Session 09PD: Newly Proposed ASOPs: Modeling and Setting Assumptions

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Newly Proposed ASOPs
Modeling and Setting Assumptions

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Agenda

I. Setting Assumptions\(^1\) – Proposed ASOP
II. Modeling\(^2\) – Proposed ASOP
III. Group Discussion – Application of ASOPs in Practice
IV. Communication and Additional Disclosures
V. Summary & Questions

\(^1\) Actuarial Standards Board, Exposure Draft, Proposed Actuarial Standard of Practice, Setting Assumptions
\(^2\) Actuarial Standards Board, Third Exposure Draft, Proposed Actuarial Standard of Practice, Modeling
Setting Assumptions

Proposed ASOP
Purpose – Proposed Setting Assumptions ASOP

Why create a new ASOP on setting assumptions?

- Provide guidance to actuaries:
  - when performing actuarial services that include setting assumptions or
  - assessing the reasonableness of assumptions set by others
- Create a standard on assumption setting for ALL practice areas
- Supplement guidance that already exists

Existing Relevant ASOPs

- **ASOP No. 27**, *Selection of Economic Assumptions for Measuring Pension Obligations*
  - ASB approved the exposure draft in December 2016
  - Commentary period ended April 30, 2017
  - Target Date for release of 2nd exposure draft is March 2018
  - Likely release would not be before 2019

- **ASOP No. 35**, *Selection of Demographic and Other Noneconomic Assumptions for Measuring Pension Obligations*

- **ASOP No. 43**, *Property/Casualty Unpaid Claim Estimates*
Scope – Proposed Setting Assumptions ASOP

What does this standard apply to?

- Analysis of data
- and/or experience
- Trends
- Industry studies
- Economic forecasts

Includes assumption setting or assumption assessment for actuaries across all disciplines.
Overview – Proposed Setting Assumptions ASOP

What are the key areas and considerations of the proposed guidance?

Setting or Assessing the Reasonableness of Assumptions

- Adjustments for Data Deficiencies
  - Document & disclose

- Reasonableness of Assumptions
  - Individually, in aggregate, counteract, consistent (within & between products)

- General Considerations
  - (Nature, data, info, changes)

- Margins for Adverse Deviations

- Changes in Conditions
  - Internal & external circumstances to change assumption
Overview – Proposed Setting Assumptions ASOP (continued)

What are the key areas and considerations of the proposed guidance?

<table>
<thead>
<tr>
<th>Overview</th>
<th>Considerations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alternative Assumptions &amp; Sensitivity</td>
<td>• Consider sensitivity analysis to evaluate effect of alternative assumptions on findings</td>
</tr>
<tr>
<td>Prescribed Assumptions Set by Law</td>
<td>• Assumptions may be set or prescribed by law with proper disclosure</td>
</tr>
<tr>
<td>Reliance on Others</td>
<td>• Use data/analysis by others, disclaim &amp; disclose</td>
</tr>
<tr>
<td></td>
<td>• Assumption should reflect professional judgment</td>
</tr>
<tr>
<td>Assumptions Set by Others</td>
<td>• Follow ASOP to check reasonableness</td>
</tr>
<tr>
<td></td>
<td>• Disclose disclaimers, if disclaimed look to Precept 8</td>
</tr>
</tbody>
</table>
Modeling
Proposed ASOP
Purpose – Proposed Modeling ASOP

Why create a new ASOP on Modeling?

- Provide guidance to actuaries with modeling applications
- Create a standard on general modeling for ALL practice areas
- Supplement guidance that already exists
- This exposure draft 3 includes the following updates from prior exposure drafts:
  - Narrowed scope
  - Guidance is less subject to professional judgement
  - Several clarifications on guidance
  - Several clarifications on definitions

Existing Relevant ASOPs

ASOP No. 38, *Using Models Outside the Actuary’s Area of Expertise*

- ASB approved the third exposure draft in June 2016
- Commentary period ended October 31, 2016
- Target Date for release is December 2017
Model Definition

How is a model defined in the new ASOP?

Model Definition

“A simplified representation of relationships among real world variables, entities, or events using statistical, financial, economic, mathematical, or scientific concepts and equations.”

Model Components

1. Input – assumptions, parameters, and data
2. Processing – information generated based on inputs
3. Output – final results that drive business decisions

Model Uses

• Help describe a system
• Analyze effects of various components within a system
• Drive results and business decisions

Model Evolution

• Specification
• Implementation
• Production

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3 Actuarial Standards Board, Third Exposure Draft, Proposed Actuarial Standard of Practice, Modeling
Scope – Proposed Modeling ASOP

What does this standard apply to?

