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FINANCIAL
REPORTING
SECTION

What Actuaries can Learn from Accountants

Page 6

By Jim Milholland



- 3 **Chairperson's Corner:
A Time of Preparation**
By Leonard Mangini
- 6 **What Actuaries can Learn
from Accountants**
By Jim Milholland
- 10 **End-to-End Assumption
Documentation Practices**
By Laurie Li and Alex Zaidlin
- 15 **FIA GAAP Reserving Practic-
es—Survey Highlights**
*By Emily Cassidy, Nicole Kim
and Laura Gray*
- 17 **A Retrospective Look at
History**
By Henry Siegel
- 21 **FASB Update—Q4 2015**
By Leonard Reback
- 24 **Regulatory Update**
By Karen Rudolph
- 27 **XXX and AXXX Reserve
Relief Solutions: History
and Current State**
By Nichimen Au

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Chairperson's Corner

A Time of Preparation

By Leonard Mangini

For more than a decade, regulators and actuarial volunteers from industry have been working on a new paradigm for life insurance valuation—the idea of a Principle-Based Reserves (PBR) framework that allows insurers to reflect aspects of their own company experience and the risks embedded within their products into valuing their liabilities AND a Valuation Manual that serves as a “living document” to streamline how valuation can adapt to a fast-changing world in a system regulated at a jurisdictional level.

As financial reporting actuaries we've been anxiously watching this hard work progress, wondering when these changes would become reality, perhaps thinking, “I can just wait to worry about this.”

The wait is over and the time for serious preparation is upon us!

As I write this article in mid-January 2016, 39 jurisdictions representing close to 72 percent of “2008 Direct Premiums” have enacted versions of the new Standard Valuation Law (SVL). Five additional jurisdictions representing an additional 14 percent of premium are scheduled to introduce the SVL to their legislatures in 2016 and the NAIC has established a Task Force to determine whether the legislation that has passed is “substantially similar” enough to meet the 42 jurisdiction/75 percent of premium benchmarks to “operationalize” principle-based reserves contained in the Valuation Manual. If these thresholds are met by June 30, 2016 we will be in a new world on Jan. 1, 2017 and we must be prepared.

This preparation is NOT limited to just coming up to speed with how one would calculate reserves under this paradigm. VM-30 introduces important changes to the Actuarial and Opinion Memorandum Regulation (AOMR). Documentation and Reporting are impacted by VM-31, VM-50 and VM-51. Also, VM-G has significant impact on governance and its relationship with a firm's enterprise risk management (ERM).

A “PBR world” can involve significant operational and culture change. It will impact how the pricing, risk management, financial reporting, investment, IT and marketing departments

interact with each other and senior management and how insurers will interact with stakeholders. It will require earlier and increased coordination and cooperation when setting assumptions; redesigning pricing and valuation models; validating, testing and documenting processes and models; analyzing the risk/reward tradeoffs of product features and options; and communication of results.

FINANCIAL REPORTING SECTION ACTIVITIES TO HELP YOU PREPARE

As such, the section has made it a priority to focus on PBR through multi-disciplinary outreach.

The Life & Annuity Symposium being held in Nashville this May is traditionally an event attended by pricing and product actuaries. Products that incorporate PBR, however, must be filed in 2016 to be shelf-ready Jan. 1, 2017, so our section is sponsoring, or co-sponsoring the following sessions to foster understanding and cooperation across functions with a strong PBR content focus:

Session 3: Financial Reporting and Smaller Insurance Company Joint Hot Breakfast

Session 11/21: Impact of PBR on Life Product Development- co-sponsored by Product Development

Session 14: Economic Balance Sheet Concepts

Session 22: VM-22- co-sponsored by Product Development Section

Session 36: Ask the Experts: An Open Discussion on Practical PBR Implications for Pricing and Product Actuaries

Session 48: Extreme Events for Insurers: Correlation, Models and Mitigation

Session 56: PBR, VM-20, AG48 Investment Strategies- Are Changes Ahead? co-sponsored by the Investment Section

Session 69: PBR Implementation

Session 75: Professionalism for Financial Reporting

Session 77: Tax Matters for the Product Actuary in a Changing World- co-sponsored by Tax

In terms of research, in the last issue of *The Financial Reporter* we announced that the section had joint-sponsored an effort to update the PBA Implementation Guide and is co-sponsoring a project to look at a set of deterministic scenarios that could be used for asset adequacy testing and other analyses. Since then, the council also voted to co-fund a PBA Change Attribution Re-

“A ‘PBR world’ can involve significant operational and cultural change.”

search Project that aims to leverage economic capital and other financial analyses to estimate the potential impacts of using own experience assumptions in PBR.

Realizing that actuaries are very busy and that companies may not be able to spare having key staff out of the office, we plan to hold numerous webcasts throughout 2016. Several will focus on different aspects of PBR—working with other section councils to get a holistic view of the operational, pricing, modeling and risk management implications of the new valuation paradigm.

Rest assured, we have not lost sight of important financial reporting concerns other than PBR. Work continues on an IFRS textbook. The proposed ASOP on models and its intersection with the exposed PBR ASOP will have broad governance and modeling implications and we are considering webcasts on this topic. We are also exploring reviving the very popular advanced GAAP seminars, as proposed changes to US GAAP continue to evolve and “unlocking” assumptions for most life products may

be effective as soon as 2021. Finally, the Fed has begun increasing U.S. interest rates and this will of course be important for ALM for 2016 year-end.

We look forward to helping our members and the profession in general deal with all of these changes and as always look for your feedback, comments, and for volunteers! ■



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What Actuaries can Learn from Accountants

By Jim Milholland

In a previous article I patted us actuaries on the back collectively for the positive influence that we have had on accounting standards. Accountants listen to actuaries, and they have taken on the messages that we have delivered. But isn't the reverse direction also important? Can actuaries learn from accountants? The answer again is "yes." Actuaries can and have learned from accountants. I think it is good to reflect on what we have learned and how we have benefited from listening to accountants.

The influence that actuaries have had on accountants is evident in the development of accounting standards. The influence of accountants on actuaries is less apparent, and is more in the nature of behavioral change. This article is written from my own observations and experience, which I believe to be shared by many actuaries who have spent time with accountants. And spend time with accountants, I did. I was with a major accounting firm for 28 years, and before that much of my work was related to accounting for insurance contracts and required extensive interaction with accountants.

To make my point I will recount some of my personal experiences and comment on what I think I and others have learned. Each experience can be framed by a descriptive caption. My apologies in advance—I go on a bit about opinions. It's something that the actuarial profession has given a lot of thought to, but has not focused enough on one key aspect.

WHAT'S THE ENTRY?

More than once I delivered actuarial figures to accountants and expected heaps of praise, only to receive instead a quizzical look and to be asked, "How do you make the entry?" For accountants, having a single number is like trying to stand on one leg; you can't do it for long. It's important to know, for example, what the liability is, but it's equally important to know how to get from the previously recorded amount to the current amount; e.g., how does the change in the liability affect other accounts, such as revenue and expense.

Context is everything. You can't simply have an updated liability figure; you must know how the change in the liability affects the

financial statements. I think actuaries have learned this lesson well and know that there is more to valuation than the liability number; there are all the other pieces of information that the accountants need to make the entries. Which brings me to my next thought.

"THERE IS NO SUCH THING AS GAAP RESERVES"

This statement came from the mouth of one of my mentors from the accounting side. I was incredulous. When he saw my incredulity—it was apparent on my face—he took the time to explain. The objective of financial reporting is to produce financial statements in accordance with the stated basis (GAAP in this instance). The figures that we produce must be appropriate for inclusion in a GAAP-basis financial statement. By themselves, they are piece-meal financial information, and have limited usefulness. They are important mainly in the context of the financial statements taken as a whole. In other words, we should refer to GAAP in relation to financial statements, taken as a whole.

We continue to use the term "GAAP reserves" because it is convenient. No one wants to go around saying things like, "I've finished calculating the actuarial liabilities that are appropriate for inclusion in the GAAP financial statement." We'll stick to calling them GAAP reserves, but we know what we mean.

WHAT WAS THE EFFECT OF THE CHANGE?

Actuaries are always looking to refine their valuations or improve their estimates. This can be through model refinements, changes in assumptions, or any number of things. Accountants are not averse to improvements, but anything that represents a difference or an inconsistency, has to be disposed of (see **What's the entry?** above). The difference may be characterized as a change in accounting policy, a change in estimate, or a correction of an error. Each of these has different financial reporting implications and determining which it is can sometimes be tricky. More importantly, it is a good practice to identify and quantify differences. It's important to know the effect of the changes on the financial information, regardless of how they affect the financial statements. It's part of understanding the information and the measurement techniques. Over the years I have seen actuaries become more aware of the need to understand the effects of the changes and the quantification of the differences seems to be standard practice now.

