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# Statement of Federal Financial Accounting Standards 33: Pensions, Other Retirement Benefits, and Other Postemployment Benefits: Reporting the Gains and Losses from Changes in Assumptions and Selecting Discount Rates and Valuation Dates

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## Status

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<b>Issued</b>	October 14, 2008
<b>Effective Date</b>	For fiscal years beginning after September 30, 2009
<b>Interpretations and Technical Releases</b>	None.
<b>Affects</b>	<ul style="list-style-type: none"><li>• SFFAS 5, pars. 65, 66, 83, 95, and 157, by changing the standard for selecting discount rates.</li><li>• SFFAS 7, par. 67.1, by replacing the phrase "best estimate" with "reasonable estimate" and "likely" with "reasonably expected"; par. 67.2 by replacing "best" with "reasonable."</li><li>• SFFAS 17, pars. 25, 27(2), and 27(4), by replacing the phrase "best" with "reasonable" and deleted "best," respectively.</li></ul>
<b>Affected by</b>	None.

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## Summary

During its consideration of long-term obligations, the Board discussed the need to highlight gains and losses from changes in assumptions in federal financial reports. Some of the most significant changes in amounts on the statement of net cost for the consolidated Financial Report of the United States Government (CFR) and for certain component entities can result from gains and losses from changes in assumptions. This Statement addresses that need.

This Statement applies to federal entities that report liabilities and expenses for federal employee pensions, other retirement benefits (ORB), and other postemployment benefits (OPEB) in general purpose financial reports prepared pursuant to Federal Accounting Standard Advisory Board standards.

This Statement requires gains and losses from changes in long-term assumptions used to estimate federal employee pension, ORB, and OPEB liabilities to be displayed on the statement of net cost separately from other costs. Separate display will provide more transparent information regarding the underlying costs associated with these liabilities.

This Statement also requires disclosure of the components of the expense associated with federal employee pension, ORB, and OPEB liabilities in notes to the financial statements. Such disclosure will provide useful information for analysis. The information will be comparable across agencies and between postemployment and retirement programs.

This Statement also provides a standard for selecting the discount rate assumption for present value estimates of federal employee pension, ORB, and OPEB liabilities. There is currently uncertainty in practice in this regard.

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This Statement also provides a standard for selecting the valuation date for estimates of federal employee pension, ORB, and OPEB liabilities, which will establish a consistent method for such measurements.

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## Introduction

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### Purpose

1. This statement requires the following:
  - a. Gains and losses from changes in **long-term assumptions**<sup>1</sup> used to estimate federal employee pension, **other retirement benefit (ORB)**, and **other postemployment benefit (OPEB)** liabilities should be displayed on the statement of net cost separately from other costs. This display will provide more transparent information regarding the underlying costs associated with certain liabilities.
  - b. Components of the expense associated with federal employee pension, ORB, and OPEB liabilities should be disclosed in notes to the financial statements. Such disclosure will provide information useful for analysis. The information will be comparable across agencies and between postemployment and retirement programs.
2. This statement also provides standards for selecting:
  - a. The discount rate assumption for pension, ORB, and OPEB liabilities. There is currently uncertainty in practice regarding the selection of discount rates in some situations.
  - b. The valuation date for measuring pension, ORB, and OPEB liabilities, which will establish a consistent method for such measurements.

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### Background

#### Reporting Gains and Losses from Changes in Assumptions

3. During its discussions of long-term obligations the Board addressed the need to highlight certain gains and losses from changes in assumptions in federal financial reports. Some of the most significant changes in amounts on the statement of net cost for the consolidated Financial Report of the United States Government (CFR)<sup>2</sup> and for certain **component entities** can result from gains and losses from changes in assumptions. The Board is now

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<sup>1</sup> Terms in the Glossary are shown in **boldface** the first time they appear in this document.

<sup>2</sup>See Appendix D containing Note 11, "Federal Employee and Veterans Benefits Payable," from the FY 2006 CFR.

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requiring that such gains and losses be reported as a discrete line item on the statement of net cost.

### Selecting the Discount Rates

4. SFFAS 5 provides standards for several types of liabilities, some of which require present value valuations. Federal accounting standards requiring present valuations usually specify U. S. Treasury borrowing rates as the discount rates, although the terminology used differs.
5. With respect to the selection of assumptions for pension, ORB, and OPEB liabilities, including the discount rate assumption, SFFAS 5 emphasizes expected long-term future trends rather than recent past experience. For the discount rate, SFFAS 5 required either the entity's long-term investment yield on assets, if the benefit plan is being funded, or other long-term assumptions such as Treasury borrowing rates for securities of similar maturity to the period over which the payments are to be made.<sup>3</sup>
6. Some entities interpreted the SFFAS 5 standard with respect to **other postemployment benefits** (OPEB) to require the use of single-day Treasury rates for the discount rates. Single-day rates render liability projections susceptible to more volatility than, for example, rates based on long-term expectations or historical experience.
7. Liabilities for postemployment and retirement benefits can be very large. The combination of the magnitude of these liabilities and volatility of the projections has resulted in large variations in annual cost from year to year that reduces the usefulness of reported operating results.
8. FASAB standards that require the use of Treasury borrowing rates for discounting do not specify a precise method for selecting such rates. There were a number of options for the discount rate. However, the discount rate generally required in FASAB standards is the rate on **marketable Treasury securities** of similar maturity to the cash flows of the obligation in question.
9. This Statement provides a standard for selecting discount rates for present value measurements of federal employee pension, ORB, and OPEB liabilities.

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<sup>3</sup>SFFAS 5, pars. 66, 83, and 95.

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### Selecting the Valuation Date

10. This Statement provides a standard regarding selecting valuation dates for present valuations of federal employee pension, ORB, and OPEB liabilities. Few FASAB standards currently address the valuation date per se.
11. In Interpretation 3, *Measurement Date for Pension and Retirement Health Care Liabilities* (August 1997), the Board addressed the valuation date issue with respect to measuring federal civilian and military employee pension and retirement health care liabilities in general purpose financial reports prepared pursuant to SFFAS 5. Interpretation 3 requires that pension and retirement health care liabilities in general purpose federal financial reports prepared pursuant to SFFAS 5 be measured as of the end of the reporting period. However, a full actuarial valuation as of the end of the reporting period is not required. The Interpretation allows the measurement to be based on an actuarial valuation performed as of an earlier date during the fiscal year, including the beginning-of-year, adjusted or "rolled forward" for the effects of changes during the year in major factors such as pay raises and cost of living adjustments.
12. In this Statement the Board is extending the Interpretation 3 approach to expense and liability measurement for OPEB liabilities.
13. This Statement is effective for fiscal years beginning after September 30, 2009.

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## Accounting Standard

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### Scope

14. This Statement applies exclusively to entities that report liabilities for federal employee pensions, other retirement benefits (ORB), and other postemployment benefits (OPEB), including veterans' compensation,<sup>4</sup> in general purpose financial reports prepared pursuant to Federal Accounting Standard Advisory Board (FASAB) standards. This Statement does not apply to the Federal Employees Compensation Act (FECA) program.
15. This Statement requires the display of gains and losses from changes in long-term assumptions used to estimate liabilities for federal employee pensions, ORB, and OPEB, including a discount rate assumption. For the purpose of this Statement, assumptions are considered long-term if the underlying event about which the assumption is made will not occur for five years or more. If the event is one of a series of events, the entire series should be considered the event and, thus, projected payments may commence within one year but would be required to extend at least five years. Otherwise, assumptions would be considered short-term.
16. This Statement does not preclude entities from displaying or disclosing any information about the effect of changes in any assumptions with regard to other types of activities.
17. In addition, except for the change in terminology to characterize the preparer's "best estimate" as "reasonable estimate," this Statement does not apply to social insurance programs for which the FASAB has specifically provided standards in SFFAS 17, *Accounting for Social Insurance*. The preparation and display of the expense and liability, related disclosures, and the statement of social insurance follows the standards promulgated in SFFASs 17, 25,<sup>5</sup> and 26.<sup>6</sup>

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<sup>4</sup> The pension program for veterans of the Department of Veterans' Affairs (DVA) is not accounted for as a "federal employee pension plan" under SFFAS 5 and the obligation therefore is not recorded as a liability due to differences between its eligibility conditions and those of federal employee pensions. The veterans' pension obligation is currently measured internally by the DVA in a manner consistent with the DVA's compensation program.

<sup>5</sup> *Reclassification of Stewardship Responsibilities and Eliminating the Current Services Assessments*, July 17, 2003.

<sup>6</sup> *Presentation of Significant Assumptions for the Statement of Social Insurance: Amending SFFAS 25*, November 1, 2004.

