



ACTUARIAL STANDARDS BOARD

•SECOND EXPOSURE DRAFT•

**Proposed
Actuarial Standard
of Practice**

Setting Assumptions

**Comment Deadline:
July 31, 2019**

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

**Approved for Exposure by the
Actuarial Standards Board
March 2019**

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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 Setting Assumptions

FROM: Actuarial Standards Board (ASB)

SUBJ: Proposed Actuarial Standard of Practice (ASOP)

This document contains the second exposure draft of a proposed ASOP, *Setting Assumptions*. Please review this exposure draft and give the ASB the benefit of your comments and suggestions. Each written comment letter or e-mail received by the comment deadline will receive consideration by the drafting committee and 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 embed your comments in the exposure draft and 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 (second exposure draft)
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. Comments received after the deadline may not be considered. Anonymous comments will not be considered by the ASB nor posted to the website. Comments will be posted in the order that they are received. All posted comments will be available to the general public on the ASB website. The ASB disclaims any responsibility for the content of the comments, which are solely the responsibility of those who submit them.

For more information on the exposure process, please see the ASB Procedures Manual.

Deadline for receipt of responses in the ASB office: **July 31, 2019**

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History of the Standard

Assumptions are 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, since the National Association of Insurance Commissioners promulgated the Model Audit Rule, and with the increased use of principle-based reserves and capital. 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-area assumption-setting standards exist (for example, 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 setting assumptions 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.

First Exposure Draft

The first exposure draft was issued in December 2016 with a comment deadline of April 30, 2017. Forty-five comment letters were received and considered in making changes that are reflected in the second exposure draft. For a summary of issues contained in these comment letters, please see appendix 2.

Notable Changes from the First Exposure Draft

The second exposure draft reflects significant revisions to coordinate with changes made to the proposed *Modeling* ASOP and in response to comments received on the first exposure draft of the proposed *Setting Assumptions* ASOP.

Changes made to the first exposure draft are listed below.

1. Section 1.2, Scope was revised as follows:
 - to indicate that this standard applies to actuaries “when performing actuarial services that require the setting of assumptions for which the actuary is taking responsibility, giving advice on setting assumptions, or assessing the reasonableness of assumptions set by others”;

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- to indicate that when an actuary is assessing the reasonableness of assumptions set by others, the actuary should follow the guidance in section 3 to the extent practicable;
 - to clarify which ASOP will govern if another ASOP provides guidance on setting assumptions;
 - to eliminate the concept of using assumptions in an actuarial work product; and
 - to eliminate the reference to the selection of methodology and the matching of assumptions to the selected methodology.
2. Section 2, Definitions, was revised by deleting the term “entity,” modifying the terms “data” and “information date” to be consistent with those in other ASOPs, and adding the terms “assumption” and “prescribed assumption set by another party.”
 3. Section 3.1.2, Adjustments for Data Deficiencies, was deleted and the concept incorporated into revised sections 3.2 and 3.3.
 4. The reference to sensitivity testing in section 3.2 was eliminated because it is outside the revised scope of the standard.
 5. The discussion of margins for adverse deviation was replaced with section 3.3, Assumption Margins.
 6. The discussions of consistency of assumptions (revised section 3.5) and the reasonableness of the assumptions in the aggregate (revised section 3.6) were clarified to apply to “assumptions for which the actuary is taking responsibility.”
 7. The proposed standard was modified to no longer include discussion of reasonableness of results. Revised section 3.4 provides characteristics of reasonable assumptions, and revised section 3.6 states, “...the actuary should set assumptions for which the actuary is taking responsibility that, in the actuary’s professional judgment, are reasonable in the aggregate.”
 8. The guidance for actuaries collaborating on an assignment was deleted as this topic is covered by ASOP No. 41, *Actuarial Communications*, section 3.4.4. In addition, section 3.9, Reliance on Assumptions Set by Another Actuary, was added.
 9. Section 3.11, Documentation, was added to be consistent with other ASOPs.

The ASB voted in March 2019 to approve this second exposure draft.

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Assumptions Task Force

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General Committee of the ASB

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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 actuarial standard of practice (ASOP or standard) provides guidance to actuaries when performing actuarial services that involve setting **assumptions**.

1.2 Scope—This standard applies to actuaries when performing actuarial services that require the setting of **assumptions** for which the actuary is taking responsibility, giving advice on setting **assumptions**, or assessing the reasonableness of **assumptions** set by others.

Setting **assumptions** includes, but is not limited to, activities that may variously be referred to as developing or selecting **assumptions**, and may include an analysis of **data** or experience, industry studies, trends, economic forecasts, and other analyses, as appropriate.

Throughout this standard, any reference to setting **assumptions** also includes giving advice on setting **assumptions**. If the actuary's actuarial services involve assessing the reasonableness of **assumptions** set by others, the actuary should follow the guidance in section 3 to the extent practicable.

Judgmental adjustments or **assumptions** applied to **data**, as described in section 3.4(c) of ASOP No. 23, *Data Quality*, are not within the scope of this ASOP.

Other ASOPs may provide guidance on setting **assumptions**. If the actuary determines that the guidance in this standard conflicts with a practice-area ASOP, the practice-area ASOP governs. If the actuary determines that the guidance in this ASOP conflicts with a cross-practice ASOP (applies to all practice areas), this ASOP governs.

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. If a conflict exists between this standard and applicable law, the actuary should comply with applicable law.

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 is effective for any actuarial work involved in setting **assumptions** performed on or after 12 months after adoption by the Actuarial Standards Board.

Section 2. Definitions

The terms below are defined for use in this actuarial standard of practice and appear in bold throughout the ASOP.

- 2.1 Assumption—A value that represents expectations, represents possibilities based on professional judgment, or may be prescribed by law or by others.
- 2.2 Data—Numerical, census, or classification information, or information derived mathematically from such items, but not general or qualitative information. **Assumptions** are not **data**, but **data** are commonly used in the development of **assumptions**.
- 2.3 Information Date—The date through which **data** and other information have been taken into account in setting **assumptions** reflected in an actuarial communication. The **information date** may be earlier than the date of any actuarial communication related to the actuarial services, and it may be earlier or later than other relevant dates, such as the date as of which an obligation is measured.
- 2.4 Prescribed Assumption Set by Another Party—A specific **assumption** that is set by another party, to the extent that law, regulation, or accounting standards gives the other party responsibility for setting such **assumption**. For this purpose, an **assumption** set by a governmental entity for a program that such governmental entity or a political subdivision of that entity directly or indirectly sponsors is a **prescribed assumption set by another party**.
- 2.5 Prescribed Assumption Set by Law—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 applicable law (statutes, regulations, and other legally binding authority). For this purpose, an **assumption** set 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**.

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Section 3. Analysis of Issues and Recommended Practices

- 3.1 General Considerations—The actuary should identify and set **assumptions** that take into account the following:
- a. the purpose of the assignment;
 - b. the guidance in ASOP No. 23, in the consideration and the choice of **data** underlying the **assumptions**; and
 - c. the guidance in ASOP No. 25, *Credibility Procedures*, in the consideration of the credibility of **data** underlying the **assumptions**.
- 3.2 Information Used When Setting Assumptions—When setting **assumptions** for which the actuary is taking responsibility, the actuary should consider using the following information:
- a. actual experience adjusted to current conditions where applicable, to the extent it is available, relevant, and sufficiently reliable;
 - b. other relevant and sufficiently reliable experience, such as industry experience that is properly modified to reflect the circumstances being modeled, if actual experience is not available or relevant, or is not sufficiently reliable;
 - c. future expectations or estimates inherent in market **data** when available and appropriate, or a combination of both; or
 - d. other relevant sources of information.
- 3.3 Assumption Margins—If the purpose of the assignment allows for provisions for margins, the actuary should consider the appropriateness of including a margin in the **assumption**. When setting a margin, the actuary should take into account the following:
- a. the degree to which there is uncertainty around the **assumption** due to lack of relevant, credible company or industry experience **data** to support the **assumption**; and
 - b. whether the degree of uncertainty may vary over different periods of time within the time horizon of the assignment.
- 3.4 Reasonableness of Assumptions—For assumptions for which the actuary is taking responsibility, the actuary should set **assumptions** that are reasonable. For this purpose, an **assumption** is reasonable if it has the following characteristics:
- a. it is appropriate for the purpose of the assignment;