THE WORD "OPINION" IS A TERM OF ART

Doing audits of financial statements is a multi-billion dollar business. Needless to say, accountants know a lot about what it means to give an opinion.

What it means, in the usual case, is that the object of the review, the financial statements, conform to the standards that apply,

such as GAAP. The auditor gives an unqualified opinion, if he concludes that the conformity is there, or a qualified opinion if he finds some areas of nonconformity. To reach his conclusion, the auditor uses generally accepted auditing standards. The opinion is not a personal view, such as a restaurant review, but rather a professional opinion, one that reflects the standards. The value of the opinion stems from the robustness of the standards.

Actuaries often give opinions. In fact, many statements by actuaries are not based on a review of, for example, reserves, but are representations made by the actuary who is responsible for preparing the reserves. The word “opinion” is often used anyway. Furthermore, the actuary who gives the opinion does not have to be independent. The emphasis in the state regulations is on the need for a qualified actuary to have been involved, either as preparer or as reviewer. By contrast, an audit opinion must come from a CPA who is independent.

But what is important are the similarities. There are at least two important, not mutually exclusive, attributes that opinions from actuaries and accountants share.

- An opinion provides assurance that the subject matter meets standards. By extension of this thought, the information is reliable; that is, it is what it is represented to be. The opinion does not mean more than this; e.g., it does not mean that the company is sound or has good prospects.
- An opinion is not a warranty. The opinion provides a high-level of assurance that the information is reliable, but it does not provide absolute assurance.

The actuary’s opinion on reserves states that the reserves meet the requirements of the valuation laws and regulations. For opinions with asset adequacy testing, the actuary states that the reserves, “... make adequate provision, according to presently accepted actuarial standards of practice, for the anticipated cash flows required by the contractual obligations and related expenses of the company.” Note the qualifying language making reference to the actuarial standards. The actuarial standards, in particular ASOP 22 *Statements of Opinion Based on Asset Adequacy Analysis by Actuaries for Life or Health Insurers*, do not anticipate that the actuary provides absolute assurance that reserves are sufficient in all circumstance; rather, the actuary provides assurance that reserves will provide for the obligations in moderately adverse situations.

So, again, the value of the opinion depends on the robustness of the standards. In the case of an audit opinion these are both the financial reporting standards and the auditing standards. In the case of an actuary giving an opinion on reserves, these are both the valuation laws and regulations and the actuarial standards. Anyone who has followed or participated in the development of

“Readers of financial statements rightfully expect that the opinion is based on standards.”

financial reporting standards, auditing standards, valuation laws or actuarial standards can tell you that they are robust.

But the actuary is sometimes put in a situation where there are not robust standards. In the past I have been asked to give an opinion that a certain HMO’s rates were “adequate, but not excessive, and equitable.” This was a requirement of a state insurance regulator. The regulator that made this requirement did not provide any other guidance, and there were no actuarial standards to refer to. What to do?

In consultation with my colleagues, both actuaries and accountants, I decided that I could give an opinion, but the opinion itself would be longer than usual. The opinion wording included a description of what review procedures I had performed, how I had construed the terms “adequate,” “not excessive,” and “equitable.” I limited the distribution of the opinion. In effect, I was pushing back to the regulator the responsibility to conclude that what I had done served the purposes of the regulation.

This was a satisfactory resolution to the problem of what to do in this situation, but it would not be satisfactory for an audit or a reserve opinion. Readers of financial statements and regulators reading reserve opinions rightfully expect that the opinion is based on standards, not just what the opinion-giver has done in the circumstances, which may differ from what a different opinion-giver might do.

While development of standards is driven by standard setters, the process is robust in part because there is extensive involvement of all stakeholders. Hence development of standards can be viewed as a community effort. By contrast, the benchmarks I used in the HMO rate opinion were ones that I alone deemed appropriate in the circumstance.

Providing actuarial opinions may not be a multi-billion dollar business, but the profession has given the topic a lot of attention. In particular the American Academy of Actuaries (the Academy) has promulgated standards for an actuary to be deemed qualified to give an actuarial statement of opinion (SAO). This is the *Qualification Standards for Actuaries Issuing Statements of Actuarial Opinion in the United States (QS)*, which is the source for continuing education requirements for members of the Academy. The

QS defines an SAO as “an opinion expressed by an actuary in the course of performing Actuarial Services and intended by that actuary to be relied upon by the person or organization to which the opinion is addressed.”

The QS identifies no fewer than 55 SAOs. Some of them, such as reserve opinions, have specific standards that relate to the opinion. Others, such as life insurance pricing opinions, do not have specific guidance in the actuarial standards. The QS does not describe a pricing opinion, but presumably it refers to the pricing actuary representing to management or the board of a company that a product is priced to be profitable. Many years ago an actuary might simply have said that a product is profitable. In my experience, the current practice is to state that the product meets the pricing criteria set by the company. So there is a *de facto* standard, not an actuarial standard of practice, but something that provides a common understanding between the actuary and the users of the opinion about what is meant.

While not necessarily articulated somewhere, the reference in the pricing example to the company’s pricing criteria shows an understanding of what an opinion is. It is unfortunate that the QS defines an SAO as a type of opinion, but does not discuss what it means to give an opinion.

“What is needed is not necessarily more professional guidance, but perhaps only practical advice.”

I believe that actuaries can learn from accountants, and should give some thought about what it means to give an opinion. What is needed is not necessarily more professional guidance, but perhaps only practical advice. When someone asks for an opinion, e.g., that HMO rates are equitable, what should you do? If someone asks if, in your opinion, products are profitable, how should you respond? I hope that this becomes a topic that gets some attention from actuaries. ■



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End-to-End Assumption Documentation Practices

By Laurie Li and Alex Zaidlin

On Oct. 30, 2015, the SOA Assumption Development and Governance Group, an informal discussion group consisting of nearly 200 actuaries interested in topics pertaining to actuarial assumption development and governance, organized an industry discussion call on end-to-end assumption documentation practices. The purpose of this call was to generate a large list of ideas for best-practice assumption documentation. More than 30 companies were represented in the call, including direct insurers, reinsurers and consulting firms.

During the one-hour discussion, the group touched upon eight components of assumption documentation, which could provide insights on building best practices. These components represented a collection of current industry assumption documentation practices. They touched on various areas of assumption management including the process, organizational structure, and governance. The eight components include:

- General assumption document standards,
- Assumption review planning,
- Internal experience studies,
- External experience,
- Assumption proposal,
- Approved assumptions,
- Communication of approved assumptions to the modeling team, and
- Assumption implementation.

Trends show increased scrutiny on assumption development and governance, which requires documentation for evidence of peer review of experience studies and assumption development, ongoing monitoring of emerging experience, and documentation of assumptions that are not changing.

GENERAL ASSUMPTION DOCUMENT STANDARDS

This section addresses general requirements not discussed in the other seven documentation components. A process flow chart can link all assumption development and governance information together: from data source, to experience studies and assumption development and the governance process. The ap-

proval date and implementation date for the assumption should be documented.

Assumption Purpose

For each assumption the documentation should identify the applicable business unit, product group and type, and actuarial intended uses. The business unit definition would depend on the company's organizational structure. Examples of business units include Property, Casualty, Life, Annuities, Health and Group Insurance. Examples of product groups and types within the Annuities business unit can be variable annuity, fixed annuity, and indexed annuity. Examples of actuarial intended uses are GAAP financial reporting, statutory financial reporting and pricing.

Organizational Structure

Organizational structure is an important aspect of assumption management within insurance companies. The assumption developer and owner should be identified, their roles should be clearly defined and they must be held accountable for their respective responsibilities. The developer and the owner may not be the same person. The owner should understand the underlying business and have relevant expertise in the assumption development process.

Data Source

The data source should be identified in the documentation, and the relevant experience study used for assumption development should be noted. Experience monitoring methods should be specified and relationships to other assumptions should be disclosed. This section of documentation should answer questions such as:

- Is the data extracted from an internal administrative system, obtained from a third party administrator, or purchased from external vendors?
- Is there an internal experience study performed or is there reliance on an industry experience study?
- Is there any ongoing monitoring for the emerging experience?
- Does the resulting assumption have any interaction or dependency on other sets of assumptions?

Storage Location

The supporting file location should be included in the relevant experience study and assumption development documentation. Large companies may have separate storage places for experience study and assumption development documents, especially if a centralized team performs experience studies that are used for various actuarial purposes.

The access rights to the storage place of approved assumptions need to be carefully controlled. Generally people should be giv-

en read only access; read/write access should only be given to storage gatekeepers.

