the valuation is 10%.

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 \$1,216.

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)

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

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)

Age	Officer	Enlisted
16	0.00044	0.00072
17	0.00051	0.00083
18	0.00058	0.00095
19	0.00063	0.00102
20	0.00063	0.00103
21	0.00061	0.00100
22	0.00060	0.00095
23	0.00059	0.00089
24	0.00057	0.00083
25	0.00056	0.00077
26	0.00057	0.00074
27	0.00054	0.00070
28	0.00052	0.00067
29	0.00050	0.00063
30	0.00048	0.00060
31	0.00048	0.00057
32	0.00046	0.00056
33	0.00045	0.00053
34	0.00043	0.00051
35	0.00042	0.00049
36	0.00041	0.00048
37	0.00041	0.00048
38	0.00040	0.00048
39	0.00039	0.00048
40	0.00039	0.00048
41	0.00039	0.00049
42	0.00038	0.00050
43	0.00039	0.00051
44	0.00040	0.00053
45	0.00041	0.00056
46	0.00043	0.00060
47	0.00044	0.00064
48	0.00045	0.00070
49	0.00048	0.00075
50	0.00050	0.00082
51	0.00053	0.00089
52	0.00056	0.00098
53	0.00059	0.00108
54	0.00064	0.00118
55	0.00069	0.00131
56	0.00074	0.00146
57	0.00080	0.00159
58	0.00086	0.00175
59	0.00092	0.00188
60	0.00098	0.00202

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

Modeling reserves is similar in some respects to modeling active duty. There are, however, additional challenges due to the complexities of the reserve career (multiple breaks in service of varying durations, movement between active and reserve components, etc.); the structure of the reserve force; limitations of the reserve data; and evolving changes in how the reserves are used.

Reserves are modeled in two population categories in the portion of their career prior to receiving retired pay – Selected Reserves and non-Selected Reserves with 20 good years. The Selected Reserves include only part-time members (full-time Reservists are included in the active-duty (full-time) portion of OACT’s valuation) and are the reservists for whom normal costs are paid. The non-Selected Reserves with 20 good years¹ are modeled because they have enough service to qualify for retirement.

The reserve rates consist primarily of decrement rates related to the probabilities of a member leaving a category of military service for a specific reason. In addition, they include a new entrant distribution; a set of reentrant ratios; ratios for promotion and merit pay increases; average points per year; transfer to 20-year non-Selected Reserve status; and blow-up² factors. The decrement rates are mainly given by age nearest birthday at entry and completed years of service since Pay Entry Base Date (PEBD), for officers and enlisted separately. “Entry Age” is constructed on an assumption of no breaks in service; e.g., an “entry age” of 57 could represent a member who started at a much earlier age with a long break in service. As noted in the “Valuation Data and Procedure” section in the main text, the valuation results are highly sensitive to the separation rates and reentrant ratios³. Below is a description of the rates used in the reserve valuation process.

¹ This includes the category commonly referred to as the “grey area” as well as other non-Selected Reservists with 20 qualifying retirement years.

² These are used to adjust for persistent patterns of actual outcomes not conforming to expectations based on known data. For example, some new reserve retirees show up in the data each year who were not in the data as eligible-to-retain reservists the year before. The need for such “blow up” factors is one of many challenges in modeling reservists.

³ Another challenge in modeling reserves relates to the fact that many reservists start their career in the active duty component or have breaks in service throughout their career. Their movements back into the Selected Reserves (from the active duty component, from civilian status, etc.) are modeled as implicit flows via reentrant ratios. However, in some cases these ratios are unusually high, and population cells with small numbers of members initially are then augmented throughout the actuarial projection by large numbers of reentrants. This creates the potential for volatility of results, to the extent small population cell counts experience variations over time. Additionally, patterns of reservist population flows (between the Selected Reserves and the active duty component and between civilian status and the Selected Reserve) are changing, given external and internal factors such as changes in how reserves are used by the military.

The data for the rates was taken from the Reserve Component Common Personnel Data System (RCCPDS) files as of September 30 for the years 2005 through 2009. The experience period was selected such that the sum of the part-time Selected Reserve force size changes for the included period was near zero. The fiscal years on which the rates are based is given on a subsequent page. A qualitative description follows. The general formula derivation is similar to those of the Active Duty rates (Appendix G) and Retiree/Survivor rates (Appendix I). The reserve rate formulas are not shown, but may be requested from the Office of the Actuary.

The separation rates give the probability that a member in a given status at the beginning of the fiscal year leaves that status during the fiscal year. Separation rates from the Selected Reserve include standard losses, transfers to active duty, transfers to the full-time reserves, discharge, and death. 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.

A reentrant is defined as someone who is in the Selected Reserves at year end, who was not in the same status a year earlier, and who is not a new entrant (as defined by having greater than zero completed years of PEBD service). It can include transfers from active duty; former Selected Reserve or active members returning after breaks in service; reserve members returning after being attached to a non-selected reserve component (Individual Ready Reserve or Inactive National Guard); and members transferring to the part-time Selected Reserves from the full-time reserves.

The new entrant distribution gives the percentages of new entrants (as defined by having zero completed years of PEBD service) to the part-time Selected Reserves by age and by officer/enlisted status. The distribution is only used in the normal cost (new entrant) valuation and the open group projection.

Due to Public Law (P.L.) 110-181 (see Appendix A), the set of separation rates shown apply only in the early years of the projection, and then phase in to an average age of 58 for reserve retirement. (See Item 4 in the Reserve Duty section in Appendix F for a description of the parameter used to model the phase-in.) As the transitions to earlier average retirement ages occur, the ages applicable to some of the rates change.

In most cases the separation and reentrant rates and ratios are not smoothed (graduated). However, cells with numerators of fewer than 10 cases were combined with other cells.

The promotion and merit increase scales (PAMS) 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 PAMS are defined by length of PEBD service, by age, and by officer/enlisted status. They were computed by dividing the average pay at age (x+1), years of service (y+1) by the average pay at age (x), years of service (y) one year earlier. An adjustment was made to compute the averages for the

numerator and denominator based on the same pay table, and cells based on few observations were combined with other cells.

SUMMARY OF YEARS ON WHICH RESERVE RATES ARE BASED

By Fiscal Year

<u>RATE</u>	<u>2005</u>	<u>2006</u>	<u>2007</u>	<u>2008</u>	<u>2009</u>
New Entrant Distribution (Officer/Enlisted)	X	X	X	X	X
Separation (Officer/Enlisted; Selected/Non-Selected)	X	X	X	X	X
Reentrant (Officer/Enlisted; Selected)	X	X	X	X	X
Paygrade Transfer (Officer/Enlisted; Selected)	X	X	X	X	X
Status Transfer (Officer/Enlisted; Selected-to- Non-Selected)	X	X	X	X	X
Retirement (Officer/Enlisted; Selected/Non-Selected)	X	X	X	X	X
Disability Retirement (Permanent/Temporary; Officer/Enlisted; Selected)	X	X	X	X	X
Average Points Per Year (Officer/Enlisted; Selected/Non-Selected)	X	X	X	X	X
Career Points Adjustment (Officer/Enlisted; Selected)	X	X	X	X	X
Reentering Average Points (Officer/Enlisted; Selected)	X	X	X	X	X
Retirement Blow-up (Officer/Enlisted; Non-Selected)	X	X	X	X	X
Transfer Blow-up (Officer/Enlisted; Selected-to- Non-Selected)	X	X	X	X	
Transfer Blow-up Adjustment (Officer/Enlisted; Selected-to- Non-Selected)	X	X	X	X	
Selected Reserve PAMS (Officer/Enlisted)	X	X	X	X	X
Non-Selected Reserve PAMS (Officer/Enlisted)	X	X	X	X	X

New Entrant Distribution

By Paygrade (Officer/Enlisted)

<u>Entry Age</u>	<u>Officer</u>	<u>Enlisted</u>	<u>Total</u>
17	0.00000	0.02350	0.02350
18	0.00000	0.19427	0.19427
19	0.00001	0.20176	0.20177
20	0.00018	0.14591	0.14609
21	0.00028	0.10208	0.10236
22	0.00072	0.07088	0.07160
23	0.00149	0.05248	0.05397
24	0.00107	0.03949	0.04056
25	0.00074	0.03018	0.03092
26	0.00069	0.02308	0.02377
27	0.00071	0.01890	0.01961
28	0.00063	0.01535	0.01598
29	0.00061	0.01341	0.01402
30	0.00070	0.01077	0.01147
31	0.00064	0.00925	0.00989
32	0.00052	0.00773	0.00825
33	0.00055	0.00687	0.00742
34	0.00054	0.00607	0.00661
35	0.00067	0.00633	0.00700
36	0.00048	0.00518	0.00566
37	0.00054	0.00474	0.00528
38	0.00000	0.00000	0.00000
39	0.00000	0.00000	0.00000
40	0.00000	0.00000	0.00000
41	0.00000	0.00000	0.00000
42	0.00000	0.00000	0.00000
43	0.00000	0.00000	0.00000
44	0.00000	0.00000	0.00000
45	0.00000	0.00000	0.00000
46	0.00000	0.00000	0.00000
47	0.00000	0.00000	0.00000
48	0.00000	0.00000	0.00000
49	0.00000	0.00000	0.00000
50	0.00000	0.00000	0.00000
51	0.00000	0.00000	0.00000
52	0.00000	0.00000	0.00000
53	0.00000	0.00000	0.00000
54	0.00000	0.00000	0.00000
55	0.00000	0.00000	0.00000
56	0.00000	0.00000	0.00000
57	0.00000	0.00000	0.00000
58	0.00000	0.00000	0.00000
59	0.00000	0.00000	0.00000
60	0.00000	0.00000	0.00000
61	0.00000	0.00000	0.00000
>62	0.00000	0.00000	0.00000
Total	0.01177	0.98823	1.00000

DESCRIPTION: New Entrant distribution for a normal cost valuation (as well as open group), where a new entrant is defined as: a part-time selected reserve on the file as of year-end, who was not in that status in the prior year, and has zero completed PEBD years of service.

Arrayed by entry age and paygrade (officer/enlisted). Populates age scatter of new entrant cohort. Model assumes no new entrants older than age 37.

Officer Selected Reserve Separation Rates (Non-Retirement Causes)

Table with columns for FEBO Years of Service (16-41), By Entry Age (32-62), and Separation Rates. The table contains a grid of numerical values representing separation rates for various combinations of years of service and entry age.

DESCRIPTION: Selected Reserve Separation Rates
Arrived by entry age, completed FEBO YOS, and paygrade (officer/enlisted).
Probability that a member exits the status (due to non-retirement causes) during the fiscal year.
Values for certain cells in above rate table may represent little to no exposure in the population, hence have minimal or no impact on results.
Blank cells should be considered a value of zero (0.000).

Officer Selected Reserve Retirement Rates

PEBD Years of Service	By Entry Age																																																					
	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69
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39	0.000																																																					
40	0.000																																																					
41	0.000																																																					

DESCRIPTION: Selected Reserve Retirement Rates

Arranged by entry age, completed PEBD YOS, and paygrade (officer/enlisted).

Probability that a member retires during the fiscal year.

Rates for all ages except 59-60 are constant across all years of service.

Ages 59-60 were graduated ('smoothed') by age and years of service.

Blank cells should be considered a value of zero (0.000).

