



ACTUARIAL STANDARDS BOARD

**Actuarial Standard
of Practice
No. 35**

**Selection of Demographic and
Other Noneconomic Assumptions
for Measuring Pension Obligations**

Revised Edition

**Developed by the
Pension Committee of the
Actuarial Standards Board**

**Adopted by the
Actuarial Standards Board
September 2010**

Updated for Deviation Language Effective May 1, 2011

(Doc. No. 152)

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TO: Members of Actuarial Organizations Governed by the Standards of Practice of the Actuarial Standards Board and Other Persons Interested in the Selection of Demographic and Other Noneconomic Assumptions for Measuring Pension Obligations

FROM: Actuarial Standards Board (ASB)

SUBJ: Actuarial Standard of Practice (ASOP) No. 35

This document contains the final version of a revision of ASOP No. 35, *Selection of Demographic and Other Noneconomic Assumptions for Measuring Pension Obligations*.

Background

The Actuarial Standards Board adopted ASOP No. 35 in 1999 as one of several standards designed to provide guidance on key elements in measuring pension obligations. The Board revised ASOP No. 35 in 2007 to conform with simultaneous revisions made to ASOP No. 4, *Measuring Pension Obligations*.

As mortality rates have continued to decline over time, concern has increased about the impact of potential future mortality improvements on the magnitude of pension commitments. Section 3.5.3 of current ASOP No. 35 lists “the likelihood and extent of mortality improvement in the future” as a factor for the actuary to consider in selecting a mortality assumption. In the view of many actuaries, the guidance regarding mortality assumptions should more explicitly recognize estimated future mortality improvement as a fundamental and necessary assumption, and the actuary’s provision for such improvement should be disclosed explicitly and transparently.

The exposure draft of a revised ASOP No. 35 was issued in December 2009 with a comment deadline of March 31, 2010. The primary change in the exposure draft was that the actuary was required to select and disclose an assumption for future mortality improvement. Seven comment letters were received. The ASB Pension Committee gave serious consideration to each comment. For a summary of the issues contained in these comment letters and the reviewers’ responses, please see appendix 2.

Key Changes

The most significant issue for the ASB Pension Committee was the comment in several letters that future mortality improvement is not certain and that the actuary should have freedom to assume zero future mortality improvement or even assume a reversal of mortality improvement.

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The resources reviewed by the Pension Committee showed that demographers generally expect that mortality will continue to improve. These resources noted that some scientists argue that human life has biological limits, and that the rate of mortality improvement could slow as a result of obesity or other emerging health issues, but that such limits and countervailing factors do not alter the scientific consensus of likely continuing improvements in mortality.

Nonetheless, the Pension Committee concluded that the term “mortality improvement” sufficiently encompasses all possible future circumstances as to the magnitude or direction of anticipated mortality change.

The most significant modifications from the exposure draft are as follows:

1. Section 3.5.3 has been revised to provide guidance with respect to mortality improvement both before and after the measurement date.
2. The examples for incorporating mortality improvement in section 3.5.3 have been removed.
3. Section 3.5.3 now notes that the existence of uncertainty about the occurrence or magnitude of future mortality improvement does not by itself mean that an assumption of zero future improvement is a reasonable assumption.
4. The disclosure in section 4.1.1 has been revised in two ways. First, the actuary’s disclosure around mortality should be sufficient to allow another qualified actuary to understand the assumption made for future improvement. Second, if the actuary assumes zero future improvement, the actuary needs to disclose that assumption explicitly.
5. The formatting in section 4.1 has been changed to comply with standard ASOP format.

The Pension Committee considered recommending to the ASB a requirement that actuaries disclose the rationale for the mortality improvement assumption selected. However, as part of its review of ASOP No. 27, the Pension Committee is considering requiring the actuary to disclose the rationale for the selection of the economic assumptions. Therefore, the Pension Committee decided to defer this issue in ASOP No. 35 until its deliberations on ASOP No. 27 have been completed. The Pension Committee anticipates that the proposed changes to ASOP No. 27 will be accompanied by parallel proposed changes to ASOP No. 35 at that time.