ASSUMPTION REVIEW PLANNING

The planning stage scopes, prioritizes, and categorizes assumptions to facilitate effective and efficient review processes. The documentation would lay out the process roadmap and ensure a successful assumption review process.

A comprehensive inventory of all assumptions intended to be reviewed is essential for planning. Each year, the inventory should be updated by adding new assumptions and removing expiring assumptions. Other information may indicate the assigned assumption developer and owner, last review date, review frequency, source of update, a brief description of experience study methodology, key drivers of the assumption and materiality levels.

The review frequency should be set for each set of assumptions and will vary with the materiality of the assumption, credibility of the block and other factors. The criteria for determining the review frequency should be documented. Assumption updates may be triggered either by the internal study results or developments in external experience. The materiality of assumption levels can be low, medium and high. A key assumption should be categorized as high materiality even if no change would be made.

Past assumption development processes should be reviewed in order to develop a review plan for the current year. The current year plan should be communicated to management and any concerns should be addressed prior to starting the development process. To help keep the work on track and hit all the key milestones, a 12-month rolling prospective calendar may be established. The planned calendar may be compared with the actual process to inform the priorities for the next year's review.

Additional items may be included in plans for some of the more complex assumptions. For example, sensitivity tests may be planned for highly variable assumptions, such as the dynamic lapse assumption for variable annuity products.

Testing of resulting assumptions should also be included as part of the plan. The documentation should identify the impacted models and applications, as well as indicating the estimated effort to implement the assumption.

INTERNAL EXPERIENCE STUDIES

Well documented internal experience studies cover two major aspects of the process. The first aspect is the study methodology, which includes items like data preparation, data segmentation and methodology for development of expected figures. The oth-

er aspect of experience study documentation is the related validation and controls pertaining to the relevant studies.

Among other items, the study methodology documentation should include:

- Any business segments that are excluded,
- How the data is prepared for the intended use,
- The boundaries of the study period,
- How the exposure basis is defined,
- Whether the claims are on a paid basis or an incurred basis,
- The study tools and methods that are used, and
- Experience study results.

Examples of excluded business may be sub-standard classes, closed blocks or large cases. These blocks may not be relevant to the assumption basis in question or may cause unwanted skewness of results. Data preparation processes should comply with ASOP 23 (Data Quality). The exposure basis can be account value, face amount, premiums, or other indicators of the size or count of the studied policies. The methods used for smoothing and trending should also be documented, as should the method used to determine the experience credibility. The study results may be grouped at a high level to allow for efficient management review with supporting data files with more granular output for detailed investigation.

Documentation of controls and validation processes for internal studies is a critical aspect of the experience study documentation. Generally, a well-established assumption with credible experience may have tighter controls than a first-attempt assumption development. This part of the document should answer the following questions:

- Is the data reconciled with a recognized source within tolerance, such as the claim amounts being within a certain percentage of reported claims in the financial statement?
- How do the study results compare to results from the last study?
- Are the study process and results peer reviewed and signed off on?
- Is the 'E' of the A/E analysis still valid, and are the study results within a reasonable range of expectation?
- What are the low credibility experience segments and how were results different for these?

EXTERNAL EXPERIENCE

Whether for benchmarking purposes, or to back-fill low credibility areas in experience, the assumption development process and its documentation should also consider and reflect the applicable external experience. The external experience may be in the shape of generally accepted industry tables, relevant rein-

insurance data or population statistics. Even if company data is fully credible, it's recommended that the applicable external data still be considered for possible emerging trends and potential adjustments. The relevance of the external experience needs to be assessed, and similarities and differences should be explained.

When participating in an industry study, controls consistent with internal experience studies should be in place and documented to ensure accuracy. When preparing the data for the industry study, refer to ASOP 23 for data quality compliance. Due diligence questions should be asked; the data submitted to the industry study should be reconciled with the summarized company data received after the industry study; and reasonableness checks should be performed against relevant internal or other external studies.

ASSUMPTION PROPOSAL

Clear and streamlined assumption proposal documentation can facilitate effective review and efficient final management approval processes.

The assumption proposal documentation would highlight:

- Proposed assumptions,
- Major changes in the proposed assumptions from the current assumptions,
- Comparison of proposed assumptions to those of similar products, and
- Relevant implementation considerations.

The proposal would include the actual values of the assumption, illustrate the assumption development process, explain relevant trends and justify the actuarial judgment used. Examples of trends are those in claims practices, sales practices, and underwriting practices.

Major drivers of assumption changes should be explained and impacts should be assessed. The experience credibility, the impact of assumption changes and the assumption sensitivity should be considered together holistically to determine the materiality of an assumption.

Comparison of the proposed assumptions to those of similar products would be especially important if the underlying product experience is new and not credible. Credible experience from similar products could provide useful insight into setting the new product's assumption in a consistent manner.

Implementation complexity should be considered early in the assumption development process to minimize downstream surprises. Implementation and testing timelines should be established and followed once the proposal is approved.

“... the assumption development process and its documentation should also consider and reflect the applicable external experience.”

The level of details for the assumption proposal can vary by the level and needs of the approvers. For the business unit level review, the proposal should be comprehensive enough to answer detailed questions about the assumption development process and results. For senior management review, a high-level presentation is preferred, that would walk them through the highlights on the proposal background, high-level process description and major drivers and materiality of assumption changes.

The assumption development and proposal should comply with applicable ASOPs. For instance, ASOP 41 (Actuarial Communications) and ASOP 10 (GAAP Methods & Assumptions) should be considered.

APPROVED ASSUMPTIONS

The documentation for approved assumptions requires special care given its importance to downstream modeling implementation and its impact on financial reporting, product development and other intended uses.

The core documentation of approved assumptions can be a memo including related experience study results, assumption development adjustments, justification and impact summary on the business. Additional supporting documentation, in the form of appendices, can include meeting minutes recording assumption review discussions and decisions, certification of assumption working group or committee, evidence of peer review for the assumption development, detailed assumption tables and other supporting information.

Even if there are no proposed changes to assumptions, the documentation should justify the reason for keeping assumptions unchanged. This is done to keep the documentation comprehensive as well as to fulfill control and audit requirements.

COMMUNICATION OF APPROVED ASSUMPTIONS TO MODELING TEAM

The modeling team should play an active role in the assumption development process. It should be part of the assumption review meetings, which would ensure that the assumptions are developed and implemented in a manner that will allow for easy

and consistent implementation into the models. Alternatively, although not recommended, assumption owners may meet with the modeling team to hand off the assumptions once they have been approved and are ready for implementation. It is preferable to have a single point of contact on the assumption development team that would communicate with the modeling team throughout the process. This would ensure seamless communication and minimize inconsistency and errors.

For complex assumptions, assumption owners should work with the modeling team throughout the coding and model testing process. Assumption owners would write the business requirements for intended implementation and the modelers would send back the sample policies for review. Proper controls for seriatim level policy testing should be established.

Before the assumption gets coded into the model and tested, a high-level assessment of the assumption impact would be helpful to judge the reasonableness of results.

ASSUMPTION IMPLEMENTATION

The modeling team should ensure proper documentation of assumption implementation into the models. This documentation would summarize the process and controls around it. Model documentation should answer the following questions:

- Is there evidence of comparison between model inputs and approved assumptions?
- Is there evidence of validation for accurate implementation?
- Is there appropriate management through the modeling change control process?

It may not be feasible to implement the proposed assumptions into every model. Any approximation or simplification of assumptions for the purpose of implementation should be thoroughly documented.

An automated process may be established to format and transfer the approved assumptions into the models to enhance the consistency and accuracy of assumption implementation.

CLOSING REMARKS

This industry discussion call covered an extensive list of ideas for best-practice assumption documentation, including eight main components: general assumption document standards, assumption review planning, internal experience studies, external experience, assumption proposal, approved assumptions, communication of approved assumptions to the modeling team, and assumption implementation.

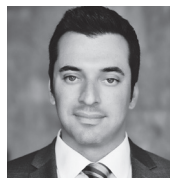
SOA ASSUMPTION DEVELOPMENT AND GOVERNANCE GROUP

- Is an informal discussion group with topics around actuarial assumption development and governance
- Consists of nearly 200 interested actuaries
- Received endorsed support from the SOA Financial Reporting Section and SOA Product Development Section
- LinkedIn group: SOA Assumption Development and Governance Group
- For more information or to get involved, please contact us

One thing to highlight is the documentation for evidence of fulfilling controls, which may include baseline and peer review of experience study methodology, peer review of assumption development, and proper assumption governance with sign offs. Consistent and comprehensive assumption controls documentation will minimize the risks of the assumption development, governance and implementation process. ■



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FIA GAAP Reserving Practices—Survey Highlights

By Emily Cassidy, Nicole Kim and Laura Gray

The views expressed in this article are those of the survey participants (on an anonymous basis) and do not necessarily reflect the views of KPMG nor are they intended as methods of regulatory or tax compliance.