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- b. it reflects the actuary’s professional judgment;
 - c. it takes into account experience, as discussed in section 3.2; and
 - d. it is expected to have no significant bias (i.e., it is not significantly optimistic or pessimistic) relative to the purpose of the assignment, except when a margin is included (as discussed in section 3.3).
- 3.5 Consistency of Assumptions—If the assignment requires the actuary to set multiple **assumptions**, the actuary should set **assumptions** for which the actuary is taking responsibility that are reasonably consistent with one another.
- 3.6 Reasonable Assumptions in the Aggregate—If the assignment requires the actuary to set multiple **assumptions**, the actuary should set **assumptions** for which the actuary is taking responsibility that, in the actuary’s professional judgment, are reasonable in the aggregate.
- 3.7 Subsequent Events—After the **information date**, if the actuary becomes aware of a subsequent event that could result in a material change in **assumptions**, the actuary should refer to the guidance in ASOP No. 41, *Actuarial Communications*.
- 3.8 Reliance on Data or Other Information Supplied by Others—When relying on **data** or other information supplied by others, the actuary should refer to ASOP Nos. 23 and 41 for guidance.
- 3.9 Reliance on Assumptions Set by Another Actuary—The actuary may rely on **assumptions** set by another actuary. However, the relying actuary should be reasonably satisfied that the other actuary’s **assumption** setting was performed in accordance with the appropriate ASOPs and is appropriate for the assignment. The actuary should disclose the extent of any such reliance.
- 3.10 Reliance on Assumptions Set by Others—When relying on **assumptions** set by others, the actuary should refer to ASOP No. 41 for guidance. The actuary should disclose the extent of any such reliance.
- 3.11 Documentation—The actuary should consider preparing and retaining documentation to support compliance with the requirements of section 3 and the disclosure requirements of section 4. When preparing documentation, the actuary should prepare such documentation in a form such that another actuary qualified in the same practice area could assess the reasonableness of the actuary’s work or could assume the assignment if necessary. The degree of such documentation should be based on the professional judgment of the actuary, and may vary with the complexity and purpose of the actuarial services. In addition, the actuary should refer to ASOP No. 41, section 3.8, for guidance related to the retention of file material other than that which is to be disclosed under section 4.

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Section 4. Communications and Disclosures

- 4.1 Required Disclosures in an Actuarial Report—When issuing an actuarial report to which this standard applies, the actuary should refer to ASOP Nos. 23, 25, and 41. In addition, the actuary should disclose the following in such actuarial reports:
- a. a description of each significant **assumption**;
 - b. the information and analysis used for setting each significant **assumption** in sufficient detail to permit another qualified actuary to assess the reasonableness of the **assumption**; and
 - c. material changes in significant **assumptions** since the most recent comparable actuarial findings communicated, to the extent known and readily available.
- 4.2 Additional Disclosures—The actuary also should include the following disclosures, when applicable, in an actuarial report:
- a. any provisions for margins, as discussed in section 3.3;
 - b. the extent of any reliance on **assumptions** set by another actuary, as discussed in section 3.9;
 - c. the extent of any reliance on **assumptions** set by others, as discussed in section 3.10;
 - d. the disclosure in ASOP No. 41, section 4.2, of any **prescribed assumptions set by law** and **prescribed assumptions set by another party**;
 - e. 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
 - f. 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.
- 4.3 Confidential Information—Nothing in this ASOP is intended to require the actuary to disclose confidential information.

Appendix 1

Background and Current Practices

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

Assumptions have always played a fundamental role in actuarial work for every discipline. Actuaries set assumptions, give advice on setting assumptions, and assess the reasonableness of assumptions set by others.

Historically, actuaries have used various approaches to setting and evaluating 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 judgment. Most actuaries have used a combination of these and other approaches.

Assumptions are set in order to produce estimates under 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. Similarly, the fact that different actuaries may apply different professional judgment and may choose different reasonable assumptions does not indicate a flawed assumptions-setting process.

While the setting of assumptions always has 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 attention on assumptions. Furthermore, audits and examinations are increasingly conducted on a risk-focused basis, which contributes to the need for guidance on setting assumptions.

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Appendix 2

Comments on the First Exposure Draft and Responses

The first exposure draft of the proposed *Setting Assumptions* ASOP was issued in December 2016 with a comment deadline of April 30, 2017. Forty-five 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 Task Force and General Committee carefully considered all comments received, and the ASB reviewed (and modified, where appropriate) the changes proposed by the General Committee.

Summarized below are the significant issues and questions contained in the comment letters and the responses. Minor wording or punctuation changes that are suggested but not significant are not reflected in the appendix, although they may have been adopted.

The term “reviewers” in appendix 2 includes the Task Force, General Committee, and the ASB. Also, the section numbers and titles used in appendix 2 refer to those in the first exposure draft, which are then cross referenced with those in the second exposure draft.

TRANSMITTAL MEMORANDUM	
Question 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?	
Comment	Many commentators felt the proposed ASOP was sufficiently clear. However, others felt that it was not clear.
Response	The proposed standard has been modified to no longer state that it applies to the selection of methodology when it is largely inseparable from the selection of assumptions. This exposure draft includes a definition of assumption that limits the term “assumption” to a value. <i>Note: As this concept has been deleted, comments with specific suggestions in response to this question are not included in this appendix 2.</i>
Question 2: Does the proposed standard provide appropriate guidance across all practice areas? If not, how should the guidance be modified?	
Comment	Many commentators who addressed the question felt that the proposed standard provided appropriate guidance across all practice areas. Several commentators who were supportive of the standard indicated that it will improve actuarial practice and noted, for example, that the pension practice has comprehensive assumption setting standards but that other practices do not.
Comment	Several commentators asked where gaps exist in guidance on assumption setting, and questioned whether there is really an urgent need to reduce the risk of unskilled or unprofessional assumption setting by actuaries. Others noted that much of the guidance is common sense and thus might not be useful, and may in fact hinder actuaries’ work by making them believe they need to list every assumption that was made in their reports to avoid scrutiny, and that listing many, many assumptions does not increase the public’s trust in the actuarial profession, and may do the opposite. Other commentators indicated that there was too much overlap and redundancy with other cross-practice ASOPs (for example, ASOP No. 41, <i>Actuarial Communications</i> ; ASOP No. 23, <i>Data Quality</i> ; and the proposed Modeling ASOP). The commentators indicated that, if those ASOPs are deficient in some way, they should be modified, rather than adopting this ASOP.