The ASB thanks everyone who took the time to contribute comments and suggestions on the exposure draft.

The ASB adopted this revision at the September 2010 meeting.

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The ASB establishes and improves standards of actuarial practice. These ASOPs identify what the actuary should consider, document, and disclose when performing an actuarial assignment. The ASB's goal is to set standards for appropriate practice for the U.S.

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ACTUARIAL STANDARD OF PRACTICE NO. 35

**SELECTION OF DEMOGRAPHIC AND
OTHER NONECONOMIC ASSUMPTIONS FOR
MEASURING PENSION OBLIGATIONS**

STANDARD OF PRACTICE

Section 1. Purpose, Scope, Cross References, and Effective Date

- 1.1 Purpose—This standard does the following:
- a. provides guidance to actuaries in selecting (including giving advice on selecting) demographic and other noneconomic assumptions for measuring obligations under defined benefit pension plans; and
 - b. expands upon and, in some areas, modifies those provisions of Actuarial Standard of Practice (ASOP) No. 4, *Measuring Pension Obligations*, that relate to the selection and use of demographic and other noneconomic assumptions.
- 1.2 Scope—This standard applies to actuaries when they are selecting demographic and all other assumptions not covered by ASOP No. 27, *Selection of Economic Assumptions for Measuring Pension Obligations*, to measure obligations under any defined benefit pension plan that is not a social insurance program as described in ASOP No. 32, *Social Insurance* (unless an actuarial standard of practice on social insurance explicitly calls for application of this standard). Measurements of defined benefit pension plan obligations include calculations that assign plan costs to time periods, actuarial present value calculations, and estimates of the magnitude of future plan obligations. Measurements of pension obligations do not generally include individual benefit calculations or individual benefit statement estimates.

Throughout this standard, any reference to “selecting” demographic and other noneconomic assumptions also includes “giving advice on selecting” demographic and other noneconomic assumptions.

To the extent that the guidance in this standard may conflict with ASOP No. 4, ASOP No. 4 will govern.

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If the actuary departs from the guidance set forth in this standard in order to comply with applicable law (statutes, regulations, and other legally binding authority), or for any other reason the actuary deems appropriate, the actuary should refer to section 4.

- 1.3 Cross References—When this standard refers to the provisions of other documents, the reference includes the referenced documents as they may be amended or restated in the future, and any successor to them, by whatever name called. If any amended or restated document differs materially from the originally referenced document, the actuary should consider the guidance in this standard to the extent it is applicable and appropriate.
- 1.4 Effective Date—This standard will be effective for any actuarial valuation with a measurement date on or after June 30, 2011.

Section 2. Definitions

The definitions below are defined for use in this actuarial standard of practice.

- 2.1 Assumption Format—The form in which a particular demographic assumption will be used or expressed. In some cases, the assumption will take the form of a table where the probability of the occurrence of a given event depends on parameters such as gender, age, service, or calendar year. In other cases, the assumption may be a point estimate, implying 100% probability of occurrence of a given event at the stated point. An example of a point estimate assumption is an assumption that 100% of the population will retire at age 62. The assumption format may include different tables or point estimates for different segments of the covered population.
- 2.2 Assumption Universe—For each demographic assumption, a universe consisting of the possible options that the actuary might reasonably use for the specific assumption. For example, an assumption universe for a mortality assumption might reasonably include relevant published or proprietary mortality tables and possible adjustments, such as projections of mortality improvement. For some pension plans, an assumption universe for a specific assumption might reasonably include a table or factors developed specifically for that plan.
- 2.3 Demographic Assumptions—Demographic and all other noneconomic assumptions (i.e., those assumptions not covered in ASOP No. 27), unless explicitly stated otherwise.
- 2.4 Measurement Date—The date as of which the value of the pension obligation is determined (sometimes referred to as the *valuation date*).

