



## **ACTUARIAL STANDARDS BOARD**

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### **•EXPOSURE DRAFT•**

**Proposed  
Actuarial Standard  
of Practice**

**Setting Assumptions**

**Comment Deadline:  
April 30, 2017**

**Developed by the  
Assumptions Setting Task Force of the  
General Committee of the  
Actuarial Standards Board**

**Approved for Exposure by the  
Actuarial Standards Board  
December 2016**

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December 2016

**TO:** Members of Actuarial Organizations Governed by the Standards of Practice of the Actuarial Standards Board and Other Persons Interested in Setting Assumptions

**FROM:** Actuarial Standards Board (ASB)

**SUBJ:** Proposed Actuarial Standard of Practice (ASOP)

This document contains the exposure draft of a proposed actuarial standard of practice titled *Setting Assumptions*.

Please review this exposure draft and give the ASB the benefit of your comments and suggestions. Each written response and each response sent by e-mail to the address below by the deadline will be acknowledged, and all such responses will receive appropriate consideration by the drafting committee in preparing the final document for approval by the ASB.

The ASB accepts comments by either electronic or conventional mail. The preferred form is e-mail, as it eases the task of grouping comments by section. However, please feel free to use either form. If you wish to use e-mail, please send a message to **comments@actuary.org**. You may include your comments either in the body of the message or as an attachment prepared in any commonly used word processing format. **Please do not password protect any attachments. If the attachment is in the form of a PDF, please do not copy protect the PDF.** Include the phrase “ASB COMMENTS” in the subject line of your message. Please note: Any message not containing this exact phrase in the subject line will be deleted by our system’s spam filter. Also please indicate in the body of the e-mail if your comments are being submitted on your own behalf or on behalf of a company or organization.

If you wish to use conventional mail, please send comments to the following address:

Setting Assumptions  
Actuarial Standards Board  
1850 M Street, NW, Suite 300  
Washington, DC 20036

The ASB posts all signed comments received to its website to encourage transparency and dialogue. Unsigned or anonymous comments will not be considered by the ASB nor posted to the website. The comments will not be edited, amended, or truncated in any way. Comments will be posted in the order that they are received. Comments will be removed when final action on a proposed standard is taken. The ASB website is a public website, and all comments will be available to the general public. The ASB disclaims any responsibility for the content of the comments, which are solely the responsibility of those who submit them.

**Deadline** for receipt of responses in the ASB office: **April 30, 2017**

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### **Background**

Assumption setting is fundamental to the actuarial services performed by actuaries across all practice areas. The importance of actuarial assumptions continues to increase in the Sarbanes-Oxley environment and since the National Association of Insurance Commissioners promulgated the Model Audit Rule. Actuarial measurements often enter financial statements directly and are an integral part of managing the risk of an entity. In addition, the Public Company Accounting Oversight Board (PCAOB) is reviewing audit guidelines for auditing financial statements that include information provided by specialists, including actuaries (see the PCAOB Staff Consultation Paper No 2015-01 (“SCP”), *The Auditor’s Use of the Work of Specialists*).

While certain practice-specific assumption-setting standards exist (i.e. ASOP No. 27, *Selection of Economic Assumptions for Measuring Pension Obligations*, and ASOP No. 35, *Selection of Demographic and Other Noneconomic Assumptions for Measuring Pension Obligations*), and assumption-setting guidance is included within certain other standards (for example, ASOP No. 43, *Property/Casualty Unpaid Claim Estimates*), there remain gaps in guidance. The ASB believes it would be useful to issue a standard on assumption setting for all practice areas that will supplement the guidance that currently exists. Accordingly, in January 2016, the ASB created a multi-disciplinary task force under the direction of the General Committee to draft a standard on assumption setting for all practice areas. This exposure draft is the result of the work of that task force.

### **Request for Comments**

The ASB appreciates comments on all areas of this proposed standard and would like to draw readers’ attention to the following areas in particular:

1. In some circumstances, the setting of assumptions is largely inseparable from the selection of methodology. The standard addresses this issue by including such methodology in the discussion of “assumptions” in section 1.2. Is this sufficiently clear?
2. Does the proposed standard provide appropriate guidance across all practice areas? If not, how should the guidance be modified?
3. Is the proposed standard clear on how to handle conflicts with practice-specific ASOPs? If not, how could it be improved?
4. Would it be helpful to define additional terms in section 2? If so, what terms?
5. Is the guidance in section 3.1.3(b) that the actuary should consider the reasonableness of the results from using the assumptions, and not simply the reasonableness of each individual assumption, clear and appropriate?