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Response	<p>Other commentators indicated that this ASOP was too generic to be useful, and urged the ASB to withdraw this proposed standard and to focus on any specific practice areas that lack needed guidance, rather than imposing a new ASOP that will duplicate, complicate, or conflict with the guidance already contained in existing practice-specific or activity-specific ASOPs.</p> <p>The reviewers disagree. Because assumption setting is fundamental to the work of actuaries and because there may be gaps in guidance on setting assumptions, the reviewers believe additional guidance on setting assumptions should be considered.</p>
Comment	<p>Several commentators noted that recently updated, comprehensive, practice-specific assumption-setting standards already exist for the measurement of pension obligations in ASOP No. 27, <i>Selection of Economic Assumptions for Measuring Pension Obligations</i> and ASOP No. 35, <i>Selection of Demographic and Other Noneconomic Assumptions for Measuring Pension Obligations</i>, and it is not clear why the overlay of this additional standard would be helpful for this area of practice.</p>
Response	<p>The reviewers note that this is a cross-practice ASOP and there may be gaps in guidance on setting assumptions. The reviewers also note that revised section 1.2 states, “If the actuary determines that the guidance in this standard conflicts with a practice-area ASOP, the practice-area ASOP governs.”</p>
Comment	<p>One commentator believes this draft is too generic and provided examples of what should be included.</p>
Response	<p>The reviewers note that a cross-practice ASOP cannot provide detailed guidance for any specific practice area. Therefore, the reviewers made no change in response to this comment.</p>
Comment	<p>One commentator suggested that the scope section clarify how this standard applies to reviewing actuaries under ASOP No. 21, <i>Responding to or Assisting Auditors or Examiners in Connection with Financial Audits, Financial Reviews, and Financial Examinations</i>, and two commentators suggested that ASOP No. 21 provides sufficient guidance for the reviewing actuary and thus this standard should not apply.</p>
Response	<p>The reviewers believe the revised section 1.2 adequately addresses this comment.</p>
<p>Question 3: Is the proposed standard clear on how to handle conflicts with practice-specific ASOPs? If not, how could it be improved?</p>	
Comment	<p>Most commentators who addressed the question felt that the standard was clear on how to handle conflicts with practice-specific ASOPs.</p>
Comment	<p>One commentator indicated that section 1.2, Scope, would instruct actuaries to follow the Modeling ASOP if using a model (since that is an activity-specific ASOP), and that most actuarial services involve modeling, so it would be preferable to narrow the scope for this ASOP, instead of having the large majority of this proposed standard rendered moot due to the proposed Modeling ASOP.</p> <p>Other commentators also questioned how it would be resolved if two different related ASOPs (for example, the proposed Modeling ASOP and this ASOP) each deferred to the other regarding assumptions, creating a circular reference.</p> <p>Another commentator indicated that wording differences between this proposed standard and existing standards (specifically ASOP No. 27) make it difficult to determine with assurance whether or not there is a conflict, or if this proposed standard requires additional disclosures.</p> <p>Another commentator indicated that the proposed standard does not specifically address other practice-specific ASOPs, and that a concise statement as to the prioritization could be included.</p>
Response	<p>The reviewers believe these issues have been addressed in the revised section 1.2.</p>

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Comment	One commentator indicated that conflicts with other ASOPs should be documented in the same manner that conflicts with applicable law are documented. Another commentator suggested adding “If the actuary departs from the guidance set forth in this standard in order to follow a practice area or activity specific ASOP or to comply with applicable law, or for any other reason the actuary deems appropriate, the actuary should refer to section 4.”
Response	The reviewers disagree and made no change in response to these comments.
Comment	One commentator suggested that the words “those ASOPs will govern” be changed to “the practice area or activity-specific ASOPs will govern.”
Response	The reviewers believe this issue has been addressed in the revised section 1.2.
Comment	One commentator suggested that this ASOP be the governing standard for setting assumptions, and that the ASOP clarify that it takes precedence when application overlaps with other ASOPs, instead of serving as supplemental guidance where more specific guidance exists. The commentator questioned the value of this ASOP if the more specific standards governed in the event of a conflict.
Response	The reviewers disagree and made no change in response to this comment.
Comment	One commentator suggested that the standard also address how the actuary should handle conflicts with standards promulgated by other professional organizations (for example, the Public Company Accounting Oversight Board (PCAOB), the U.S. Securities and Exchange Commission (SEC), Financial Accounting Standards Board (FASB)).
Response	The reviewers disagree, note that all standards permit an actuary to deviate from the standard with disclosure (section 4.2(f)), and made no change in response to this comment.
Comment	One commentator noted that section 3.3 states that assumptions prescribed by law are not subject to section 3, and refers the reader to section 4.2, which refers to ASOP No. 41, section 4.2. However, section 4.1(d) also references assumptions prescribed by law, stating that the actuary may limit disclosure to “the possibility of inconsistency with other assumptions” – a requirement not found in ASOP No. 41 section 4.2.
Response	The ASOP no longer requires disclosures about the consistency of prescribed assumptions set by law with other assumptions.
Question 4: Would it be helpful to define additional terms in section 2? If so, what terms?	
Comment	Some commentators felt that no additional terms needed to be defined.
Comment	Several commentators suggested defining various terms, including “actuarial services,” “material,” “reasonable,” and “principal” or variations thereof. Some of these commentators acknowledged that the terms are already defined in ASOP No. 1, <i>Introductory Actuarial Standard of Practice</i> , and suggested either referring the reader to ASOP No. 1 or defining the terms in this ASOP as well.
Response	The reviewers note that these terms, or variations thereof, are already defined or discussed in ASOP No. 1, and that section 2 of ASOP No. 1 provides that, “Definitions and discussions included in this introductory ASOP are intended to apply to all other ASOPs if the term is used in such ASOPs, unless the ASOP includes a specific definition of the term,” and made no change in response to this comment.
Comment	One commentator asked whether terms like “reasonably consistent” and “materially inconsistent” should be better defined or left to the actuary’s judgment, and others suggested that it would be helpful to define “consistency” of assumptions and assumption sets.
Response	The reviewers note the terms “reasonable” and “material” are discussed in ASOP No. 1, believe the meaning of consistency is clear, and made no change in response to this comment.

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Comment	Several commentators suggested defining “assumptions,” and two commentators suggested using the definition of assumptions from the proposed Modeling ASOP. One commentator suggested consulting the definition in CIA standards - Section 1710 (Assumptions). Another commentator suggested a definition of “An Assumption is a statement or value that is assumed to be true either without proof or based on empirical data or actuarial Judgment.”
Response	The reviewers agree with the suggestion and added a definition of “assumption” similar to the definition from the proposed Modeling ASOP.
Comment	Several commentators suggested defining “material assumption.”
Response	The reviewers note that the term “material” is discussed in ASOP No. 1 and made no change in response to this comment.
Comment	One commentator noted that the definition of “assumptions” should indicate that this ASOP is not intended to apply to assumptions involved in adjustments made to address issues of data quality, which are adequately covered by ASOP No. 23.
Response	The reviewers agree and added a sentence in section 1.2 to make this clear.
Comment	One commentator suggested replacing the term “assumptions” with a defined term “actuarial assumptions” to distinguish them from assumptions used by people in other fields who create and run models for other purposes.
Response	The reviewers disagree and believe that the meaning of “assumptions” has now been clarified by adding a definition of “assumption.”
Comment	One commentator indicated that, since this proposed ASOP mentions audits and the PCAOB, the ASOP should clarify how ASOP No. 1’s definition of materiality reconciles to the PCAOB definition of materiality, and how materiality, as defined by ASOP No. 1, is used to determine a “significant assumption” as defined in the auditing standards.
Response	The reviewers note the standard itself does not refer to the PCAOB or to audits and that actuaries have no involvement in determining materiality for accounting purposes. Therefore, the reviewers made no change in response to this comment.
Comment	One commentator indicated that a definition would be helpful for “nature of the assignment” as used in section 3.1.1(a) that would clarify whether it (i) differs from the scope of the assignment, (ii) includes consideration of the intended audience, and (iii) considers materiality of the results to the principal for whom the work is prepared. Another commentator indicated that the term was unclear.
Response	The reviewers changed the term “nature of the assignment” to “purpose of the assignment,” and believe that the meaning of “purpose of the assignment” is clear in context.
Comment	One commentator suggested adding definitions for “best estimate” and “professional judgment,” because the commentator indicated that they are frequently used in this ASOP and so are otherwise subject to interpretation by a reader.
Response	The reviewers note the term “best estimate” is not used in this ASOP, and that the term “professional judgment” is discussed in ASOP No. 1, and made no change in response to this comment.
Comment	One commentator suggested that “model” be defined in the same manner as the proposed Modeling ASOP defines it when it is adopted.
Response	The reviewers note the word “model” does not appear in the body of this ASOP, and thus needs no definition.
Comment	One commentator suggested that the definition for “data” should be aligned with the new definition in ASOP No. 23.
Response	The reviewers agree and revised the definition accordingly.