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18. This Statement applies to information provided in general purpose federal financial reports. It does not affect statutory or other special-purpose reports, such as pension or ORB reports.
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## Display

### Component Entities

19. Component entities should display gains and losses from changes in long-term assumptions used to measure liabilities for federal civilian and military employee pensions, ORB, and OPEB, including veterans' compensation, as a separate line item or line items on the statement of net costs. See the pro forma illustration in Appendix B.
20. Selecting the gains and losses to display from changes in individual pension, ORB, and OPEB liability assumptions to be displayed on the statement of net cost requires judgment. The preparer should consider quantitative and qualitative criteria. Acceptable criteria include but are not limited to quantitative factors such as the percentage of the reporting entity's cost that resulted from the gain or loss and the size of the gain or loss relative to the liability; and qualitative factors including whether the gain or loss would be of interest to decision-makers and other users. Nothing in this standard should be construed to preclude an entity from displaying gains or losses from changes in short-term assumptions.
21. Pursuant to SFFAS 5, some component entities report the liability and expense for pensions, ORB, or OPEB, while other component entities report only **normal (or service) cost**.<sup>7</sup> The Office of Personal Management is an example of the former with respect to the Federal Employees Retirement System (FERS), and federal component entities with employees participating in FERS are examples of the latter. Component entities that report pension, ORB, or OPEB liabilities should display a discrete line item for gains and losses from changes in assumptions on its statement of net cost when the conditions in paragraphs 19-20 above are met. Component entities reporting only the normal or service cost should not display such gains and losses.

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<sup>7</sup>The terms "employer entity" and "administrative entity" are used in SFFAS 5 to distinguish between entities that employ federal workers and thereby incur the employee costs, including pension cost, and those that are responsible for managing and/or accounting for the pension or the other employee plan. For example, entities that receive "salaries and expense" appropriations are employer entities, while the Office of Personnel Management (OPM) is an administrative entity because it administers the civilian retirement benefit plans. See especially SFFAS 5, pars. 71-2 and 88. An entity may be both an employer entity and an administrative entity, for example, when it, rather than OPM, administers a pension plan for its employees. In such instances, that entity would be responsible for reporting gains and losses from changes in assumptions if the conditions in paragraph 19-20 are satisfied.



22. Component entities should disclose in notes to the financial statements the following reconciliation of beginning and ending pension, ORB, and OPEB liability balances:

Beginning liability balance	\$X,XXX
<b>Expense:</b>	
Normal cost <sup>a</sup>	XX
Interest on the liability balance	XX
Actuarial (gain)/loss:	
From experience	XX
From assumption changes	XX
Prior service costs <sup>7</sup>	X
Other	(X)
Total expense	XXX
Less amounts paid	(XX)
Ending liability balance	\$X,XXX

<sup>a</sup> See the glossary for this standard's definition of "normal cost."

23. This reconciliation must provide all material components of pension, ORB, or OPEB expense consistent with the components identified in the table immediately above, if applicable. Additional sub-components may be presented. The line item for **actuarial gains and losses** should be broken out into the sub-components "from experience" and "from assumptions changes." Significant pension, ORB, and OPEB programs should be presented individually in a separate column along with an "all other" column, if applicable, and a "total" column for each line item.
24. Component entities that report pension, ORB, or OPEB liabilities should disclose the information required in paragraph 22. Component entities reporting only the normal or service cost should not disclose the information required in paragraph 22.
25. Component entities holding non-Treasury securities as assets to fund their pension, ORB, or OPEB programs should disclose the rates of return, specific maturities, and allocation by type (stocks, bonds, etc.) of such assets.

### Governmentwide Entity

26. The governmentwide entity should display gains and losses from changes in assumptions as a separate line item or line items on the statement of net cost after a subtotal for all other costs and before total cost. See the pro forma illustration in Appendix B.

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27. The governmentwide entity should disclose in the notes to the financial statements a reconciliation consistent with information required in paragraph 22 above for pension, ORB, and OPEB liabilities. At a minimum, reconciliations for liabilities classified as civilian, military, and veterans compensation must be presented. See Appendix C for an example.

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## Selecting Discount Rates

28. Discount rates as of the reporting date for present value measurements of pension, ORB, and OPEB liabilities should be based on interest rates on **marketable Treasury securities** with maturities consistent with the cash flows being discounted. The discount rates should be matched with the expected timing of the associated expected cash flow. Thus, cash flows projected in each period should have a discount rate associated with them. However, one discount rate may be used for all projected future cash flows if the resulting present value is not materially different than the resulting present value using multiple rates. A change to or from multiple rates from or to a single rate should be disclosed.
29. The discount rates as of the reporting date should reflect average historical rates on marketable Treasury securities rather than giving undue weight to the current or very recent past experience of such rates. Historical experience should be the basis for expectations about future trends in marketable Treasury securities. The discount rate, the underlying inflation rate, and the other economic assumptions should be consistent with one another.
30. In developing average historical Treasury rates, a minimum of five historical rates as of the reporting date (e.g., at the current and four prior fiscal year ends) should be used for each maturity. The historical rates used to calculate the average should be sequential (e.g., 2003-2007). For example, for an average historical Treasury rate to be used as the discount rate as of the end of fiscal year 2007 for a payment due in 10 years (i.e., in fiscal 2017), a minimum of the five most recent fiscal year-end historical rates on 10-year Treasury securities should be used. Thus, the rate on 10-year Treasury securities as of the end of fiscal year 2007 would be one of the five historical rates used in the average, the rate on 10-year Treasury securities as of the end of fiscal year 2006 would be another rate, etc., until, at a minimum, the rates on 10-year Treasury securities as of the end of fiscal years 2003 through 2007 would be included in the average.
31. The number of historical rates used in the calculation of the average as explained in paragraph 30, e.g., five fiscal year-end rates, should be consistent from period to period. The entity's accounting policy disclosures should include its policy regarding consistency from one reporting period to the next.
32. In the determination of the historical Treasury rates used, for cash flows that are projected to occur in future years for which Treasury securities are or were not available or that are

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expected beyond the maturities at which Treasury securities are available, e.g., beyond the 30-year security, the preparer should incorporate into the determination of the discount rate interest rates interpolated or extrapolated from historical Treasury rates.

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### Selecting Valuation Date

33. Estimates of pension, ORB, and OPEB liability and expense in general purpose federal financial reports should be measured as of the end of the fiscal year (or other reporting period if applicable). Measurements based on an actuarial valuation may be performed as of an earlier date during the fiscal year, including the beginning of the year, with adjustments for the effects of changes during the year in major factors such as the pay raise and cost of living adjustment. A full actuarial valuation as of the end of the reporting period is not required. Measurements should reflect the entity's assumptions about the major factors that would be reflected in a full actuarial valuation, such as the actual pay raise, the actual cost of living adjustment, and material known changes in the number of participants covered (enrollment) that cause a change in the liability.
34. The valuation date in the full actuarial valuation utilized by the entity should be consistently followed from year to year.

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### Reasonable Estimates

35. The entity's estimates should reflect its judgment about the outcome of events based on past experience and expectations about the future. Estimates should reflect what is reasonable to assume under the circumstances. The entity's own assumptions about future cash flows may be used. However, the entity should review assumptions used generally in the federal government as evidenced by sources independent of the reporting entity, for example, those used by the Bureau of Economic Analysis for the National Income and Product Accounts and, if its assumptions do not reflect such data, explain why it is inappropriate to do so.

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### Effect on Prior Standards

36. This Statement provides additional requirements for display, disclosure, discount rates, and valuation dates for federal civilian and military employee pensions, ORB, and OPEB in SFFAS 5. Interpretation 3 is rescinded. In addition, this Statement replaces "best estimate" with "reasonable estimate" in SFFAS 5, SFFAS 7, and SFFAS 17.

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SFFAS 5

37. This Statement also affects current standards for selecting discount rates. SFFAS 5, *Accounting for Federal Liabilities*, is amended as follows:

**65. Assumptions**—*For financial reports prepared for the three primary federal plans (CSRS, FERS, and MRS), ~~the best available~~ actuarial estimates of assumptions should be used to calculate the pension expense and liability. The selection of all actuarial assumptions should be guided by Actuarial Standards of Practice No. 4, Measuring Pension Obligations, as revised from time to time by the Actuarial Standards Board. Accordingly, actuarial assumptions should be on the basis of the actual experience of the covered group, to the extent that credible experience data are available, but should emphasize expected long term future trends rather than give undue weight to recent past experience. Although emphasis should be given to the combined effect of all assumptions, the reasonableness of each actuarial assumption should be considered independently on the basis of its own merits and its consistency with each other assumption. [footnote omitted]*

66. In addition to complying with the guidance in the preceding paragraph, **the discount rate assumption for present value measurements of pension liabilities should be the interest rate on marketable Treasury securities of similar maturities to the cash flows of the payments for which the estimate is being made. The discount rates should be matched with the expected timing of the associated expected cash outflow. Thus, each year for which cash flows are projected should have a separate discount rate associated with it. However, a single average discount rate may be used for all projected future payments if the resulting present value is not materially different than the resulting present value using multiple-rates.** ~~the interest rate assumption should be based on an estimated long term investment yield for the plan, giving consideration to the nature and the mix of current and expected plan investments and the basis used to determine the actuarial value of assets; or if the plan is not being funded, other long term assumptions (for example, the long term Federal government borrowing rate). The underlying inflation rate and the other economic assumptions should be consistent. The rate used to discount the pension obligation should be equal to the long term expected return on plan assets.~~ **The discount rates should reflect average historical rates on marketable Treasury securities rather than give undue weight to recent past experience with such rates. Historical experience should be the basis for expectations about future trends in marketable Treasury securities. In developing the average historical Treasury rates, a minimum of five historical rates as of the appropriate reporting dates should be used for each maturity. The historical rates used to calculate the average should be sequential (e.g. 2003-2007). For example, for an average historical Treasury rate to be used as the discount rate as of the end of the fiscal year 2007 for a payment due in 10 years, i.e., in 2017, a minimum of five 10-year Treasury rates should be used. Thus, the rate on 10-year Treasury securities as of the end of fiscal year 2007 would be one rate, the rate on 10-year Treasury securities as of the end of fiscal year 2006 would be another rate, etc., until, at a minimum, the rates on 10-year Treasury securities for the years 2003 through 2007 were included in the average. The number of historical rates used for the average, e.g., five yearly rates, should be consistent from period to period. The entity should explain that its accounting policy is to be consistent in this regard from period to period. For cash flows that are projected to occur in future years for which Treasury securities are not available or that extend beyond the maturities for which Treasury securities are available, e.g., beyond the 30-year security, the preparer should incorporate in the assumed discount rate expected re-financing rates extrapolated from historical Treasury borrowing rates.**