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6. Does the proposed standard appropriately address sensitivity analysis as discussed in section 3.2?
7. Are the disclosures about assumptions and changes in assumptions in section 4.1 of the proposed standard clear and appropriate?

The ASB voted in December 2016 to approve this exposure draft.

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### Assumptions Setting Task Force

Maria M. Sarli, Chairperson

Shawna S. Ackerman	Margaret Tiller Sherwood
Ralph S. Blanchard III	Mary H. Simmons
Raymond R. Brouillette	

### General Committee

Maria M. Sarli, Chairperson

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*The Actuarial Standards Board (ASB) sets standards for appropriate actuarial practice in the United States through the development and promulgation of Actuarial Standards of Practice (ASOPs). These ASOPs describe the procedures an actuary should follow when performing actuarial services and identify what the actuary should disclose when communicating the results of those services.*

**PROPOSED ACTUARIAL STANDARD OF PRACTICE**

**SETTING ASSUMPTIONS**

**STANDARD OF PRACTICE**

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

- 1.1 **Purpose**—This standard provides guidance to actuaries when performing actuarial services that include setting assumptions or assessing the reasonableness of assumptions set by others.
- 1.2 **Scope**—Except as provided below, this standard applies to the setting of assumptions in all practice areas. In some circumstances, the setting of assumptions is largely inseparable from the selection of methodology. This standard should be understood to include the selection of methodology and the matching of assumptions to the selected methodology in such situations.

When assumptions are to be used in an actuarial work product, this standard applies when the actuary is setting assumptions or assessing the reasonableness of assumptions set by others. Any reference to setting assumptions includes giving advice on setting assumptions when another party is ultimately responsible for setting those assumptions. Setting assumptions includes, but is not limited to, activities that may variously be referred to as developing, selecting or choosing assumptions, and may include an analysis of **data** or experience, industry studies, trends, economic forecasts and other analyses, as appropriate. This standard also provides guidance if an actuary uses an assumption set by others.

To the extent guidance in this standard may conflict with practice area or activity specific ASOPs that provide guidance on setting assumptions, those ASOPs will govern. If a conflict exists between this standard and applicable law (statutes, regulations, and other legally binding authority), the actuary should comply with applicable law.

If the actuary departs from the guidance set forth in this standard in order to comply with applicable law, 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.

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- 1.4 Effective Date—This standard will be effective **information date** on or after twelve months Board.

Should not the term "Assumption" be defined here? In particular, I suggest consideration be given to distinguishing between "historical" and "prospective" assumptions and why assumptions reflecting the past (i.e. "historical") experience may be necessary. For example, source selection, sampling, credibility, and/or work-effort involved in capturing "actual" or historical/concurrent data.

### Section 2. Definitions

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

- 2.1 Data—Numerical, census, or classification information but not general or qualitative information. Assumptions are not **data**, but **data** are commonly used in the development of assumptions.
- 2.2 Entity—An institution, company, corporation, partnership, government agency, university, employee benefit plan, or other organization for which the actuarial services are being provided, or which is the subject of the actuarial services.
- 2.3. Information Date—The date through which **data** and other information have been considered in setting assumptions.
- 2.4 Prescribed Assumptions Set by Law—Specific assumptions that are mandated or that are selected from a specified range or set of assumptions that are deemed to be acceptable by applicable law (statutes, regulations, and other legally binding authority). For this purpose, an assumption selected by a governmental entity for a program that such governmental entity or a political subdivision of that entity directly or indirectly sponsors is not a prescribed assumption set by law.

### Section 3. Analysis of Issues and Recommended Practices

- 3.1 Setting or Assessing the Reasonableness of Assumptions—The actuary should use professional judgment when setting assumptions or assessing whether assumptions set by the principal or another party are reasonable.
- 3.1.1 General Considerations—The actuary should set assumptions that are reasonable for the intended purpose, or, if other parties have the responsibility for setting assumptions, assess whether the assumptions set by others are reasonable for the intended purpose. The actuary should consider the following:
- a. the nature of the assignment;
  - b. available and relevant **data**, including, where appropriate, the credibility of any such **data** as discussed in ASOP No. 25, *Credibility Procedures*;
  - c. other available and relevant information; and



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- d. whether there are reasons to expect that future experience will differ significantly from past experience.