Selected Reserve Disability Retirement Rates

By Disability Type and Paygrade

PEBD Years of Service	Permanent		Temporary	
	Officer	Enlisted	Officer	Enlisted
Under 1	0.00000	0.00002	0.00000	0.00040
1	0.00000	0.00004	0.00000	0.00030
2	0.00000	0.00013	0.00000	0.00055
3	0.00000	0.00017	0.00000	0.00071
4	0.00017	0.00018	0.00014	0.00078
5	0.00017	0.00025	0.00026	0.00092
6	0.00017	0.00029	0.00039	0.00100
7	0.00019	0.00025	0.00051	0.00104
8	0.00018	0.00028	0.00058	0.00101
9	0.00019	0.00038	0.00057	0.00112
10	0.00025	0.00046	0.00055	0.00133
11	0.00026	0.00051	0.00047	0.00164
12	0.00020	0.00055	0.00042	0.00177
13	0.00020	0.00058	0.00039	0.00164
14	0.00024	0.00056	0.00037	0.00151
15	0.00026	0.00051	0.00035	0.00156
16	0.00023	0.00048	0.00039	0.00146
17	0.00020	0.00048	0.00049	0.00144
18	0.00023	0.00050	0.00048	0.00143
19	0.00033	0.00066	0.00046	0.00152
20	0.00047	0.00087	0.00052	0.00156
21	0.00057	0.00092	0.00043	0.00168
22	0.00060	0.00111	0.00043	0.00200
23	0.00049	0.00132	0.00060	0.00213
24	0.00046	0.00143	0.00090	0.00218
25	0.00062	0.00152	0.00101	0.00223
26	0.00080	0.00160	0.00096	0.00246
27	0.00090	0.00169	0.00086	0.00264
28	0.00088	0.00184	0.00088	0.00255
29	0.00084	0.00189	0.00090	0.00234
30	0.00087	0.00199	0.00091	0.00222
31	0.00086	0.00206	0.00090	0.00216
32	0.00084	0.00197	0.00094	0.00202
33	0.00082	0.00179	0.00096	0.00188
34	0.00068	0.00169	0.00091	0.00181
35	0.00041	0.00178	0.00087	0.00188
36	0.00000	0.00183	0.00093	0.00206
37	0.00000	0.00171	0.00108	0.00221
38	0.00000	0.00146	0.00120	0.00226
39	0.00000	0.00115	0.00127	0.00217
40	0.00000	0.00000	0.00000	0.00000
41	0.00000	0.00000	0.00000	0.00000

DESCRIPTION: Selected Reserve Disability Retirement Rates
 Arrayed by disability type (Permanent/Temporary), completed PEBD YOS,
 and paygrade (officer/enlisted).
 Probability that a member receives a disability retirement during the fiscal year.

Non-Selected Reserve with 20 Good Years Retirement Rates

By Paygrade

Age	Officer	Enlisted
17	0.000	0.000
18	0.000	0.000
19	0.000	0.000
20	0.000	0.000
21	0.000	0.000
22	0.000	0.000
23	0.000	0.000
24	0.000	0.000
25	0.000	0.000
26	0.000	0.000
27	0.000	0.000
28	0.000	0.000
29	0.000	0.000
30	0.000	0.000
31	0.000	0.000
32	0.000	0.000
33	0.000	0.000
34	0.000	0.000
35	0.000	0.000
36	0.000	0.000
37	0.000	0.000
38	0.000	0.000
39	0.000	0.000
40	0.000	0.000
41	0.001	0.000
42	0.000	0.000
43	0.002	0.000
44	0.002	0.000
45	0.001	0.000
46	0.001	0.000
47	0.001	0.000
48	0.001	0.000
49	0.001	0.000
50	0.002	0.000
51	0.001	0.000
52	0.002	0.000
53	0.001	0.000
54	0.001	0.000
55	0.001	0.000
56	0.000	0.000
57	0.000	0.000
58	0.001	0.001
59	0.470	0.450
60	0.950	0.930
61	0.289	0.303
62	0.199	0.186
>62	0.177	0.133

DESCRIPTION: Non-Selected Reserve with 20 Good Years ('Grey Area') Retirement Rates
 Arrayed by age and paygrade (officer/enlisted).
 Probability that a member retires from the Grey Area during the fiscal year.

Enlisted Selected Reserve Career Points Adjustment

Table with 42 columns (PEBD Year of Service 16-41) and 41 rows (0.000 1.004 to 0.000 0.975). Includes a 'By Entry Age' header and a 'DESCRIPTION:' box at the bottom right.

Enlisted Non-Selected Reserve with 20 Good Years Average Points Per Year

PEBD Years of Service	By Entry Age																																																							
	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	62								
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DESCRIPTION: Non-Selected Reserve with 20 Good Years (Grey Area) Average Points Earned Per Year Arrayed by entry age, completed PEBD YOS, and paygrade (officer/enlisted).
Annual retirement points (for benefit purposes) accumulated by a Grey Area retiree during a fiscal year.
Blank cells should be considered a value of zero (0).

Non-Selected Reserve with 20 Good Years Blow-up Factors

By Modeling Type and Paygrade

Age	Person		Pay	
	Officer	Enlisted	Officer	Enlisted
17	0.000	0.000	0.000	0.000
18	0.000	0.000	0.000	0.000
19	0.000	0.000	0.000	0.000
20	0.000	0.000	0.000	0.000
21	0.000	0.000	0.000	0.000
22	0.000	0.000	0.000	0.000
23	0.000	0.000	0.000	0.000
24	0.000	0.000	0.000	0.000
25	0.000	0.000	0.000	0.000
26	0.000	0.000	0.000	0.000
27	0.000	0.000	0.000	0.000
28	0.000	0.000	0.000	0.000
29	0.000	0.000	0.000	0.000
30	0.000	0.000	0.000	0.000
31	0.000	0.000	0.000	0.000
32	0.000	0.000	0.000	0.000
33	0.000	0.000	0.000	0.000
34	0.000	0.000	0.000	0.000
35	0.000	0.000	0.000	0.000
36	0.000	0.000	0.000	0.000
37	0.000	0.000	0.000	0.000
38	0.000	0.000	0.000	0.000
39	0.000	0.000	0.000	0.000
40	0.000	0.000	0.000	0.000
41	0.000	0.000	0.000	0.000
42	0.000	0.000	0.000	0.000
43	0.000	0.000	0.000	0.000
44	0.000	0.000	0.000	0.000
45	0.000	0.000	0.000	0.000
46	0.000	0.000	0.000	0.000
47	0.000	0.000	0.000	0.000
48	0.000	0.000	0.000	0.000
49	0.000	0.000	0.000	0.000
50	0.000	0.000	0.000	0.000
51	0.000	0.000	0.000	0.000
52	0.000	0.000	0.000	0.000
53	0.000	0.000	0.000	0.000
54	0.000	0.000	0.000	0.000
55	0.000	0.000	0.000	0.000
56	0.000	0.000	0.000	0.000
57	0.000	0.000	0.000	0.000
58	0.000	0.000	0.000	0.000
59	1.097	1.170	0.995	0.982
60	1.304	1.401	0.996	0.988
61	3.793	3.950	0.930	0.916
62	5.839	5.581	0.897	1.023
>62	4.624	5.248	0.948	0.896

DESCRIPTION: Non-Selected Reserve with 20 Good Years ('Grey Area') Nondisabled Retirement Ratios ("Blow-up" factors or "Loads") Arrayed by modeling type (person/pay), age, and paygrade (officer/enlisted). These factors are applied to each year's new-retirement-from-the-Grey-Area projections to account for new retirees who were not present in the prior year's reserve data files.

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 2006 through 2010. 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)

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

DEATH OF PERMANENT DISABILITY RETIREES (by age nearest birthday)

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

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

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

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)

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

¹ 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)²

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

OTHER LOSS OF SURVIVING SPOUSE (by age nearest birthday)

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

² 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>2006</u>	<u>2007</u>	<u>2008</u>	<u>2009</u>	<u>2010</u>
<u>DEATH RATES</u>					
ND Officer/Enlisted			X	X	
PD Officer/Enlisted	X	X	X		
TD Officer/Enlisted		X	X	X	X
<u>OTHER LOSS RATES</u>					
ND Officer/Enlisted			X	X	
PD Officer/Enlisted	X	X	X		
TD Officer/Enlisted		X	X	X	X
<u>TRANSFER RATES FROM TD</u>					
<u>TO PD</u>					
Officer/Enlisted		X	X	X	X
<u>RETIREE DIVORCE</u>					
			X	X	
<u>SURVIVOR RATES</u>					
Remarriage				X	X
Child Termination				X	X
Surviving Spouse Death				X	X
Surviving Spouse Other Loss				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	0.00036	0.00036	0.00533	0.00939	0.00890	0.00841	0.00792	0.00742
17	0.00036	0.00036	0.00533	0.00939	0.00890	0.00841	0.00792	0.00742
18	0.00036	0.00036	0.00533	0.00939	0.00890	0.00841	0.00792	0.00742
19	0.00036	0.00036	0.00533	0.00939	0.00890	0.00841	0.00792	0.00742
20	0.00036	0.00036	0.00533	0.00939	0.00890	0.00841	0.00792	0.00742
21	0.00036	0.00036	0.00533	0.00939	0.00890	0.00841	0.00792	0.00742
22	0.00036	0.00036	0.00533	0.00939	0.00890	0.00841	0.00792	0.00742
23	0.00036	0.00036	0.00533	0.00939	0.00890	0.00841	0.00792	0.00742
24	0.00036	0.00036	0.00533	0.00939	0.00890	0.00841	0.00792	0.00742
25	0.00036	0.00036	0.00533	0.00939	0.00890	0.00841	0.00792	0.00742
26	0.00036	0.00036	0.00533	0.00939	0.00890	0.00841	0.00792	0.00742
27	0.00036	0.00036	0.00533	0.00939	0.00890	0.00841	0.00792	0.00742
28	0.00036	0.00036	0.00533	0.00939	0.00890	0.00841	0.00792	0.00742
29	0.00036	0.00036	0.00533	0.00939	0.00890	0.00841	0.00792	0.00742
30	0.00030	0.00031	0.00533	0.00939	0.00890	0.00841	0.00792	0.00742
31	0.00030	0.00031	0.00533	0.00939	0.00890	0.00841	0.00792	0.00742
32	0.00030	0.00031	0.00533	0.00939	0.00890	0.00841	0.00792	0.00742
33	0.00030	0.00031	0.00533	0.00939	0.00890	0.00841	0.00792	0.00742
34	0.00030	0.00031	0.00533	0.00939	0.00890	0.00841	0.00792	0.00742
35	0.00030	0.00031	0.00533	0.00939	0.00890	0.00841	0.00792	0.00742
36	0.00030	0.00031	0.00533	0.00939	0.00890	0.00841	0.00792	0.00742
37	0.00030	0.00031	0.00533	0.00939	0.00890	0.00841	0.00792	0.00742
38	0.00030	0.00031	0.00533	0.00939	0.00890	0.00841	0.00792	0.00742
39	0.00030	0.00031	0.00533	0.00939	0.00890	0.00841	0.00792	0.00742
40	0.00039	0.00040	0.00533	0.00939	0.00890	0.00841	0.00792	0.00742
41	0.00048	0.00049	0.00533	0.00939	0.00890	0.00841	0.00792	0.00742
42	0.00057	0.00059	0.00533	0.00939	0.00890	0.00841	0.00792	0.00742
43	0.00059	0.00060	0.00533	0.00939	0.00890	0.00841	0.00792	0.00742
44	0.00061	0.00063	0.00533	0.00939	0.00890	0.00841	0.00792	0.00742
45	0.00065	0.00066	0.00533	0.00939	0.00890	0.00841	0.00792	0.00742
46	0.00069	0.00071	0.00533	0.00939	0.00890	0.00841	0.00792	0.00742
47	0.00075	0.00077	0.00533	0.00939	0.00890	0.00841	0.00792	0.00742
48	0.00082	0.00084	0.00533	0.00939	0.00890	0.00841	0.00792	0.00742
49	0.00090	0.00093	0.00533	0.00939	0.00890	0.00841	0.00792	0.00742
50	0.00100	0.00103	0.00574	0.00939	0.00890	0.00841	0.00792	0.00742
51	0.00112	0.00115	0.00596	0.00939	0.00890	0.00841	0.00792	0.00742
52	0.00124	0.00128	0.00620	0.00939	0.00890	0.00841	0.00792	0.00742
53	0.00139	0.00143	0.00647	0.00939	0.00890	0.00841	0.00792	0.00742
54	0.00157	0.00161	0.00677	0.00939	0.00890	0.00841	0.00792	0.00742
55	0.00178	0.00182	0.00710	0.00939	0.00890	0.00841	0.00792	0.00742
56	0.00202	0.00206	0.00747	0.00939	0.00890	0.00841	0.00792	0.00742
57	0.00231	0.00234	0.00791	0.00939	0.00890	0.00841	0.00792	0.00742
58	0.00265	0.00267	0.00843	0.00939	0.00890	0.00841	0.00792	0.00742
59	0.00304	0.00305	0.00905	0.00939	0.00890	0.00841	0.00792	0.00742
60	0.00348	0.00337	0.00981	0.00939	0.00890	0.00841	0.00792	0.00742
61	0.00400	0.00342	0.01072	0.00939	0.00890	0.00841	0.00792	0.00742