83. **Assumptions**—Amounts calculated for financial reports prepared for ORB plans should reflect (1) general actuarial and economic assumptions that are consistent with those used for **federal employee** pensions and (2) a **long-term** health care cost trend assumption that is consistent with Medicare projections or other authoritative sources appropriate for the population covered by the plan. The **discount rate assumption for present value measurements of ORB liabilities should be developed in accordance with paragraph 66 of this standard.** ~~be equal to the long term expected return on plan assets if the plan is being funded or on other long term assumptions (for example, the long term Federal government borrowing rate) for unfunded plans.~~ The administrative entity should disclose the assumptions used.

95. The employer entity should recognize an expense and a liability for OPEB when a future outflow or other sacrifice of resources is probable and measurable on the basis of events occurring on or before the reporting date. For example, a reduction in force may require an employer entity to make severance payments, unemployment reimbursements, or other payments in future periods. Similarly, an injury on the job may require the employer entity to make short- or long-term reimbursements to the federal workers' compensation program. A long-term OPEB liability should be measured at the present value of future payments. This will require the employer entities to estimate the amount and timing of future payments, and to discount the future outflow using the **interest rate on marketable Treasury borrowing rate for securities of similar maturities** to the period over which the payments are to be made. **The discount rate assumption for present value measurements of OPEB liabilities should be developed in accordance with paragraph 66 of this standard.**

157. Second, assumptions ought to be consistent across federal employee **pension, other retirement benefit, and other postemployment benefit** systems. Assumptions need not be identical because the conditions facing each plan may objectively differ, but they should be rationally related (thus, the standard calls for financial reports to be prepared on the basis of ~~the best available~~ **reasonable** estimates for actuarial assumptions). Also, the standard allows the smaller plans to use the assumptions provided by any of the three primary plans or to use their own assumptions if they explain how and why they are different from one of the major plans.

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## SFFAS 7

38. This Statement also affects current standards that use the term “best estimate.” SFFAS 7, *Accounting for Revenue and Other Financing Sources ...*, is amended as follows:

*67.1 Entities that collect taxes and duties should provide the following supplementary information relating to their potential revenue and custodial responsibilities:*

*67.1 The estimated realizable value, as of the end of the reporting period, of compliance assessments and, if reasonably estimable, preassessment work in process. The amounts furnished should represent management’s ~~best~~ estimate of additional revenues **reasonably expected** ~~likely~~ to be collected from compliance assessments and from pre-assessment work in process, appropriately qualified as to their reliability. A range of amounts may be provided for pre-assessment work in process if estimable. The change in the total(s) of compliance assessments and of pre-assessment work in process during the reporting period also should be provided.*

*67.2 If reasonably estimable, other claims for refunds that are not yet accrued but are likely to be paid when administrative actions are completed. If estimated, unasserted claims for refunds should be provided separately from claims filed and may be expressed as a range of amounts. The amounts furnished should represent management’s ~~best~~ **reasonable** estimates, appropriately qualified as to their reliability. The change in the total of these amounts during the reporting period also should be provided.*

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## SFFAS 17

39. Paragraphs 24-27 and 32-33 of SFFAS 17 provide the standard for required supplementary information (sub-paragraph 27(3) and 32(3) were re-classified as basic information by

SFFAS 26, *Presentation of Significant Assumptions for the Statement of Social Insurance: Amending SFFAS 25*). Paragraph 25 of SFFAS 17 is changed as follows:

*25. The projections and estimates used should be based on the entity's ~~best~~ **reasonable** estimates of demographic and economic assumptions, taking each factor individually and incorporating future changes mandated by current law. Significant assumptions should be disclosed.*

40. Paragraph 27(2) of SFFAS 17 requires the ratio of contributors to beneficiaries as supplementary information. Paragraph 27(2) is changed as follows:

*27(2) Ratio of Contributors to Beneficiaries - With respect to the OASDI and HI programs, the ratio of the number of contributors to the number of beneficiaries (commonly called the "dependency ratio") during the same projection period as for cashflow projections (e.g., 75 years), using the program managers' ~~best~~ estimate. At a minimum, the ratio should be reported for the beginning and end of the projection period. [footnote omitted]*

41. Paragraph 27(4) (a) of SFFAS 17 requires sensitivity analysis as supplementary information. The phrase "best estimate cost" before the word "assumptions" is changed as follows:

*27(4) (a) For all programs except UI illustrate the sensitivity of the projections and present values required by paragraphs 27(1) and 27(3) to changes in the most significant individual assumptions. For example, using the entity's "~~best estimate~~" **reasonable** cost assumptions as a baseline, show the effect of varying several significant assumptions ....*

#### Effective Date

42. This Statement is effective for fiscal years beginning after September 30, 2009.

**The provisions of this Statement need not be applied to immaterial items.**



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## Appendix A: Basis for Conclusions

This appendix discusses factors considered significant by Board members in reaching the conclusions in this Statement. It includes the reasons for accepting certain approaches and rejecting others. Individual members gave greater weight to some factors than to others. The standards enunciated in this Statement---not the material in this appendix---should govern the accounting for specific transactions, events or conditions.

This Statement may be affected by later Statements. The FASAB Handbook is updated annually and includes a status section directing the reader to any subsequent Statements that amend this Statement. Within the text of the Statements, the authoritative sections are updated for changes. However, this appendix will not be updated to reflect future changes. The reader can review the basis for conclusions of the amending Statement for the rationale for each amendment.

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### Comments Received

- A1. The Board did not rely on the number in favor or opposed to a given position. Information about the respondents' majority view is provided only as a means of summarizing the comments. The Board considered the arguments in each response and weighed the merits of the points raised. The respondents' comments are summarized below.
- A2. Eight written responses were received from the following sources:

	<b>FEDERAL (Internal)</b>	<b>NON-FEDERAL (External)</b>
Users, academics, others		2
Auditors	1	
Preparers and financial managers	5	

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### Summary of Comments

#### Display

#### **What the Exposure Draft Proposed regarding Display**

- A3. During its consideration of long-term obligations the Board discussed how financial statement display might be modified to show the fluctuations in cost caused by changes in assumptions. Some of the most significant changes in amounts on the operating statement for the Financial Report of the United States Government (CFR) and on the statement of net cost for some component entities often result from gains and losses from changes in assumptions. Note 11<sup>8</sup> to the FY 2006 CFR disclosed that the expense for military employee

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<sup>8</sup> See Appendix D for Note 11.

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pension benefits was \$112.2 billion. Of this amount \$20.1 billion was for changes in assumptions, and \$6.1 billion was from differences between actual experience and what was assumed. And even more dramatically, Note 11 in the CFR for FY 2005 disclosed that of the \$123 billion expense for post-retirement healthcare benefit for military personnel, \$53 billion was attributed to changes in assumptions and \$5 billion was from differences between actual experience and what was assumed.

- A4. The issue of volatility in reported annual expense was first brought to the Board's attention with respect to year-to-year volatility in veterans' compensation expense amounts reported by Department of Veteran's Affairs (DVA). Large percentage changes in net cost resulted from DVA's need to estimate future outflow for veteran's compensation benefits based on complex assumptions and cost models. Other agencies need to make similar estimates. Small changes in the discount rate assumption, for example, produce large fluctuations.
- A5. The Board decided to propose a general standard rather than focus solely on DVA and other employee compensation liabilities because many programs are affected by changes in long-term assumptions. Although pension, ORB, and OPEB programs employ long-range assumptions to estimate liabilities and periodic expense, other programs also involve long-term assumptions for liability and cost estimates the dollar amounts of which are very large relative to other financial statement items. For example, environmental liabilities require the use of long-term assumptions.
- A6. The exposure draft proposed that gains or losses from changes in assumptions, if any, should be presented as discrete line items not assigned to programs on the statement of net cost (SNC). The Board believed that this disaggregation would enhance the usefulness of the information provided on the statement of net cost. Separate display highlights the effects of changes in assumptions, which can be significant. Expenses assigned to programs would be distinguished from the gains and losses from changes in assumptions. The user would be better able to understand the operating performance of the entity as well as the role of gains and losses from changes in assumptions.
- A7. The Board believed that the discrete display of such gains and losses would enhance users' understanding of liabilities and periodic expense. Users, including entity managers, would understand more about how liabilities and expense are measured; about the uncertainty of the measurement of individual liabilities; and about what causes changes in liabilities. Managers would benefit from having information about the volatility of assumptions in their programs. Extreme volatility might indicate the assumptions chosen and/or the assumption-selection process needs re-evaluation. Volatility may affect the entity's funding requests and long-term planning. It will at least raise a flag for further investigation.
- A8. The proposed Statement provided certain exceptions to the display requirement. Assumptions used to estimate receivables, payables, inventory and related property and

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other short-term assumptions were excepted because they will be proved or disproved within a relatively short period of time. Also, those assumptions used for direct loans and loan guarantees were excepted because the FASAB has already provided accounting procedures.