3.1.2 Adjustments for Data Deficiencies—The actuary should consider to what extent it is appropriate to adjust assumptions to compensate for known deficiencies in the available **data**. The actuary should document any such adjustments made and should consider making disclosures, as appropriate, of any such adjustments.

3.1.3 Reasonableness of Assumptions—When assessing the reasonableness of assumptions, the actuary should do the following:

- a. consider the reasonableness of the material assumptions underlying each component of the methodology used. Where applicable, as described in section 1.2, this includes consideration of the reasonableness of the methodology selected. The actuary should consider to what extent it is appropriate to use assumptions (and methods, where applicable as described in section 1.2) that have a known tendency to significantly underestimate or overestimate the result.

I may be misinterpreting this, but is this saying that the actuary should "deem" prescribed assumptions to be reasonable even if the actuary does not believe they are reasonable.

I believe that this standard should require that the actuary identify and discuss assumptions prescribed by law used for the results that the actuary does not believe are reasonable. Or, as a minimum, state that such assumptions were not reviewed for reasonableness.

assess whether a set of assumptions is reasonable in the aggregate. For example, while assumptions might appear to be reasonable individually, prudence or optimism in multiple assumptions may result in a set of assumptions that is no longer reasonable. The actuary should consider the following:

1. if no **prescribed assumptions set by law** are used, whether the results of the analysis are reasonable; and
2. if one or more **prescribed assumptions set by law** are used, whether the results of the analysis are reasonable treating the **prescribed assumptions set by law** as assumptions that are deemed reasonable and are independent of the other assumptions used.

If the results of the analysis using the set of assumptions are not reasonable, the actuary should review the set of assumptions to determine whether adjustments are needed.

- c. ensure that assumptions are not set for the purpose of counteracting the effect of **prescribed assumptions set by law**;

- d. determine whether material assumptions, other than **prescribed assumptions set by law**, are reasonably consistent. The actuary should disclose any material inconsistency, and the reasons therefor, in the actuarial communication in accordance with section 4.1(d); and

I can't think of a specific example, but this sounds a little too definitive. It seems to me that there might be a situation when an assumption may appropriately offset a prescribed assumption - knowingly and/or unknowingly.

As for item a.2. above, I believe the actuary should review the prescribed assumptions for consistency as well - even though they, of course, cannot be changed.

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- e. to the extent known to the actuary, consider consistency of assumptions with similar assumptions used for other assignments within the **entity**.

3.1.4 Margins for Adverse Deviations—Where the purpose of the measurement allows for margins for adverse deviation, the actuary should consider whether it is appropriate to adjust the assumptions by including such margins, or choose assumptions that have already been adjusted. For example, such margins may be included to allow for uncertainty in the underlying **data** or assumptions. The actuary should disclose, in accordance with section 4.1(a), any explicit adjustments made to material assumptions.

I suggest that this section discuss the difference between "implicit" margins in the assumptions themselves versus "explicit" margins. Also should we state a preference for "explicit" versus "implicit" margins? Or, at least the need for some kind of quantification of any "implicit" margin.

5 Changes in Conditions—The actuary should consider any material changes in conditions or experience that were known to the actuary by the **information date** and that might cause assumptions that reflect prior conditions or experience to no longer be appropriate. Examples of changes in conditions include the following:

- a. internal circumstances regarding the **entity** such as changes in claims processing or changes in the mix of business; or
- b. external circumstances affecting the **entity** such as changes in the economic, legislative, regulatory, demographic, technological, and social environments.

3.2 Alternative Assumptions and Sensitivity—If appropriate to the intended purpose, the actuary should consider using sensitivity analysis to evaluate the potential effects of reasonable alternative assumptions on the findings.

3.3 Prescribed Assumptions Set by Law—Assumptions may be set by the actuary or set by the principal or another party, or may be **prescribed assumptions set by law**. Section 3 of this ASOP does not apply to **prescribed assumptions set by law**, and the actuary should refer to section 4.2 of this ASOP.

3.4 Reliance on Others—**Data** and analyses relevant to the assumptions may be available from a variety of sources, including the principal, representatives of the **entity**, investment advisers, demographers, economists, scientists, statisticians, health care providers, and other professionals. When the actuary is responsible for setting assumptions or assessing the reasonableness of assumptions set by others within the scope of this standard, the actuary may consider and incorporate the views of such experts, but the setting or assessment of assumptions should reflect the actuary's professional judgment. If the actuary states reliance on other sources and disclaims responsibility for any material assumption selected by a party other than the actuary, the actuary should disclose such reliance in accordance with section 4.2(b).