Sales of Fixed Indexed Annuity (FIA) products have increased rapidly over the past 15-20 years. These products provide the safety of a minimum crediting rate while still allowing policyholders to participate in an equity index and benefit from gains in the market. After multiple financial crises and a persistent low interest rate environment, it is no surprise that policyholders place value in the safety of a minimum guarantee combined with the upside potential of equity markets. The inclusion of guarantee minimum death and/or living benefits further enhances the attractiveness of FIA products and has helped drive the increases in sales. This preference for safety and relative conservatism is also seen in the growing sales of other indexed products such as indexed universal life.

Valuing FIA products has presented many challenges for the life insurance industry. The complexity and variety of the benefits and product structures leads to many unique valuation situations for which U.S. GAAP is not prescriptive. While for deferred annuities GAAP reserves are held equal to account value, the indexing features on FIA products make this practice inappropriate. According to U.S. GAAP, the indexed benefit(s) must be bifurcated into one (or more) embedded derivative(s) (ED) and valued on a fair value basis. This is typically done according to FAS 133. The fixed portion of the contract (the “host”) is typically calibrated at contract issue to the premium less the initial ED and then accreted at a fixed rate determined at issue such that it accrues to the minimum guaranteed value at maturity. Furthermore, the attachment of GMxB riders adds another layer of complexity as these benefits are subject to separate reserve requirements, most frequently under SOP 03-1.

While the basic mechanics of the valuation described above are fairly consistent, variations in product features, sophistication of valuation tools and materiality of blocks of business have resulted in a number of areas where practice has diverged. In order to

benchmark current industry practice, KPMG performed a survey of 15 companies in June 2015. The survey covered multiple elements of FAS 133 and SOP 03-1 valuation.

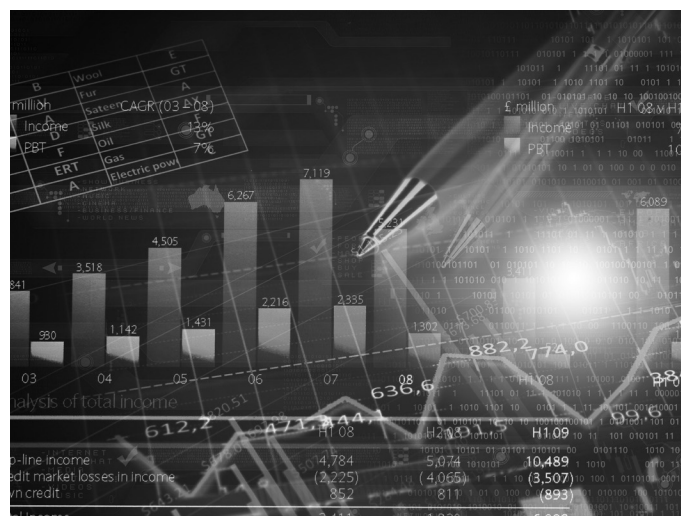
This article will summarize the findings of the survey.

HOST & ED

One challenge of FIA valuation is determining an approach to adjusting the host contract when the contract holder makes changes to the contract after issue through either additional premium or a partial withdrawal. When asked about the treatment of partial withdrawals and subsequent premiums in the FAS 133 calculations, survey participants’ responses showed a wide range of practices. For treating partial withdrawals, about one-third of respondents indicated that they apply prospective adjustments while others use the methodology of simulating the at-issue calculation retrospectively. Several other responses included making various pro-rata adjustments, or using a combination prospective and retrospective adjustment for the ED and host, respectively. Several participants also indicated that they assume no partial withdrawals are made. There was a similar range of practice for accounting for future premiums. The primary responses were to apply prospective adjustments or to simulate the at-issue calculation retrospectively. The remaining participants either only offer single premium policies or use a different methodology.

Setting and unlocking assumptions is a key element of the FAS 133 valuation. While there is some variation, the survey demonstrated that there are several common practices in place.

- The majority of participants indicated that they do not recalculate the at-issue equation during the unlocking process.



- The discount rate for the ED is a key assumption in the FAS 133 calculation. About two-thirds of participants indicated that they used the risk-free rate plus a spread for non-performance risk as the discount rate. Other responses included not reflecting a spread for non-performance risk or also reflecting an additional spread for a risk margin.
- The decision to include the rider fee is another place where there is not a widely used convention. This was demonstrated by the survey with about half of the participants including the rider fee in the FAS 133 calculation through an explicit charge and the other half not including the fee at all.

There are a variety of choices for the aggregation level at which to determine the host and ED. A few possible options are transaction level, policy level, and cohort level. Most survey participants calculate the host and ED at the same aggregation level with policy level being the most popular choice.

RIDER VALUATION

When asked about various types of guarantee riders sold with FIA products, participants primarily indicated GMDBs and lifetime GMWBs (i.e., GLWBs), with more than 70 percent of the survey participants offering lifetime GMWBs. All survey participants issuing FIAs with GMxB riders indicated that they use SOP 03-1 to value the Lifetime GMWBs and GMDBs.

There was a wide range of practice around the nature and number of scenarios used in the SOP 03-1 benefit ratio calculation. Slightly more than half of the survey participants use stochastic scenarios with an even split between those that use equity only scenarios and those that use equity and interest rate scenarios. The remaining participants use deterministic scenarios to calculate the reserves.

Of those companies using stochastic scenarios, only one-quarter of them use 1000 or more scenarios. Coincidentally, long model run times is a significant issue for some companies as well.

While use of dynamic lapse assumptions is fairly common for VA business, the survey results showed that only about half of the participants use the refinement of a dynamic lapse assumption for their FIA business. Among those that use the dynamic lapse factors, more participants appeared to have a two sided factor (as opposed to one sided factor) in the model.

In the determination of the benefit ratio, the contract components included in assessments were pretty standard across the board with all participants including rider fees, as expected. There were a few participants that did not include an interest spread or surrender charges, but the vast majority of participants did include these elements. In addition, the vast majority of par-

ticipants calculate the benefit ratio at the issue-year cohort level with a few companies using an alternative level of aggregation.

SUMMARY

Based on the results discussed above, the survey results showed that there is a varying range of practice in the following areas:

- Treatment of partial withdrawals and subsequent premiums in the host and ED calculations
- The aggregation level at which the host and ED are calculated for the base contract
- Inclusion of the rider fee in the FAS 133 calculations
- Scenarios used in the SOP 03-1 calculations
- Inclusion of dynamic lapse adjustments in the SOP 03-1 calculations

As the popularity of FIA products continues to grow, companies will continue to develop unique benefits to differentiate themselves from others in the industry. The wide range of product designs can lead to a variety of interpretations of the accounting guidance as well as the need for valuation systems that can appropriately reflect these benefits. The survey results showed that there is a range of practice on certain components of the calculations, but mostly companies appear to have a fairly consistent application of the FAS 133 and SOP 03-1 guidance. ■



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A Retrospective Look at History

By Henry Siegel

“Those who don’t know history are destined to repeat it.”

- Edmund Burke

“I like the dreams of the future better than the history of the past.”

- Thomas Jefferson

“An actuary, an underwriter, and an insurance salesperson are riding in a car. The salesperson has his foot on the gas, the underwriter has his foot on the brake, and the actuary is looking out the back window telling them where to go.”

- Attributed to Fred Kilbourne, FSA, MAAA

One of the first principles new actuarial students learn in actuarial mathematics is that reserves can be calculated on either a prospective or retrospective basis and you get the same result. It’s not until later in training that students learn that this is not always the case, particularly if experience has not gone exactly according to expectations.

I’ve always worked on the principle that reserves (liabilities) must be based on the prospective approach. It’s the only way we can be sure that they reflect our best view of what the future will be and how much we need to have today in assets to fulfill our future obligations. This is why, for instance, immediate annuity liabilities typically reflect an assumption about mortality improvement in the future.

On the other hand, cash values and other policyholder values should be based on a retrospective approach. They reflect what has already happened rather than what will happen. Having the cash value on Universal Life products reflect the accumulated account value therefore makes sense. It’s also why having the account value used as the liability does not necessarily make sense and why FAS 97 has needed so much tinkering to reflect guarantees embedded in the contract.

Every time I hear an accounting standard setter talk about using a retrospective approach to setting liabilities, I get upset. Fortunately, it looks like the International Accounting Standards



Board (the IASB) has almost entirely escaped this ill-advised approach. The only time they are using a retrospective approach now is upon initial implementation and while I wish there was another way, I’ve been unable to find one that really works well.