### **Respondents' Comments regarding Display**

- A9. Most respondents agreed that the separate display of gains and losses from changes in assumptions on the SNC would be informative and useful. One respondent recommended displaying more detail about assumption changes on the face of the SNC, for example, the nature of the assumption change, within a category of assumptions (i.e., economic, demographic, etc.) and the amount of change.
- A10. Most of the respondents who commented on the question about the criteria for short – and long-term assumptions found the 5-year criteria useful. One respondent commented that there is some ambiguity in the wording and suggested the following three improvements: (1) explicitly allow display of gains/losses from assumption changes involving estimates for less than five years, (2) include the size of the gain/loss relative to the actuarial liability as part of the guidance in the proposed standard (ED paragraph 21) as another criterion for deciding what to display, and (3) include a discussion of the need to distinguish between benefit changes and assumption changes in the basis for conclusions. Another respondent commented that the glossary should be clearer regarding what is meant by long-term assumptions.
- A11. One respondent did not believe the 5-year division is appropriate “to define liabilities.” In addition, this respondent thought there would be situations where changes in short-term assumptions could result in material gains and losses.
- A12. Another respondent commented that the proposed standard did not provide satisfactory guidance based on their belief that it (1) would apply to a very limited federal audience, (2) uses high-level generalities, and (3) should be directed to the administrative entities for the primary federal employee benefit programs.
- A13. Several respondents commented that the proposed standard is not clear with respect to how it applies to non-actuarially prepared liability estimates. For example, one respondent thought that it may not be feasible to identify separate components of an annual change in non-actuarial liabilities. Another respondent asked for more guidance with respect to paragraph 21 in the exposure draft, which directed the preparer to use judgment in selecting the long-term assumptions for which gains and losses from changes are to be displayed individually on the statement of net cost.

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### **The Board's Conclusions regarding Display**

- A14. The Board decided to limit the standard to federal employee pension, ORB, and OPEB liabilities. This decision is based on the Board's desire to address more immediately its primary concern, which is to display the effect of assumption changes on employee compensation liabilities. The Board considered the requests from some respondents for more guidance regarding how the standard would apply to other than pension, ORB, and OPEB activities. Although in principle a broader application is desirable, the Board believes that developing additional guidance would significantly delay implementation of a broad standard. Therefore, the Board concluded that limiting the scope to pension, ORB, and OPEB liabilities would address the specific issue presented at this time. In addition, the need for information about the effect of assumption changes is more acute for pension, ORB, and OPEB liabilities than for other liabilities where the combination of factors that the preparer would have to consider is more complex. Legal contingencies, for example, involve an array of considerations that are not as clear-cut as for employee benefits.
- A15. This decision effectively renders moot several of the respondents' concerns. First, it addresses the concern of some respondents that the guidance was not specific enough with respect to which assumptions are subject to the standard. Second, it addresses the concern that the disclosure requirement of ED paragraphs 22-23 were too pension-oriented and preparers may be confused regarding how to classify annual changes in, for example, environmental cleanup liabilities or contingent liabilities.
- A16. Narrowing the scope of the standard also meant that the examples of liabilities to which the standard does not apply were not necessary. Paragraph 14 now explicitly states that the standard applies exclusively to pensions, ORB, and OPEB. The Board decided that the ED paragraphs containing examples of other liabilities to which the standard would not apply (e.g., liabilities that employ long-term assumptions where the FASAB has specifically provided standards such as loans and loan guarantees, or to assumptions that are short-term in nature, including estimates or receivables, payables inventory, and claims incurred but not reported) were redundant and potentially confusing, and they have been removed.
- A17. With respect to concern that the proposed standard did not provide satisfactory guidance regarding how it applies to administrative and employer entities as defined in SFFAS 5, specific guidance has been added. The standard now states that, in cases where an entity does not report the pension, ORB, or OPEB liability, that entity is not responsible for reporting gains and losses from changes in assumptions. For example, most civilian federal employees participate in either the Civil Service Retirement System (CSRS) or the Federal Employee Retirement System (FERS) pension plans, which are administered by the Office of Personal Management (OPM). Federal reporting entities whose employees participate in CSRS and FERS (other than OPM itself) report only a portion of the annual cost of the employee benefits. This portion is called the "normal cost" (or, "service cost"). The OPM

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reports the liability and all costs components, as described in SFFAS 5. Thus, the OPM, which is called the “administrative agency” in SFFAS 5, is responsible for reporting the gains and losses from changes in assumptions as a discrete line item on its SNC.

- A18. An entity may function both as an employer and an administrator entity. For example, it may administer a pension benefit for its employees rather than participate in CSRS or FERS. In such instances, that entity would report the liability and all costs. Thus, that entity would report gains and losses from changes in assumptions, if the conditions in paragraphs 19-20 are satisfied. The Board believes that the display of the effect of changes in assumptions will be meaningful for all entities that report a pension, ORB, or OPEB liability.
- A19. The Board considered the applicability of this standard to the Federal Employees Compensation Act program. The Board concluded that it was not appropriate or necessary for the Department of Labor to provide the information concerning gains and losses from changes in assumptions to the employer agencies, nor for the employer agencies to separately report or disclose such information. Under the particular circumstances of FECA accounting and reporting, the Board decided that the value of the FECA information provided pursuant to this standard would not offset the burden and cost of providing it.
- A20. Regarding the distinction between “short-term assumptions” and “long-term assumptions,” the Board believes the standard provides sufficient guidance. Assumptions are considered long-term if the underlying event about which the assumption is made will not occur for five years or more. If the event is one of a series of events, the entire series should be considered the event and, thus, projected payments may commence within one year but would be required to extend at least five years. Otherwise, assumptions would be considered short-term. The Board believes that limiting the scope of the standard to federal employee pensions, ORB, and OPEB will reduce the potential for misunderstanding.
- A21. Regarding the comment that information about changes in short-term assumptions might be informative, the Board agrees that there might be instances where the display of gains and losses from changes in assumptions that are by definition “short-term” in nature might be informative. Although it does not require such display, the final standard does not preclude displaying the effect of changes in short-term assumptions (see paragraph 16).
- A22. Regarding the comment about the propriety of the 5-year criteria for distinguishing long-term liabilities, the proposed standard did not define “long-term liabilities.” It used that term generally to describe the types of liabilities for which components of expense should be disclosed and for which estimates are undertaken using “long-term assumptions.” The proposed standard defined long-term assumptions as those where the underlying event about which the assumption is made will not occur for five years or more. The Board understands the respondent’s comment to involve a question about the sufficiency of the general usage of “long-term liability” in the standard. The Board believes that the usage of

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“long-term liability”, along with the specific focus on assumptions involving events of 5 years or more, is sufficient. However, in order to make the standard as clear as possible, in the final standard the Board uses the word “long-term” primarily to modify the word “assumption” and does not apply it to the word “liability.” Rather, the standard refers to liabilities and/or estimated liabilities that involve long-term assumptions.

## Note Disclosures

### **What the Exposure Draft Proposed regarding Disclosure**

A23. The proposed standard required certain note disclosures. First, the components of expense associated with liabilities involving long-term assumptions were to be disclosed. The Treasury Department and other users advocated a disclosure that will allow increased comparability between federal civilian and military employee and veteran benefits programs. The Board believed that disclosing the components of expense will provide information about the government’s annual accrued costs and about increases and decreases in the associated liability that will be useful for decision-making. The Treasury Department prepares the CFR and must explain any wide swings in certain liabilities. For some time Treasury has sought to improve the disclosure for federal employee and veteran benefits payable and currently discloses the information shown in Appendix D. The desire for more transparency in this regard is not only the goal of the Treasury Department but also apparent in comments from other CFR users, most notably the Federal Reserve. Most of the information required in this Statement is already presented in the CFR but some data is missing. The proposed standard was intended to fill these gaps.

A24. In addition to the components of expense, the exposure draft proposed disclosure of market rates for Treasury securities with 10-, 20-, and 30-year maturities. The Board believed that market rates would be a useful benchmark for comparison with the discount rate(s) the entity is using. The discount rate affects expense and liability amounts and a comparison with market rates would provide useful context. The Board considered but decided not to require the note disclosure to include the entity’s analysis of the effect on expense and liability amounts of using current market rates. The burden of such a requirement on some preparers was deemed to outweigh the benefits of the information provided. However, the proposed note disclosure would allow interested parties to begin such an analysis.