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Comment	One commentator suggested defining “prescribed assumption set by another party.”
Response	The reviewers agree and added a definition to be consistent with the definitions in ASOP Nos. 27 and 35.
Comment	One commentator indicated that the term “actuarial work product” should be defined.
Response	The reviewers note the term “actuarial work product” is no longer used in the ASOP.
Question 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?	
Comment	Many commentators who addressed the question felt that the guidance was both clear and appropriate. Others indicated it would be difficult to apply, would have unintended consequences, or was not necessary.
Response	The reviewers note the proposed standard has been modified to no longer discuss reasonableness of results and that the revised section 3.6 states, “the actuary should set assumptions for which the actuary is taking responsibility that, in the actuary’s professional judgment, are reasonable in the aggregate.” <i>Note: As the concept of reasonableness of results has been deleted, comments with specific suggestions in response to this concept are not included in this appendix 2.</i>
Question 6: Does the proposed standard appropriately address sensitivity analysis as discussed in section 3.2?	
Comment	Most commentators who addressed the question felt that the standard appropriately addressed sensitivity analysis.
Response	The reviewers eliminated the discussion of sensitivity testing along with the elimination of the requirement to consider the reasonableness of the results.
Question 7: Are the disclosures about assumptions and changes in assumptions in section 4.1 of the proposed standard clear and appropriate?	
Comment	Many commentators who addressed the question felt that the disclosures about assumptions and changes in assumptions were both clear and appropriate.
Comment	One commentator suggested that it would be helpful to also have guidance regarding disclosing assumptions derived from proprietary sources, and indicated that it is unclear what is intended by limiting disclosure of rationale to “if necessary for this purpose.”
Response	The reviewers added section 4.3, Confidential Information, and clarified the language in the revised section 4.1(b) in response to this comment.
Comment	Two commentators questioned the use of both the word “assumption” and the term “material assumption” in the proposed ASOP, and indicated that this was confusing and should be clarified.
Response	The reviewers note that ASOP No. 1 provides that ASOPs do not apply to immaterial items. However, the reviewers added a definition of “assumption” and replaced the term “material assumptions” with “assumptions” in section 3 of the ASOP and with “significant assumptions” in section 4.1.
Comment	One commentator indicated that the disclosure requirements are clear where they repeat sections of ASOP No. 41, but otherwise they create a burdensome process of reviewing all prior communications for changes in assumptions.
Response	The reviewers note ASOP No. 1 provides that, “The guidance in ASOPs need not be applied to immaterial items,” and revised section 4.1(c) to refer to the “most recent comparable actuarial findings communicated, to the extent known and readily available.”

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Comment	One commentator indicated that the disclosure of the assumptions should include documentation of how the assumptions were developed.
Response	The reviewers disagree that such disclosure is necessary in all circumstances, but the reviewers clarified the disclosure in revised section 4.1(b) to read in part, “the information and analysis used for setting each significant assumption in sufficient detail to permit another qualified actuary to assess the reasonableness of the assumption.”
GENERAL COMMENTS	
Comments	One commentator indicated that the standard should have the same requirement as ASOP No. 6, <i>Measuring Retiree Group Benefits Obligations and Determining Retiree Group Benefits Program Periodic Costs or Actuarially Determined Contributions</i> , that, when different actuaries are responsible for different assumptions, at least one actuary must nevertheless take responsibility for the reasonableness of the results (for example, to ensure that assumptions reasonably selected by another actuary are actually applied as they were intended to be applied by the actuary who developed them, and are consistent with other assumptions).
Response	As discussed under Question 5 above, the reviewers have eliminated the specific requirement to consider the reasonableness of the results from using the assumptions when setting or assessing the reasonability of assumptions.
Comment	Several commentators indicated that the title of the ASOP “Setting Assumptions” does not sufficiently describe the scope, and suggested alternative titles such as “Determining Assumptions,” “Assumptions Used for Actuarial Purposes,” or “Actuarial Assumptions.”
Response	The reviewers disagree and made no change.
Comment	One commentator referred to the standards of the Canadian Institute of Actuaries and suggested adding discussion of the balance of simplicity needed for practical calculation vs. complexity in representing reality in the assumption setting process.
Response	The reviewers note that revised section 3.4 permits the actuary to exercise professional judgment in setting assumptions.
Comment	One commentator referred to the standards of the Canadian Institute of Actuaries and suggested adding discussion of implicit assumptions that are made when no explicit assumptions are set.
Response	The reviewers disagree and made no change in response to this comment.
Comment	One commentator referred to the standards of the Canadian Institute of Actuaries and suggested adding discussion of it being more important that assumptions are reasonable in the aggregate than individually.
Response	The reviewers disagree and made no change in response to this comment.
Comment	One commentator referred to the standards of the Canadian Institute of Actuaries and suggested adding discussion of not compensating for assumptions prescribed by law by modifying other assumptions.
Response	The reviewers note section 3.1.3(c) has been deleted and that revised section 3.4 lists the characteristics of a reasonable assumption including “...it is expected to have no significant bias...”
Comment	One commentator referred to the standards of the Canadian Institute of Actuaries and suggested adding discussion of not adding a margin for adverse deviation if the purpose of an exercise is to produce a best estimate (unbiased) calculation.
Response	The reviewers believe this is addressed in revised section 3.3, which replaced the discussion of provisions for adverse deviation.
Comment	One commentator suggested that defined terms not be bolded.
Response	The reviewers note bolding defined terms is standard ASOP format and made no change.

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Comment	One commentator suggested that in the “Background” section on page iv, an explicit reference to principle-based reserves be added at the end of the sentence, “The importance of actuarial assumptions continues to increase...” in order to emphasize the importance of assumptions in the determination of principle-based reserves.
Response	The reviewers agree and included a reference in the History of the Standard section of the transmittal letter.
Comment	One commentator indicated that in many instances, the draft uses the phrase “should consider” in a manner that is different than that described in ASOP No. 1. Under ASOP No. 1, “should consider” is a term defined to suggest potential courses of action that an actuary might take, not a type of information the actuary might evaluate. The commentator suggested that “consider,” when not used in the ASOP No. 1 sense, be replaced by a term such as “determine,” “evaluate,” or “assess,” or “take into consideration.”
Response	The reviewers agree and modified the language.
Comment	One commentator indicated that the Public Company Accounting Oversight Board (“PCAOB”) does not have an oversight role of actuaries, and that including the PCAOB reference in the background section of the transmittal memorandum suggests broader applicability than what appears to be intended. The commentator suggested that the reference be deleted.
Response	The reviewers note the transmittal memorandum is not guidance. Therefore, the reviewers made no change in response to this comment.
SECTION 1. PURPOSE, SCOPE, CROSS REFERENCES, AND EFFECTIVE DATE	
Section 1.1, Purpose	
Comment	One commentator indicated section 1.1 seems to be more about scope than purpose, and recommended that this section specifically state that recommending is part of giving advice (rather than waiting until the scope section to do so). The commentator suggested rewriting the purpose to read, “This standard provides guidance to actuaries assessing or selecting (including giving advice on selecting) actuarial assumptions” to parallel ASOP Nos. 27 and 35.
Response	The reviewers believe the section, as revised, describes the purpose of the ASOP, not the scope, and made no change in response to this comment.
Section 1.2, Scope	
Comment	Two commentators indicated the distinction between model parameters and assumptions is not clear, and thus it is not clear whether model parameters are subject to this ASOP. One of these commentators also indicated that it would be helpful if the standard would identify whether model selection is considered an “assumption.”
Response	The reviewers agree that a clarification was needed and added a definition of assumption.
Comment	One commentator asked whether “to the setting of assumptions” is necessary in the sentence, “Except as provided below, this standard applies to the setting of assumptions in all practice areas.”
Response	The sentence referenced in this comment has been deleted.
Comment	One commentator suggested that this section should refer to consumer behavior and decision criteria when consumers are making choices that are in their best interest (i.e., anti-selection), and include examples so that actuaries will have a better understanding of what they should consider.
Response	The reviewers believe such wording is practice specific and made no change in response to this comment.

