

ASOP No. 25 –revised Credibility Procedures

A presentation to the SEAC
Jim Milholland

November 21, 2013

The revised
Standard of
Actuarial
Practice No. 25

Credibility Procedures

- replaces -

*Credibility Procedures Applicable to
Accident and Health, Group Term
Life, and Property/Casualty
Coverages*

Why the
change?

When the
change?

Life committee recommended that scope should be expanded to life insurance and annuities, responding to a request for review by the ASB.

The General Committee recommended that the ASOP be expanded to all actuarial practice areas, and a multi-discipline task force of the GC developed the exposure drafts.

Expected to be adopted at the ASB meeting in December 2013, with effective date for services on or after April 30, 2014.

ASOP No. 25 revised Credibility Procedures

SEAC November 21, 2103

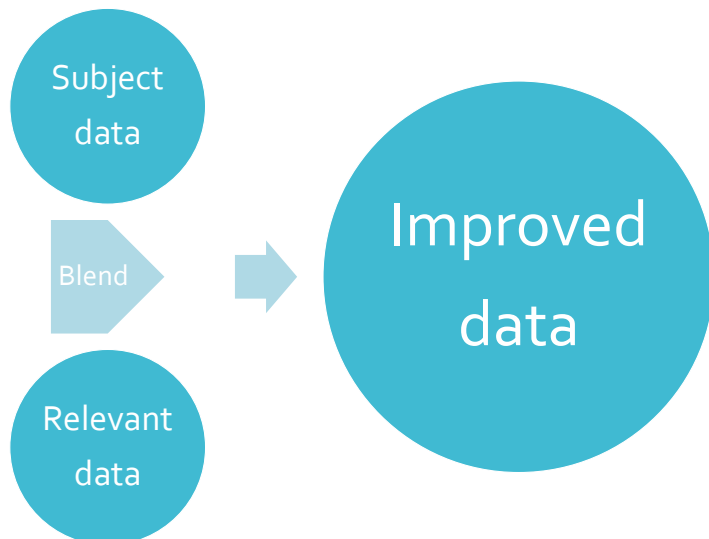
3

Process
overview

evaluate
subject data

pick procedure

blend data



ASOP No. 25 revised Credibility Procedures

SEAC November 21, 2103

4

AGENDA

- Follows the ASOP with some added comments
- The ASOP
 - Scope
 - Definitions
 - Guidance
 - Communications
 - Appendix
- Added comments
 - Additional guidance
 - Timeliness of the ASOP
 - Summary

Old Scope

When the ASOP applies

Coverages , procedures, exemptions

- Coverages:
 - accident and health;
 - group term life;
 - property/casualty and other non-life coverage.;
 - financial security systems, such as self-insurance
- Procedures:
 - ratemaking,
 - prospective experience rating, and
 - whenever else credibility procedures are used
- Exemptions: does not apply to
 - individual life insurance and annuities, and
 - pension plans.

New Scope

When the ASOP Applies

Situations, no exemption but no compulsion

- When selecting and when applying credibility procedures
- Situations
 - when required by law or regulation or binding authority to assess credibility
 - when the actuary chooses or states compliance with the ASOP
 - when blending subject experience with other experience;
 - when the actuary represents that data is credible
- ASOP 35 governs if there is a conflict for pensions

Definitions

Credibility

A measure of the predictive value that the actuary attaches to a particular set of data

- “predictive” in the statistical sense

Definitions

Credibility procedure

- the evaluation of subject experience for potential use in setting assumptions without reference to other data; or
- the identification of relevant experience and
- the selection and implementation of a method for blending the relevant experience with the subject experience

Definitions

Subject experience

A specific set of data drawn from the experience under consideration used for the purpose of predicting the parameter under study

Definitions

Relevant experience

Sets of data, that include data other than the subject experience, that, in the actuary's judgment, are predictive of the parameter under study

Guidance

Purposes of credibility procedures

- to evaluate subject experience for potential use in setting assumptions without reference to other data; and
- to improve the estimate of parameters under study

Guidance

Selecting the procedures - criteria

- whether the procedure is expected to produce reasonable results;
- whether the procedure is appropriate for the intended use and purpose; and
- whether the procedure is practical to implement when taking into consideration both the cost and benefit of employing a procedure.

ASOP No. 25 revised Credibility Procedures

SEAC November 21, 2103

13

Guidance

Selecting relevant experience

- relevant experience should have characteristics similar to the subject experience
- there is no presumption that relevant experience exists

ASOP No. 25 revised Credibility Procedures

SEAC November 21, 2103

14

Guidance

Professional Judgment

The use of credibility procedures is not always a precise mathematical process

For example, the actuary may, in some situations, assign full, partial, or zero credibility to the subject experience without using a rigorous mathematical model

Guidance

Homogeneity

- Grouping or stratification may increase the usefulness of the data
- Applies to subject experience and to relevant experience

Communications and Disclosures

ASOP 25 refers to ASOP 41

When disclosures are needed

- If method or assumptions were prescribed
- If the actuary states reliance on other sources
- If there are material deviations from the ASOP

ASOP No. 25 revised Credibility Procedures

SEAC November 21, 2103

17

Appendix

- Some background and introductory material
- Additional information can be obtained from AAA, SOA, CAS

ASOP No. 25 revised Credibility Procedures

SEAC November 21, 2103

18

Additional comments

- Additional guidance
- Timeliness
- Summary

Additional guidance

- As mentioned AAA, SOA, CAS
- Google "Credibility Theory" and you'll get

Statistical Credibility Theory

Donald F. Behan

Presented to the Southeastern Actuarial Conference

June 18, 2009

Behan points to.....

Actuarial Standards Board, Actuarial Standard of Practice No. 25, Credibility Procedures Applicable to Accident and Health, Group Term Life, and Property/Casualty Coverages, October, 1996.

American Academy of Actuaries, Credibility Practice Note, July, 2008.

Bühlmann, Hans and Alois Gisler, A Course in Credibility Theory, Springer-Verlag, New York, 2005.

Klugman, Stuart A., Bayesian Statistics in Actuarial Science with Emphasis on Credibility, Kluwer Academic Publishers, Boston, 1991.

Timeliness of the revised ASOP

- PBR
- ORSA
- IFRS
- US GAAP
- Solvency II
- Embedded values

IFRS,
for example

Fulfilment cash flows –
the expected value, or
statistical mean

ASOP No. 25 revised Credibility Procedures

SEAC November 21, 2103

23

Summary

- “Credible” is a term of art
- ASOP 25 has no exemptions, but no compulsion
- Many situations require or lead to use of credibility procedures
- Become an expert or befriend an expert
- There is no avoiding use of judgment

ASOP No. 25 revised Credibility Procedures

SEAC November 21, 2103

24



Question
time

Jim Milholland
Milholland Actuarial Consulting, LLC
actuary@milholland.com