*** 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	0.00458	0.00363	0.01180	0.00939	0.00890	0.00841	0.00792	0.00742
63	0.00525	0.00404	0.01307	0.00939	0.00890	0.00841	0.00792	0.00742
64	0.00599	0.00470	0.01455	0.00939	0.00890	0.00841	0.00792	0.00742
65	0.00682	0.00549	0.01626	0.00939	0.00890	0.00841	0.00792	0.00742
66	0.00774	0.00617	0.01820					
67	0.00877	0.00684	0.02036					
68	0.00993	0.00775	0.02272					
69	0.01124	0.00889	0.02526					
70	0.01272	0.01031	0.02799					
71	0.01434	0.01206	0.03089					
72	0.01626	0.01416	0.03397					
73	0.01846	0.01657	0.03723					
74	0.02098	0.01905	0.04069					
75	0.02386	0.02159	0.04440					
76	0.02715	0.02453	0.04839					
77	0.03091	0.02824	0.05272					
78	0.03520	0.03267	0.05746					
79	0.04010	0.03774	0.06273					
80	0.04571	0.04304	0.06866					
81	0.05209	0.04883	0.07538					
82	0.05938	0.05540	0.08299					
83	0.06767	0.06256	0.09158					
84	0.07707	0.07030	0.10114					
85	0.08769	0.07935	0.11163					
86	0.09963	0.09075	0.12303					
87	0.11300	0.10465	0.13536					
88	0.12787	0.12054	0.14869					
89	0.14436	0.13745	0.16318					
90	0.16177	0.15486	0.17906					
91	0.18157	0.17439	0.19663					
92	0.20314	0.19637	0.21622					
93	0.22651	0.22167	0.23813					
94	0.25172	0.25026	0.26260					
95	0.27881	0.28145	0.28982					
96	0.30779	0.31429	0.31992					
97	0.33868	0.34764	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	0.00044	0.00044	0.00290	0.00616	0.00565	0.00514	0.00463	0.00413
17	0.00044	0.00044	0.00290	0.00616	0.00565	0.00514	0.00463	0.00413
18	0.00044	0.00044	0.00290	0.00616	0.00565	0.00514	0.00463	0.00413
19	0.00044	0.00044	0.00290	0.00616	0.00565	0.00514	0.00463	0.00413
20	0.00044	0.00044	0.00290	0.00616	0.00565	0.00514	0.00463	0.00413
21	0.00044	0.00044	0.00290	0.00616	0.00565	0.00514	0.00463	0.00413
22	0.00044	0.00044	0.00290	0.00616	0.00565	0.00514	0.00463	0.00413
23	0.00044	0.00044	0.00290	0.00616	0.00565	0.00514	0.00463	0.00413
24	0.00044	0.00044	0.00290	0.00616	0.00565	0.00514	0.00463	0.00413
25	0.00044	0.00044	0.00290	0.00616	0.00565	0.00514	0.00463	0.00413
26	0.00044	0.00044	0.00290	0.00616	0.00565	0.00514	0.00463	0.00413
27	0.00044	0.00044	0.00290	0.00616	0.00565	0.00514	0.00463	0.00413
28	0.00044	0.00044	0.00290	0.00616	0.00565	0.00514	0.00463	0.00413
29	0.00044	0.00044	0.00290	0.00616	0.00565	0.00514	0.00463	0.00413
30	0.00037	0.00039	0.00290	0.00616	0.00565	0.00514	0.00463	0.00413
31	0.00037	0.00039	0.00290	0.00616	0.00565	0.00514	0.00463	0.00413
32	0.00037	0.00039	0.00290	0.00616	0.00565	0.00514	0.00463	0.00413
33	0.00037	0.00039	0.00290	0.00616	0.00565	0.00514	0.00463	0.00413
34	0.00037	0.00039	0.00290	0.00616	0.00565	0.00514	0.00463	0.00413
35	0.00037	0.00039	0.00290	0.00616	0.00565	0.00514	0.00463	0.00413
36	0.00037	0.00039	0.00290	0.00616	0.00565	0.00514	0.00463	0.00413
37	0.00037	0.00039	0.00290	0.00616	0.00565	0.00514	0.00463	0.00413
38	0.00037	0.00039	0.00290	0.00616	0.00565	0.00514	0.00463	0.00413
39	0.00037	0.00039	0.00351	0.00616	0.00565	0.00514	0.00463	0.00413
40	0.00049	0.00052	0.00369	0.00616	0.00565	0.00514	0.00463	0.00413
41	0.00060	0.00064	0.00393	0.00616	0.00565	0.00514	0.00463	0.00413
42	0.00071	0.00075	0.00421	0.00616	0.00565	0.00514	0.00463	0.00413
43	0.00082	0.00088	0.00455	0.00616	0.00565	0.00514	0.00463	0.00413
44	0.00095	0.00100	0.00493	0.00616	0.00565	0.00514	0.00463	0.00413
45	0.00109	0.00115	0.00534	0.00616	0.00565	0.00514	0.00463	0.00413
46	0.00122	0.00129	0.00580	0.00616	0.00565	0.00514	0.00463	0.00413
47	0.00138	0.00145	0.00629	0.00616	0.00565	0.00514	0.00463	0.00413
48	0.00156	0.00163	0.00680	0.00616	0.00565	0.00514	0.00463	0.00413
49	0.00176	0.00184	0.00734	0.00616	0.00565	0.00514	0.00463	0.00413
50	0.00199	0.00208	0.00790	0.00616	0.00565	0.00514	0.00463	0.00413
51	0.00227	0.00236	0.00848	0.00616	0.00565	0.00514	0.00463	0.00413
52	0.00260	0.00269	0.00910	0.00616	0.00565	0.00514	0.00463	0.00413
53	0.00299	0.00307	0.00975	0.00616	0.00565	0.00514	0.00463	0.00413
54	0.00344	0.00353	0.01047	0.00616	0.00565	0.00514	0.00463	0.00413
55	0.00397	0.00406	0.01127	0.00616	0.00565	0.00514	0.00463	0.00413
56	0.00458	0.00467	0.01217	0.00616	0.00565	0.00514	0.00463	0.00413
57	0.00529	0.00536	0.01320	0.00616	0.00565	0.00514	0.00463	0.00413
58	0.00606	0.00614	0.01438	0.00616	0.00565	0.00514	0.00463	0.00413
59	0.00695	0.00621	0.01571	0.00616	0.00565	0.00514	0.00463	0.00413
60	0.00792	0.00628	0.01719	0.00616	0.00565	0.00514	0.00463	0.00413
61	0.00900	0.00660	0.01884	0.00616	0.00565	0.00514	0.00463	0.00413