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Comment	One commentator indicated that the ASOP could be read to apply when an actuary is asked by a colleague for an informal opinion relating to an assumption, and suggested revised wording to clarify that the ASOP would not apply to that situation.
Response	The reviewers note section 1.1 refers to “actuarial services” as defined in ASOP No. 1. In addition, the reviewers modified the wording in section 1.2 to clarify that the guidance “applies to actuaries when performing actuarial services.”
Comment	Two commentators suggested removing the beginning of the second paragraph (“When assumptions are to be used in an actuarial work product...”) as it’s redundant since all assumptions only apply to actuarial work products.
Response	The reviewers agree and made the change.
Comment	One commentator requested that the standard be clarified as to how it applies to actuaries who provide guidance to legislators and regulators on the wording of proposed legislation or regulations that will identify assumptions to be set by law (or regulation).
Response	The reviewers note section 1.2 provides that, “Throughout this standard, any reference to setting assumptions also includes giving advice on setting assumptions” and made no change in response to this comment.
Comment	One commentator requested the standard be clarified as to how it applies to actuaries who are legislators or regulators in drafting or voting for or against legislation or regulations to include assumptions that the legislation or regulation will set by law.
Response	The reviewers note that the guidance “applies to actuaries when performing actuarial services” and made no change in response to this comment.
Comment	One commentator suggested adding to the end of the second sentence in the second paragraph “or when the actuary is setting assumptions as a part of a group or committee” to read as “Any reference to setting assumptions includes giving advice on setting assumptions when another party is ultimately responsible for setting those assumptions or when the actuary is setting assumptions as a part of a group or committee.” Another commentator suggested adding a separate section to explicitly recognize the industry practice that assumptions are often set by voting members of a committee rather than by individual persons. The ASOP would still apply to individual actuaries, and as a voting committee member the actuary would be expected to follow the tenets of ASOP No. 41 section 3.4.4(b). The commentator indicated that adding this section would provide clarity that setting assumptions within a committee structure is an acceptable actuarial practice.
Response	The reviewers note that the revised standard “applies to actuaries when performing actuarial services” and made no change in response to these comments.
Section 1.3, Cross References	
Comment	One commentator indicated that “other documents” in the first line should be expanded upon and includes specific reference to the <i>Code of Professional Conduct</i> (Code) and other documents, if any, which would clearly be relevant. Another commentator indicated that the last line (“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.”) was not clear as to what “this” refers to: the proposed Setting Assumptions ASOP or the “amended or restated” referenced document.
Response	The reviewers note that the language in section 1.3 is consistent across ASOPs and made no change.
Section 1.4, Effective Date	
Comment	Several commentators suggested that the effective date was unclear or should not be based on the information date.
Response	The reviewers agree and modified the language.

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SECTION 2. DEFINITIONS	
Comment	One commentator indicated that the sentences in section 1.2, “Any reference to setting assumptions includes giving advice on setting assumptions when another party is ultimately responsible for setting those assumptions” and “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” are more definitional and less about scope, and suggested making them part of a definition of “determining assumptions” in section 2 instead.
Response	The reviewers disagree and made no change in response to this comment.
Section 2.1, Data (now section 2.2)	
Comment	One commentator indicated that the definition of “data” does not match the definition of “data” in section 2.3 of ASOP No. 23, and that the same definition should be used in both ASOPs. Another commentator suggested that the term “data” seems too narrow to encompass modern practice and suggested a definition of “information consisting of, or derived from, observed facts that is quantitative in nature.”
Response	The reviewers agree the definition should more closely track that of ASOP No. 23 and revised the definition to be similar (but not identical) to that definition.
Section 2.2, Entity	
Comment	Several commentators made suggestions regarding the definition of “entity.”
Response	The reviewers note the definition of “entity” has been removed and the word “entity” is now being used only in the context of “governmental entities.” <i>Note: As this section has been deleted, comments with specific suggestions in response to this concept are not included in this appendix 2.</i>
Section 2.3, Information Date	
Comment	One commentator indicated that the actuary should be considering all data/conditions and anticipated changes known as of the information date in setting assumptions and that it therefore seems odd to ask in section 3.1.5 for the actuary to consider changes “by the information date.”
Response	The reviewers believe the guidance in revised section 3.7 addresses this comment and made no additional change.
Comment	Several commentators found the term “information date” to be confusing, particularly with respect to how it is distinguished from the valuation date. One commentator suggested that the date of the actuarial communication is the de facto information date and all information known up to that time should be included in the setting of assumptions.
Response	The reviewers note that the term “information date” is used in ASOP No. 41 and revised the definition to be consistent with ASOP No. 41.
Section 2.4, Prescribed Assumption Set by Law (now section 2.5)	
Comment	One commentator suggested using the term, “Assumptions Restricted by Law,” because the commentator believed that confining the choice of the assumptions to a prescribed set or range is not the same as prescribing specific assumptions, and thus the term “prescribed” is inaccurate and confusing if the law allows the actuary to select assumptions from a range of allowable assumptions referenced in the law.
Response	The reviewers disagree and made no change in response to this comment.
Comment	One commentator suggested simplifying from “Prescribed Assumptions Set by Law” to “Assumptions Prescribed by Law,” which is consistent with ASOP No. 41, section 4.2.
Response	The reviewers note that ASOP No. 41 does not define the term “assumptions prescribed by law,” and that the defined term and its definition in this ASOP are consistent with those in other ASOPs. Therefore, the reviewers made no change in response to this comment.

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Comment	One commentator indicated that the definition is not clear and that examples would help.
Response	The reviewers disagree and made no change in response to this comment.
Comment	One commentator indicated that a discussion should be added addressing when an assumption is not a “prescribed assumption set by law” as defined in the ASOP because the selection is not automatically accepted or “deemed to be acceptable by applicable law,” but rather the assumption is constrained by law, in that the actuary must provide actuarial justification for his or her selection from among a list of allowable options.
Response	The reviewers disagree and made no change in response to this comment.
Comment	Several commentators asked that this section be expanded to specifically address a situation when a state or federal regulatory body directly or indirectly requires a change in assumptions in order to approve a rate filing.
Response	The reviewers added a definition of “prescribed assumption set by another party” that may apply in situations where the term “prescribed assumption set by law” does not apply.
SECTION 3. ANALYSIS OF ISSUES AND RECOMMENDED PRACTICES	
Comment	One commentator suggested that the wording in section 3 deals with actuaries who set assumptions and who use assumptions set by others, and urged that section 3 also include explicit language for an actuary who provides guidance on assumptions to a party who has responsibility for setting them, and that the same criteria and conduct apply to such activity as when the actuary actually sets assumptions. Another commentator did not believe that section 3 was clear as to how it applied to each of setting assumptions, giving advice on setting assumptions, and assessing the reasonableness of assumptions set by others. Other commentators made similar comments with respect to section 3.1.3.
Response	The reviewers note the revised section 1.2 identifies when this proposed standard applies and states, “Throughout this standard, any reference to setting assumptions also includes giving advice on setting assumptions. If the actuary’s actuarial services involve assessing the reasonableness of assumptions set by others, the actuary should follow the guidance in section 3 to the extent practicable.”
Comment	Several commentators suggested replacing “the principal or another party” with “others” or “another party” in sentences like, “The actuary should use professional judgment when setting assumptions or assessing whether assumptions set by the principal or another party are reasonable” (for example, in sections 3.1, 3.3, and 3.5), noting that the simpler language is used elsewhere, and it is unclear why the principal would need to be particularly called out as a possible source.
Response	The reviewers agree and made the changes.
Section 3.1, Setting or Assessing the Reasonableness of Assumptions (now section 3.4)	
Comment	One commentator suggested adding “unless the actuary is disclaiming responsibilities of the assumptions” at the end of the first sentence.
Response	The reviewers agree and note that revised section 3.4 applies “for assumptions for which the actuary is taking responsibility.”
Section 3.1.1, General Considerations (now section 3.1)	
Comment	One commentator indicated that the list of factors given in section 3.1.1 for actuaries to consider in setting assumptions should include (i) interdependence among assumptions – certain assumptions may need to be dynamically adjusted based on other assumptions, (ii) modeling limitations – assumptions may be set in such a way as to accommodate the model’s capability to reflect such assumptions, and (iii) management actions or business plans.
Response	The reviewers believe this level of detail is not appropriate for a cross-practice standard and made no change in response to this comment. The reviewers refer the commentator to revised sections 3.2, 3.4, and 3.6 for general guidance.