Of course, in doing anything retrospectively a little common sense is needed. The retrospective mortality rate on a living policyholder is obviously zero; however, if we use that rate to calculate the liability at initial implementation we get nonsense. Things need to be calculated on a portfolio basis from inception and therein lies the difficulty. Many large insurers have blocks of business for which the initial portfolio is long lost in the depths of history. An alternative approach will be needed for these situations in order to get a sensible result. For those portfolios where the history does exist, it will still take considerable effort to get a proper result. This is one of several reasons why an implementation task force is needed to help properly apply the new IFRS.

On the other hand, the FASB is still discussing retrospective unlocking of margins and liabilities. For the reasons outlined above, I wish they’d give this up and just move to a prospective approach. Not only is it simpler, but it gives a much more consistent explanation for what has happened. We’ve had retrospective unlocking of DAC for some time and most people I’ve spoken with think this is the most difficult explanation they have to make or, if they are users, understand. I know it can work; it just doesn’t seem like it’s worth the trouble when there’s a better way to handle it.

Remembering the past can, as Burke noted, prevent repeating mistakes. It can also prevent one from realizing the dreams of the future as Jefferson alludes to. Too often remembering the past and trying to remedy it prevents us from doing the right things going forward.

“As actuaries, we are particularly tasked with both understanding the past, but not being bound to believe that the past predicts the future.”

As actuaries, we are particularly tasked with both understanding the past (e.g., by doing experience studies), but not being bound to believe that the past predicts the future. As a friend told me back in the '70s while pricing Guaranteed Interest Contracts, “Interest rates have never gone to double digits” so he wasn't worried about the dire effects of that scenario. He was right historically, but dramatically wrong about the future. That cost the company we both worked for dearly. That's one aspect of my personal history I resolved to never repeat.

The IASB met twice this quarter, in October and November, to discuss the Insurance Contracts Standard to deal with miscellaneous outstanding issues.

OCTOBER MEETING

At its October meeting the IASB discussed accounting for financial assets when the insurance standard is finally adopted, whether to retain the mirroring approach included in the last Exposure Draft and certain items concerning presentation and disclosure.

Treatment of financial assets on transition to the new insurance contracts standard

The board tentatively decided that when an entity first applies the new insurance contracts standard it would be permitted, but not required, to newly assess the business model for managing financial assets that are accounted for in accordance with IFRS 9. This would allow the entity to better match its accounting for assets supporting insurance contracts and the related liabilities.

The choice made by the entity should be reflected in the opening balance sheet. The rationale for and effect of that choice would, of course, be shown as a disclosure to the opening statement. The board set rather detailed requirements for those disclosures, including a requirement to show the effects by asset class.

Restatement of comparative information on initial application of the new insurance contracts Standard

The IASB confirmed the proposal in the 2013 Exposure Draft Insurance Contracts (the 2013 ED) that, on first application of

the new insurance contracts standard, all entities must restate comparative information about insurance contracts.

Retaining the mirroring approach from the 2013 ED

The decision to not retain mirroring was mostly pro forma since the board had already decided to use the variable fee approach instead for most of the relevant contracts.

Other presentation and disclosure issues

The IASB tentatively decided to confirm the 2013 ED proposals related to presentation of line items relating to insurance contracts in the financial statements.

The IASB also tentatively decided to confirm the disclosures proposed in paragraphs 69-95 of the 2013 ED with additions to reflect the use of the variable fee approach. It also added a requirement that if an entity disaggregates investment interest expense into an amount presented in profit or loss and an amount presented in OCI, the entity should disclose an explanation of the method that the entity used to calculate the cost information presented in profit or loss.

The board also added a requirement to disclose changes in the fulfillment cash flows that adjust the contractual service margin. An explanation should be given of when the entity expects to recognize the remaining contractual service margin in profit or loss, either on a quantitative basis using the appropriate time bands or by using qualitative information and how the figures at transition were calculated.

Finally, the board decided to delete the proposed requirements that an entity should disclose a reconciliation of revenue recognized in profit or loss in the period to premiums received in the period (paragraph 79 of the 2013 ED). It also agreed to delete a requirement for an analysis of total interest expense included in total comprehensive income (a tentative decision from March 2014).

Both of these deletions will make life easier for actuaries, although it's doubtful this was the reason for deleting them.

NOVEMBER MEETING

On Nov. 18, 2015, the IASB considered the similarities and differences between the general model and the variable fee approach and three narrow consequential issues arising from the variable fee approach.

Comparison of the general model and the variable fee approach
The IASB tentatively decided that the variable fee approach should not be amended so that a financial guarantee embedded in an insurance contract would be treated as if it were part of the underlying assets. It also tentatively decided not to require or

permit in the general model the re-measurement of the contractual service margin using current discount rates.

Consequential issues arising from the variable fee approach
The board dealt with issues involving the measurement of certain assets underlying contracts with direct participating features, measuring the CSM on transition and measuring guarantees on transition.

For more on all these decisions consult the Update for the relevant month.¹

The board did not discuss the insurance contracts project in December, but is still expecting to release a final standard by the end of 2016. Of course, looking at history, we have to take that expectation with the usual grain of salt.

I have always thought that the difference between accounting and actuarial science is that accounting is concerned primarily with what has happened while actuarial science is primarily concerned with what will happen. That's why

Insurance Accounting is too important to be left to the accountants! ■



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ENDNOTES

- ¹ <http://media.ifrs.org/2015/IASB/October/October-IASB-Monthly-Update.pdf> and
<http://media.ifrs.org/2015/IASB/November/IASB-Monthly-November.pdf>



LIVING to 100

SOCIETY OF ACTUARIES
INTERNATIONAL SYMPOSIUM

Jan. 4–6, 2017
Orlando, Florida

Save the Date

Registration for the 2017 Living to 100 Symposium will open soon. This prestigious event on longevity brings together a diverse range of professionals, scientists and academics to discuss:

- How and why we age;
- Methodologies for estimating future rates of survival;
- Implications for society, institutions and individuals;
- Changes needed to support an aging population increasing in size;
- Applications of existing longevity theories and methods for actuarial practice.



FASB Update—Q4 2015

By Leonard Reback

The Financial Accounting Standards Board (FASB) has continued to deliberate its targeted improvements to GAAP accounting for long duration insurance contracts in the fourth quarter of 2015. FASB made a number of important tentative decisions, some of which I believe were very positive and responsive to concerns raised by actuaries, while other decisions were more problematic. It appears that FASB has nearly completed its deliberations on measuring insurance contracts, and it is possible that the only remaining issues it will address prior to issuing an exposure draft are presentation, disclosure and transition issues.

REVIEW OF TENTATIVE DECISIONS UP TO FOURTH QUARTER

The decisions made during the fourth quarter of 2015 impacted or amended decisions made earlier, so it is worth reviewing those earlier decisions. Many of the earlier decisions impacted traditional insurance contracts reported under FAS 60 and limited payment contracts under FAS 97. Earlier tentative decisions were to update cash flow assumptions and discount rates used to value the reserves for these contracts. Cash flows would be based on “best estimate” assumptions updated once a year in fourth quarter. The impact of changes in cash flow assumptions would be reported by retrospectively unlocking the net premium ratio used in calculating the net premium reserve, similar to unlocking the k-ratio when calculating DAC for FAS 97 universal life-type contracts today. Thus, part of the change in the present value of future cash flows would be immediately reported in net income, but part would update the net premium ratio and be released into income over time. Discounting would be done at market interest rates consistent with high-quality fixed income instruments. Discount rates would also be updated once a year in fourth quarter. The impact of changes in discount rates would be reported in other comprehensive income (OCI). Net income would be reported using a discount rate locked in at inception of the contract. Because the net premium ratio would be capped at 100 percent, no separate premium deficiency or loss recognition test would be needed. And since current assumptions would be used, provisions for adverse deviations (PADs) would be eliminated.

DAC for all products (except investment contracts that use an effective yield calculation) would be simplified. DAC would be amortized over the expected life of the contracts in proportion to insurance in force. If the amount in force could not be reliably estimated (e.g., variable annuities), straight line amortization would be used. In either case, DAC would no longer accrete interest.

In addition, FASB tentatively decided to update the accounting for guarantees on variable contracts with more than insignificant capital market risk. Such guarantees would be reported at fair value, regardless of whether they are considered embedded derivatives or valued using SOP 03-1 under today’s accounting. Affected guarantees may include variable annuity guaranteed minimum death, income, withdrawal and accumulation benefits, as well as variable universal life no-lapse guarantees. Although the change in fair value would be reported in net income, FASB deferred a decision on whether the impact of changes in non-performance risk (i.e., own credit) should be reported in net income or OCI.