### **Respondents Comments regarding Disclosure**

A25. Most respondents commented that the note disclosure would be informative. One respondent recommended more detailed information about gains and losses from assumption changes. For example, display the type of assumption within a category of assumptions (i.e., categories are economic, demographic, discount rates, etc.) and the amount of each change. Another respondent recommended disclosure of (1) the assumed

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rate of return on the plan assets, if the reporting entity has such assets – that is, not just the return on Treasury securities, (2) the specific maturities for the Treasury securities, and (3) the allocation of the fund's assets by asset general category. Another respondent recommended requiring the reporting entity to determine its financial position using both the discount rate on Treasury securities and the discount rate on the actual assets of the fund, if any, to show the actual impact of these different rates.

A26. Another respondent commented that the disclosure would be neither meaningful nor informative. They found the standard too vague to determine whether long-term construction contracts or procurements would be included. They cited issues involving their Standard General Ledger accounts and accounting system.

A27. One respondent commented that the disclosure of market rates would be informative and provide transparency. However, another respondent found the benchmark comparisons unnecessary and potentially confusing. This respondent favored merely stating the basis for selecting assumptions in the notes; for example, that a board of experts decided the rates are appropriate.

A28. One respondent commented that the proposed standard appeared to eliminate the requirement in SFFAS 5, par. 88, for disclosure of gains and losses due to changes in the medical trend assumptions as a separate item because it could be included in disclosure of all other such gains and losses. The Board notes that this is not the case; the requirement in par. 88 is not affected by this standard.

### **The Board's Conclusions regarding Disclosure**

A29. With respect to the suggestion that more detail be disclosed, the proposal in the exposure draft did not require as much detail on the face of the financial statement or as much disclosure as recommended by some respondents. The Board's decision to limit the scope of the final standard to pensions, ORB, and OPEB reduces the need for additional detail. At the same time the Board added a requirement for disclosure of information about non-Treasury assets, if any. As noted above, the exposure draft did not and the standard does not preclude display or disclosure of short-term gains and losses or other material components.

A30. Regarding the comments about disclosing current market rates for certain Treasury securities, the Board decided to eliminate this requirement. Some believe that this disclosure would be a useful benchmark for comparison with the discount rate used by the entity. They note that current market rates are used in many other contexts. Moreover, others believe that the current market rate for Treasury securities is the best indicator of the government's borrowing cost. However, others question the usefulness of the disclosure for several reasons. First, they note that the exposure draft did not require the entity to provide

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an analysis of the effect of using current market rates on the entity's liability and periodic cost, because the Board concluded that the benefit of such an analysis was outweighed by the burden of producing it. Second, the entity was not required to disclose the average historical Treasury rates it was using for discounting and therefore a direct comparison would not be possible. Finally, some believe that the disclosure is not a good benchmark because the Board is requiring another discount rate; and, if a benchmark were to be disclosed, it should be closer to what the Board is requiring. The Board decided that, given the lack of unanimity on its information value, the disclosure should not be required.

A31. Similarly, a respondent recommended using both the discount rate on Treasury securities and the discount rate on the actual assets of the fund, if any, to show the impact of these different rates. The Board believes this disclosure would be informative but concluded that its informational value did not clearly overcome the burden that preparing two calculations would have imposed on the preparer, and therefore reporting such information should be optional.

A32. Regarding the request for more guidance about administrative and employer entities, the standard now explains that, as indicated in paragraphs A17-A18 above, the entity that reports the pension, ORB, or OPEB liability should display the gains or losses from changes in assumptions and disclose the relevant liability components.

### Selecting Discount Rates

#### **What the Exposure Draft Proposed regarding Discount Rates**

A33. The Board became aware of an issue affecting preparers with respect to the selection of discount rates for present value measurements of expense and liability amounts. A preparer noted that, with respect to OPEB accounting, SFFAS 5 requires that the liability be estimated using as the discount rate the U. S. Treasury borrowing rate for securities of similar maturity to the period over which the payments are to be made.<sup>9</sup> The preparer asked whether the discount rates should be based on a single day's interest rates, or were other alternatives acceptable, such as an average of interest rates over a period of time. The preparer currently uses one-day Treasury "spot" rates consistent with the expected timing of future cash flows relating to the program, believing that that is what the Board intended by the standard in SFFAS 5, paragraph 95. As a result, its liabilities have been susceptible to extreme volatility.

A34. Several current FASAB standards require present valuations and discounting. For example, federal civilian and military employee pensions, ORB, OPEB, including veterans' compensation, require discounting. Federal activities that incur such liabilities typically involve similar types of demographic and economic assumptions.

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<sup>9</sup> SFFAS 5, par. 95.



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A35. The FASAB standard for federal civilian and military employee pensions and ORB includes general guidance with respect to assumptions.<sup>10</sup> These standards state that federal pension plans should be guided by Actuarial Standards of Practice (ASOP), e.g., ASOP 4, *Measuring Pension Obligations*, and ASOP 27, *Selection of Assumptions for Measuring Pension Obligations*, as revised from time to time by the Actuarial Standards Board (ASB). The ASB is a board associated with the American Academy of Actuaries that sets professional standards of actuarial practice in the United States. The Board referenced ASB standards because it considers them accepted actuarial practice.

A36. Consistent with ASOPs, SFFAS 5, paragraph 65 requires actuarial assumptions to be based on the actual experience of the covered group and to emphasize expected long-range future trends rather than give undue weight to recent past experience. Although emphasis should be given to the combined effect of all assumptions, the standard requires that the reasonableness of each actuarial assumption should be considered independently on the basis of its own merits and its consistency with each other assumption.

A37. With respect to discount rates for pension and ORB accounting, SFFAS 5 requires the interest rate used for discounting to be based on

an estimated long-term investment yield for the plan, giving consideration to the nature and the mix of current and expected plan investments and the basis used to determine the actuarial value of assets; or if the plan is not being funded, other long-term assumptions (for example, the long-term federal government borrowing rate). ...<sup>11</sup>

A38. The FASAB standard for OPEB differs somewhat from that for pensions and ORB. For OPEB, SFFAS 5 requires employer entities to estimate the amount and timing of future payments and to discount the future cash flows using the Treasury borrowing rate for securities of similar maturity to the period over which the payments are to be made.<sup>12</sup> This difference is attributable to the fact that, unlike most federal civilian and military employee pension and ORB plans, the federal employee OPEB generally are not funded and thus the long-term yield on investments was not thought to be relevant. For plans that are not funded the standards have been essentially the same: the objective is an expected long-term rate that reflects the government's expected borrowing costs.

A39. The Board concluded in SFFAS 5 that the discount rate for pensions and ORB, which are funded, should reflect the long-term expected return on plan assets. The Board explained

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<sup>10</sup> See SFFAS 5, pars. 65 and 83, respectively, for pensions and ORB.

<sup>11</sup>SFFAS 5, par. 66.

<sup>12</sup>SFFAS 5, par. 95.

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that the expected long-term rate reduces volatility, reflects the actual experience and expectations of the primary federal plans, and is consistent with the assumptions used in the budget.<sup>13</sup>

- A40. As previously stated, current FASAB standards provide two approaches for selecting discount rates. The first approach is the expected long-term return on plan assets. The second approach involves unfunded plans where an expected long-term return on plan assets is not available and a Treasury borrowing rate is required. The proposed standard employed one approach for all instances not otherwise expressly provided in FASAB standards: discount rates for present value measurements of estimated liabilities that involve long-term assumptions should be the interest rate on marketable Treasury securities of similar maturities to the cash flows of the benefit payment for which the estimate is being made.
- A41. The Board believed that discount rates for present value measurements of expense and liability amounts should be average historical rates for marketable Treasury securities because they reflect the government's borrowing cost with the public. Also, expected long-term rates reduce volatility, reflect the actual experience and expectations of the primary federal plans, and are consistent with the assumptions used in the budget.
- A42. The proposed standard eliminated the plan's investment yield as an option for discount rates for present value measurements of expense and liability amounts. The discount rate assumption for liabilities is used most significantly to calculate the present value of the obligation and the **annual cost increments** of net periodic cost, for example, the normal cost component of pension expense. Both of those uses are conceptually independent of a plan's assets, if any. If two employers have made the same benefit promise, the FASAB believes the annual cost increments and the present value of the obligation should be the same even if one expected to earn an annual return of 6 percent on its plan assets and the other had an unfunded plan.
- A43. The Board noted that the Pension Protection Act of 2006<sup>14</sup> requires fund managers to focus on long-term interest rates instead of their particular asset holdings. The Act requires them to calculate pension liabilities based on current bond rates rather than the expected rate or return from an asset portfolio. Thus, high expected gains from stock holdings will no longer be able to help diminish benefit liabilities since they will no longer be part of the calculation.

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<sup>13</sup> SFFAS 5, par. 159.

<sup>14</sup> PL No. 109-280.