*** 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	0.01018	0.00710	0.02065	0.00616	0.00565	0.00514	0.00463	0.00413
63	0.01140	0.00784	0.02262	0.00616	0.00565	0.00514	0.00463	0.00413
64	0.01277	0.00879	0.02476	0.00616	0.00565	0.00514	0.00463	0.00413
65	0.01426	0.00994	0.02706	0.00616	0.00565	0.00514	0.00463	0.00413
66	0.01586	0.01124	0.02953					
67	0.01752	0.01277	0.03219					
68	0.01943	0.01448	0.03506					
69	0.02153	0.01636	0.03815					
70	0.02387	0.01834	0.04149					
71	0.02635	0.02062	0.04511					
72	0.02924	0.02316	0.04902					
73	0.03249	0.02605	0.05327					
74	0.03615	0.02921	0.05789					
75	0.04008	0.03293	0.06292					
76	0.04466	0.03718	0.06842					
77	0.04980	0.04201	0.07442					
78	0.05555	0.04725	0.08100					
79	0.06166	0.05338	0.08819					
80	0.06876	0.06026	0.09606					
81	0.07663	0.06796	0.10466					
82	0.08534	0.07616	0.11403					
83	0.09452	0.08556	0.12422					
84	0.10504	0.09590	0.13526					
85	0.11657	0.10721	0.14718					
86	0.12916	0.11901	0.16000					
87	0.14224	0.13238	0.17374					
88	0.15704	0.14690	0.18843					
89	0.17305	0.16261	0.20407					
90	0.19029	0.17878	0.22067					
91	0.20785	0.19701	0.23826					
92	0.22754	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	0.0005	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	0.0060	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	0.0163	0.0700	0.0000	0.0000	70	0.0013	0.0019	0.0000	0.0000
31	0.0163	0.0700	0.0000	0.0000	71	0.0009	0.0017	0.0000	0.0000
32	0.0163	0.0700	0.0000	0.0000	72	0.0009	0.0024	0.0000	0.0000
33	0.0163	0.0700	0.0000	0.0000	73	0.0011	0.0026	0.0000	0.0000
34	0.0163	0.0700	0.0000	0.0000	74	0.0008	0.0021	0.0000	0.0000
35	0.0163	0.0700	0.0000	0.0000	75	0.0008	0.0016	0.0000	0.0000
36	0.0163	0.0700	0.0000	0.0000	76	0.0011	0.0019	0.0000	0.0000
37	0.0163	0.0700	0.0000	0.0000	77	0.0010	0.0021	0.0000	0.0000
38	0.0163	0.0700	0.0000	0.0000	78	0.0009	0.0023	0.0000	0.0000
39	0.0163	0.0404	0.0000	0.0000	79	0.0013	0.0024	0.0000	0.0000
40	0.0096	0.0234	0.0000	0.0000	80	0.0013	0.0023	0.0000	0.0000
41	0.0055	0.0154	0.0000	0.0000	81	0.0009	0.0024	0.0000	0.0000
42	0.0034	0.0111	0.0000	0.0000	82	0.0007	0.0033	0.0000	0.0000
43	0.0022	0.0084	0.0000	0.0000	83	0.0014	0.0033	0.0000	0.0000
44	0.0015	0.0063	0.0000	0.0000	84	0.0020	0.0030	0.0000	0.0000
45	0.0011	0.0054	0.0000	0.0000	85	0.0026	0.0028	0.0000	0.0000
46	0.0007	0.0049	0.0000	0.0000	86	0.0023	0.0029	0.0000	0.0000
47	0.0005	0.0044	0.0000	0.0000	87	0.0016	0.0033	0.0000	0.0000
48	0.0004	0.0041	0.0000	0.0000	88	0.0018	0.0037	0.0000	0.0000
49	0.0007	0.0039	0.0000	0.0000	89	0.0020	0.0039	0.0000	0.0000
50	0.0012	0.0037	0.0000	0.0000	90	0.0015	0.0042	0.0000	0.0000
51	0.0011	0.0038	0.0000	0.0000	91	0.0010	0.0041	0.0000	0.0000
52	0.0006	0.0041	0.0000	0.0000	92	0.0008	0.0041	0.0000	0.0000
53	0.0002	0.0040	0.0000	0.0000	93	0.0006	0.0041	0.0000	0.0000
54	0.0001	0.0039	0.0000	0.0000	94	0.0005	0.0040	0.0000	0.0000
55	0.0002	0.0043	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	0.0264	0.0881	0.1498	0.2115	0.2732	0.1740	0.2433	0.3127	0.3821	0.4515
17	0.0264	0.0881	0.1498	0.2115	0.2732	0.1740	0.2433	0.3127	0.3821	0.4515
18	0.0264	0.0881	0.1498	0.2115	0.2732	0.1740	0.2433	0.3127	0.3821	0.4515
19	0.0264	0.0881	0.1498	0.2115	0.2732	0.1740	0.2433	0.3127	0.3821	0.4515
20	0.0264	0.0881	0.1498	0.2115	0.2732	0.1740	0.2433	0.3127	0.3821	0.4515
21	0.0264	0.0881	0.1498	0.2115	0.2732	0.1740	0.2433	0.3127	0.3821	0.4515
22	0.0264	0.0881	0.1498	0.2115	0.2732	0.1740	0.2433	0.3127	0.3821	0.4515
23	0.0264	0.0881	0.1498	0.2115	0.2732	0.1740	0.2433	0.3127	0.3821	0.4515
24	0.0264	0.0881	0.1498	0.2115	0.2732	0.1740	0.2433	0.3127	0.3821	0.4515
25	0.0264	0.0881	0.1498	0.2115	0.2732	0.1740	0.2433	0.3127	0.3821	0.4515
26	0.0264	0.0881	0.1498	0.2115	0.2732	0.1740	0.2433	0.3127	0.3821	0.4515
27	0.0264	0.0881	0.1498	0.2115	0.2732	0.1740	0.2433	0.3127	0.3821	0.4515
28	0.0264	0.0881	0.1498	0.2115	0.2732	0.1740	0.2433	0.3127	0.3821	0.4515
29	0.0264	0.0881	0.1498	0.2115	0.2732	0.1740	0.2433	0.3127	0.3821	0.4515
30	0.0264	0.0881	0.1498	0.2115	0.2732	0.1740	0.2433	0.3127	0.3821	0.4515
31	0.0264	0.0881	0.1498	0.2115	0.2732	0.1740	0.2433	0.3127	0.3821	0.4515
32	0.0264	0.0881	0.1498	0.2115	0.2732	0.1740	0.2433	0.3127	0.3821	0.4515
33	0.0264	0.0881	0.1498	0.2115	0.2732	0.1740	0.2433	0.3127	0.3821	0.4515
34	0.0264	0.0881	0.1498	0.2115	0.2732	0.1740	0.2433	0.3127	0.3821	0.4515
35	0.0264	0.0881	0.1498	0.2115	0.2732	0.1740	0.2433	0.3127	0.3821	0.4515
36	0.0264	0.0881	0.1498	0.2115	0.2732	0.1740	0.2433	0.3127	0.3821	0.4515
37	0.0264	0.0881	0.1498	0.2115	0.2732	0.1740	0.2433	0.3127	0.3821	0.4515
38	0.0264	0.0881	0.1498	0.2115	0.2732	0.1740	0.2433	0.3127	0.3821	0.4515
39	0.0264	0.0881	0.1498	0.2115	0.2732	0.1740	0.2433	0.3127	0.3821	0.4515
40	0.0264	0.0881	0.1498	0.2115	0.2732	0.1740	0.2433	0.3127	0.3821	0.4515
41	0.0264	0.0881	0.1498	0.2115	0.2732	0.1740	0.2433	0.3127	0.3821	0.4515
42	0.0264	0.0881	0.1498	0.2115	0.2732	0.1740	0.2433	0.3127	0.3821	0.4515
43	0.0264	0.0881	0.1498	0.2115	0.2732	0.1740	0.2433	0.3127	0.3821	0.4515
44	0.0264	0.0881	0.1498	0.2115	0.2732	0.1740	0.2433	0.3127	0.3821	0.4515
45	0.0264	0.0881	0.1498	0.2115	0.2732	0.1740	0.2433	0.3127	0.3821	0.4515
46	0.0264	0.0881	0.1498	0.2115	0.2732	0.1740	0.2433	0.3127	0.3821	0.4515
47	0.0264	0.0881	0.1498	0.2115	0.2732	0.1740	0.2433	0.3127	0.3821	0.4515
48	0.0264	0.0881	0.1498	0.2115	0.2732	0.1740	0.2433	0.3127	0.3821	0.4515
49	0.0264	0.0881	0.1498	0.2115	0.2732	0.1740	0.2433	0.3127	0.3821	0.4515
50	0.0264	0.0881	0.1498	0.2115	0.2732	0.1740	0.2433	0.3127	0.3821	0.4515
51	0.0264	0.0881	0.1498	0.2115	0.2732	0.1740	0.2433	0.3127	0.3821	0.4515
52	0.0264	0.0881	0.1498	0.2115	0.2732	0.1740	0.2433	0.3127	0.3821	0.4515
53	0.0264	0.0881	0.1498	0.2115	0.2732	0.1740	0.2433	0.3127	0.3821	0.4515
54	0.0264	0.0881	0.1498	0.2115	0.2732	0.1740	0.2433	0.3127	0.3821	0.4515
55	0.0264	0.0881	0.1498	0.2115	0.2732	0.1740	0.2433	0.3127	0.3821	0.4515
56	0.0264	0.0881	0.1498	0.2115	0.2732	0.1740	0.2433	0.3127	0.3821	0.4515
57	0.0264	0.0881	0.1498	0.2115	0.2732	0.1740	0.2433	0.3127	0.3821	0.4515
58	0.0264	0.0881	0.1498	0.2115	0.2732	0.1740	0.2433	0.3127	0.3821	0.4515
59	0.0264	0.0881	0.1498	0.2115	0.2732	0.1740	0.2433	0.3127	0.3821	0.4515
60	0.0264	0.0881	0.1498	0.2115	0.2732	0.1740	0.2433	0.3127	0.3821	0.4515
61	0.0264	0.0881	0.1498	0.2115	0.2732	0.1740	0.2433	0.3127	0.3821	0.4515
62	0.0264	0.0881	0.1498	0.2115	0.2732	0.1740	0.2433	0.3127	0.3821	0.4515
63	0.0264	0.0881	0.1498	0.2115	0.2732	0.1740	0.2433	0.3127	0.3821	0.4515
64	0.0264	0.0881	0.1498	0.2115	0.2732	0.1740	0.2433	0.3127	0.3821	0.4515
65	0.0264	0.0881	0.1498	0.2115	0.2732	0.1740	0.2433	0.3127	0.3821	0.4515

*** 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	0.1281	0.1740	0.2199	0.2658	0.0626	0.0947	0.1268	0.1589
17	0.1281	0.1740	0.2199	0.2658	0.0626	0.0947	0.1268	0.1589
18	0.1281	0.1740	0.2199	0.2658	0.0626	0.0947	0.1268	0.1589
19	0.1281	0.1740	0.2199	0.2658	0.0626	0.0947	0.1268	0.1589
20	0.1281	0.1740	0.2199	0.2658	0.0626	0.0947	0.1268	0.1589
21	0.1281	0.1740	0.2199	0.2658	0.0626	0.0947	0.1268	0.1589
22	0.1281	0.1740	0.2199	0.2658	0.0626	0.0947	0.1268	0.1589
23	0.1281	0.1740	0.2199	0.2658	0.0626	0.0947	0.1268	0.1589
24	0.1281	0.1740	0.2199	0.2658	0.0626	0.0947	0.1268	0.1589
25	0.1281	0.1740	0.2199	0.2658	0.0626	0.0947	0.1268	0.1589
26	0.1281	0.1740	0.2199	0.2658	0.0626	0.0947	0.1268	0.1589
27	0.1281	0.1740	0.2199	0.2658	0.0626	0.0947	0.1268	0.1589
28	0.1281	0.1740	0.2199	0.2658	0.0626	0.0947	0.1268	0.1589
29	0.1281	0.1740	0.2199	0.2658	0.0626	0.0947	0.1268	0.1589
30	0.1281	0.1740	0.2199	0.2658	0.0626	0.0947	0.1268	0.1589
31	0.1281	0.1740	0.2199	0.2658	0.0626	0.0947	0.1268	0.1589
32	0.1281	0.1740	0.2199	0.2658	0.0626	0.0947	0.1268	0.1589
33	0.1281	0.1740	0.2199	0.2658	0.0626	0.0947	0.1268	0.1589
34	0.1281	0.1740	0.2199	0.2658	0.0626	0.0947	0.1268	0.1589
35	0.1281	0.1740	0.2199	0.2658	0.0626	0.0947	0.1268	0.1589
36	0.1281	0.1740	0.2199	0.2658	0.0626	0.0947	0.1268	0.1589
37	0.1281	0.1740	0.2199	0.2658	0.0626	0.0947	0.1268	0.1589
38	0.1281	0.1740	0.2199	0.2658	0.0626	0.0947	0.1268	0.1589
39	0.1281	0.1740	0.2199	0.2658	0.0626	0.0947	0.1268	0.1589
40	0.1281	0.1740	0.2199	0.2658	0.0626	0.0947	0.1268	0.1589
41	0.1281	0.1740	0.2199	0.2658	0.0626	0.0947	0.1268	0.1589
42	0.1281	0.1740	0.2199	0.2658	0.0626	0.0947	0.1268	0.1589
43	0.1281	0.1740	0.2199	0.2658	0.0626	0.0947	0.1268	0.1589
44	0.1281	0.1740	0.2199	0.2658	0.0626	0.0947	0.1268	0.1589
45	0.1281	0.1740	0.2199	0.2658	0.0626	0.0947	0.1268	0.1589
46	0.1281	0.1740	0.2199	0.2658	0.0626	0.0947	0.1268	0.1589
47	0.1281	0.1740	0.2199	0.2658	0.0626	0.0947	0.1268	0.1589
48	0.1281	0.1740	0.2199	0.2658	0.0626	0.0947	0.1268	0.1589
49	0.1281	0.1740	0.2199	0.2658	0.0626	0.0947	0.1268	0.1589
50	0.1281	0.1740	0.2199	0.2658	0.0626	0.0947	0.1268	0.1589
51	0.1281	0.1740	0.2199	0.2658	0.0626	0.0947	0.1268	0.1589
52	0.1281	0.1740	0.2199	0.2658	0.0626	0.0947	0.1268	0.1589
53	0.1281	0.1740	0.2199	0.2658	0.0626	0.0947	0.1268	0.1589
54	0.1281	0.1740	0.2199	0.2658	0.0626	0.0947	0.1268	0.1589
55	0.1281	0.1740	0.2199	0.2658	0.0626	0.0947	0.1268	0.1589
56	0.1281	0.1740	0.2199	0.2658	0.0626	0.0947	0.1268	0.1589
57	0.1281	0.1740	0.2199	0.2658	0.0626	0.0947	0.1268	0.1589
58	0.1281	0.1740	0.2199	0.2658	0.0626	0.0947	0.1268	0.1589
59	0.1281	0.1740	0.2199	0.2658	0.0626	0.0947	0.1268	0.1589
60	0.1281	0.1740	0.2199	0.2658	0.0626	0.0947	0.1268	0.1589
61	0.1281	0.1740	0.2199	0.2658	0.0626	0.0947	0.1268	0.1589
62	0.1281	0.1740	0.2199	0.2658	0.0626	0.0947	0.1268	0.1589
63	0.1281	0.1740	0.2199	0.2658	0.0626	0.0947	0.1268	0.1589
64	0.1281	0.1740	0.2199	0.2658	0.0626	0.0947	0.1268	0.1589
65	0.1281	0.1740	0.2199	0.2658	0.0626	0.0947	0.1268	0.1589

