

# **The New US Standard of Practice on Unpaid Claim and Claim Adjustment Expense Estimates**

Mary Frances Miller

Perspectivas Actuariales  
Internacionales

ITAM 20 April 2007

# Agenda

## ■ **Background**

- US Actuarial Standards of Practice and the Actuarial Standards Board
- Why do we need an unpaid claim estimate standard?

## ■ **Proposed standard**

- Purpose and Scope
- Analysis of Issues and Recommended Practice
- Communications and Disclosure

## ■ **Q&A**

# Background – US Standards

- US Actuarial Standards of Practice are developed by the Actuarial Standards Board
  - Independent, comprised of 9 senior Actuaries
  - Representing all practice areas
- Practice Standards intended to apply to ALL actuaries practicing in the United States
  - Actuaries are not in general licensed
  - Required by Code of Conduct of all 5 US-based organizations (AAA, ASPPA, CAS, CCA, SoA)
  - Other actuaries subject to their Association's Code, but not following Standards could be considered malpractice

## Background – Purpose of Standards

- Framework for performing professional assignments
- Guidance on relevant issues, recommended practice, documentation & disclosure
- Not narrowly prescriptive; do not dictate a single approach or outcome
- Outline appropriate practice based on sound actuarial principles
- Scope of each standard relatively narrow – allows for manageable development

## Background – US Standards

- Proposed by a practice-specific committee
- Development approved by the ASB
- Drafting – 6 months to 2 years
- Review by ASB – 3 to 6 months
- Exposure to all US actuaries, regulators, employers, accounting profession. . .  
– minimum 3 months
- Review & redrafting – 3 months
- Approval & release by ASB, or re-Exposure
- Effective about 6 months after approval

## Why do US actuaries need this standard?

- No standard currently exists for developing unpaid claim estimates
  - Although there is a standard on how to *opine* on a technical provision in a financial standard
- The IAA is expected to develop standards in conjunction with the IASB work - ASB wants to be proactive
- Recent publicity with regard to adequacy of loss reserves in financial reports

# Progress of Standard

- First exposure draft 2006
- Comments addressed and standard revised
- Second exposure draft comments due 1 May
- Expected effective date 1 September 2007

# Scope of the standard

- Provide guidance to actuaries when estimating unpaid claim and claim adjustment expenses for property/casualty coverages
- Applicable when estimating unpaid claims for all classes of entities (e.g., governmental entities, self insureds, insurance companies)
- Applicable when developing unpaid claims for events that have already occurred as of a specified date.
- Examples where standard **not** applicable:
  - Estimation of losses in a ratemaking context
  - Estimation of claim liability for losses that have not occurred for policies in force
  - Estimates of liabilities for renewal of policies currently in force

## What actuarial communications are covered by the reserve standard?

- “Communication of Significant Actuarial Findings” (as described in ASOP 41) in written or electronic form
  - Does not apply to oral communications
  - Does not apply to informal communications (e.g., preliminary calculations done while in a meeting)
- Applies to the actions taken by the actuary (actions taken by the principal are beyond the scope)

## Analysis of Issues and Recommended Practice Outline

- Purpose or Use
- Constraints
- Scope
- Understanding of the Nature of Claims
- Unpaid Claim Estimate Analysis
  - Methods
  - Assumptions
  - Data
  - Recoverables (incl. collectibility, gross vs. net)
  - External conditions, changing conditions
  - Uncertainty
- Unpaid Claim Estimate
  - Reasonableness tests
  - Presentation

## Purpose or Use

***“The actuary should identify the intended purpose or use of the unpaid claim estimate”***

- Examples include external fin'l reporting, internal management reporting, etc.
- Has an impact on many items, such as
  - Selection of intended measure
  - Needed level of understanding of nature of claims
  - Choice of method or model
  - Whether uncertainty needs to be measured
  - Presentation of results
  - Documentation and disclosures
- Once the intended measure is decided, the purpose and use should not bias the estimate relative to that intended measure

## Handling of Constraints

- Sometimes constraints exist in the performance of an actuarial analysis, such as those due to limited data, staff or time. Where the actuary believes that such constraints create a significant risk that a more in-depth analysis would produce a materially different result, the actuary should notify the principal of that risk communicate the constraints on the analysis to the principal

## Scope of the Estimate

***“The actuary should determine the scope of the unpaid claims estimate.”***

- Intended measure
- Gross or net
- Collectibility risk
- Unpaid claim adjustment expenses
- Cohorts of claims
- Other items needed to sufficiently describe scope

## Scope of the Estimate – Intended Measure

- Must be clear what the actuary is estimating
  - “Best Estimate” or “Actuarial Estimate” not sufficient
  - Best estimate of what? Mean? Mode? Low or High? Risk margin included? Etc.
- Actuarial Central Estimate
- Statistical Mean
- Median
- Mode
- “Low” or “High”
- Specified Percentile
- Some other basis (describe)

## Scope of the Estimate – Actuarial Central Estimate

*Actuarial Central Estimate—An estimate that represents an expected value over the range of reasonably possible outcomes.*

- . . . Such range of reasonably possible outcomes may not include all conceivable outcomes, as, for example, it would not include conceivable extreme events where the contribution of such events to an expected value is not reliably estimable. An actuarial central estimate may or may not be the result of the use of a probability distribution or a statistical analysis. This description is intended to clarify the concept rather than assign a precise statistical measure, as commonly used actuarial methods typically do not result in a statistical mean.