Models that are not **simple**

*Simple models are defined to produce transparent results without a model run*
Overview – Proposed Modeling ASOP

What are the key areas and considerations of the proposed guidance?

| Application of ASOP Guidance | • Not Simple Models  
|                              | • Heavily Relied Upon  
|                              | • Material Financial Effect |
| Models Developed by Others   | • Make a reasonable attempt to have a basic understanding of the model  
|                              | • Comply with the applicable sections of the ASOP with proper disclosure |
| Reliance on Another Actuary on a Modeling Team | • Use professional judgement in relying on another actuary’s work  
|                                              | • Ensure the work is in compliance with the ASOP |
| Model Meeting the Intended Purpose | • Capability; granularity; ability to update  
|                                       | • Any revisions should be consistent with intended purpose  
|                                       | • Understand important aspects of the model and the model structure  
|                                       | • Use appropriate assumptions and parameters  
|                                       | • ASOP 23 |
### Overview – Proposed Modeling ASOP (continued)

**What are the key areas and considerations of the proposed guidance?**

<table>
<thead>
<tr>
<th>Section</th>
<th>Considerations</th>
</tr>
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</table>
| Mitigation of Model Risk                    | • Validation  
  • Peer Review  
  • Governance and Controls                                                   |
| Presentation of Results                      | • Limitations  
  • Comparison to Prior                                                        |
| Reliance on Data or Other Information Supplied by Others | • Consider ASOPs 23, 41                                                         |
| Documentation                                | • ASOP 41  
  • Document Discussion and Limitations even in no Report                      |
| Relation to Other ASOPs                     | • If specific guidance from other applicable ASOPs is inconsistent with this ASOP, the other ASOP governs |
ASOPs in Practice
Scenario Discussion
Proposed ASOPs

Final Thoughts
Communication & Disclosures – Proposed Setting Assumptions ASOP

How should the actuary communicate findings?

**Communication**

- The actuary should disclose the following in an actuarial report or otherwise:
  - Material assumptions with details to allow evaluation from other qualified actuaries
  - Material changes in assumptions
  - Any changes post information date, reference ASOP No. 41 sections 3.4.6 and 4.1.3(i) with respect to subsequent events of changes
  - Material inconsistencies in assumptions and reasoning
  - Part of assignment that the actuary is accountable for, including setting certain assumptions

**Additional Disclosures**

- ASOP No. 41, *Actuarial Communications* should be included in an actuarial communication

**Relevant sections**

- Section 4.2: Any prescribed assumptions set by law
- Section 4.3: Reliance on others
- Section 4.4: Material deviations from this ASOP
Communication & Disclosures – Proposed Modeling ASOP

How should the actuary communicate findings?

### Communication

- The actuary should disclose the following in an actuarial report or otherwise:
  - Scope of Actuary’s Responsibility (e.g., whether the Actuary is responsible for the entire model or only a portion)
  - Failure to meet intended purpose
  - Inconsistent assumptions and parameters and reasoning

### Deviation from Standard

- ASOP No. 41, *Actuarial Communications* should be included in an actuarial communication

#### Relevant sections

- Section 4.2: Any prescribed assumptions set by law
- Section 4.3: Reliance on others
- Section 4.4: Material deviations from this ASOP
Actuarial Standards of Practice (ASOPs)

Members of all U.S. actuarial organizations are bound by:
- Code of Professional Conduct
- Precept 3 of the Code of Professional Conduct: “An Actuary shall ensure that Actuarial Services performed by or under the direction of the Actuary satisfy applicable standards of practice.” (applicability guidance available on ASB website, http://www.actuarialstandardsboard.org/applicability-guidelines/)
- Actuarial candidates are subject to the Candidate Code of Conduct

ASOPs are developed by the Actuarial Standards Board – “Protecting You, Protecting Others”
- Identify what an actuary should consider, document, and disclose when performing an actuarial assignment

New and Updated ASOPs
- Exposure Drafts are distributed to members of all actuarial organizations
- After appropriate comment period, drafts may be amended
- Require approval of at least 2/3 of ASB for adoption

Modeling ASOP – look for later in 2017

Setting Assumptions – ETA 2019

4Actuarial Standards Board, www.actuarialstandardsboard.org
5Actuarial Standards Board. www.actuarialstandardsboard.org/about-asb/
Questions??