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- 2.5 Measurement Period—The period subsequent to the measurement date during which a particular demographic assumption will apply in a given measurement.
- 2.6 Prescribed Assumption—A specific assumption that is mandated or that is selected from a specified range or set of assumptions that is deemed to be acceptable by law, regulation, or other binding authority.

Section 3. Analysis of Issues and Recommended Practices

- 3.1 Overview—The actuary should use professional judgment to estimate possible future outcomes based on past experience and future expectations, and select assumptions based upon application of that professional judgment. The actuary should select reasonable demographic assumptions in light of the particular characteristics of the defined benefit plan that is the subject of the measurement. A reasonable assumption is one that is expected to appropriately model the contingency being measured and is not anticipated to produce significant cumulative actuarial gains or losses over the measurement period. For any given measurement, the actuary may be able to identify two or more reasonable assumptions for the same contingency. In some instances, the actuary may present several results to illustrate the effect of alternative reasonable assumptions.
- 3.2 Types of Demographic Assumptions—The types of demographic assumptions used to measure pension obligations may include, but are not necessarily limited to, the following:
- a. retirement;
 - b. mortality and mortality improvement;
 - c. termination of employment;
 - d. disability and disability recovery;
 - e. election of optional forms of benefits; and
 - f. other assumptions, such as administrative expenses; household composition; marriage, divorce, and remarriage; open group assumptions; transfers; hours worked; and assumptions regarding missing or incomplete data.
- 3.3 Demographic Assumption Selection Process—The actuary should follow the general process for selecting demographic assumptions, as discussed below. It is not necessary that the actuary follow this complete process at each measurement date for each

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assumption if, in the actuary's professional judgment, previously selected assumptions continue to be reasonable (see section 3.9).

3.3.1 Identify the Types of Assumptions—The actuary should consider the following factors when identifying which types of demographic assumptions to use for a specific measurement:

- a. the purpose and nature of the measurement;
- b. the plan provisions or benefits and factors that will affect the timing and value of any potential benefit payments;
- c. the characteristics of the obligation to be measured (such as measurement period, pattern of plan payments over time, open or closed group, volatility);
- d. the contingencies that give rise to benefits or result in loss of benefits;
- e. the materiality of each assumption; and
- f. the characteristics of the covered group.

It is not necessary that every contingency should give rise to a separate assumption. For example, for a plan that is expected to provide benefits of equal value to employees who voluntarily terminate employment, become disabled, retire, or die, the actuary may use an assumption that reflects some or all of the above contingencies in combination rather than selecting a separate assumption for each.

3.3.2 Consider the Relevant Assumption Universe—The actuary should consider the assumption universe relevant to each type of assumption identified in section 3.3.1. This may include tables or factors particular to the given plan as well as general tables, factors, and modifications to the tables that are available to actuaries. Sources of information relevant to many demographic assumptions include the following:

- a. experience studies or published tables based on experience under uninsured plans and annuity contracts, or based on any other populations considered representative of the group at hand;
- b. relevant plan or plan sponsor experience, to the extent that it is credible, which may include analyses of gains or losses by source;

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- c. studies or reports of the effects of plan design, specific events (for example, shutdown), economic conditions, or sponsor characteristics on the demographic assumption under consideration; and
- d. studies or reports of general trends relevant to the type of demographic assumption in question (for example, mortality improvement in the United States).

3.3.3 Consider the Assumption Format—The actuary should consider the appropriate format for each demographic assumption. Factors that affect format specification include the following:

- a. the degree to which the assumption format may affect the results;
- b. the availability of tables, data, or information relevant to the assumption being selected;
- c. the degree to which the assumption format has the potential to model anticipated plan experience;
- d. the size of the covered population; and
- e. the degree to which a parameter (such as gender, age, service, or calendar year) is anticipated to affect experience.

In many situations it is appropriate for the format to include assumptions for different segments of the covered population. For example, it may be appropriate to have different mortality tables for males and females or different turnover tables for salaried and hourly employees.