In addition, the various elements of an assignment may require expertise in different actuarial practice areas. In recognition of the complexities involved, two or more actuaries with complementary qualifications in different practice areas may collaborate

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on an assignment, with each responsible for certain assumptions. Each actuary may concentrate on his or her area of expertise, and the actuaries may issue a joint actuarial report indicating, in accordance with section 4.1(e), the assumptions for which each takes professional responsibility. In the absence of a joint report with such a disclaimer, or the disclaimer described in section 4.2(b) and in ASOP No. 41 sections 3.4.4(b)(2) and (3), the actuary or actuaries signing the report will be assumed to have taken responsibility for all assumptions, as described in section 4.1(e).

- 3.5 Assumptions Set by Others—In assessing whether assumptions set by the principal or another party are reasonable, the actuary should follow the guidance in section 3 of this ASOP. Where the actuary disclaims responsibility for the assumptions set by the principal or another party, the actuary should provide appropriate disclosure as discussed in section 4.2(b) and in ASOP No. 41 section 3.4.4(b). In determining whether to use assumptions selected by others for which the actuary disclaims responsibility, the actuary should be guided by Precept 8 of the *Code of Professional Conduct*, which states, “An Actuary who performs Actuarial Services shall take reasonable steps to ensure that such services are not used to mislead other parties.”

### Section 4. Communications and Disclosures

Actuarial Communications—For any actuarial communication that uses the results of work subject to this ASOP, the actuary should refer to ASOP No. 41, *Actuarial Communications*. In addition, in the actuarial report, or, if there is no actuarial report, the communication of the findings, the actuary should disclose the following, if practical and relevant:

- a. material assumptions in sufficient detail to permit another qualified actuary to assess the reasonableness of the assumptions, including rationale if necessary for this purpose. The description should include a disclosure of an explicit margin for adverse deviations, as discussed in section 3.1.4;
- b. material changes in assumptions since the most recent comparable actuarial results communicated;
- c. the application of guidance from ASOP No. 41 sections 3.4.6 and 4.1.3(i) with respect to subsequent events or changes in circumstances that become known to the actuary after the **information date** and that may have otherwise affected assumptions set as of the **information date**;
- d. material inconsistencies among assumptions and the reasons for such inconsistencies, as discussed in section 3.1.3(d). However, in the case of **prescribed assumptions set by law**, the actuary’s disclosure may be limited to identifying the possibility of an inconsistency with other assumptions; and

Should not discuss include any "implicit margin" inherent in any of the assumptions? I view "explicit margin" as distinct from the section 3.1.4 reference to "explicit adjustments made to material assumptions".

I suggest appending "as known by the actuary" to this sentence.

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- e. the aspect of the work for which the actuary is taking responsibility, including the setting of specific assumptions, as discussed in section 3.4. If an actuarial communication does not indicate otherwise, all actuaries who issued it will be considered to have taken responsibility for the assumptions and should satisfy the guidance in this standard.

4.2 Additional Disclosures—The actuary should also include the following disclosures, as applicable, in an actuarial communication:

- a. the disclosure in ASOP No. 41, section 4.2, of any **prescribed assumptions set by law**;
- 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 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.

## **Appendix**

### **Background and Current Practices**

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

#### **Background**

Assumptions have always played a fundamental role in actuarial work for every discipline, and setting of assumptions is an integral part of an actuary's responsibilities.

Historically, actuaries have used various practices for setting assumptions. For example, actuaries have used the actual experience of the entity being modeled, relied on detailed research by experts, used highly sophisticated projection techniques, and relied on their own professional judgement. Most actuaries have used a combination of these and other approaches.

Assumptions are set in order to produce estimates in conditions of uncertainty. Even assumptions that are prudently developed and carefully used cannot eliminate inherent uncertainty and variability, and actual experience may differ, sometimes significantly, from the estimates derived using assumptions. These differences, by themselves, do not indicate a flawed assumption setting process or noncompliance with standards.

While the setting of assumptions has always been an important part of actuarial practice, the importance of disclosing assumptions is increasing with the move to more principles-based financial reporting measurements and the increased focus on whether entities are properly funded or reserved to meet their obligations. Financial audits, reviews, and examinations also have evolved significantly in the last ten years. Sarbanes-Oxley and the Model Audit Rule promulgated by the National Association of Insurance Commissioners also have focused additional attention on assumptions. Furthermore, audits and examinations are increasingly conducted on a risk-focused basis, which contributes to the need for assumption-setting guidance.