## Scope of the Estimate – Actuarial Central Estimate

### Actuarial Central Estimate

- Doesn't require producing a loss distribution or statistical analysis
- Not required to consider speculative or remote outcomes
- Conveys the intent as being a mean – with acknowledgement that commonly used actuarial methods typically do not result in a statistical mean

## Appropriate Understanding of the Nature of Unpaid Claims

- Appropriate understanding is needed
- Required understanding will vary with the purpose, nature and scope of the unpaid claim estimate analysis
- Requirement is based on what a qualified actuary in the same practice area could reasonably be expected to know or foresee as relevant at the time of the analysis. Actuary need not be familiar with every aspect of potential unpaid claims
- Requirement not based on hindsight

# Methods and Models

Actuary should select specific methods and/or models, modify or develop new ones based on relevant issues:

- Intended purpose, nature and scope
- Nature of claims, exposures
- Development characteristics
- Characteristics of available data and applicability to available data
- Validity of assumptions underlying each method or model

# Methods and Models

- Number of methods are available - selection based on facts & circumstances
- Diff. components of the estimate may require diff. methods
- “actuary should use multiple applicable methods to estimate unpaid loss for a particular component, unless
  - Reliance on a single estimate reasonable in actuary’s judgment
  - Disclose rational for the decision in the actuarial communication
- Don’t have to use same method as the past
- Evaluate the appropriateness of chosen method(s) even if same method as the past

# Assumptions

- Assumptions may be implicit or explicit
- Consider reasonableness of assumptions underlying method
- **Assumptions should have no deliberate or conscious bias to under estimation or overestimation (whatever the intended measure of the estimate).**
  - Bias with regard to an expected value estimate would not necessarily be bias with regard to a measure intended to be higher or lower than an expected value estimate
- Assumptions should not be internally inconsistent
- Consider sensitivity of estimate to reasonable alternative assumptions (If very sensitive, understand why, communicate)
- Okay to use assumptions dictated to you, subject to appropriate disclosure

## Data, Recoverables, etc.

- Actuary directed to ASOP 23 – Data Quality
- Actuary should consider if material recoverables/offsets exist
  - unless outside the scope
- Gross vs. Ceded vs. Net
  - Consider facts and circumstances when choosing which components to estimate

## External conditions, Changing conditions

- Consider external conditions that may have a material effect, to the extent they are generally known to the actuary and amenable to estimation
- Consider significant changing conditions likely to be insufficiently reflected in the data or assumptions

# Uncertainty

- Actuarial estimates are inherently uncertain
- Actuary is not required to measure uncertainty
- If uncertainty is in the scope
  - Understand types and sources of uncertainty (process risk, model risk, parameter risk)
  - Choose the appropriate methods and assumptions to measure such uncertainty
  - Consider covariance when there are multiple components
  - May include consideration of process, model and/or parameter risk

## Reasonableness

Do a reasonableness test on the estimate against relevant indicators – a priori reasonable assumptions do not always yield reasonable estimates

***“The actuary should assess the reasonableness of the unpaid claim estimate, using appropriate indicators or tests that, in the actuary’s professional judgment, provide a validation that the unpaid claim estimate is reasonable.”***

***“When the actuary’s unpaid claim estimate comprises multiple components, the actuary should consider whether, in the actuary’s professional judgment, the estimates of the multiple components are reasonably consistent. “***

## Unpaid Claim Estimate Presentation

- Actuary should consider the intended purpose or use of the unpaid claim estimate when deciding how to present the unpaid claim estimate
- Multiple possible presentations (not an exhaustive list):
  - Point estimate
  - Range of estimates
  - Point estimate + margin for adverse deviation
  - Probability distribution

# Communications & Disclosures

- General Guidance:  
*ASOP 41 Actuarial Communications*
  - Principal & Scope, Form & Content, Timing, etc.
  - An actuarial report may be required
  - Documentation should be sufficient for another actuary practicing in the same field to evaluate the work
- *ASOP 23 Data Quality*

## Communications & Disclosures Specific to the Proposed Standard

- Clearly convey the intended purpose or use
  - More than one intended use?
  - Any compromises in order to produce a single work product for multiple intended uses?
- Any resource constraint issues?
- Clearly define the scope of the estimate

## Dates Associated with the Estimate

- Actuarial communication should include
  - Accounting date
  - Valuation date
- Review date may have to be included in certain circumstances

As an example, “This unpaid claim estimate as of December 31, 2005 was based on data evaluated as of November 30, 2005 and additional information provided to me through January 17, 2006”

## Communications & Disclosures Uncertainty

- The actuarial communication should include discussion of the uncertainties in the estimated claim liability
- This discussion should include both the uncertainty in the estimate and the uncertainty of actual results varying from the estimate

## Significant Events & Assumptions

- Include explicit discussion of any significant assumptions or events underlying the estimate that may not be obvious to the intended audience, including significant assumptions regarding the accounting basis or application of an accounting rule
- Where the final work product reflects a material assumption or methodology that differs from what the actuary believes to be reasonable
  - Disclose the dependency of the final result and
  - Disclose the source

## Ranges

- What is the range intended to convey?
- For example:
  - a range of estimates of the actuarial central estimate;
  - a range representing a confidence interval within the range of outcomes produced by a particular model or models;
  - a range representing a confidence interval reflecting both process and parameter risk;
  - some other clearly defined range

## Material Changes

- If the analysis is an update, disclose any material changes in assumptions
- Disclose the reasons for the change
- Not required to quantify the effect