3.3.4 Select the Specific Assumptions—The actuary should select each demographic assumption from the appropriate assumption universe. In all cases, the actuary should consider the materiality of each assumption selected and the consequences of experience deviating significantly from the selected assumption. The actuary should consider measurement-specific factors when selecting assumptions. Examples of such factors are as follows:

- a. the purpose and nature of the measurement; for example, a cash flow projection may require more refined assumptions than a liability measure;

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- b. any features of the plan design or change in the plan design that may influence the assumption; for example, the introduction of an early retirement subsidy could influence the plan's incidence of retirement; under these circumstances, in order to measure the incremental cost associated with this change, the retirement assumption for the proposed plan provision may differ from the retirement assumption for the current provision;
- c. appropriate experience from the specific plan and other relevant sources; and
- d. relevant factors known to the actuary that may affect future experience, such as the economic conditions of the area or industry, availability of alternative employment, or the human resources policy or practices of the employer.

Specific experience of the covered group or other groups with similar characteristics may be useful in forming a judgment about future expectations. However, the actuary should not give undue weight to past experience or to experience that is not sufficiently credible. For example, if recent rates of termination and retirement were largely attributable to a one-time work force reduction, it may be unreasonable to assume that such rates will continue over the measurement period.

3.3.5 Evaluate Reasonableness of the Selected Assumptions—The actuary should evaluate the reasonableness of each material demographic assumption selected. Unless facts and circumstances clearly warrant otherwise, the actuary should base this evaluation on the following criteria:

- a. The assumption is expected to appropriately model the contingency being measured. For example, a reasonable retirement assumption for a plan with a large number of retirements expected to occur at different ages should generally be a set of decrements at a variety of ages instead of at a single age. On the other hand, in a plan with a small number of expected retirements, it may not be possible to model experience any better using rates that vary by age than by using a single age. As a second example, for a plan where a significant portion of the liability is attributable to a single individual, a single retirement age may be appropriate.
- b. The assumption is not anticipated to produce significant cumulative actuarial gains or losses over the measurement period.

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- 3.4 Individual Assumptions—Each individual demographic assumption selected by the actuary should satisfy this standard.
- 3.5 Specific Considerations—When performing the assumption selection process described in section 3.3, the actuary should be aware of specific considerations that may apply to the selection of individual assumptions, as discussed below.
- 3.5.1 Retirement Assumption—The actuary should consider factors such as the following:
- a. the plan design, where specific incentives may influence when participants retire;
 - b. the design of, and date of anticipated payment from, social insurance programs (for example, Social Security or Medicare); and
 - c. the availability of other employer-sponsored postretirement benefit programs (for example, postretirement health coverage or savings plan).
- 3.5.2 Termination of Employment Assumptions—The actuary should consider factors such as the following:
- a. employer-specific or job-related factors such as occupation, employment policies, work environment, unionization, hazardous conditions, and location of employment; and
 - b. plan provisions, such as early retirement benefits, vesting schedule, or payout options.
- 3.5.3 Mortality and Mortality Improvement Assumptions—The actuary should consider factors such as the following in the selection of both mortality and mortality improvement assumptions:
- a. the possible use of different assumptions before and after retirement (for example, in some small plan cases a reasonable model for mortality may be to assume no mortality before retirement);
 - b. the use of a different assumption for disabled lives, which in turn may depend on the plan’s definition of disability and how it is administered;
 - c. the use of different assumptions for different participant subgroups and beneficiaries; and

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The actuary should consider the effect of mortality improvement both prior to and subsequent to the measurement date. With regard to mortality improvement, the actuary should do the following:

- i. adjust mortality rates to reflect mortality improvement prior to the measurement date. For example, if the actuary starts with a published mortality table, the mortality rates may need to be adjusted to reflect mortality improvement from the effective date of the table to the measurement date. Such an adjustment is not necessary if, in the actuary's professional judgment, the published mortality table reflects expected mortality rates as of the measurement date.
- ii. include an assumption as to expected mortality improvement after the measurement date. This assumption should be disclosed in accordance with section 4.1.1, even if the actuary concludes that an assumption of zero future improvement is reasonable as described in section 3.1. Note that the existence of uncertainty about the occurrence or magnitude of future mortality improvement does not by itself mean that an assumption of zero future improvement is a reasonable assumption.