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Comment	One commentator suggested adding another item under General Considerations of “Reviewing the Assumption to Determine If It is in the Public Interest.”
Response	The reviewers note that consideration of the public interest is addressed in the Code and do not believe it needs to be separately addressed in this ASOP. Therefore, the reviewers made no change in response to this comment.
Comment	One commentator suggested that if the results of an analysis are reasonable or the results of a forecast accurately predict the future, it should not be necessary to document the assumptions.
Response	The reviewers disagree and made no change in response to this comment.
Comment	One commentator suggested that in section 3.1.1, it would make sense to say “a. the nature of the assignment and the purpose or use of the assumptions.”
Response	The reviewers changed “nature of the assignment” to “purpose of the assignment” in revised sections 3.1 and 3.4.
Comment	One commentator suggested adding a comment about the factors that might cause an assumption to vary that the actuary needs to consider.
Response	The reviewers believe this level of detail is not appropriate for a cross-practice standard and made no change in response to this comment.
Comment	One commentator asked whether section 3.1.1 should be clarified to reflect multiple entities having the same intended purpose for the work product. The commentator suggested inserting “and the intended entities” so that section 3.1.1 reads, “The actuary should set assumptions that are reasonable for the intended purpose and the intended entities..., assess whether the assumptions set by others are reasonable for the intended purpose and the intended entities.”
Response	The reviewers disagree and made no change in response to this comment.
Section 3.1.1(a) (now section 3.1(a))	
Comment	One commentator indicated that the meaning of “the nature of the assignment” is not clear.
Response	The reviewers note the term “nature of the assignment” in the ASOP has been replaced with “purpose of the assignment.”
Section 3.1.1(b) (now sections 3.1 (b) and (c))	
Comment	Several commentators suggested adding a reference to ASOP No. 23 in (b), similar to the existing reference to ASOP No. 25, <i>Credibility Procedures</i> .
Response	The reviewers agree and made the change.
Section 3.1.1(c) (now section 3.2)	
Comment	One commentator questioned to what extent the actuary is required to find/discover available and relevant information when it says the actuary should consider “available and relevant information.”
Response	The reviewers note the revised introduction to this section indicates that “the actuary should consider using the following information...” The reviewers also note that ASOP No. 1, section 4.2, states, “Actuaries should take a good faith approach in complying with ASOPs, exercising good judgment and professional integrity.” Therefore, the reviewers made no further change in response to this comment.

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Comment	One commentator suggested that it is common practice to consider relevant industry experience when setting assumptions and the standard should state that, when available and relevant, the actuary should compare the assumption to industry experience or to industry assumption surveys.
Response	The reviewers note the revised introduction to the section directs the actuary to “should consider using...other relevant and sufficiently reliable experience, such as industry experience that is properly modified to reflect the circumstances being modeled, if actual experience is not available or relevant, or is not sufficiently reliable.” The reviewers disagree that “the standard should state that, when available and relevant, the actuary should compare the assumption to industry experience or to industry assumption surveys” and made no change in response to that portion of the comment.
Section 3.1.1(d) (now section 3.2(c))	
Comment	One commentator suggested that there will almost always be reasons one might expect future experience to differ significantly from past experience, so that asking the actuary to reach this conclusion is of limited usefulness, and suggested that the language instead focus on “the extent to which the actuary believes that future experience will differ significantly from past experience.”
Response	The reviewers agree and note revised section 3.2(c) states, “When setting assumptions for which the actuary is taking responsibility, the actuary should consider using...future expectations or estimates inherent in market data when available and appropriate, or a combination of both.”
Comment	One commentator indicated that exposure rating models require you to either assume that the current inforce exposures will be identical to the future exposures or to make assumptions to adjust them to the projected future exposures, and suggested that the general considerations include not only the comment on future experience under (d), but also consideration of reasons why future exposures may differ from current exposures.
Response	The reviewers disagree but note revised section 3.2(c) states, “When setting assumptions for which the actuary is taking responsibility, the actuary should consider using...future expectations or estimates inherent in market data when available and appropriate, or a combination of both.”
Section 3.1.2, Adjustments for Data Deficiencies	
Comment	Several comments were received on this section.
Response	The reviewers note section 3.1.2 has been deleted because the concept has been broadly incorporated into revised sections 3.2 and 3.3. <i>Note: As this section has been deleted, comments with specific suggestions in response to this concept are not included in this appendix 2.</i>
Section 3.1.3, Reasonableness of Assumptions (now section 3.4)	
Comment	One commentator indicated that the first sentence of section 3.1.3 should be modified to add “if practical and relevant” (as used in section 4.1), and to read, “When assessing the reasonableness of assumptions, the actuary should, if practical and relevant, do the following:” in order to clarify that in some cases only a single assumption or a subset of assumptions is being assessed by an actuary for reasonableness, rather than the full set of assumptions in aggregate based on the scope of a given consulting assignment, and to avoid requiring the actuary to perform additional work that is outside the scope of the engagement, is not requested by the principal, and for which the actuary is unlikely to be compensated.
Response	The reviewers note that this section has been revised and refer the commentator to section 3.4(a) that indicates that “an assumption is reasonable if... it is appropriate for the purpose of the assignment.” The reviewers also refer the commentator to revised section 3.6.
Comment	One commentator suggested that section 3.1.3 list sources of assumptions.
Response	The reviewers believe this level of detail is not appropriate for a cross-practice standard, and made no change in response to this comment.

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Section 3.1.3(a) (now section 3.4)	
Comment	One commentator indicated that sections 3.1.3(a) and 3.1.4, relating to the reasonableness of assumptions and the potential application of margins for adverse deviation, respectively, are not entirely clear. The commentator indicated that the references to a “tendency to significantly underestimate or overestimate the result,” “prudence or optimism in multiple assumptions,” and “margins for adverse deviation” each address essentially the same concept (i.e., assumptions that may not reflect best estimates) but with slightly different words and in slightly different contexts. The commentator suggested the language of ASOP No. 27, section 3.6, that requires assumptions to be “reasonable,” to reflect “the actuary’s estimate of future experience,” and “to have no significant bias...except when provisions for adverse deviation...are included and disclosed” be used. Another commentator suggested adding the phrase “if at all” to read, “The actuary should consider to what extent it is appropriate, if at all, 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.”
Response	The reviewers note that these comments have been broadly addressed in revised sections 3.3 and 3.4.
Comment	One commentator asked whether the sufficiency of model parameters should be addressed in this section. For example, a model that projects 40 to 50 years may not be sufficient to address a product with exposure for 70 or 80 years.
Response	The reviewers note that the exposure draft does not use the word “model,” and model parameters are not addressed in this ASOP. Therefore, the reviewers made no change in response to this comment.
Section 3.1.3(b) (now section 3.6)	
Comment	Several commentators made suggestions regarding reasonableness of results.
Response	The reviewers note that the proposed standard has been modified to no longer discuss reasonableness of results and that the revised section 3.6 states, “...the actuary should set assumptions for which the actuary is taking responsibility that, in the actuary’s professional judgment, are reasonable in the aggregate.” <i>Note: As the concept of reasonableness of results has been deleted, comments with specific suggestions in response to this concept are not included in this appendix 2.</i>
Comment	Two commentators indicated that, where multiple actuaries collaborate on an assignment, each taking individual responsibility for some of the assumptions, it is unclear which actuary is responsible for the aggregate reasonability assessment and how that actuary is to carry out that responsibility.
Response	The reviewers note the explicit discussion of actuaries collaborating on an assignment has been deleted and refer the commentator to ASOP No. 41, section 3.4.4.