FOURTH QUARTER TENTATIVE DECISION ON TIMING OF ASSUMPTION/DISCOUNT RATE CHANGES

One of the tentative decisions FASB made involved the timing of assumption and discount rate changes. FASB reversed its previous decision to require all such changes to be made in fourth quarter. Rather:

1. Cash flow assumption changes for FAS 60 and FAS 97 limited payment contracts would be made annually, in a consistent quarter each year, but a quarter of the company’s choosing. In addition, a company could make an unscheduled update “if actual experience or other evidence indicates that earlier assumptions should be revised.” This was meant to be similar to how assumptions are updated today for FAS 97 universal life-type contract DAC.
2. Discount rates would be updated quarterly for all contracts, including SOP 03-1 reserves on universal life-type contracts.
3. Fair value of variable annuity guarantees with more than insignificant capital market risk would be updated quarterly.

Some of these changes were in response to concerns expressed by actuaries, including in a comment letter sent by the American Academy of Actuaries’ Financial Reporting Committee. Actuarial concerns included the fact that fourth quarter is often inconvenient for companies to update their GAAP assumptions, due to competing statutory requirements. Also, actuaries were concerned about possibly knowing of a pending event in first quarter, but being prohibited from reflecting that event for a substantial period of time. Another concern was that updating discount rates only in fourth quarter would cause accounting

mismatches between the liabilities and the fair value of the assets backing the liabilities, which are updated quarterly.

FOURTH QUARTER TENTATIVE DECISION ON TREATMENT OF NON-PERFORMANCE RISK ON VARIABLE CONTRACT GUARANTEES

In a separate tentative decision, FASB addressed the reporting of non-performance (or own credit) risk for variable contract guarantees which will be reported at fair value. FASB decided that the impact of changes in non-performance risk should be reported in other comprehensive income (OCI), rather than net income. So, for variable annuity GMxBs, for example, most of the change in fair value will be reported in net income, but the impact of changes in non-performance risk will be reported in OCI. This tentative decision should be beneficial from the standpoint of matching the accounting of GMxBs with the accounting for derivatives used to hedge the guarantees. Since hedging instruments are typically priced based at LIBOR rates, excluding the impact of changes in non-performance risk on the liability from net income should mitigate accounting mismatches in net income between the guarantees and the hedging instruments.

FOURTH QUARTER TENTATIVE DECISION ON PARTICIPATING CONTRACTS

The other tentative decision FASB made in fourth quarter was clarifying the approach for updating assumptions on participating contracts under FAS 120. The decision was consistent with the decision for non-participating contracts, but did not recognize some significant differences between participating and non-participating contracts. The decision confirmed that participating contracts should update cash flow assumptions annually, including mortality, expense, lapse and dividends, and discount rates, with part of the impact of the assumption change offset by retrospectively unlocking the net premium ratio. Discount rates should be updated quarterly with the impact reported in OCI. However, I see at least three problems with the decision:

1. Discount rates are based on high quality fixed income instruments, rather than the specific assets the insurer holds to back the liability. This is problematic for participating contracts because the dividend cash flows are determined based on the assets backing the liability. Under the FASB decision, if there are differences between movements in the “high-quality fixed income” reference rate and movements in the rates for the assets the insurer actually holds, there could be volatility in the insurer’s financial statements, even though the economic risk from the interest rate changes is passed through to the policyholder. And at contract inception, if the “high-quality fixed income” reference rate is lower than the rate used in projecting dividend cash flows, a loss may result due to the 100 percent cap on the net premium ratio.

There are a couple of ways I could see to remedy this. One would be to permit the discount rate to be consistent with the expected returns on the assets backing the dividend. Another would be to permit dividend cash flows to be projected assuming that the insurer earns the liability discount rate, rather than the insurer’s best estimate of its own asset returns. This may add complexity, but would ensure consistency between the dividend cash flows and the liability discount rate.

2. Net income is based on a discount rate locked in at inception of the contract. Although the credited rate used to determine dividends on participating contracts varies with interest rates, the proposed accounting model locks in the discount rate used to determine net income. This means that if interest rates decline, projected future dividend cash flows would likely decrease as projected credited rates drop. But there would be no corresponding decrease in the discount rate used to determine net income (although the discount rate used for the balance sheet liability would be updated). And if interest rates rise, projected dividend cash flows would likely increase without a corresponding discount rate increase for net income purposes. As a result, insurers would show gains when interest rates decrease and losses when interest rates rise, even if there was no change in the insurer’s economic position because the interest rate change would be passed on to policyholders.

Some approaches to fix this could include treating discount rate and credited rate changes consistently when determining net income. This could mean projecting dividends for net income using a locked in credited rate, resulting in changes in credited rates being reflected in OCI, consistent with changes in discount rate. Or it could mean using a set of discount rates for determining net income that vary over time consistently with projected credited rates.

3. The impact to reserves of changes in projected cash flows related to credited rate changes is partially offset by retrospectively unlocking the net premium ratio. This is a problem because changes in the liability discount rate, which are driven by the same interest rate changes that would drive many credited rate changes, are not offset by retrospective unlocking. In order to reflect the full economic impact of interest rate changes, the full effect of both discount rate and credited rate changes need to immediately impact the liability.

“Discount rates should be updated quarterly with the impact reported in OCI.”

This issue is currently not a problem for net income because net income uses a locked in discount rate. But retrospectively unlocking for changes in credited rate could complicate efforts to fix issue #2 above. That is because if FASB wants to address issue #2 by using discount rates for net income consistent with the pattern of projected credited rates, the fact that the effect of changes in credited rates on projected cash flows is partially offset by retrospective unlocking would create a mismatch between the credited rate impact and the discount rate impact when determining net income. Conversely, if FASB wants to address issue #2 by locking in the projected credited rate, there would still be non-economic noise resulting from when the actual credited rate is “trued up,” if the impact of the true up is partially offset by retrospectively unlocking the net premium ratio.

This issue could be addressed if the impact of credited rate changes on future cash flows is excluded from retrospective unlocking. This would add complexity, however.

SUMMARY

FASB has nearly completed deliberating targeted improvements to the measurement of long-duration insurance contracts. Some of their most recent tentative decisions were beneficial, in that they responded to actuarial concerns about the timing of updating assumptions and decided to exclude from net income the impact of changes in own credit on certain guarantees measured at fair value. But tentative decisions on participating contracts were more problematic, producing an accounting model that is out of sync with the characteristics of such contracts. ■



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Regulatory Update

By Karen Rudolph

This material is prepared as of Dec. 12, 2015. At time of publication, actions noted in this article may have changed due to later regulatory meetings and decisions. Readers are encouraged to periodically check the National Association of Insurance Commissioners site (NAIC.org) or refer to the Financial Reporting Section publications to find the most recent news. Opinions expressed in this article are solely those of the author, and not *The Financial Reporter* or the Society of Actuaries.

PBR STATE ADOPTION STATUS

Currently 39 states representing 71.78 percent of premium, measured as stipulated by Section 11 of the Standard Valuation Law, have adopted the SVL and Valuation Manual providing for principle-based reserving methodologies. These states are: Ariz., Ark., Calif., Colo., Conn., Del., Fla., Ga., Hawaii, Ill., Ind., Iowa, Kan., Ky., La., Maine, Md., Mich., Miss., Mo., Mont., Neb., Nev., N.H., N.J., N.M., N.C., N.D., Ohio, Okla., Ore., R.I., S.D., Tenn., Texas, Vt., Va., Wis., and W.Va. The version adopted by each state will be reviewed to establish whether the language provides for “substantially similar” provisions when compared to the model law of the National Association of Insurance Commissioners (NAIC). Only those states in which the adopted law is deemed substantially similar will be counted toward the 42 state and 75 percent of premium totals.

FALL 2015 NAIC MEETING

The focus of the following paragraphs is the Life Actuarial Task Force (LATF) of the NAIC and activity taken at its meeting held in November 2015. Please refer to www.naic.org/committees_a_latf.htm for more detail.

Valuation Manual Version

In recent months, updated versions of the Valuation Manual have been more frequently posted to the NAIC website. The version currently available includes language consistent with the adoptions of LATF and (A) Committee as a result of the November 2015 meeting. This language is found as tracked changes in the document and denotes provisions adopted by LATF and (A) Committee, but not yet adopted by NAIC Executive

and Plenary. Many of these newly adopted provisions are noted in the following paragraphs.