3.5.4 Disability and Disability Recovery Assumption—The actuary should consider factors such as the following:

- a. the plan's definition of disability (for example, whether or not the disabled person is eligible for Social Security benefits); and
- b. the potential for recovery. For example, if the plan requires continued disability monitoring and if the plan's definition of disability is very liberal, an assumption for rates of recovery may be appropriate. Alternatively, the probability of recovery may be reflected by assuming a lower incidence of disability than the actuary might otherwise assume.

3.5.5 Optional Form of Benefit Assumption—The actuary should consider factors such as the following:

- a. the benefit forms and benefit commencement dates available under the plan being valued;
- b. the historical or expected experience of elections under the plan being valued and similar plans; and

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c. the degree to which particular benefit forms may be subsidized.

3.6 Other Demographic Assumptions—The actuary should follow the general selection process outlined in section 3.3 when selecting other assumptions relevant to the measurement. Such assumptions may include the following:

3.6.1 Administrative Expenses Charged to the Plan—The actuary should consider expenses such as investment advisory, investment management, or insurance advisory services, to the extent that the costs of these services are not reflected in the investment return assumption; premiums paid to the Pension Benefit Guaranty Corporation (PBGC); accounting and auditing services; actuarial services; plan administration services; legal services; and trustee services. Formats for this assumption may include a dollar amount, a specific percentage of assets, a specific (and explicitly disclosed) reduction in the investment return assumption, or a percentage of benefit obligation or normal cost.

3.6.2 Household Composition—If household composition affects the payment of benefits, the amount of benefits, or other demographic assumptions, the actuary should make assumptions for household composition and for the demographic characteristics of the household members in the measurement. For example, some plans provide annuity death benefits to surviving children under a stated age. In that case, an assumption as to the number and ages of the potential beneficiaries may be needed.

3.6.3 Marriage, Divorce, and Remarriage—The actuary should consider whether marriage, divorce, or remarriage affects the payment of benefits, the amount or type of benefits, or the continuation of benefit payments. If such an assumption is selected, it may also be necessary to make an assumption regarding beneficiary ages.

3.6.4 Open Group—Certain assumptions, such as the number and characteristics of new entrants, are applicable in open-group measurements.

3.6.5 Hours of Service—Assumptions for hours of service are generally plan- or industry-specific. Separate assumptions may also be needed for such purposes as benefit accrual and total employer plan contributions.

3.6.6 Transfers and Return to Employment—The assumptions for transfers or return to employment are generally plan- or industry-specific. Transfers and return to employment may be one-time events, or may be continual if employees are required or permitted to move between groups that are covered by the same or different plans.