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Comment	<p>One commentator indicated that to “treat the prescribed assumptions set by law as assumptions that are deemed reasonable” may be in conflict with our Code to not mislead others.</p> <p>Another commentator suggested adding as a last sentence, “If the assumptions prescribed by law yield results that are not reasonable, the actuary may assess other steps necessary to arrive at reasonable results or communications necessary to clarify the results of the analysis.”</p> <p>Another commentator believes 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.</p> <p>Another commentator indicated that the actuary should be required to consider whether all the assumptions are reasonable in the aggregate, including assumptions prescribed by law.</p>
Response	<p>The reviewers considered these comments and revised section 3.6 to state, “If the assignment requires the setting of multiple assumptions, the actuary should set assumptions for which the actuary is taking responsibility that, in the actuary’s professional judgment, are reasonable in the aggregate.”</p>
Comment	<p>One commentator suggested adding “within the modeling application” to read, “whether a set of assumptions is reasonable in aggregate within the modeling application,” because there is no definition of aggregate, and one could assume aggregate at the product level or business unit level if the ASOP is not clear.</p>
Response	<p>The reviewers believe the meaning of “in the aggregate” in the revised section 3.6 is clear and note that the ASOP does not discuss modeling.</p>
Comment	<p>One commentator suggested that section 3.1.3(b) be revised to replace “in the aggregate” with “for the intended purpose,” to read that an actuary should “assess whether a set of assumptions is reasonable for the intended purpose” because for purposes such as reserves, assumptions are meant to be conservative and should not necessarily be “reasonable in the aggregate” without reference to the purpose for which they are being used.</p>
Response	<p>The reviewers disagree and note that the language in the revised section 3.4 states that, “an assumption is reasonable if...it is appropriate for the purpose of the assignment.”</p>
Comment	<p>One commentator noted that the pension-specific standards for selecting economic and demographic assumptions (ASOP Nos. 27 and 35, respectively) provide that each economic or demographic assumption selected by an actuary should be individually reasonable and consistent with other assumptions selected by the actuary, but do not require an assessment of whether the selected assumptions are reasonable in the aggregate. The commentator indicated that, since ASOP Nos. 27 and 35 were each recently reviewed and updated, that this additional requirement should not apply to work already covered by those ASOPs.</p>
Response	<p>The reviewers note revised section 1.2 states, “If the actuary determines that the guidance in this standard conflicts with a practice-area ASOP, the practice-area ASOP governs.”</p>
Comment	<p>One commentator indicated that the correlations among assumptions should be considered in setting each assumption.</p>
Response	<p>The reviewers believe the guidance in revised section 3.6 is appropriate.</p>
Comment	<p>One commentator suggested adding the “Prescribed Assumptions Set by Another Party” definition that appears in ASOP Nos. 27 and 35 and referencing the term in section 3.1.3(b)-(d) in a manner that is similar to the existing references to “Prescribed Assumptions Set by Law.”</p>
Response	<p>The reviewers have added a definition of the term “prescribed assumption set by another party” consistent with the definitions in ASOP Nos. 27 and 35. The reviewers have also modified revised sections 3.5 and 3.6 to indicate that they apply to “assumptions for which the actuary is taking responsibility.”</p>

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Comment	Two commentators suggested replacing the word “prudence” with “conservatism” in “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.” Another commentator suggested replacing “optimism” with “aggressiveness.”
Response	The reviewers note the example has been deleted and believe the guidance in revised section 3.6 is appropriate.
Section 3.1.3(c)	
Comment	Several commentators made suggestions regarding ensuring that assumptions are not set for the purpose of counteracting the effect of prescribed assumptions set by law.
Response	The reviewers note that the proposed standard has been modified to no longer discuss this concept. <i>Note: As this section has been deleted, comments with specific suggestions in response to this concept are not included in this appendix 2.</i>
Section 3.1.3(d) (now section 3.5)	
Comment	Several commentators suggested that “other than prescribed assumptions set by law” be deleted, because it seems appropriate to review and disclose whether non-prescribed and prescribed assumptions are reasonably consistent. Another commentator indicated that we also have an obligation to the public to do the job right, not just accept all prescribed assumptions and allow for a knowingly unreasonable total result.
Response	The reviewers disagree and made no change in response to these comments.
Comment	Several commentators indicated that it was not clear if assumptions need to be consistent with only each other or with external factors as well. Another commentator suggested adding “with each other” after “reasonably consistent.” Another questioned whether all assumptions need to be updated at the same time, or reflect the same degree of conservatism or optimism, in order to be reasonably consistent. Another commentator suggested that an example of consistency be provided.
Response	The reviewers believe the revised sections 3.5 and 3.6 provide appropriate guidance and that examples would be too practice specific to be broadly useful.
Comment	One commentator suggested that in cases where an actuary makes a specific disclosure regarding inconsistent or unreasonable assumptions it would improve the quality of the actuarial communication if the disclosure were supplemented by a discussion of the directional effect of the assumption in question.
Response	The reviewers disagree and made no change in response to this comment.
Comment	One commentator suggested a revision to read, “An assumption set is consistent if each of the individual assumptions reflects expectations for the anticipated risk pool, based on its entry and renewability criteria.”
Response	The reviewers disagree and made no change in response to this comment.
Section 3.1.3(e)	
Comment	One commentator indicated that the meaning of this section is unclear. Another commentator suggested replacing “similar” with “analogous” or “comparable.” Another commentator suggested that the phrase “bearing in mind possible differences in the assignments’ intended purposes” be added to the end of the section.
Response	The reviewers note that the proposed standard no longer includes this section.

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Section 3.1.4, Margins for Adverse Deviation (now section 3.3, Assumption Margins)	
Comment	One commentator suggested using the term “provisions for adverse deviation.” Two commentators questioned the appropriateness of including the word “adverse” in “margins for adverse deviations,” indicating that actuaries set assumptions that include margins for favorable deviations as well. The commentators recommended revising the wording to reflect both favorable and adverse deviation.
Response	The reviewers replaced the concept of “margins for adverse deviations” with “assumption margins.”
Comment	Two commentators found the first sentence confusing. Another commentator suggested that “to reflect such margins” be added at the end of the sentence.
Response	The reviewers believe the guidance in the revised section 3.3 is appropriate.
Comment	One commentator did not see the purpose of the provision, “The actuary should disclose, in accordance with section 4.1(a), any explicit adjustments made to material assumptions.”
Response	The reviewers note this section has been revised and refer the commentator to the disclosure in revised section 4.2(a).
Comment	Several commentators suggested that when data are lacking, or uncertainty is higher for other reasons, it would be appropriate and common practice to include a greater provision for adverse deviation.
Response	The reviewers believe this comment is addressed by revised section 3.3(a).
Comment	One commentator suggested that the size of provisions for adverse deviation should be guided by a sensitivity analysis of the assumption relative to the degree of deviation.
Response	The reviewers disagree and believe the guidance in the revised section 3.3 is appropriate.
Comment	Two commentators indicated that the standard should say that an actuary may choose assumptions that are conservative vs. best estimate vs. aggressive depending on the intended purpose, but that deviations from the “best estimate” should be explicitly stated/documented, along with the rationale.
Response	The reviewers note that section 3.1 states, “the actuary should identify and set assumptions that take into account...the purpose of the assignment.”
Comment	One commentator suggested the actuary be required to disclose when reasonably possible the effect of a biased assumption upon the conclusion of the work product. Several commentators recommended requiring disclosure of both explicit and known implicit adjustments for adverse deviation. One commentator acknowledged that it may not be possible to explicitly identify or quantify the adjustment, but that the actuary should state that the assumption includes an implicit adjustment and explain why he or she believes that the assumption is inherently conservative. One commentator viewed “explicit margin” in section 4.1(a) as distinct from the section 3.1.4 reference to “explicit adjustments made to material assumptions.”
Response	The reviewers believe the appropriate disclosure is now addressed in section 4.2(a).
Comment	One commentator suggested rewording the statement to refer to assumptions that had already been adjusted for adverse deviation as having implicit adjustments.
Response	The reviewers disagree and made no change in response to this comment.
Comment	One commentator suggested that it would be clearer and more appropriate if “the purpose of the measurement” in “Where the purpose of the measurement allows for margins for adverse deviation” were changed to “the assignment.”
Response	The reviewers changed “purpose of the measurement” to “purpose of the assignment.”