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 4 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	0.0294	38	0.0278
17	0.0294	39	0.0278
18	0.0294	40	0.0110
19	0.0294	41	0.0110
20	0.0294	42	0.0110
21	0.0294	43	0.0110
22	0.0294	44	0.0110
23	0.0294	45	0.0061
24	0.0294	46	0.0061
25	0.0294	47	0.0061
26	0.0294	48	0.0061
27	0.0294	49	0.0061
28	0.0294	50	0.0035
29	0.0294	51	0.0035
30	0.0337	52	0.0035
31	0.0337	53	0.0035
32	0.0337	54	0.0035
33	0.0337	55	0.0035
34	0.0337	56	0.0000
35	0.0278	57	0.0000
36	0.0278	58	0.0000
37	0.0278	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	0.198
18	0.333
19	0.127
20	0.036
21	0.365
22	0.578
23	0.146

SURVIVING SPOUSE DEATH RATES ***

(Age Nearest Birthday)

<u>Age</u>	<u>Rate</u>	<u>Age</u>	<u>Rate</u>
0	0.00544	55	0.00236
1	0.00049	56	0.00350
2	0.00032	57	0.00457
3	0.00024	58	0.00558
4	0.00018	59	0.00652
5	0.00016	60	0.00740
6	0.00015	61	0.00825
7	0.00014	62	0.00913
8	0.00013	63	0.01001
9	0.00012	64	0.01097
10	0.00012	65	0.01197
11	0.00013	66	0.01310
12	0.00014	67	0.01429
13	0.00015	68	0.01569
14	0.00018	69	0.01721
15	0.00021	70	0.01881
16	0.00024	71	0.02054
17	0.00026	72	0.02225
18	0.00027	73	0.02408
19	0.00028	74	0.02590
20	0.00028	75	0.02796
21	0.00027	76	0.03021
22	0.00028	77	0.03295
23	0.00028	78	0.03607
24	0.00029	79	0.03982
25	0.00029	80	0.04410
26	0.00030	81	0.04865
27	0.00031	82	0.05372
28	0.00032	83	0.05891
29	0.00034	84	0.06470
30	0.00037	85	0.07090
31	0.00041	86	0.07826
32	0.00044	87	0.08656
33	0.00046	88	0.09654
34	0.00048	89	0.10770
35	0.00050	90	0.12078
36	0.00053	91	0.13541
37	0.00056	92	0.15098
38	0.00060	93	0.16834
39	0.00064	94	0.18616
40	0.00066	95	0.20483
41	0.00071	96	0.22421
42	0.00077	97	0.24420
43	0.00082	98	0.26472
44	0.00085	99	0.28573
45	0.00089	100	0.30719
46	0.00093	101	0.32910
47	0.00099	102	0.35146
48	0.00107	103	0.37426
49	0.00116	104	0.39753
50	0.00129	105	0.42129
51	0.00144	106	0.44555
52	0.00163	107	0.46713
53	0.00185	108	0.48860
54	0.00208	109	0.51070

*** "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	0.00592	55	0.00162
1	0.00053	56	0.00181
2	0.00035	57	0.00207
3	0.00026	58	0.00238
4	0.00019	59	0.00274
5	0.00018	60	0.00314
6	0.00016	61	0.00361
7	0.00015	62	0.00421
8	0.00014	63	0.00482
9	0.00013	64	0.00561
10	0.00013	65	0.00636
11	0.00014	66	0.00727
12	0.00015	67	0.00808
13	0.00016	68	0.00900
14	0.00019	69	0.00991
15	0.00022	70	0.01071
16	0.00024	71	0.01189
17	0.00026	72	0.01312
18	0.00027	73	0.01487
19	0.00028	74	0.01652
20	0.00028	75	0.01874
21	0.00029	76	0.02092
22	0.00029	77	0.02389
23	0.00029	78	0.02672
24	0.00029	79	0.03036
25	0.00029	80	0.03447
26	0.00029	81	0.03846
27	0.00030	82	0.04384
28	0.00031	83	0.04893
29	0.00033	84	0.05544
30	0.00035	85	0.06158
31	0.00037	86	0.06982
32	0.00040	87	0.07786
33	0.00042	88	0.08861
34	0.00045	89	0.09879
35	0.00048	90	0.11193
36	0.00051	91	0.12633
37	0.00055	92	0.13930
38	0.00060	93	0.15593
39	0.00065	94	0.17068
40	0.00050	95	0.18621
41	0.00054	96	0.20254
42	0.00058	97	0.21966
43	0.00062	98	0.23771
44	0.00065	99	0.25671
45	0.00069	100	0.27643
46	0.00073	101	0.29663
47	0.00079	102	0.31709
48	0.00085	103	0.33851
49	0.00093	104	0.36102
50	0.00101	105	0.38360
51	0.00111	106	0.40522
52	0.00123	107	0.42485
53	0.00135	108	0.44437
54	0.00148	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)

Age	Rate	Age	Rate
0	0.0000	55	0.0061
1	0.0000	56	0.0060
2	0.0000	57	0.0059
3	0.0000	58	0.0057
4	0.0000	59	0.0056
5	0.0000	60	0.0055
6	0.0000	61	0.0053
7	0.0000	62	0.0052
8	0.0000	63	0.0051
9	0.0000	64	0.0049
10	0.0000	65	0.0048
11	0.0000	66	0.0047
12	0.0000	67	0.0045
13	0.0000	68	0.0044
14	0.0000	69	0.0043
15	0.0000	70	0.0041
16	0.0000	71	0.0040
17	0.0000	72	0.0039
18	0.0000	73	0.0037
19	0.0000	74	0.0036
20	0.0000	75	0.0035
21	0.0000	76	0.0033
22	0.0000	77	0.0032
23	0.0000	78	0.0031
24	0.0000	79	0.0029
25	0.0101	80	0.0028
26	0.0100	81	0.0027
27	0.0099	82	0.0025
28	0.0097	83	0.0024
29	0.0096	84	0.0023
30	0.0095	85	0.0021
31	0.0093	86	0.0020
32	0.0092	87	0.0019
33	0.0091	88	0.0018
34	0.0089	89	0.0016
35	0.0088	90	0.0015
36	0.0087	91	0.0014
37	0.0085	92	0.0012
38	0.0084	93	0.0011
39	0.0083	94	0.0010
40	0.0081	95	0.0008
41	0.0080	96	0.0000
42	0.0079	97	0.0000
43	0.0077	98	0.0000
44	0.0076	99	0.0000
45	0.0075	100	0.0000
46	0.0073	101	0.0000
47	0.0072	102	0.0000
48	0.0071	103	0.0000
49	0.0069	104	0.0000
50	0.0068	105	0.0000
51	0.0067	106	0.0000
52	0.0065	107	0.0000
53	0.0064	108	0.0000
54	0.0063	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. Nondisabled retiree and survivor/spouse mortality improvement factors are generally based on plan experience.

Nondisabled retiree factors are based on military mortality experience over the period 1975-2010. The nondisabled retiree factors are graduated (smoothed) using least squares regression technique.

Survivor/spouse factors are based on military annuitant (survivor) mortality experience over the period 1984-2011. The survivor/spouse factors are graduated (smoothed) using a basic linear regression technique.

Alternatively, active duty 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.

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

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>
2013	1.7%	1.7%
2014	1.1	1.0
2015	2.1	1.0
2016	2.2	1.0
2017	2.2	1.5
2018	2.2	2.8
2019	2.2	2.8
2020	2.2	2.8
2021	2.2	2.8
2022	3.0	2.8
2023+	3.0	3.5

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
2012	255,156	1,208,954	1,464,110			
2013	254,150	1,212,785	1,466,935	\$18,409,117	\$38,939,708	\$57,348,825
2014	254,151	1,172,887	1,427,038	\$18,462,379	\$38,929,124	\$57,391,503
2015	251,586	1,163,104	1,414,690	\$18,539,741	\$38,712,038	\$57,251,779
2016	248,327	1,151,968	1,400,295	\$18,563,151	\$38,807,562	\$57,370,713
2017	246,492	1,142,950	1,389,442	\$18,677,590	\$39,066,757	\$57,744,347
2018	246,698	1,143,546	1,390,244	\$19,078,444	\$39,940,838	\$59,019,281
2019	246,698	1,143,546	1,390,244	\$19,525,264	\$40,974,490	\$60,499,754
2020	246,698	1,143,546	1,390,244	\$19,994,076	\$42,016,754	\$62,010,830
2021	246,698	1,143,546	1,390,244	\$20,496,665	\$43,089,686	\$63,586,351
2022	246,698	1,143,546	1,390,244	\$21,016,622	\$44,185,616	\$65,202,238
2023	246,698	1,143,546	1,390,244	\$21,694,399	\$45,598,109	\$67,292,508
2024	246,698	1,143,546	1,390,244	\$22,398,476	\$47,039,814	\$69,438,290
2025	246,698	1,143,546	1,390,244	\$23,137,782	\$48,526,104	\$71,663,886
2026	246,698	1,143,546	1,390,244	\$23,909,811	\$50,070,980	\$73,980,791
2027	246,698	1,143,546	1,390,244	\$24,713,067	\$51,655,055	\$76,368,122
2028	246,698	1,143,546	1,390,244	\$25,552,431	\$53,300,786	\$78,853,217
2029	246,698	1,143,546	1,390,244	\$26,433,847	\$55,008,071	\$81,441,918
2030	246,698	1,143,546	1,390,244	\$27,360,818	\$56,815,087	\$84,175,905
2031	246,698	1,143,546	1,390,244	\$28,333,606	\$58,729,257	\$87,062,863
2032	246,698	1,143,546	1,390,244	\$29,346,969	\$60,752,145	\$90,099,114
2033	246,698	1,143,546	1,390,244	\$30,391,909	\$62,822,472	\$93,214,381
2034	246,698	1,143,546	1,390,244	\$31,469,914	\$64,992,585	\$96,462,499
2035	246,698	1,143,546	1,390,244	\$32,606,007	\$67,320,312	\$99,926,319
2036	246,698	1,143,546	1,390,244	\$33,812,237	\$69,729,600	\$103,541,837
2037	246,698	1,143,546	1,390,244	\$35,071,618	\$72,226,811	\$107,298,428