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- 3.6.7 Missing or Incomplete Data—At times, the actuary may find that the data provided are incomplete due to missing elements such as birth dates or hire dates. Provided that the actuary has determined, in accordance with ASOP No. 23, *Data Quality*, that the overall data are of sufficient quality to complete the assignment, the actuary may need to make reasonable assumptions for the missing data elements. In making such assumptions, the actuary should consider the relevant data actually supplied. For example, it may be appropriate to assume a missing birth date is equal to the average birth date for other participants who have complete data and who have the same service credits as the participant whose date of birth is missing.
- 3.7 Consistency Among Demographic Assumptions Selected by the Actuary—With respect to any particular measurement, each demographic assumption selected by the actuary should be consistent with the other assumptions selected by the actuary unless the assumption, considered individually, is not material (see section 3.10.1). For example, if an employer’s business is in decline and the effect of that decline is reflected in the turnover assumption, it should also be reflected in the retirement assumption.
- 3.8 Prescribed Assumptions—When an assumption is prescribed, the actuary is obligated to use it. Examples of prescribed demographic assumptions include the required mortality assumption for determining the present value of vested benefits for PBGC variable-rate premiums and for current liability; and demographic assumptions selected by the plan sponsor for purposes of compliance with *Statement of Financial Accounting Standards No. 87, Employers’ Accounting for Pensions*. As indicated in section 1.2, Scope, this standard does not apply to the selection of prescribed demographic assumptions, although it does apply to the advice that the actuary gives to the party responsible for selecting the prescribed assumptions.
- All nonprescribed demographic assumptions should satisfy this standard. Selection of a demographic assumption that does not satisfy this standard in order to offset the effect of one or more prescribed assumptions is a deviation to which the disclosure requirements of ASOP No. 41, *Actuarial Communications*, section 4.4 apply.
- 3.9 Reviewing Assumptions—At each measurement date the actuary should consider whether the selected assumptions continue to be reasonable. The actuary is not required to do a complete assumption study at each measurement date. However, if the actuary determines that one or more of the previously selected assumptions are no longer reasonable, the actuary should follow the general process described in section 3.3 and select reasonable new assumptions as appropriate.

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- 3.10 Other Considerations—The following issues may also be considered when selecting demographic assumptions:
- 3.10.1 Materiality—The actuary should establish an appropriate balance between refined methodology and materiality. The actuary is not required to use a particular type of demographic assumption or to select a highly refined demographic assumption when it is not expected to affect results materially. For example, the actuary is not required to use termination rates that vary by both age and service when the actuary does not expect them to produce materially different results from rates that vary by age or service alone.
- 3.10.2 Cost Effectiveness—The actuary should also establish an appropriate balance between refined methodology and cost effectiveness. Although all material demographic assumptions should be reflected, highly refined methodology is not required when it is not expected to affect results materially.
- 3.10.3 Combined Effect of Assumptions—The combined effect of all nonprescribed assumptions selected by the actuary (both demographic assumptions selected in accordance with this standard and economic assumptions selected in accordance with ASOP No. 27) should be reasonable. For example, the actuary may have decided not to make any assumption with regard to four different types of future events, each of which alone is immaterial. However, the effect of omitting assumptions for all four types of future events may be a material understatement or overstatement of the measurement results. In these circumstances, the assumptions should be revised.
- 3.10.4 Knowledge Base—The demographic assumptions selected should reflect the actuary’s knowledge as of the measurement date. However, the actuary may learn of an event occurring after the measurement date (for example, plan termination or death of the principal owner), that would have changed the actuary’s selection of a demographic assumption. If appropriate, the actuary may reflect this change as of the measurement date.
- 3.10.5 Advice of Experts—Demographic data and analyses are available from a variety of sources, including representatives of the plan sponsor and administrator, demographers, economists, accountants, and other professionals. When the actuary is responsible for selecting demographic assumptions within the scope of this standard, external expert advice may be considered, but the selection should still reflect the actuary’s professional judgment.

Section 4. Communications and Disclosures

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- 4.1 Disclosures—Pension actuarial communications should contain descriptions of the following items.
- 4.1.1 Assumptions Used—The actuary should disclose each material assumption used in the measurement. Sufficient detail should be shown to permit another qualified actuary to assess the level and pattern of the rates (for example, by supplying the name of a published decrement table or by showing turnover rates at every fifth age for an unpublished age-based table). The disclosure of the mortality assumption should contain sufficient detail to permit another qualified actuary to understand the provision made for future mortality improvement. If the actuary assumes zero mortality improvement after the measurement date, the actuary should state that no provision was made for future mortality improvement.
- 4.1.2 Changes in Assumptions—The actuary should disclose any material changes in the assumptions from those previously used for the same type of measurement. The general effects of any such changes should be disclosed in words or by numerical data, as appropriate.
- 4.1.3 Changes in Circumstances—The actuary should disclose any significant event of which the actuary is aware that has occurred since the measurement date that would have materially changed any of the demographic assumptions selected. The likely effect of any such change should also be described.
- 4.2 Additional Disclosures—The actuary should also include the following, as applicable, in an actuarial communication:
- a. the disclosure in ASOP No. 41, section 4.2, if any material assumption or method was prescribed by applicable law (statutes, regulations, and other legally binding authority); however, if the assumption or method was passed, adopted, or promulgated by the plan sponsor (or by the same governing body that establishes benefits or provides for plan funding) then this guidance does not apply and the actuary should follow guidance of paragraph b. below instead:
 - b. the disclosure in ASOP No. 41, section 4.3, if the actuary states reliance on other sources and thereby disclaims responsibility for any material assumption or method selected by a party other than the actuary; and
 - c. the disclosure in ASOP No. 41, section 4.4, if, in the actuary’s professional judgment, the actuary has otherwise deviated materially from the guidance of this ASOP.