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- A44. The FASAB believes that the objective of discount rates is to reflect **the time value of money**. The time value of money should reflect the single amount that, if invested at the measurement date in risk-free investments with maturities like those of the future benefit payments being measured, would generate the necessary cash flows to pay the benefits when due. Marketable U.S. Treasury securities are deemed risk free because they pose neither uncertainty in timing nor risk of default to the holder. This single amount is the gross liability. It would equal, conceptually, the current market value of a portfolio of Treasury zero coupon bonds whose maturity dates and amounts would be the same as the timing and amount of the expected future benefit payments. In the absence of a portfolio of such zero coupon Treasury securities, however, the federal preparer should incorporate in assumed discount rates the re-financing rates expected to be available on marketable Treasury securities in the future, which should be extrapolated from historical experience.
- A45. With respect to Treasury rates the Board considered average historical rates as well as current market rates as of the reporting date. Some prefer current market rates, arguing that interest rates can move significantly from year to year and the use of interest rates from a prior year (or smoothing this year's rates with those from prior years) can therefore result in significant misstatements about the current value of future cash flows. They argue further that changing interest rate assumptions annually would result in more accurate but also more volatile estimates of liabilities and changes in net cost than the current actuarial practice in the federal government of revisiting interest rate assumptions every 3 to 5 years. They argue that the proposed display standard is the best way to deal with volatility, i.e., by reporting on a separate line changes in net cost due to changes in actuarial assumptions.
- A46. The FASAB decided to propose average historical rates rather than single-day or market rates on the reporting date. The Board believed that single-day rates would not reflect the long-term orientation of most federal programs.
- A47. The proposed standard was not intended to change the Board's preference, expressed in SFFAS 5 and elsewhere, for expected future trends rather than giving undue weight to recent past experience. With respect to assumptions in general, FASAB standards have emphasized expected future trends.
- A48. Regarding the method of discounting cash flow in future years, the FASAB believed that discount rates used to measure the present value of the annual cost increments of expense should be selected that are applicable to the various benefit periods in question. The Board believed that annual cost increments will be more representationally faithful if individual discount rates applicable to various benefit deferral periods are selected. For future years extending beyond the last for which Treasury rates are available, e.g., beyond 30-year maturities, the proposed standard required the preparer to incorporate in the assumed discount rate expected re-financing rates extrapolated from historical Treasury borrowing rates. However, the proposed standard allowed that a single average discount rate may be

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used for all projected future payments if the resulting present value is not materially different than the resulting present value using multiple-rates, or for cases in which discount rates have limited influence on current liability estimates.

A49. The proposed standard provided for the discount rates to be reviewed at each annual reporting date and changed if materially different from the existing rate. However, the Board preferred a stable discount rate that would result from applying historical averages, rather than current market rates. The Board stated that current market rates produce a degree of volatility that is not a faithful representation of the time value of money in long-term federal programs. The Board also stated that implicit in the notion of stable rates is the fact that the discount rate normally would not change every year. The preparer would change the rate based on a significant change in the historical average Treasury rate, as determined by the preparer, which would reflect long-term expectations rather than the current market rate. Thus, the proposed standard neither required nor precluded annual changes in the discount rate. Current Office of Personnel Management practice is to maintain a constant discount rate for civilian pensions and other retirement benefits for five years. The Board does not anticipate that the proposed standard would necessarily affect that practice because Treasury borrowing rates normally change very slowly.

A50. The discount rate standard in the proposed Statement did not apply to instances where the FASAB has required or permitted a discount rate to capture risk, i.e., to be other than the risk-free Treasury borrowing rate. However, the proposed standard did apply to all instances where risk-free Treasury borrowing rates are appropriate.

### **Respondents Comments regarding Discount Rates**

A51. The majority of respondents commented that long-term Treasury rates are appropriate for discounting liabilities the estimates for which involve long-term assumptions. One respondent favored current market rates over average historical Treasury rates, believing them to be a better reflection of the cost of issuing Treasury securities to extinguish liabilities at the financial statement date. In addition, this respondent believes current market rates would provide more comparability and would be consistent with fair value accounting; but if average historical rates are used, this respondent believes the time period allowed for average historical Treasury rates should be limited to 5 years, which would better reflect the current market than longer horizons.

A52. One respondent commented that it uses statutory rates and that such rates supersede SFFASs.

A53. One respondent found the requirement (ED paragraphs 27 and A33) to use year-specific discount rate “fundamentally” inconsistent with the Aggregate Entry Age Normal (AEAN) cost method required by SFFAS 5. The current FASAB pension and ORB standards for

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selecting cost attribution methods (paragraphs 63 and 82, SFFAS 5, respectively) direct the preparer to use AEAN (or other actuarial cost methods if the results are not materially different). The AEAN method is one of several cost attribution methods available. The private sector pension standard, SFAS 87, used another approach called “projected unit credit” (PUC). The primary reason given in SFFAS 5 for directing the use of AEAN was that the major federal pension plans at OPM and DoD were using it, and the Board was advised by actuaries that the results would not be substantially different than the unit benefit approach required by SFAS 87 (see SFFAS 5, par. 153).

- A54. In addition, the respondent did not believe that allowing a single rate if the “result” is not materially different, as was done in the ED paragraph 27, would sufficiently address the cost attribution method issue. This respondent did not believe that year-specific discount rates should be required, even if the Board wants to allow them.
- A55. This respondent also commented that the perspective of the government’s borrowing cost with the public is not necessarily relevant from the point of view of the employer entity in the case of a funded plan. Although this respondent’s plan is a federal plan holding federal securities, from this respondent’s perspective, the plan is funded. Therefore, this respondent believes the investment yield perspective for the discount rate has relevance. From the employers’ perspective, this respondent did not believe the statement in paragraph A25 of the exposure draft about the equivalence of two plans with the same benefit provisions (one funded and one not), is necessarily correct.
- A56. This respondent stated that, from the overall federal government perspective, it is not clear what constitutes the best basis for the discount rate assumption. This respondent believes the statement in paragraph A24 of the exposure draft that the rationale for using marketable Treasury securities for the discount rate is that they reflect the government’s borrowing cost with the public is questionable. This respondent asserted that a private company would not value a given future obligation at its own borrowing cost.
- A57. This respondent acknowledged that, in the sense that Treasury securities represent risk-free investments (as described in paragraph A27, of the exposure draft) arguments can be made for their use as the discount rate basis. However, this respondent asserted that two circumstances make an investment yield approach preferable. First, when the entity employs an independent actuarial board, the respondent believes that board’s assumptions for the financial statement valuations make the most sense, especially when Congress has created the independent expert for setting the assumptions. Second, an investment yield approach is preferable when the funding in a trust fund is comprised entirely of investments that mirror marketable US Treasury securities. This respondent states that arguments that the discount rate should not be impacted by the particular portfolio of securities in a trust fund at a given time are not valid in the context of an alternative involving “a vague, undefined ‘historical’ average.”

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A58. Another respondent commented that the phrase “average historical Treasury rates” is unclear but consistent with ED paragraph 28 with respect to the need for the reporting entity to use judgment, and with the notion of Congressionally-established expert Boards for trust funds restricted to investing in securities that mirror marketable US Treasury securities.

A59. Other respondents prefer more guidance regarding the time-period for and meaning of average historical rates. Several respondents recommended limiting the time-period to 5 years, if average historical rates are used, feeling it would better reflect the current market than longer horizon and that that would be a sufficiently long period.

A60. One respondent asked for more explanation and guidance with respect to the phrase “extrapolated from historical Treasury borrowing rates.” It is possible for projected cash flows to extend beyond the maturities for which Treasury securities are available, e.g., beyond the 30-year security. The proposed standard required the preparer to incorporate in the assumed discount rate expected re-financing rates extrapolated from historical Treasury borrowing rates, that is, use the historical rates as indicative of what future rates will be.

### **The Board’s Conclusions regarding Discount Rates**

A61. The Board decided to retain the average historical Treasury rate approach proposed in the exposure draft. Thus, the entity should employ Treasury borrowing rates associated with each future year involving relevant cash flow. This is sometimes called the “yield curve” approach.

A62. With respect to the attribution methods, the Board does not believe the standard is inconsistent with the Aggregate Entry Age Normal (AEAN) attribution method required in SFFAS 5. The change in the discount rate applied to a particular future cash flow would be a function of (1) the passage of time and (2) the market rate for each maturity, as evidenced by historical rates. It would not represent a change in assumption per se. In other words, the discount rate does not necessarily change, the period changes. There would be a one-year rate, a two-year rate, a 5-year rate, etc., that would not (necessarily) change each year. The average historical rate would change only when the data dictated. The mere fact that a payment that was due in 5 years is now due in 4 years would not constitute an assumption change. The Board does not believe that the requirement is conceptually inconsistent with the AEAN or other provisions of SFFAS 5, paragraphs 63 and 82.

A63. Regarding whether to use the entity’s investment return for determining a discount rate, the Board continues to believe that discount rates for present value measurements of federal pension, ORB, and OPEB liabilities should be average historical rates for marketable Treasury securities because it reflects the government’s borrowing cost with the public and therefore the time value of money for the government. The Board also believes that there should be consistency among federal entities. The discount rate is used to calculate the

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present value of the obligation and annual cost increments and should be the same, everything else being equal, between funded and unfunded pension, ORB, and OPEB programs. Moreover, overly optimistic assumptions about investment returns have provided inaccurate financial information about public and private sector pensions.

A64. The Board believes that the average historical Treasury rate standard is clear and well defined. The objective is a principle-based requirement where the reporting entity would use its judgment when developing the rate.

A65. The Board considered the request for more guidance regarding the number of instances to include in an average historical rate. The Board decided to establish a minimum number of five historical Treasury rates to include for the average. The exposure draft did not specify a minimum or maximum number of historical Treasury rates for developing an average. The Board believes that setting a minimum number of historical rates to include in the average would ensure that the discount rate captures richer experience and avoids undue focus on the current market rate. In addition, a standard requiring a minimum of five periodic rates for the average would not encourage the use of so many historical rates as to render the average rate antiquated.