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
2012	109,742	652,633	762,375			
2013	118,456	645,059	763,515	\$2,204,474	\$5,323,282	\$7,527,755
2014	118,812	636,617	755,429	\$2,302,191	\$5,325,419	\$7,627,610
2015	120,572	629,206	749,778	\$2,364,174	\$5,334,752	\$7,698,927
2016	121,439	628,739	750,178	\$2,441,846	\$5,370,214	\$7,812,060
2017	122,257	628,176	750,433	\$2,527,396	\$5,459,234	\$7,986,630
2018	122,617	628,814	751,431	\$2,645,322	\$5,621,626	\$8,266,948
2019	122,617	628,814	751,431	\$2,765,713	\$5,790,595	\$8,556,308
2020	122,617	628,814	751,431	\$2,885,204	\$5,956,861	\$8,842,066
2021	122,617	628,814	751,431	\$3,008,020	\$6,123,724	\$9,131,744
2022	122,617	628,814	751,431	\$3,138,575	\$6,290,356	\$9,428,931
2023	122,617	628,814	751,431	\$3,297,640	\$6,503,741	\$9,801,381
2024	122,617	628,814	751,431	\$3,463,592	\$6,721,331	\$10,184,923
2025	122,617	628,814	751,431	\$3,634,908	\$6,948,170	\$10,583,077
2026	122,617	628,814	751,431	\$3,821,613	\$7,195,293	\$11,016,907
2027	122,617	628,814	751,431	\$4,012,023	\$7,453,807	\$11,465,829
2028	122,617	628,814	751,431	\$4,212,958	\$7,720,233	\$11,933,191
2029	122,617	628,814	751,431	\$4,413,607	\$7,993,133	\$12,406,740
2030	122,617	628,814	751,431	\$4,618,747	\$8,272,031	\$12,890,778
2031	122,617	628,814	751,431	\$4,830,195	\$8,558,668	\$13,388,863
2032	122,617	628,814	751,431	\$5,048,098	\$8,856,213	\$13,904,311
2033	122,617	628,814	751,431	\$5,264,080	\$9,161,675	\$14,425,755
2034	122,617	628,814	751,431	\$5,474,857	\$9,476,665	\$14,951,522
2035	122,617	628,814	751,431	\$5,694,353	\$9,812,271	\$15,506,624
2036	122,617	628,814	751,431	\$5,920,956	\$10,161,316	\$16,082,271
2037	122,617	628,814	751,431	\$6,141,113	\$10,522,460	\$16,663,573

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	
2012	509,341	1,303,998	1,813,339	1,285	33,515	34,800	17,257	84,971	102,228	1,950,367
2013	512,377	1,304,745	1,817,122	1,800	43,145	44,945	16,721	82,914	99,635	1,961,702
2014	514,728	1,303,894	1,818,622	2,289	51,636	53,925	16,237	81,141	97,378	1,969,925
2015	517,094	1,302,304	1,819,398	2,771	59,410	62,181	15,803	79,532	95,335	1,976,915
2016	519,630	1,301,869	1,821,499	3,245	66,723	69,967	15,411	77,981	93,392	1,984,858
2017	522,147	1,301,961	1,824,108	3,723	73,851	77,575	15,057	76,476	91,533	1,993,216
2018	524,470	1,302,622	1,827,092	4,177	80,355	84,532	14,746	75,046	89,792	2,001,416
2019	526,781	1,304,091	1,830,872	4,599	86,372	90,971	14,473	73,710	88,183	2,010,026
2020	529,053	1,306,707	1,835,761	4,964	91,672	96,636	14,237	72,456	86,693	2,019,089
2021	531,510	1,311,294	1,842,803	5,284	96,184	101,469	14,031	71,280	85,311	2,029,583
2022	534,117	1,317,018	1,851,135	5,585	100,094	105,678	13,850	70,171	84,021	2,040,834
2023	536,885	1,323,068	1,859,953	5,838	103,308	109,146	13,687	69,119	82,806	2,051,905
2024	545,550	1,345,474	1,891,024	6,052	105,789	111,841	13,539	68,117	81,656	2,084,521
2025	547,548	1,349,384	1,896,932	6,215	107,460	113,675	13,401	67,150	80,550	2,091,157
2026	549,058	1,352,696	1,901,754	6,341	108,470	114,811	13,271	66,221	79,492	2,096,056
2027	550,179	1,355,336	1,905,515	6,438	109,066	115,504	13,150	65,326	78,476	2,099,496
2028	550,561	1,357,220	1,907,780	6,513	109,363	115,876	13,037	64,467	77,504	2,101,161
2029	550,473	1,357,492	1,907,965	6,570	109,424	115,994	12,931	63,639	76,570	2,100,529
2030	549,669	1,356,005	1,905,674	6,609	109,292	115,901	12,833	62,835	75,667	2,097,242
2031	547,884	1,351,093	1,898,977	6,633	108,999	115,632	12,740	62,051	74,791	2,089,400
2032	545,551	1,343,617	1,889,167	6,645	108,570	115,215	12,655	61,291	73,946	2,078,328
2033	546,301	1,343,534	1,889,835	6,644	108,023	114,667	12,578	60,578	73,156	2,077,658
2034	543,545	1,333,241	1,876,786	6,635	107,365	113,999	12,509	59,883	72,392	2,063,177
2035	540,446	1,323,017	1,863,463	6,614	106,597	113,211	12,444	59,220	71,663	2,048,338
2036	537,227	1,312,885	1,850,112	6,588	105,729	112,317	12,384	58,600	70,984	2,033,413
2037	533,930	1,302,634	1,836,564	6,556	104,771	111,327	12,331	58,016	70,347	2,018,238

*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	
2013	\$21,345,375	\$26,781,400	\$48,126,775	\$51,325	\$706,930	\$758,255	\$523,719	\$917,441	\$1,441,161	\$50,326,191
2014	\$21,810,556	\$27,127,903	\$48,938,458	\$73,167	\$914,265	\$987,432	\$508,527	\$905,296	\$1,413,822	\$51,339,713
2015	\$22,390,581	\$27,616,327	\$50,006,908	\$96,645	\$1,117,068	\$1,213,713	\$497,424	\$898,654	\$1,396,078	\$52,616,699
2016	\$23,053,573	\$28,198,808	\$51,252,381	\$121,483	\$1,317,131	\$1,438,614	\$488,557	\$893,070	\$1,381,627	\$54,072,621
2017	\$23,731,938	\$28,803,703	\$52,535,641	\$148,380	\$1,522,236	\$1,670,616	\$480,482	\$886,855	\$1,367,337	\$55,573,593
2018	\$24,417,458	\$29,427,971	\$53,845,429	\$176,780	\$1,728,407	\$1,905,188	\$473,304	\$880,877	\$1,354,182	\$57,104,799
2019	\$25,115,683	\$30,088,084	\$55,203,766	\$205,044	\$1,928,016	\$2,133,061	\$467,325	\$876,214	\$1,343,539	\$58,680,366
2020	\$25,829,266	\$30,792,924	\$56,622,190	\$231,890	\$2,118,150	\$2,350,040	\$462,810	\$873,305	\$1,336,115	\$60,308,345
2021	\$26,564,762	\$31,555,262	\$58,120,023	\$257,072	\$2,292,426	\$2,549,498	\$459,700	\$871,984	\$1,331,684	\$62,001,205
2022	\$27,487,471	\$32,566,840	\$60,054,311	\$283,468	\$2,468,427	\$2,751,895	\$460,537	\$876,676	\$1,337,213	\$64,143,419
2023	\$28,493,723	\$33,704,416	\$62,198,138	\$310,002	\$2,639,353	\$2,949,355	\$463,212	\$883,600	\$1,346,811	\$66,494,304
2024	\$29,631,811	\$35,040,572	\$64,672,382	\$335,577	\$2,801,152	\$3,136,729	\$466,884	\$891,438	\$1,358,322	\$69,167,434
2025	\$30,782,361	\$36,399,185	\$67,181,546	\$360,010	\$2,951,970	\$3,311,980	\$471,374	\$900,216	\$1,371,590	\$71,865,116
2026	\$31,858,547	\$37,664,293	\$69,522,839	\$384,097	\$3,094,323	\$3,478,419	\$476,640	\$909,901	\$1,386,541	\$74,387,799
2027	\$32,950,679	\$38,975,590	\$71,926,269	\$409,102	\$3,232,039	\$3,641,141	\$482,734	\$920,581	\$1,403,315	\$76,970,725
2028	\$34,052,184	\$40,331,880	\$74,384,063	\$434,894	\$3,370,614	\$3,805,507	\$489,692	\$932,190	\$1,421,881	\$79,611,452
2029	\$35,162,200	\$41,717,553	\$76,879,753	\$460,630	\$3,515,218	\$3,975,848	\$497,387	\$944,603	\$1,441,991	\$82,297,592
2030	\$36,279,417	\$43,114,904	\$79,394,321	\$486,128	\$3,677,217	\$4,163,344	\$505,888	\$957,697	\$1,463,586	\$85,021,251
2031	\$37,394,163	\$44,499,649	\$81,893,812	\$511,877	\$3,867,532	\$4,379,409	\$515,217	\$971,248	\$1,486,465	\$87,759,686
2032	\$38,513,239	\$45,866,413	\$84,379,652	\$538,172	\$4,079,648	\$4,617,820	\$525,318	\$985,330	\$1,510,647	\$90,508,119
2033	\$39,727,677	\$47,348,728	\$87,076,404	\$562,967	\$4,288,825	\$4,851,792	\$536,392	\$1,000,484	\$1,536,876	\$93,465,073
2034	\$40,964,172	\$48,825,302	\$89,789,474	\$585,020	\$4,478,908	\$5,063,928	\$548,419	\$1,016,518	\$1,564,937	\$96,418,339
2035	\$42,146,767	\$50,222,977	\$92,369,743	\$604,826	\$4,647,110	\$5,251,937	\$561,295	\$1,032,993	\$1,594,288	\$99,215,968
2036	\$43,344,009	\$51,664,424	\$95,008,433	\$623,063	\$4,800,554	\$5,423,617	\$574,949	\$1,050,501	\$1,625,450	\$102,057,500
2037	\$44,566,774	\$53,146,561	\$97,713,336	\$640,293	\$4,944,852	\$5,585,144	\$589,439	\$1,069,279	\$1,658,717	\$104,957,197

*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
2013	16,543	30,855	516	9,669	544	4,676	\$44,505	\$19,539	\$41,898	\$22,389	\$37,445	\$14,825
2014	15,818	29,994	490	8,544	539	4,616	\$44,128	\$19,992	\$45,214	\$23,597	\$37,822	\$15,006
2015	15,781	29,954	484	7,840	535	4,537	\$44,877	\$20,118	\$48,361	\$24,652	\$38,293	\$15,224
2016	15,899	31,774	476	7,392	532	4,480	\$45,311	\$20,243	\$50,604	\$25,162	\$38,710	\$15,432
2017	15,836	32,930	482	7,224	528	4,434	\$45,721	\$20,214	\$55,323	\$27,091	\$39,154	\$15,661
2018	15,614	34,085	457	6,616	527	4,399	\$46,756	\$20,804	\$57,925	\$27,882	\$39,737	\$15,961
2019	15,591	35,444	427	6,147	525	4,391	\$47,777	\$21,538	\$59,751	\$28,729	\$40,566	\$16,316
2020	15,564	37,102	369	5,451	524	4,383	\$48,761	\$22,249	\$62,576	\$29,390	\$41,513	\$16,739
2021	15,786	39,547	326	4,683	524	4,381	\$49,817	\$22,814	\$64,910	\$29,859	\$42,538	\$17,191
2022	16,000	41,124	307	4,104	523	4,380	\$50,751	\$23,567	\$68,346	\$30,842	\$43,702	\$17,665
2023	16,249	41,858	261	3,434	521	4,377	\$51,462	\$24,555	\$72,604	\$32,349	\$44,938	\$18,183
2024	22,261	58,628	222	2,728	519	4,378	\$47,139	\$22,917	\$75,489	\$34,676	\$46,356	\$18,767
2025	15,725	40,516	172	1,950	516	4,365	\$54,877	\$26,859	\$82,472	\$38,964	\$47,898	\$19,380
2026	15,374	40,237	136	1,322	514	4,360	\$56,958	\$28,460	\$89,276	\$45,423	\$49,613	\$20,023
2027	15,129	39,876	108	945	513	4,354	\$59,050	\$29,531	\$95,535	\$51,128	\$51,352	\$20,692
2028	14,537	39,426	88	686	513	4,353	\$61,690	\$31,053	\$102,367	\$56,646	\$53,181	\$21,358
2029	14,219	38,118	71	495	513	4,350	\$64,107	\$32,281	\$109,056	\$62,397	\$55,036	\$22,051
2030	13,659	36,660	55	352	513	4,341	\$67,002	\$33,869	\$116,320	\$68,241	\$57,017	\$22,737
2031	12,838	33,543	42	243	513	4,328	\$71,172	\$35,853	\$124,941	\$73,958	\$59,063	\$23,439
2032	12,450	31,288	32	165	513	4,317	\$74,568	\$38,428	\$132,844	\$80,303	\$61,233	\$24,182
2033	15,693	39,001	21	109	515	4,329	\$70,361	\$36,402	\$143,069	\$85,611	\$63,528	\$25,011
2034	12,344	29,106	15	66	516	4,310	\$80,333	\$41,669	\$152,140	\$90,837	\$66,039	\$25,810
2035	12,146	29,474	8	30	514	4,304	\$82,996	\$42,780	\$167,752	\$96,598	\$68,488	\$26,615
2036	12,154	29,850	5	9	512	4,310	\$85,293	\$43,949	\$183,935	\$107,200	\$71,058	\$27,551
2037	12,169	29,992	3	4	512	4,309	\$88,214	\$45,235	\$198,538	\$115,707	\$73,680	\$28,490