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- 4.3 Required Government Forms—The disclosure requirements in sections 4.1 and 4.2 do not apply to government forms. Instead, the actuary should comply with the instructions for such forms.

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Appendix 1

Background and Current Practices

Note: This appendix is provided for informational purposes, but is not part of the standard of practice.

Background

Actuaries have historically used various practices for selecting the demographic and other noneconomic assumptions they use to measure pension obligations. For example, some actuaries looked to surveys of assumptions used by other actuaries, some relied on detailed research by experts, some used experience studies, and other actuaries used a combination of these practices.

Before computer technology was widely available, actuaries commonly used simplified demographic assumptions that were not necessarily individually reasonable, but that in aggregate produced results the actuary believed to be reasonable. As technological developments made the use of individually reasonable assumptions feasible, many actuaries began selecting economic and demographic assumptions that were individually reasonable. This trend was accelerated by amendments to the Internal Revenue Code effective for plan years beginning after 1987. These amendments require actuaries to determine the minimum required contribution for a qualified pension plan (other than a multi-employer plan) using either individually reasonable assumptions or assumptions that reached the same total contribution determination as would have been reached had each assumption been individually reasonable.

Current Practices

Many actuaries change demographic assumptions infrequently when measuring obligations of ongoing pension plans. Other actuaries assess emerging experience and reevaluate the assumptions as of each measurement date and change demographic assumptions more frequently.

For some purposes, such as funding public employee pension plans, complying with financial accounting rules, or adhering to other requirements, the actuary may advise the plan sponsor about the selection of demographic assumptions. But these assumptions—particularly the mortality assumption or the retirement age assumption—may be prescribed by others. In some of these cases, it is possible that actuaries may have adjusted other assumptions to compensate for the effect of the prescribed assumption.

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The members of the Pension Committee have not encountered any situations in which actuaries are assuming negative future mortality improvement. The resources reviewed by the Pension Committee showed that demographers generally expect that mortality will continue to improve. These resources noted that some scientists argue that human life has biological limits, and that the rate of mortality improvement could slow as a result of obesity or other emerging health issues, but that such limits and countervailing factors do not alter the scientific consensus of likely continuing improvements in mortality.

Nonetheless, the Pension Committee concluded that the term “mortality improvement” sufficiently encompasses all possible future circumstances as to the magnitude or direction of anticipated mortality change.

In preparing calculations for purposes other than ongoing plan valuations, actuaries often use demographic assumptions that are different from those used for the ongoing plan valuation.

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Appendix 2

Comments on the Exposure Draft and Responses

The exposure draft of this proposed revision of this ASOP, *Selection of Demographic and Other Noneconomic Assumptions for Measuring Pension Obligations*, was issued in December 2009 with a comment deadline of March 31, 2010. Seven comment letters were received, some of which were submitted on behalf of multiple commentators, such as by firms or committees. For purposes of this appendix, the term “commentator” may refer to more than one person associated with a particular comment letter. The Pension Committee carefully considered all comments received, reviewed the exposure draft and proposed changes. The ASB reviewed (and modified, where appropriate) the proposed changes.