2017 Commissioners Standard Ordinary Mortality Table Language implementing the 2017 CSO mortality table for nonforfeiture was adopted into the Valuation Manual. For nonforfeiture, the 2017 CSO is required for policies issued on or after Jan. 1, 2020. For policies issued on or after Jan. 1, 2017 and prior to Jan. 1, 2020, the 2017 CSO is available for use at the company's option. Similar to current rules, the preferred version of the 2017 CSO is not available for use in calculating nonforfeiture values. These provisions can be found in VM-02 Section 5.A.

For statutory valuation, the 2017 CSO will become the minimum standard for policies issued on and after Jan. 1, 2020 and may be used for policies issued on or after Jan. 1, 2017 and prior to Jan. 1, 2020. These provisions can be found in VM-20 Section 3 and VM-M. Conditions for the use of the 2017 CSO Preferred Structure tables are similar to conditions for the use of the 2001 CSO Preferred Structure Tables (Model 815). For companies electing to establish minimum reserves under VM-A and VM-C for business otherwise subject to VM-20 and issued during the first three years following the operative date of the Valuation Manual, Section II of the Valuation Manual under Life Insurance Products now provides for the 2017 CSO at the option of the company.

VM-20 Mortality Credibility and Margin Provisions

Mortality credibility measurement follows a prescribed methodology. For valuations in which the industry table is the 2015 Valuation Basic Table (VBT), the company has the option of using one of two methods:

- The Limited Fluctuation method by amount, with the relative error in the estimate being 5 percent, with a 95 percent probability; and
- The Bühlmann Empirical Bayesian Method by amount.

Each credibility method has a table of prescribed mortality margin percentages. The percentages vary by attained age and credibility level within the given table. For example, for attained ages less than 47, the Limited Fluctuation method margin is 10.0 percent for credibility of 43 percent–47 percent. The Bühlmann method margin is 10.3 percent for credibility of 78 percent–82 percent. Companies may want to evaluate credibility under each method. The prescribed grading of company rates with margins to industry rates with margins does not vary by credibility method.

VM-20 Default Cost Tables

An update to the VM-20 asset default cost tables was adopted. These tables are developed using Moody's data through December 2014. With the inclusion of more recent data, many of these

prescribed cost factors have increased when compared to the earlier table.

Valuation Manual Amendment Proposals Exposed For Comment

Many amendment proposals have been submitted and exposed for comment. These proposals are important clarifications and refinements to the requirements of the Valuation Manual. To be clear, these are proposals, not adopted changes.

- The definition of the term “secondary guarantee” as a guarantee that a policy will remain in force for more than five years (the secondary guarantee period) even if its fund value is exhausted, subject to one or more conditions. This definition, together with the footnoted condition regarding secondary guarantee periods of five years or less, is consistent with the definition of secondary guarantee found in Model 380, Section 3.
- A proposal clarifying assumption modifications made to the Net Premium Reserve (NPR) calculation when performing that calculation for purposes of the Deterministic Exclusion Test for term insurance policies. Specifically, that annual lapse rates are 0 percent and the shock lapse rate at the end of the level premium period is 100 percent. For annually renewable term policies, the test should consider premiums for the duration of the policy. Lastly, if using the mortality that the company expects to emerge produces a net premium greater than the net premium that would be produced when using the valuation mortality, the company shall use the mortality it expects to emerge in determining the net premium for the exclusion test.
- A proposal specifying the determination of the PBR Credit Rating for commercial and agricultural mortgage loans. For these mortgages, the company uses the numeric rating corresponding to the NAIC CM, or commercial mortgage, category which is assigned by the company consistent with the NAIC RBC instructions. This numeric rating would be used to point to the appropriate PBR Credit Rating in VM-20’s Table K. The link between the CM designations and PBR Credit Rating already exists in Table K. For example, an NAIC CM designation of “1” equates to a PBR Credit Rating of “7.”
- Because all the tables found in VM-31 are also part of the annual statement blank, a proposal has been submitted for changes to the requirements of VM-31 whereby the tables are removed. Without this proposal, the tables from the annual statement would be duplicated in the PBR Actuarial Report.
- The scope of the PBR Actuarial Report required by the Valuation Manual and specified in VM-31 is proposed as being required only for those companies that compute a determin-

istic reserve or stochastic reserve for any in force policies. For companies that do not compute any deterministic or stochastic reserves as a result of passing exclusion tests, these companies must also develop the PBR Actuarial Report, but only the sections pertaining to the exclusion tests.

- VM-20 includes many references to the phrase “minimum reserve” in places where, under the current requirements, “modeled reserve” is intended. There is also a proposed change to the language specifying the starting asset requirement. In the current version, the requirement states: “If for all model segments combined, the aggregate annual statement value of starting assets is less than 98 percent or greater than the larger of NPR or 102 percent of the final aggregate modeled (whether stochastic or deterministic) reserve. ...” The proposal removes the NPR reference and the parenthetical.
- A proposal to remove any reference to “seriatim reserve” and instead use “modeled reserve.” The reference to seriatim reserve is left over from a much earlier time in the history of VM-20.

VM-22

The VM-22 subgroup working on developing PBR for non-variable annuities is leaning toward a minimum reserve definition as the greater of a formulaic reserve and modeled reserve. They also intend to have an exclusion test defined specifically for non-variable annuities. Whereas at one time this group was pursuing a method termed “Representative Scenario Method” for the modeled reserve component, this method has been dropped for the time being.

Joint Project Oversight Group—Guaranteed Issue, Simplified Issue, Preneed Mortality Tables

LATF heard an update on the development of these tables and the loading of each. There remains work to be done on these tables before they are ready for use in the industry.

For guaranteed issue (GI) business, an experience table and a draft of the valuation table have been constructed. Work continues on finding the appropriate loading levels.

For Simplified Issue (SI), the group is considering data collected from 30 companies. Even with this number of companies, there is a shortage of applicable data at longer durations and younger ages. The group expects to develop a full 25-year select and ultimate table. They are looking for industry feedback on appropriate loading structures and valuation standards for business issued with this underwriting type. The SI underwriting framework and tools have changed rapidly in recent years, making the data used to support these tables somewhat out of step with cur-

“The NAIC is currently evaluating actuarial modeling software for its use in moving to a PBR valuation environment.”

rent SI procedures such as prescription drug scoring and other scoring algorithms.

Preneed insurance data submitted by the industry represent a high percentage share of the industry, despite the fact that only 11 companies contributed such data. The data is primarily unisex, so the team expects to first develop unisex preneed tables, then develop gender specific tables after establishing the loading structure. As with SI, the team is looking to industry and LATF on appropriate levels of loading should the table be used for valuation.

PBR Pilot Project

The PBR Pilot Project is under the authority of the PBR Review Procedures Subgroup. The project will enlist many participating companies as well as regulators, and will be a pilot focused more on the process than on the reserve outcomes. The companies will be producing the PBR Actuarial Report as outlined in VM-31 as part of the pilot, the PBR supplement for the annual statement, as well as computing reserves and exclusion tests according to VM-20. Companies will be asked to apply VM-20 to various product types over several years of assumed new business. The goal of the PBR Review Procedures Subgroup is to have the companies on board in time to perform this work with a completion date of year-end 2016. Through this process, the Academy and SOA working groups familiar with the PBR process and requirements may be called on to assist with clarification questions.

NAIC To License Modeling Software

The NAIC is currently evaluating actuarial modeling software for its use in moving to a PBR valuation environment. Having such software available is expected to address concerns that a principle-based environment with modeled reserves will complicate the audit process. The software will support the exam process, helping the NAIC to better evaluate and calibrate company models. The NAIC is staffing up to address PBR needs. Actuarial staff hired specifically to address PBR needs going forward will work with the Valuation Analysis Working Group (VAWG) to encourage states to apply uniform interpretations and consistent application of PBR requirements.

Actuarial Guideline XXXIII

The actuarial guideline “Determining CARVM Reserves for Annuity Contracts with Elective Benefits (AG 33)” had previously been amended by LATF, and these amendments were adopted in September 2015. NAIC Exec/Plenary adopted these changes at the 2015 Fall National Meeting. These edits specify that actuarial judgment should be used in determining the appropriateness of applying any non-elective incidence rates other than mortality. These changes impact valuations for 2015 year end. The amended guideline can be found on the NAIC.org website and also in the Accounting Practices and Procedures Manual.

NAIC Streamlining Project

The NAIC is working with Actuarial Resources Corporation to develop a template to improve the structure and flow of statutory actuarial reporting. At present, a company reporting on a statutory basis may have up to 19 separate actuarial reports or submissions for the ordinary life and annuity lines of business. This makes for cumbersome review from the regulatory side, and for an overabundance of reports from the company side, with much duplication. The streamlining project seeks to develop a template a company can use to organize and submit its actuarial reports efficiently in a logical package, easing the submission to states. Several companies are on board with respect to beta-testing the proposed template. ■



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XXX and AXXX Reserve Relief Solutions: History and Current State

By Nichimen Au

The views expressed in this article are solely those of the author and do not reflect the views of either his employer or the Society of Actuaries.