*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 2024 and FY 2033 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

Fiscal Year	SBP Non-CSB/Redux	SBP CSB/Redux	RCSBP	Minimum Income	Death on Active Duty	RSFPP	Special Survivor Indemnity Allowance	Total
2012	191,233	0	84,096	95	9,284	8,416	58,093	293,124
2013	193,783	9	85,901	82	9,399	7,765	61,250	296,938
2014	195,806	21	87,544	72	9,479	7,114	62,891	300,036
2015	197,350	37	89,124	63	9,528	6,481	64,411	302,583
2016	198,454	58	90,676	56	9,537	5,871	65,807	304,652
2017	199,161	84	92,230	49	9,490	5,290	63,912	306,305
2018	199,505	116	93,810	43	9,399	4,740	0	307,614
2019	199,508	156	95,437	38	9,273	4,225	0	308,637
2020	199,197	202	97,127	33	9,118	3,746	0	309,424
2021	198,590	258	98,886	29	8,933	3,305	0	310,001
2022	197,707	323	100,722	25	8,719	2,901	0	310,397
2023	196,569	399	102,633	22	8,492	2,536	0	310,651
2024	195,194	486	104,686	19	8,265	2,208	0	310,858
2025	193,604	586	106,763	16	8,041	1,916	0	310,927
2026	191,826	701	108,889	14	7,835	1,657	0	310,921
2027	189,889	831	111,048	11	7,649	1,431	0	310,860
2028	187,831	978	113,229	10	7,496	1,234	0	310,778
2029	185,697	1,144	115,418	8	7,384	1,065	0	310,716
2030	183,533	1,330	117,598	7	7,300	921	0	310,689
2031	181,385	1,538	119,745	5	7,228	799	0	310,701
2032	179,302	1,769	121,834	4	7,182	698	0	310,789
2033	177,321	2,024	123,865	3	7,162	614	0	310,990
2034	175,474	2,307	125,783	3	7,148	545	0	311,260
2035	173,785	2,618	127,577	2	7,138	488	0	311,607
2036	172,267	2,959	129,216	2	7,133	442	0	312,019
2037	170,919	3,333	130,669	1	7,132	404	0	312,458

*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)

Fiscal Year	SBP Non-CSB/Redux	SBP CSB/Redux	RCSBP	Minimum Income	Death on Active Duty	RSFPP	Special Survivor Indemnity Allowance	Total
2013	\$2,975,009	\$41	\$701,685	\$692	\$84,894	\$23,092	\$64,445	\$3,849,859
2014	\$3,029,579	\$158	\$723,676	\$609	\$87,906	\$21,471	\$110,364	\$3,973,763
2015	\$3,095,599	\$333	\$749,335	\$548	\$91,183	\$19,836	\$150,798	\$4,107,631
2016	\$3,166,051	\$578	\$777,645	\$495	\$94,589	\$18,239	\$211,955	\$4,269,551
2017	\$3,232,469	\$905	\$806,928	\$448	\$97,699	\$16,685	\$231,882	\$4,387,016
2018	\$3,294,443	\$1,330	\$837,390	\$405	\$100,407	\$15,184	\$0	\$4,249,159
2019	\$3,352,330	\$1,878	\$869,406	\$365	\$102,738	\$13,750	\$0	\$4,340,467
2020	\$3,406,457	\$2,568	\$903,310	\$328	\$104,845	\$12,398	\$0	\$4,429,907
2021	\$3,457,161	\$3,424	\$939,424	\$295	\$106,620	\$11,132	\$0	\$4,518,056
2022	\$3,525,372	\$4,495	\$983,810	\$265	\$108,579	\$9,965	\$0	\$4,632,486
2023	\$3,598,072	\$5,808	\$1,033,352	\$238	\$110,462	\$8,901	\$0	\$4,756,834
2024	\$3,668,760	\$7,395	\$1,086,797	\$213	\$112,243	\$7,934	\$0	\$4,883,341
2025	\$3,737,508	\$9,308	\$1,144,336	\$189	\$113,848	\$7,060	\$0	\$5,012,249
2026	\$3,804,424	\$11,599	\$1,205,556	\$168	\$115,348	\$6,276	\$0	\$5,143,370
2027	\$3,869,747	\$14,328	\$1,270,761	\$148	\$116,988	\$5,579	\$0	\$5,277,550
2028	\$3,933,912	\$17,580	\$1,340,047	\$129	\$118,796	\$4,966	\$0	\$5,415,431
2029	\$3,997,438	\$21,461	\$1,413,455	\$112	\$120,865	\$4,434	\$0	\$5,557,765
2030	\$4,061,062	\$26,030	\$1,490,997	\$96	\$123,249	\$3,976	\$0	\$5,705,411
2031	\$4,125,610	\$31,321	\$1,572,590	\$81	\$125,817	\$3,587	\$0	\$5,859,007
2032	\$4,192,265	\$37,379	\$1,658,112	\$68	\$128,594	\$3,260	\$0	\$6,019,679
2033	\$4,262,296	\$44,292	\$1,747,500	\$57	\$131,702	\$2,989	\$0	\$6,188,836
2034	\$4,336,655	\$52,191	\$1,840,530	\$46	\$135,035	\$2,767	\$0	\$6,367,226
2035	\$4,416,431	\$61,199	\$1,936,672	\$38	\$138,556	\$2,589	\$0	\$6,555,485
2036	\$4,502,530	\$71,433	\$2,035,583	\$30	\$142,292	\$2,445	\$0	\$6,754,313
2037	\$4,595,825	\$83,035	\$2,136,641	\$24	\$146,277	\$2,330	\$0	\$6,964,133

*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)

Fiscal Year	Total Projected Basic Pay	Total Projected Outlays	Retired Outlays Over Basic Pay
2013	\$64,876,580	\$54,176,050	83.5%
2014	\$65,019,113	\$55,313,475	85.1%
2015	\$64,950,706	\$56,724,330	87.3%
2016	\$65,182,773	\$58,342,173	89.5%
2017	\$65,730,977	\$59,960,610	91.2%
2018	\$67,286,230	\$61,353,957	91.2%
2019	\$69,056,062	\$63,020,833	91.3%
2020	\$70,852,896	\$64,738,252	91.4%
2021	\$72,718,095	\$66,519,261	91.5%
2022	\$74,631,169	\$68,775,905	92.2%
2023	\$77,093,889	\$71,251,138	92.4%
2024	\$79,623,213	\$74,050,775	93.0%
2025	\$82,246,963	\$76,877,364	93.5%
2026	\$84,997,698	\$79,531,169	93.6%
2027	\$87,833,952	\$82,248,274	93.6%
2028	\$90,786,408	\$85,026,883	93.7%
2029	\$93,848,658	\$87,855,357	93.6%
2030	\$97,066,683	\$90,726,662	93.5%
2031	\$100,451,725	\$93,618,693	93.2%
2032	\$104,003,424	\$96,527,798	92.8%
2033	\$107,640,135	\$99,653,909	92.6%
2034	\$111,414,021	\$102,785,565	92.3%
2035	\$115,432,943	\$105,771,453	91.6%
2036	\$119,624,109	\$108,811,813	91.0%
2037	\$123,962,001	\$111,921,331	90.3%

*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 have been 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.

Common measures of a retirement system’s liabilities (frequently 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 2012 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://comptroller.defense.gov/financialmanagement/reports/cfs2012.aspx>.

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>2012</u>	<u>2011</u>
1) Investments, at fair market value, in U.S. Government securities: ¹	\$536,545	\$436,596
2) Accounts receivable:		
a) Accrued interest ²	\$3,673	\$3,405
b) Due from military retirees or their survivors	\$67	\$47
c) Intragovernmental	\$0	\$186
3) Cash:	\$23	\$370
<u>Total Assets (1 + 2 + 3):</u>	<u>\$540,308</u>	<u>\$440,603</u>
Accounts payable:	\$(4,052)	\$(4,200)
<u>Total Assets Available for Benefits</u>	<u>\$536,256</u>	<u>\$436,404</u>

¹ 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, 2012, and September 30, 2011, 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>2012</u>	<u>2011</u>
Investments, at fair market value (actual)	\$536,545	\$432,742
October Expenditures paid in September	<u>\$0</u>	<u>\$3,854</u>
Investments, at fair market value (adjusted)	\$536,545	\$436,596

² 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>2012</u>	<u>2011</u>
Net assets available for benefits at beginning of plan year:	\$436,404	\$350,025
1) Investment/Inflation income (coupons received)	\$16,102	\$20,179
2) Net appreciation (depreciation) in fair market value of investments	\$44,256	\$29,873
3) Contributions from services	\$21,863	\$20,970
4) Appropriation to amortize the initial unfunded liability	\$64,751	\$61,404
5) Appropriation for Treasury Normal Cost Contribution	\$5,376	\$4,950
Total additions (1 + 2 + 3 + 4 + 5)	<u>\$152,348</u>	<u>\$137,376</u>
Less: Benefits paid to participants ¹	<u>\$52,496</u>	<u>\$50,997</u>
Net assets available for benefits at end of plan year	<u>\$536,256</u>	<u>\$436,404</u>

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

	<u>2012</u>	<u>2011</u>
Benefits paid on cash basis	\$52,643	\$51,007
Change in liability for benefits due at end of year	<u>\$(147)</u>	<u>\$(10)</u>
Benefits paid on accrual basis	\$52,496	\$50,997

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, 2012, actuarial liability for the financial statements (which was due in early October 2012) was projected based on the September 30, 2011, Board valuation. The September 30, 2012, Board valuation (documented in this report) was performed at a later time, based on actual September 30, 2012 data, and therefore resulted in a different September 30, 2012 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, 2002 to March 31, 2012 (40 quarterly interest rates), which resulted in a single-equivalent interest rate of 4.6%. This is comparable to the Board valuation interest rate of 5.5%.

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, 2012, 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, 2012, 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 9%.

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, 2012:	
		<u>DoD Board</u> ¹	<u>SFFAS 33</u> ²
1.	Present value of future benefits		
	a. Annuitants now on roll	\$854.6	-----
	b. Nonretired reservists	\$187.5	-----
	c. Active duty personnel ³	<u>\$565.8</u>	<u>-----</u>
	TOTAL	\$1,607.9	\$1,748.0
2.	Present value of future normal cost contributions	\$246.4	\$270.0
3.	Actuarial accrued liability	\$1,361.5	\$1,477.9
4.	Actuarial value of assets ⁴	\$428.0	\$420.2
5.	Unfunded accrued liability	\$933.5	\$1,057.8
6.	Funded Ratio (4. / 3.)	31%	28%

¹ Reproduced from Table 7 in main text.