Summarized below are the significant issues and questions contained in the comment letters and the responses.

The term “reviewers” in appendix 2 includes the Pension Committee and the ASB. Also, unless otherwise noted, the section numbers and titles used in appendix 2 refer to those in the exposure draft.

GENERAL COMMENTS	
Comment	Several commentators opined that not everyone agrees that mortality will continue to improve in all circumstances and suggested that it be made clear that assumed mortality improvement could be positive, negative, or zero. Commentators also suggested that “mortality improvement” be changed to “mortality change.”
Response	The reviewers noted that the current ASOP No. 35 uses the term “mortality improvement” and believe that this term sufficiently encompasses all possible circumstances (positive, negative, or zero). The reviewers clarified the language in section 3.5.3 to reflect circumstances where the actuary, in his or her professional judgment, believes that zero mortality improvement is a reasonable assumption. The reviewers expanded the disclosure requirements in section 4.1.1 to address such circumstances. Further, the reviewers noted in section 3.5.3 that the existence of uncertainty about the occurrence or magnitude of future mortality improvement does not by itself mean that an assumption of zero future improvement is a reasonable assumption.

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Comment	Several commentators believed that the current ASOP provides sufficient guidance on addressing mortality improvement and that the proposed changes in format are overly prescriptive. Another commentator thought the enhanced disclosure requirements of the proposed standard are generally appropriate.
Response	The reviewers disagreed about the sufficiency of the current ASOP and believe that the provisions regarding the selection and disclosure of this assumption need more rigor.
Comment	One commentator thought that mortality was being singled out with respect to incorporating future expectations that differ from current experience.
Response	The reviewers disagreed. The first sentence of section 3.1 applies to all demographic assumptions. This sentence is not being modified by the proposed changes to the standard.
Comment	One commentator argued for some relief in the proposed effective date to accommodate the public sector plan assumption review and adoption cycles.
Response	The reviewers used a deferred effective date in the exposure draft in recognition of the practical considerations regarding the assumption-setting process. The reviewers do not believe that exceptions for certain plans or situations are necessary.
Comment	Two commentators asked that section 3.5.3 be clarified to recognize that other methods for incorporating mortality improvement that were not mentioned as examples could be appropriate.
Response	The reviewers recognized the commentators' point and concluded that enumeration of any methods was not necessary to explain the intent of the ASOP. The reviewers removed the examples for incorporating mortality improvement from the section.
Comment	One commentator suggested that clearer guidance be provided regarding keeping aging mortality tables up to date with recent experience.
Response	The reviewers agreed and expanded section 3.5.3 to address the distinction between mortality improvement prior to the measurement date and mortality improvement subsequent to the measurement date. The reviewers also clarified in section 4.1.1 that the disclosure of the mortality assumption should contain sufficient detail to permit another qualified actuary to understand the provision made for future mortality improvement.

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Comment	One commentator suggested that the standard make clear that the actuary could decide not to include an assumption as to future mortality improvement based on materiality.
Response	The reviewers believe that the existing language on materiality in section 3.10.1 is clear and sufficient, and no change is necessary.
Comment	One commentator, noting the link between ASOP No. 6, <i>Measuring Retiree Group Benefit Obligations</i> , and ASOP No. 35, indicated that the use of mortality improvement assumptions presents complexities for retiree medical evaluations due to the coordination of mortality improvements and changes in aging factors.
Response	The reviewers recognized the complexity of this issue and referred it to the Retiree Group Benefits Subcommittee of the ASB Pension Committee to determine whether any additional guidance in ASOP No. 6 is warranted.
Comment	One commentator suggested changing the reference to <i>Statement of Financial Accounting Standards No. 87</i> in section 3.8 to recognize the recent codification of the FASB Accounting Standards.
Response	The reviewers note that the current revision of guidance regarding the mortality assumption is limited to that topic. Other aspects of ASOP No. 35 are currently under review by the Pension Committee, and this comment will be addressed as part of that review.