

The Forward-Thinking Actuary: A Required and Expected Discipline

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A Required and Expected Discipline

What you'll receive in the next 20 minutes:

- Professional Expectations
- Need for Forward-Thinking
- Applications (including ERM)
- “Professionalism” CE Credit

The content and expressions are my individual interpretations and perspectives, and do not necessarily represent those of my employer or of an actuarial affiliation.

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A Professional Requirement

Examples of the Implied Expectation...

- **ASOP 12: Risk Classification (for All Practice Areas)...Current Practices:**
Over the years, a multitude of risk classification systems have been designed, put into use, and modified as a result of experience. Advances in medical science, economics, and other disciplines, as well as in actuarial science itself, are likely to result in continued evolution of these systems. *While future developments cannot be foreseen with accuracy, practicing actuaries can take reasonable steps to keep abreast of emerging and current practices.* (Page 9)
- **Statement of Principles Regarding P&C Insurance Ratemaking...Considerations:** A number of ratemaking methodologies have been established by precedent or common usage within the actuarial profession. *Since it is desirable to encourage experimentation and innovation in ratemaking, the actuary need not be completely bound by the precedents.* (Lines 59-61)

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Private Passenger Risk Classification Industry Examples

ISO Age-Gender-Marital Status-Usage Class Plans

...Age Refinements

...Annual Mileage Refinements

...Operator Classifications + Policy Classifications

...UW Tiers and Rate Classifications to Sophisticated Rating Tiers

...Pay-as-you-Drive usage

...Telematics Data to further define/refine usage, etc

Science evolving with creativity, technology...for financial and competitive reasons

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A Professional Requirement

Example of the Need to be Forward-Thinking...

- **ASOP 29: Expense Provisions in Property/Casualty Insurance Ratemaking...**

Background: Inflation – Prior to the relatively high inflation of the 1970s, a predominant ratemaking technique involved including expenses, other than loss adjustment expenses, as a percentage of premium. In doing so, it was assumed that the expense portion of the rate was subject to the same trend (usually very low) to which the loss and loss adjustment expense portions were subjected. However, higher levels of inflation had a rather significant impact on the expected change in the various components of the rate. *By the 1970s, the assumption that the trend in expenses would approximate the trend in losses was being questioned.* Although the actuarially determined loss trend may have been applied to the loss and loss adjustment expenses as usual, *a separate analysis and trend may have been necessary to properly reflect the anticipated change in certain other expenses.* (Page 5)

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Need to be Forward-Thinking: Current Examples

- Low interest rates...likely relevance of history, and how project future economic environments?
- Generational behaviors...validity of previous assumptions?
- Others ??? [Audience Participation]

Forward-Thinking ➔ Revolutionary Change

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Standards Expect Incremental Improvements

Evolving analysis and considerations...(other ASOP references):

- Practicality, Industry Practices, Business Practices (ASOP #12 – Risk Classification)
- Economic and Social Influences, Effect of known biases in historical data (ASOP #13 – Trending Procedures)
- ...data should be adjusted to represent future investment income...(ASOP #30 – Treatment of Profit and Contingency Provisions)
- Added ASOP for growing reliance upon models and experts...(ASOP #38 – Using Models Outside Actuary’s Area of Expertise)
 - Applicability of Historical Data
 - Development in Relevant Field

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Other Examples of Incremental Improvements

Catastrophe Rate Provisions:

- Long-term (20+ years) averages of historical cats to non-cat losses
- Record-level losses (Hurricane Andrew, Northridge EQ) → realization of adjusted approach needed
- Explicit consideration of population shifts, non-adherence building codes, and exposure concentration...
- Scientific-based catastrophe models
- Still forward-thinking opportunities around non-modeled perils, and demographic or generational behavior shifts and implications; climate change implications; etc

Before Predictive Modeling was Cool:

- Adjusting driving record indications for age distribution biases, etc
- Evolving territorial boundary and rate indications using alternative approaches and non-insurance data

Balance of Financial and Competitiveness:

- ...growing holistic view of Risk in the ERM space

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ERM: Inherently Forward-Thinking

ERM: *The discipline by which an organization in any industry assesses, controls, exploits, finances, and monitors risks from all sources for purpose of increasing the organizations short- and long-term value to its stakeholders* (CAS Definition, ASOP 46 and 47)

Risk Evaluation:

- From many contexts (financial, reputational, strategic)
- From perspective of current and long-term environments
- In consideration of strategic goals, risk tolerances, mitigation controls, tradeoffs and opportunities
- In aggregation
- Considering external expectations (Rating Agencies, Regulators)

Emerging Risks: New or evolving risks that may be difficult to manage since their likelihood, impact, timing or interdependency with other risks are highly uncertain

Scenario Construction:

- Consideration of many different elements across the environment
- Consideration of various effects, impacts on the organization

A Holistic View of Risk: Insurance • Financial • Credit • Market • Operational • Strategic

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Stakeholder Expectations

Employer – to improve competitiveness or financials, “best” solutions

Regulators – to ensure safety and soundness, fairness

Boards – to ensure long-term success, achievement of mission, no unforeseen events

All for the Good of the Policyholders, Customers

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...Is it in all of us???