² Reproduced from the 'Fiscal Year 2012 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://comptroller.defense.gov/financialmanagement/reports/cfs2012.aspx>. 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.

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

⁴ 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. Actual assets displayed on financial statements may be different than those shown here.

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%	2.60%
Basic Pay:	3.50%	3.00%
Interest:	5.50%	4.60%

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, OACT and 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 3.5 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 2012 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, 2012. 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, 2013, and the last payment is made on October 1, 2042. The final payment reduces the amortization base to zero.

The amount of the first payment, -\$632 million, is determined by means of the following steps:

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

$$-\$13,800 \text{ million} \times (1 + i) = -\$14,559 \text{ million}$$

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

$$= 23.04297$$

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

$$-\$14,559 \text{ million} \div 23.04297 = -\$632 \text{ million}$$

where the annual increase in the basic pay scale $\mathbf{s} = .035$ and the valuation rate of interest $\mathbf{i} = .055$. The amortization period is 30 years. In general, the amortization interest rate, \mathbf{j} , is defined by

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

A hypothetical experience gain in FY 2013 creates a change in the UFL of +\$8,400 million, calculated as of the end of that fiscal year, or September 30, 2013. The amortization schedules for this change and for the FY 2012 change are combined as follows. First, the unamortized balance of the FY 2012 experience change is determined. After the -\$632 million amortization payment is made on October 1, 2013, the remaining unamortized balance is -\$13,927 million. This balance is calculated as $[-13,927 = (-13,800 \times 1.055) - (-632)]$. The +\$8,400 million experience change for FY 2013 is then added to the -\$13,927 unamortized balance, leaving a combined balance of -\$5,527 million $(-5,527 = -13,927 + 8,400)$.

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 2012 experience change and a new 30-year period for the FY 2013 experience change. The weights used in the calculation are the absolute values of the -\$13,927 million unamortized balance and the +\$8,400 million experience change, respectively.

Thus the combined amortization period is equal to:

$$\frac{(13,927 \times 29) + (8,400 \times 30)}{13,927 + 8,400} = 29.38 \text{ years}$$

An initial combined amortization payment of -\$257 million is determined by the following procedure:

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

$$-\$5,527 \text{ million} \times (1 + \mathbf{i}) = -\$5,831 \text{ million}$$

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

$$= 22.68619$$

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

$$-\$5,831 \text{ million} \div 22.68619 = -\$257 \text{ million}$$

The payments in the amortization streams will increase at 3.5 percent (the annual increase in the basic pay scale) per year. The payment at the end of the 29th year is -\$673 million. A final, partial payment will be made at the end of the 30th year and is equal to the unamortized balance, or -\$264 million.

Because experience changes normally occur every year, the only payment that would actually be made under this particular combined schedule is the -\$257 million on October 1, 2014. A new combined amortization schedule covering FY 2012, FY 2013, and the new UFL caused by experience changes in FY 2014 is determined as follows.

First, the combined FY 2012 and FY 2013 amortization base of -\$5,527 million is increased by one year's interest and credited with the payment of -\$257 million. The remaining unamortized balance as of October 1, 2013, is -\$5,574 million [$-5,574 = (-5,527 \times 1.055) - (-257)$]. This amount (-\$5,574) is then combined with an assumed FY 2014 experience change of +\$10,300 million, resulting in a new combined unamortized balance of \$4,726 million ($4,726 = -5,574 + 10,300$). This combined amortization base of \$4,726 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 2014 change. The new combined amortization period is calculated as follows:

$$\frac{(5,574 \times 28.38) + (10,300 \times 30)}{5,574 + 10,300} = 29.43 \text{ years}$$

The October 1, 2015, payment to amortize the new combined base of \$4,726 million is \$219 million and is determined by means of the following procedure:

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

$$\$4,726 \text{ million} \times (1 + i) = \$4,986 \text{ million}$$

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

$$= 22.71701$$

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

$$\$4,986 \text{ million} \div 22.71701 = \$219 \text{ million}$$

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 2012; FY 2012 and FY 2013 combined; and FY 2012, FY 2013, and FY 2014 combined.

TABLE M-1			
Projected Amortization Payments for Experience Changes (Amounts in Millions)			
<u>Date</u>	<u>FY 2012</u>	<u>Combined FY 2012 and FY 2013</u>	<u>Combined FY 2012, FY 2013 and FY 2014</u>
10/1/13	\$ -632		
10/1/14	-654	\$ -257	
10/1/15	-677	-266	\$ 219
10/1/16	-701	-275	227
10/1/17	-725	-285	235
10/1/18	-750	-295	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 5.25 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:

$$\$27,405 \text{ million} \times (1 + \mathbf{i}) = \$28,844 \text{ million}$$

where in this case, $\mathbf{i} = .0525$

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

$$= 15.073946$$

where $\mathbf{i} = .0525$ and $\mathbf{s} = .03$

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

$$\$28,844 \text{ million} \div 15.073946 = \$1,913 \text{ million}$$

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 5.25 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, 2013,
TREASURY PAYMENT**

The following pages (Tables M-2 through M-6) display the calculation of the October 1, 2013, Treasury payment based on the September 30, 2012, 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, 2013, Treasury payment, the amount due to Concurrent Receipt totals \$6.337 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 2014 full- and part-time basic pay, \$57.6 billion and \$9.1 billion, respectively, or \$7.026 billion--the sum of \$57.6 billion x 11.7% and \$9.1 billion x 2.9%. Due to the 'Budget Control Act of 2011', this amount was reduced (or sequestered) by 9.8%, or \$0.689 billion. The Treasury payment of \$6.337 billion is the difference between the actuarially calculated amount (\$7.026 billion) and the sequestered amount (\$0.689 billion). The Board will consider ways of accounting for the sequestered amount in the future. Note that the above FY 2014 budgeted basic pay for part-time personnel differs from the projected amount shown in Table 10 of the main text due to recent mobilizations.

TABLE M-2
 TOTAL TREASURY PAYMENT
 OCTOBER 1, 2013 AND OCTOBER 1, 2012

(\$ in billions)

	<u>October 1, 2013</u>	<u>October 1, 2012</u>
Amortization payment for:		
1. Initial unfunded liability	\$81.373	\$78.598
2. Changes in benefits	\$8.211	\$7.930
3. Gains and Losses Amortization		
a. Changes in actuarial assumptions	\$3.150	\$0.386
b. Actuarial experience	\$(19.849)	\$(19.181)
Total amortization payment	<u>\$72.885</u>	<u>\$67.733</u>
Normal cost payment	<u>\$6.337</u>	<u>\$6.791</u>
Total Treasury payment	<u>\$79.222</u>	<u>\$74.524</u>

TABLE M-3

CALCULATION OF OCTOBER 1, 2013,
PAYMENT ON INITIAL UNFUNDED LIABILITY (UFL)

(\$ in billions)

1.	Unamortized balance of initial UFL (10/1/11 balance \times 1.0575)	9/30/12	\$ 974.816
2.	Payment on UFL	10/1/12	\$ 78.598
3.	Unamortized balance of initial UFL (1. - 2.)	10/1/12	\$ 896.218
4.	Balance on 9/30/13 (3. \times 1.055)	9/30/13	\$ 945.510
5.	Number of Annual Payments Remaining	9/30/13	13
6.	Value of an annuity due for remaining amortization period at interest rate equal to $(1.055 \div 1.035) - 1$		11.6194
7.	Payment on initial UFL due 10/1/13 (4. \div 6.)		<u>\$ 81.373</u>

TABLE M-4

CALCULATION OF OCTOBER 1, 2013,
PAYMENT ON UNFUNDED LIABILITY (UFL)
RESULTING FROM BENEFIT CHANGES

(\$ in billions)

1. Unamortized UFL balance due to benefit changes (10/1/11 balance x 1.0575)	9/30/12	\$ 144.141
2. Payment on UFL	10/1/12	\$ 7.930
3. Unamortized UFL balance after payment (1. - 2.)	10/1/12	\$ 136.211
4. Additional (new) UFL due to benefit changes	9/30/12	\$ 0.000
5. Unamortized UFL balance due to benefit changes (3. + 4.)	10/1/12	\$ 136.211
6. Balance on 9/30/13 (5. × 1.055)	9/30/13	\$ 143.703
7. Total number of years of prior amortization schedule		22.06
8. Remaining number of years of prior amortization schedule (7. - 1)		21.06
9. Total number of years of new amortization schedule (absolute values used for all numbers) [(3. × 8.) + (4. × 30)] ÷ (3. + 4.)		21.06
10. Value of an annuity due for remaining amortization period at interest rate equal to (1.055 ÷ 1.035) - 1		17.5015
11. Payment on UFL due to benefit changes (6. ÷ 10.)	10/1/13	<u>\$ 8.211</u>

TABLE M-5

CALCULATION OF OCTOBER 1, 2013,
PAYMENT ON UNFUNDED LIABILITY (UFL)
RESULTING FROM ASSUMPTION CHANGES

(\$ in billions)

1. Unamortized balance of UFL due to assumption changes (10/1/11 balance \times 1.0575)	9/30/12	\$ 8.499
2. Payment on UFL	10/1/12	\$ 0.386
3. Unamortized UFL balance after payment (1. - 2.)	10/1/12	\$ 8.113
4. Additional (new) UFL	9/30/12	\$ 60.121
5. Unamortized UFL balance due to assumption changes (3. + 4.)	10/1/12	\$ 68.235
6. Balance on 9/30/13 (5. \times 1.055)	9/30/13	\$71.988
7. Number of years in prior amortization schedule		28.23
8. Remaining number of years in prior amortization schedule (7. - 1)		27.23
9. Number of years in new amortization schedule (absolute values used for all numbers) [(3. \times 8.) + (4. \times 30)] \div (3. + 4.)		29.67
10. Value of an annuity due for remaining amortization period at interest rate equal to (1.055 \div 1.035) - 1		22.8553
11. Payment on UFL due to assumption changes (6. \div 10.)	10/1/13	<u>\$ 3.150</u>

TABLE M-6

CALCULATION OF OCTOBER 1, 2013,
PAYMENT ON UNFUNDED LIABILITY (UFL)
RESULTING FROM EXPERIENCE GAINS AND LOSSES

(\$ in billions)

1. Unamortized UFL balance due to experience gains and losses (10/1/11 balance \times 1.0575)	9/30/12	\$ (247.093)
2. Payment on UFL	10/1/12	\$ (19.181)
3. Unamortized UFL balance after payment (1. - 2.)	10/1/12	\$ (227.912)
4. Additional (new) UFL	9/30/12	\$ (6.948)
5. Unamortized UFL balance due to experience gains and losses (3. + 4.)	10/1/12	\$ (234.860)
6. Balance on 9/30/13 (5. \times 1.055)	9/30/13	\$ (247.777)
7. Number of years in prior amortization schedule		14.62
8. Remaining number of years in prior amortization schedule (7. - 1)		13.62
9. Number of years in new amortization schedule (absolute values used for all numbers) [(3. \times 8.) + (4. \times 30)] \div (3. + 4.)		14.11
10. Value of an annuity due for remaining amortization period at interest rate equal to (1.055 \div 1.035) - 1		12.4830
11. Payment on UFL due to experience gains and losses (6. \div 10.)	10/1/13	<u>\$ (19.849)</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, 2013**

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