A66. The Board was concerned regarding the possibility that the entity would frequently change the number of Treasury rates included in the average rate. The Board's believes that the reporting entity should be consistent from period to period with respect to the number of rates included in the average. SFFAC 1, *Objectives of Federal Financial Reporting*, and SFFAC 2, *Entity and Display*, states that consistency is one of the qualitative characteristic of accounting information.<sup>15</sup> The Board concluded that the standard should require the entity's accounting policy disclosure to include the policy of consistency in this regard, which is the intent of paragraph 31.

A67. The Board notes that a respondent criticized as vague the exception provided in the exposure draft allowing entities to use a single rate for discounting if the resulting present value is "not materially different" than the resulting present value using the approach in the standard. The respondent commented that the single rate would need to be compared to the various components of expense to not materially differ. Nonetheless, the Board believes that this exception may be useful to preparers. If the result of applying a single composite discount rate to the cash flows vs. individual rates is not materially different, then the preparer may use the single rate. This exception is a continuation of one currently in FASAB pension and ORB standards and has been in effect since October 1996. However, the standard now specifies that the resulting present value of the entity's single rate should not be materially different than the resulting present value using the approach in the standard.

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<sup>15</sup> See SFFAC 1, par. 163, and SFFAC 2, par. 109.

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A68. With respect to a respondent's comment about the use of expert actuarial boards, the Board notes that such boards provide assumptions for funding and other purposes and presumably also would provide assumptions for general-purpose financial statements. However, for the latter, under the standard, they would look at the broader historical market for Treasury securities for context. Actuaries work with requirements appropriate to specific objectives. The Board concludes that the general requirement for average historical rates should be retained.

A69. With respect to the request for additional guidance regarding the phrase "extrapolate from historical Treasury borrowing rates" where projected cash flows extend beyond the maturities for which Treasury securities are available, e.g., beyond the 30-year maturity, the Board notes that there are several methods that can be applied to extend a yield curve for terms beyond the last available rate in the market. The International Actuarial Association's Risk Margin Working Group's (RMWG) recent exposure draft<sup>16</sup> on measuring liabilities for insurance contracts mentions that the simplest approach is to use the last available rate (for example the 20-year rate for a 30-year cash flow), and that a more advanced method would be to extrapolate the yield curve with a constant slope assuming that the forward rate observed between the last two market rates stays constant. In addition, the RMWG ED states that a model can be applied to extend the yield curve and cites several examples. The Board believes these approaches are reasonable.<sup>17</sup>

## Selecting Valuation Date

### **What the Exposure Draft Proposed regarding Valuation Dates**

A70. The FASAB has addressed the issue of valuation dates for present valuations in various ways. The sections of SFFAS 5 dealing with pensions, ORB, and OPEB do not mention valuation dates, but the Board did address it in Interpretation 3, *Measurement Date for Pension and Retirement Health Care Liabilities* (August 1997). In Interpretation 3 the Board decided that pension and retirement health care liabilities should be measured for general purpose federal financial reports as of the end of the reporting period, and that such measurement should be based on an actuarial valuation within a year of the end of the reporting period.

A71. In Interpretation 3 the Board had been asked to endorse use of an actuarial valuation date as of the beginning of the fiscal year, which had been the practice in some of special

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<sup>16</sup>Risk Margin Working Group, *Measurement of Liabilities for Insurance Contracts: Current Estimate and Risk Margins*, March 24, 2008 ("RMWG ED").

<sup>17</sup> RMWG ED, page 31.



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purpose financial reports on pension plans prepared pursuant to statutory provisions. Some actuaries were concerned that differences between actuarial measurements used in different reports would cause problems and confusion. Some people who supported using a beginning-of-year valuation also were concerned about the potential for disagreements between auditors and preparers if projections or estimates were used instead of a full actuarial valuation. However, other people believed that liability measurements in financial statements prepared pursuant to SFFAS 5 should be as of the end of the reporting period, and that a measurement based on a projection or "roll forward" of a full actuarial valuation would be appropriate if it were not feasible to perform a full actuarial valuation as of year end.

A72. SFFAS 17, *Accounting for Social Insurance*, does address the valuation date, specifying that it should be as of any time within a year of the reporting date.

A73. Although it does not explicitly discuss the valuation date, SFFAS 5 implicitly calls for measurement at the reporting date for pension, ORB, and OPEB liabilities, which are reported as of the balance sheet date.

A74. FASB's Statements 87 and 106 allowed preparers to use a valuation date for measuring pension and other postretirement liabilities up to three months earlier than the reporting date. However, FAS 158 published under Phase I of FASB's pension project requires the measurement of plan assets and benefit obligations to be as of the date of the sponsoring employer's statement of financial position. The FASB concluded that this will more accurately reflect the economic status of defined benefit plans and further improve the understandability of the financial statements.<sup>18</sup>

A75. In Statement 27 and Statement 45, the GASB did not require the valuation date to be the employer's balance sheet date. Statement 27 requires the expense/expenditure amount to be based on the results of an actuarial valuation performed in accordance with the parameters as of a date not more than 24 months before the beginning of the employer's fiscal year. Statement 45 requires that the actuarial valuation date generally should be the same date each year (or other applicable interval). However, in both instances a new valuation would be required if, since the previous valuation, significant changes occurred that affect the results of the valuation, including significant changes in benefit provisions, the size or composition of the population covered by the plan, or other factors that impact long-term assumptions.

A76. The Board believes that the approach in Interpretation 3 is preferable. Pension, ORB, and OPEB liabilities should be measured as of the end of the reporting period based on a full

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<sup>18</sup> FAS 158, par. B16.

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actuarial valuation within a year of the end of the reporting period. Thus, "full actuarial valuations," as that term is used by actuaries, can be performed as of an earlier date during the fiscal year than year end, including a beginning-of-year date, with suitable adjustments for the effects of changes during the year in major factors such as the pay raise and cost of living adjustment. Such adjustments are sometimes referred to as a measurement based on a "projection" or "roll-forward."

### **Respondents Comments regarding the Valuation Date**

A77. Most of the respondents who commented on the proposed valuation date standard commented that it was appropriate. One respondent asserted that its valuation dates are based on statutory requirements.

### **The Board's Conclusions regarding Valuation Date**

A78. The Board continues to believe that pension, ORB, and OPEB liabilities should be measured as of the end of the reporting period based on a full actuarial valuation within a year of the end of the reporting period.

### **Reasonable Estimates**

#### **What the Exposure Draft Proposed regarding Reasonable Estimates**

A79. The proposed Statement also addressed an issue with respect to the meaning of "best estimate." The proposed Statement provided that estimates should be reasonable under the circumstances (see paragraph 31). The notion of "best estimate" has been used in several FASAB standards, for example, in SFFAS 5, paragraph 65, SFFAS 7, *Accounting for Revenue and Other Financing Sources* ..., paragraph 67.1, and in various instances in SFFAS 17. However, preparers and auditors have reported disagreements regarding the meaning of the word "best," which is sometimes defined as "excelling all others." Thus, the Board proposed to replace the term "best estimate" in FASAB standards with "reasonable estimate."

A80. Actuarial Standards of Practice (ASOP) provide guidance regarding the meaning of "best estimate" in ASOP 10, *Methods and Assumptions for Use in Life Insurance Financial Statements Prepared in Accordance with GAAP*, and ASOP 27, *Selection of Economic Assumptions for Measuring Pension Obligations*. ASOP 27 instructs actuaries to select a specific economic assumption from within his or her "best estimate range" with respect to that assumption, which it defines as "the narrowest range within which the actuary reasonably anticipates that the actual results ... are more likely than not to fall"<sup>19</sup> [emphasis added]. ASOP 27 provides, generally, that

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<sup>19</sup> ASOP 27, Section 2.1.

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“[b]ecause no one knows what the future holds with respect to economic and other contingencies, the best an actuary can do is to use professional judgment to estimate possible future economic outcomes based on past experience and future expectations, and to select assumptions based upon that application of professional judgment. Therefore, an actuary’s best-estimate assumption is generally represented by a *range* rather than one specific assumption. The actuary should determine the best-estimate range for each economic assumption, and select a specific point from within that range. In some instances, the actuary may present alternative results by selecting different points within the best-estimate range” [emphasis added].<sup>20</sup>

A81. The Board concluded that ASOP 10 and 27 apply a standard of reasonableness regarding “best estimate,” and that that is an appropriate approach. Therefore, paragraph 31 of the exposure draft called for the preparer’s estimate to reflect what is reasonable to assume under the circumstances, rather than the preparer’s “best estimate.”

### **Respondents Comments regarding Reasonable Estimates**

A82. One respondent objected to the proposed requirement that the preparer compare assumptions used for the liability estimate with assumptions generally used in the federal government as evidenced by independent sources, unless their actuarial board is considered an “independent source.” Another respondent was concerned that the proposed standard may prove inconsistent with the historical rates used in setting discount rates, because it permits the use of the entity’s own assumptions as long as they can be justified if they deviate from independent sources. They suggest this possible inconsistency be discussed in the guidance. Another respondent commented that the requirement is not clear regarding whether it applies to pension and actuarial valuations or other estimated liabilities that employ long-term assumptions such as environmental liabilities and, if so, as to what independent source should be used.