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Section 3.1.5, Changes in Conditions (now section 3.7, Subsequent Events)	
Comment	One commentator indicated that to better reflect considerations in the life practice area, underwriting should be added to the list of potential internal changes. Although this may be related to changes in the mix of business, a recent change in underwriting would likely not be adequately reflected in the mix of business and so merits separate treatment.
Response	The reviewers note because this is a cross-practice ASOP, the examples were eliminated, and therefore no change was made in response to this comment.
Comment	One commentator indicated that section 3.1.5 should require that the actuary make specific inquiry whether there have been any changes and should not merely wait to be told about changes.
Response	The reviewers disagree and made no change in response to this comment.
Section 3.2, Alternative Assumptions and Sensitivity	
Comment	One commentator suggested moving “on the findings” to between “effects” and “of” to read, “If appropriate to the intended purpose, the actuary should consider using sensitivity analysis to evaluate the potential effects on the findings of reasonable alternative assumptions.”
Response	The reviewers note that the standard has been modified to no longer discuss this concept.
Section 3.3, Prescribed Assumptions Set by Law	
Comment	One commentator indicated that the first sentence (“Assumptions may be set by the actuary or set by the principal or another party, or may be prescribed assumptions set by law”) is not necessary.
Response	The reviewers note section 3.3 has been deleted and that revised sections 3.5 and 3.6 apply to “assumptions for which the actuary is taking responsibility.”
Comment	One commentator did not understand the need for and would not exempt prescribed assumptions from this section 3. The commentator suggested that, if the intent is to exempt prescribed assumptions, it should be stated as item 3.1 with no further reference to prescribed assumptions in section 3.
Response	The reviewers disagree and note that revised sections 3.5 and 3.6 apply to “assumptions for which the actuary is taking responsibility.”
Section 3.4, Reliance on Others (now section 3.9, Reliance on Assumptions Set by Another Actuary and section 3.10, Reliance on Assumptions Set by Others)	
Comment	One commentator indicated that sections 3.4, 3.5, and 4.2(b) allude to assumptions being set by others, but found that confusing because the commentator believed such assumptions are not supposed to be within the scope of the ASOP.
Response	The reviewers note revised sections 3.5 and 3.6 address the consistency of assumptions and reasonable assumptions in the aggregate, respectively. Some of these assumptions may be set by another actuary or set by others. Revised section 3.9 addresses reliance on assumptions set by another actuary and revised section 3.10 addresses reliance on assumptions set by others. The reviewers also refer the commentator to ASOP No. 41, section 3.4.4.
Comment	One commentator noted that there is a significant amount of overlap in sections 3.4 and 3.5, and 4.1 and 4.2, and suggested consolidating so there is not as much repetition.
Response	The reviewers agree and eliminated the duplication.

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Comment	One commentator indicated that, where multiple actuaries collaborate on an assignment, section 4.1(e) indicates that the actuary should disclose “the aspect of the work for which the actuary is taking responsibility, including the setting of specific assumptions,” while section 3.4 is narrower, requiring only that the actuary indicate which assumptions he or she has taken responsibility for. The commentator suggested adjusting the first sentence of 4.1(e) to read, “the assumptions for which the actuary is taking responsibility, as discussed in section 3.4.”
Response	The reviewers note the explicit discussion of actuaries collaborating on an assignment has been deleted and refer the commentator to ASOP No. 41, section 3.4.4.
Section 3.5, Assumptions Set by Others (now section 3.9, Reliance on Assumptions Set by Another Actuary and section 3.10, Reliance on Assumptions Set by Others)	
Comment	One commentator felt that sections 3.4 and 3.5 should require the actuary to quantify the effect of making an acceptable assumption, and that such result should be compared to the result when using an assumption prescribed by the principal or another professional. The commentator indicated that the parties prescribing assumptions may not understand the effect and magnitude of their selections.
Response	The reviewers believe section 4.3 of ASOP No. 41 provides appropriate guidance and made no change in response to this comment.
Comment	One commentator suggested that this section provide that the actuary may take into account material changes in conditions or experience that arise or become known after the information date.
Response	The reviewers agree and addressed this concept in revised section 3.7.
SECTION 4. COMMUNICATIONS AND DISCLOSURES	
Section 4.1, Communication and Disclosure	
Comment	One commentator asked whether the actuary is required to disclose assumptions he or she knows to be “incorrect.” There are times, for example, in statistical analysis when a given distribution is assumed to be a normal distribution even if we know the data are likely not normally distributed.
Response	The reviewers refer the commentator to revised section 4.1(b), section 4.3 of ASOP No. 41, and Precept 4 of the Code.
Comment	One commentator questioned whether there is a need to highlight “actuarial report” in the stem to section 4.1, because ASOP No. 41 would consider the totality of communications to be the “report” if there is no actual report issued. The commentator believes that “actuarial communication” as used and defined as in ASOP No. 41 would appear to be sufficient.
Response	The reviewers note section 4 has been revised to identify the specific disclosures to be included “when issuing an actuarial report to which this standard applies.”
Comment	Two commentators indicated that the statement “including rationale if necessary” is vague or redundant, and that if the actuary is disclosing the material assumptions in sufficient detail to permit another qualified actuary to assess the reasonableness of the assumptions, the rationale would be unnecessary. Another commentator indicated that, since “rationale” is not defined, explanatory language such as that provided in section 4.1.2 of ASOP No. 27 is needed, including the requirement that rationale be provided for each assumption that has a significant effect on the measurement.
Response	The reviewers agree and note that revised section 4.1(b) no longer includes the term “rationale” but requires disclosure of “the information and analysis used for setting each significant assumption in sufficient detail to permit another qualified actuary to assess the reasonableness of the assumption.”
Comment	One commentator indicated that the primary purpose of disclosure of rationale should be to enable the user, not another actuary, to better understand the information.
Response	The reviewers disagree and note revised section 4.1(b) no longer includes the term “rationale.”

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Comment	Two commentators suggested distinguishing between the actuary setting the assumptions and the actuary reviewing the assumptions. For example, if an actuary is doing an independent review of assumptions set by another actuary (as part of an examination, audit, or otherwise), the reviewing actuary should be able to refer to the assumption disclosures in the report or documentation under review, if that documentation is available to the intended user of the reviewing actuary’s work.
Response	The reviewers believe the guidance in this proposed standard is appropriate and refer the commentators to section 3.2 of ASOP No. 41.
Comment	One commentator suggested adding “in” between “report” and “the,” so that it reads “...if there is no actuarial report, in the communication of the findings....”
Response	The reviewers note the stem to section 4.1 has been revised and no longer refers to the “communication of the findings.”
Comment	One commentator indicated that an independent review of the reasonableness of another actuary’s work should not require the rationale for every selection made by that actuary and would be excessive and burdensome.
Response	The reviewers note revised section 4.1(b) no longer includes the term “rationale” but requires disclosure of “the information and analysis used for setting each significant assumption....”
Comment	One commentator indicated that “the most recent comparable actuarial results” language in section 4.1(b) was vague and unclear. For example, what was communicated to whom and by whom? Another commentator suggested that “were” be added between “results” and “communicated” to read “material changes in assumptions since the most recent comparable actuarial results were communicated.” Another commentator suggested appending “as known by the actuary.”
Response	The reviewers note revised section 4.1(c) requires disclosure of “material changes in significant assumptions since the most recent comparable actuarial findings communicated, to the extent known and readily available.”