In order to keep up with competition, more and more companies utilize various XXX and AXXX solutions available in the reinsurance market place to help reduce the strain on XXX or AXXX deficiency reserves and perhaps reduce the strain on risk-based capital requirements as well.

Solutions to reduce the strain on XXX reserves started in the middle of the last decade. Some early solutions such as securitization were eliminated and dissolved due to complication and cost of maintenance. Other solutions continue to evolve and develop new forms.

It is difficult to evaluate which solution is best. It depends on many internal and external forces. The size of the company, its ability to negotiate in the reinsurance market place, and the regulator all plays a big part in determining the feasible options.

This article outlines the different solutions, but does not compare and contrast them. Instead, it attempts to break down the approach in a systematic way to enable readers to identify the options for their companies.

In general, there are two main ways of providing XXX and AXXX solutions—the asset side approach and the liability side approach. There has been a third approach—the product design approach. This approach has led to many discussions and brought the ethics of the pricing actuaries into question.

ASSET SIDE APPROACH

Early developed solutions were from the asset side. The early solutions used a third party to fund the deficiency reserve. The third party could be a bank providing the funding in the form of letter of credit, or it could be outside investors providing the funding in the form of securitization.

The issue with the letter of credit is the evergreen status. Many banks will not or are not able to issue a letter of credit that is evergreen. And regulators often hesitate to accept a limited term

(commonly three to five years) promise to pay note to support long term policyholder liabilities.

Securitization ran into problems in the late 2000s due to the financial crisis. The securitization assets dropped significantly in value and caused a lot of tension among investors.

The assets supporting the deficiency reserve will only get called when (a) the mortality for the underlying policies is worse than expected, or (b) the asset returns are lower than expected and/or the asset defaults are higher than expected. Based on these premises, a new form of solution appeared by utilizing a reinsurer to take on the mortality risk and utilizing a bank or derivative markets to take on the interest rate risk and credit default risk.

LIABILITY SIDE APPROACH

In the last few years, many companies have utilized solutions from the liability side. There are two basic approaches from the liability side.

The first approach is to reduce the deficiency reserve by either ceding the reserve out to a third party reinsurer or negotiating with the state of domicile that a lower reserve is appropriate. A simple coinsurance agreement with a reinsurer will transfer the deficiency reserve to the reinsurer. An experience refund mechanism will return the profits from the reinsurer back to the ceding company.

The second approach is to transfer the deficiency reserve risk to a third party such as a reinsurer. This approach basically is based on the same premises as described in the asset approach section above. The deficiency reserve will be required when the experience is worse than expected. The liability, therefore, can be split into at least two tranches (or more if a company wants to refine the process and control the cost)—the expected tranche and the higher than expected tranche. A reinsurance agreement with a reinsurer is put in place so that the reinsurer is responsible for all the claims for the higher than expected tranche. This concept is similar to the tranche concept of receiving interest payments on the asset side. Instead of lining up in order of priority to receive interest, the concept is to line up in order of priority to pay the claims.

COMBINATION APPROACH

In addition to developing XXX and AXXX solutions from either the asset side or the liability side alone, companies should have no problem developing their XXX and AXXX solution by combining the asset side approach and liability side approach. Although there may be some overlap, there is certainly no limitation on using one approach.

HOW ABOUT CAPTIVES?

Many XXX and AXXX solutions start out based on a captive design. Captive structure in isolation does not provide the relief.

However, there are states that allow captives to have a permitted practice of setting up a regulatory reserve that is different from the NAIC guidelines.

Recent adoption of AG 48 provides guidelines to captives for the purpose of reserve relief. AG 48 provides a methodology (Actuarial method) used to determine the required level of Primary Security. Actuarial Method follows principle-based reserving (PBR) and results in a reserve that is lower than the XXX/AXXX reserves, but not as low as the economic reserve. This provides some degree of reserve relief to the companies.

In addition to getting reserve relief between the XXX/AXXX reserve and the Actuarial Method reserve by taking advantage of AG 48, companies also utilize reinsurance (such as a stop loss arrangement similar to the second approach on the liability side) to get reserve relief from the AG 48 reserve level down to the economic reserve level.

WHAT DOES THE FUTURE HOLD?

Ten years ago, nobody foresaw the use of stop loss to provide reserve relief and the implementation of AG 48 for captives.

Similarly, it is difficult to predict how AG 48 may evolve in the near future and what other regulations may be implemented to shape future reserve/surplus relief solutions. Even with the coming implementation of PBR, companies will still likely employ captives to bring reserves down to the economic reserve level. Mortality-based derivatives have been discussed for many years. Maybe one day mortality-based derivatives will be traded as widely as interest-based derivatives are traded today. ■



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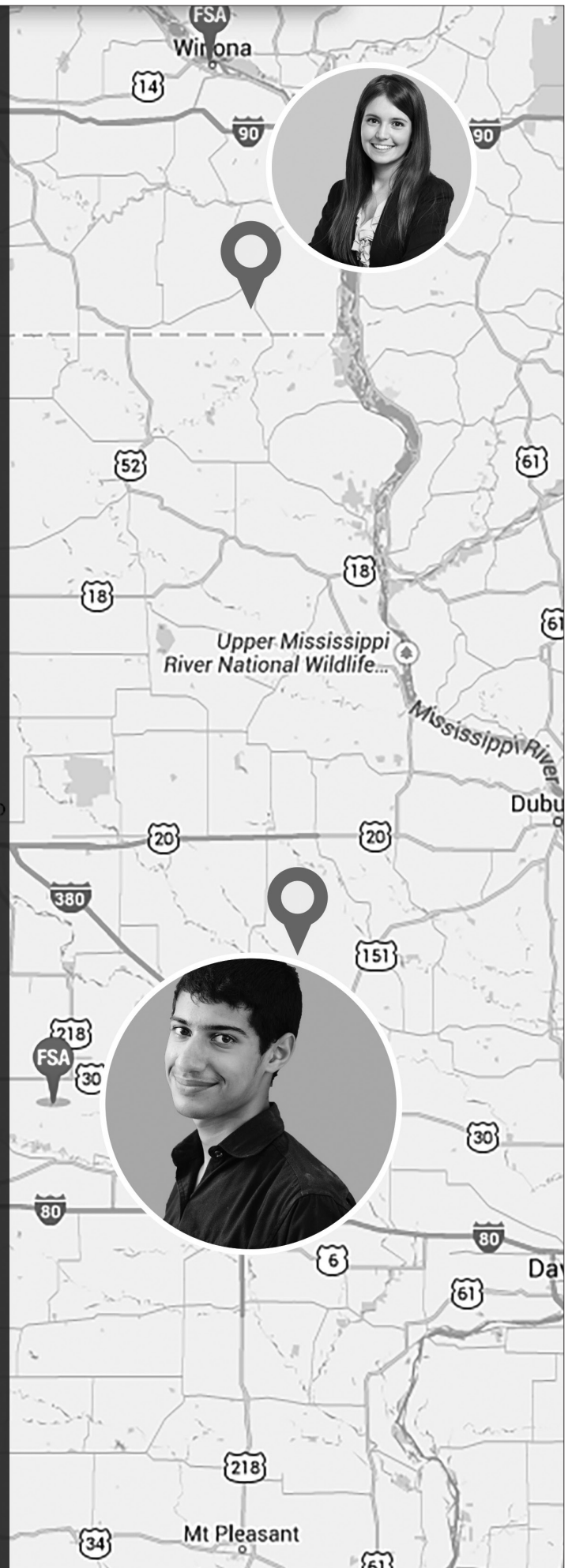
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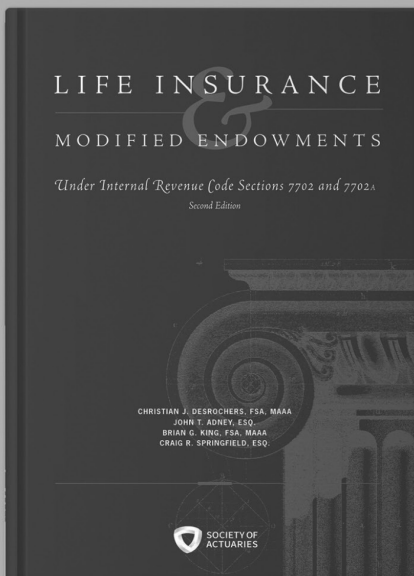


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