### **The Board’s Conclusions regarding Reasonable Estimates**

A83. Paragraph 35 of the standard requires the preparer to compare its assumptions with assumptions used generally in the federal government as evidenced by sources independent of the reporting entity and, if its assumptions do not reflect such data, explain why it is inappropriate to do so. A respondent suggested that the Board consider specifying a set of federal assumptions for this purpose. Some assumptions will involve general economic parameters while others will be particular to the entity.

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<sup>20</sup> ASOP 27, Section 3.1.

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A84. The Board's objective in this regard is for the entity to inform the reader about the reasonableness of the assumptions used in the preparation of its financial reports. With respect to sources for assumptions generally in use in the federal government, the standard offers the example of Bureau of Economic Analysis' assumptions but does not require the use of these or other particular sets of federal assumptions. The Board decided not to change the standard in this regard. The Board believes a comparison with a benchmark is likely to be meaningful to users. The preparer should use its judgment to select assumptions used generally in the federal government that are relevant to its activities and estimates. In addition, the narrowing of the scope of the standard to pensions, ORB, and OPEB will narrow the comparison as well.

**Board Approval**

A85. This Statement was approved for issuance by all members of the Board.

## Appendix B: Pro Forma Statement of Net Cost Displaying Separate Line Item for Gains and Losses Due to Changes in Assumptions

Component Entity: Pro forma *Statement of Net Cost for the Year Ended September 30, 2007*

	2007 (billions)
ABC Program	
ABC expenses	\$ 223
Less: exchange revenue	<u>24</u>
Net expense before gain/loss from changes in assumptions	199
(Gain)/loss on assumption changes:	
Discount rate assumption	200
Other assumptions	<u>(50)</u>
Net (gain)/loss on assumption changes	150
Net cost	<u>\$349</u>

Governmentwide Entity: Pro Forma *Statements of Net Cost for the Year Ended September 30, 2007*

	Gross Cost	Earned Revenue (billions)	Net Cost
ABC Agency.....	\$ 199	\$ 24	\$ 223
OPM.....	***	**	***
DVA.....	***	**	***
XYZ.....	***	**	***
* * *			
Other agencies.....	<u>146</u>	<u>92</u>	<u>54</u>
Cost <b>before gains/losses from changes in assumptions:</b>	3,060	226	2,834
Less: <b>loss (plus gain) from changes in assumptions:</b>			
ABC.....	150	0	150
OPM.....	100	0	100
DVA.....	110	0	110
Total cost .....	<u>\$3,420</u>	<u>226</u>	<u>\$ 3,194</u>

## Appendix C: Pro Forma Note Disclosure of OPEB Liabilities and Expense

### Post Employment Actuarial Liabilities (in billions)

	Civilian	Military	Veterans	Balance Sheet Total
Beginning balance	1,496.3	1,563.0	924.8	4,062.1
<b><u>Expense</u></b>				
Normal cost	41.5	33.4	XXX	
Interest on the liability balance	92.4	96.9	XXX	
Assumption changes	0.2	58.5	XXX	
Plan amendments (prior service cost)	-	25.8	XXX	
Actuarial (gain)/loss	1.9	4.6	XXX	
Other	(0.2)		XXX	
Total expense	135.8	219.2	XXX	
Less benefits paid	(67.6)	(52.9)	XXX	
Subtotal of pension and health	1,564.5	1,729.3	XXX	
Ending balance, other benefits	48.5	26.9	-	
Total post employment actuarial liabilities	1,613.0	1,756.2	1,122.6	4,491.8

## Appendix D: Note 11 from FY 2006 Financial Report of the United States

### Note 11. Federal Employee and Veteran Benefits Payable

The Government offers its employees life and health insurance, as well as retirement and other benefits. These benefits, which include actuarial and amounts due and payable to beneficiaries and health care carriers, apply to civilian and military employees.

The Federal Government administers more than 40 pension plans. OPM administers the largest civilian plan. DOD, meanwhile, administers the largest military plan. Other significant pension plans with more than \$10 billion in accrued benefits payable include those of the Coast Guard and the Foreign Service. The changes in the accrued post-retirement pension and health benefit liability and components of related expense for the years ended September 30, 2006, and 2005, respectively, are presented below.

#### Federal Employee and Veteran Benefits Payable as of September 30

(In billions of dollars)	Civilian		Military		Total	
	2006	2005	2006	2005	2006	2005
Pension and accrued benefits .....	1,349.0	1,273.8	967.1	895.4	2,316.1	2,169.2
Post-retirement health and accrued benefits .....	295.2	290.7	837.2	833.9	1,132.4	1,124.6
Veterans compensation and burial benefits .....	N/A	N/A	1,153.8	1,122.6	1,153.8	1,122.6
Life insurance and accrued benefits .....	34.2	32.9	-	-	34.2	32.9
FECA benefits .....	14.4	14.3	22.2	22.7	36.6	37.0
Liability for other benefits .....	1.5	1.3	4.4	4.2	5.9	5.5
Total Federal employee and veteran benefits payable.....	<u>1,694.3</u>	<u>1,613.0</u>	<u>2,984.7</u>	<u>2,878.8</u>	<u>4,679.0</u>	<u>4,491.8</u>

### Change in Pension and Accrued Benefits

(In billions of dollars)	Civilian	Military	Total
Actuarial accrued pension liability as of September 30, 2005 .....	1,273.8	895.4	2,169.2
<b>Pension Expense:</b>			
Normal costs .....	26.8	15.6	42.4
Plan amendment changes .....	-	0.1	0.1
Assumption changes .....	1.0	35.4	36.4
Interest on liability .....	78.0	55.0	133.0
Prior (and past) service cost .....	-	-	-
Actuarial (gains)/losses .....	29.7	6.1	35.8
Total pension expense .....	135.5	112.2	247.7
Less benefits paid .....	60.3	40.5	100.8
Actuarial accrued pension liability as of September 30, 2006 .....	<u>1,349.0</u>	<u>967.1</u>	<u>2,316.1</u>

### Significant Long-Term Economic Assumptions Used in Determining Pension Liability and the Related Expense

(In percentages)	Civilian		Military	
	2006	2005	2006	2005
Rate of interest .....	6.25%	6.25%	6.00%	6.25%
Rate of inflation .....	3.50%	3.25%	3.00%	3.00%
Projected salary increases .....	4.25%	4.00%	3.75%	3.75%



### Change in Post-Retirement Health and Accrued Benefits

(In billions of dollars)	Civilian	Military	Total
<b>Actuarial accrued post-retirement health benefits liability, as of September 30, 2005</b> .....	290.7	833.9	1,124.6
<b>Post-Retirement Health Benefits Expense:</b>			
Normal costs.....	11.2	21.0	32.2
Interest on liability.....	17.1	52.9	70.0
Other actuarial (gains)/losses.....	(12.5)	(53.8)	(66.3)
Total post-retirement health benefits expense .....	15.8	20.1	35.9
Less claims paid .....	11.3	16.8	28.1
Actuarial accrued post-retirement health benefits liability, as of September 30, 2006.....	<u>295.2</u>	<u>837.2</u>	<u>1,132.4</u>

### Significant Long-Term Economic Assumptions Used in Determining Post-Retirement Health Benefits and the Related Expense

(In percentages)	Civilian		Military	
	2006	2005	2006	2005
Rate of interest.....	6.25%	6.25%	6.25%	6.25%
Rate of health care cost inflation.....	7.00%	7.00%	6.25%	6.25%

Separate boards of actuaries for OPM and DOD determine the actuarial assumptions used in calculating the pension liability and the post-retirement health benefit liability for the civilian and military personnel. Both boards use generally accepted actuarial methodologies. The board for OPM uses a fixed rate of inflation and projected salary increases over all years for both the pension and post-retirement health benefit liabilities. These rates are shown in the tables above. The board for DOD uses a range of rates for the inflation and the projected salary increases, with an ultimate rate for the long term. The board for DOD also uses different health care cost inflation rates for inpatient, outpatient, and prescription drugs. The long-term ultimate rate is shown in the tables above.

The long-term ultimate rate for fiscal year 2006 of 6.25 percent is shown in the tables above. For disclosure and comparison purposes, DOD's estimate of a single equivalent fixed rate of health care cost inflation for fiscal year 2006 is 7.20 percent, which is an approximation of the single equivalent rate that would produce that same actuarial liability as the actual rates used.

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**Appendix E: Glossary**

(See the Consolidated Glossary - Appendix E in this volume.)

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## Appendix F: List of Abbreviations

ANPV	Actuarial net present value
CFS	Consolidated financial statements
CPI	Consumer Price Index
ED	Exposure draft
FASAB	Federal Accounting Standards Advisory Board
FASB	Financial Accounting Standards Board
GAO	Government Accountability Office
GASB	Governmental Accounting Standards Board
OMB	Office of Management and Budget
OPEB	Other postemployment benefits
ORB	Other retirement benefits
PV	Preliminary Views
RSI	Required supplementary information
SFAS	Statements of Financial Accounting Standards
SFFAC	Statements of Federal Financial Accounting Concepts
SFFAS	Statements of Federal Financial Accounting Standard