

Principle-Based Approach Update 17

December 14, 2009

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Soundness / Risk Management Committee
(AKA PBA Steering Committee)



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Agenda for Webcast

- SVL and the Big Picture Update: Katie Campbell, NAIC Life and Health Actuarial Task Force
- Risk-Based Capital Update: Philip Barlow, Chair of the NAIC Life Risk-Based Capital Working Group
- Todd Erkis, Chair of the American Academy of Actuaries' Life Practice Note Group
- VM-20 Update: Dave Neve, Chair of the American Academy of Actuaries' Life Reserve Working Group
- Questions



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SVL and the Big Picture

Katie Campbell, FSA, MAAA
NAIC Life and Health Actuarial Task Force (LHATF)
Alaska Department of Insurance



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LHATF Update – Winter NAIC Meeting

- LHATF continued work on the Valuation Manual
 - Prior NAIC deadline: 12/31/2009 for a complete valuation manual including a formulaic minimum reserve floor
 - Adopted changes to VM-0 (TOC), VM-1(Definitions), VM-21(VACARVM), VM-30 (AOMR)
 - Adopted valuation manual sections VM-0, VM-1, VM-21, VM-26, and VM-30
 - VM-20 making progress but not complete (ACLI Net Premium)
 - Letter to A-Committee stating that LHATF adopted an initial version of the valuation manual without VM-20 and requesting an extension to at least August 2010 to complete VM-20 and VM-25



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LHATF Update (cont'd)

- Issues to resolve before initial VM-20 life standards are ready to include in the valuation manual
 - ACLI's net premium reserve (NPR) floor – formulaic minimum reserve floor
 - Asset default assumption and reinvestment spread methodology
 - Appropriate level of aggregation
 - Appropriate level of and guidance on margins
 - Prescribed assumptions in the absence of credible relevant data
 - Reporting requirements
 - Experience reporting
 - Economic scenarios
 - Other: revenue sharing, non-guaranteed elements, credit of hedging, drop and recovery like VACARM, reinsurance



LHATF Update (cont'd)

- VM-20 issues discussed at the December LHATF meeting
 - ACLI net premium reserve methodology
 - ACLI committed to providing draft net premium reserve language by the end of this year and other proposed changes by the Spring NAIC meeting in order to allow adoption of VM-20 by LHATF no later than the Summer NAIC meeting (August)
 - Methodology for determining default costs on existing assets
 - Received report from Academy LRWG Asset Subgroup on refined approach
 - Several hours were spent discussing the approach with most of the time spent discussing how to handle assets without an independent external rating
 - LHATF voted to exclude assets without an independent external rating from the approach and cap returns at a prescribed rate. LHATF agreed to consider appropriate methodologies for incorporating these assets into the methodology



LHATF Update (cont'd)

- VM-20 issues discussed at the December LHATF meeting (continued)
 - Economic Scenarios
 - Discussed a simplified approach to test whether stochastic reserves are required using a limited number of specified scenarios that would result in stochastic reserves calculated only for products with tail risk
 - LHATF decided to stay with the current approach in VM-20 and to consider allowing scenario reduction techniques
 - Experience Reporting - VM 50/51
 - Received report from the VM-50/51 subgroup in which a proposed process was presented
 - LHATF discussed whether experience data should be submitted to the states or to the NAIC as a central repository for states and whether such experience data should be aggregated by company or be company-specific
 - LHATF is looking to PBR EX for guidance on the NAIC's role in the process



LHATF Update (cont'd)

- Other items discussed
 - AG 43 (AGVACARVM)
 - Adopted revisions to address an accounting issue relating to the opening reserve on Jan 1, 2009, 3 year grade-in; added 3/1 date for submitting certification
 - Submitted a letter to SAPWG stating that AG 43 methodology was a change in valuation basis and asked SAPWG to adjust accounting guidance for the opening reserve on Jan 1, 2009
 - Blanks adopted revised instructions for completing Note 9.2 and Exhibit 5
 - LHATF is continuing to discuss whether a hedging strategy may actually increase reserves
 - Mortality Tables
 - Received reports from Academy/SOA POG on developing new industry preferred underwriting class structure valuation mortality tables and margins for 2010, and new industry valuation payout annuity mortality table and Projection Scale AA to replace current industry valuation payout annuity A2000 table



LHATF Update (cont'd)

- Next Steps
 - NAIC adopted the extension for completion of the VM-20 life and VM-25 health requirements by no later than the NAIC August 2010 meeting
 - Expect several conference calls to address outstanding issues and adopt a valuation manual with VM-20, VM-25, VM-31, VM-50/51 included by August 2010
 - LHATF to develop commissioner and legislator talking points to assist in state adoption of the revised Standard Valuation Law

PBR EX Update

- Statistical Agent
 - PBR EX took comments on a draft memo to the Executive Committee seeking its guidance regarding the role of the NAIC in the experience reporting process including its role in selecting the statistical agent/s and whether the NAIC should serve as a central repository for experience data (company-specific and/or only aggregate)
 - PBR EX will incorporate comments and develop a revised draft and send to LHATF for review

Life Risk Based Capital

Philip Barlow, FSA, MAAA

Chair, NAIC Life Risk-Based Capital Working Group
Associate Commissioner, Insurance Bureau
Dept of Insurance Securities & Banking of Washington, D.C.

C3 Phase III

- The LRBCWG exposed the Academy C3 Life and Annuity Capital Work Group's September C3 Phase III Report with a comment period ending October 21

- Three comment letters were received (Aegon, UNUM, ACLI)
- A call to discuss the comments was held on November 12

Exposure comments included:

- Aegon
 - Misplaced reserve adjustment (CTE 90 – Statutory Reserves)
 - Double counting diversification benefit
 - Altered definition of C3 risk
 - measurement of deficiencies
 - some items at market value, but most at amortized cost

C3 Phase III

Exposure comments included:

- UNUM
 - Scope issues – group insurance should not be included and focus should be on UL with secondary guarantees
 - Include a materiality test
 - Allow use of a small scenario set
 - Streamlined documentation
- ACLI
 - Initially limit scope
 - “Safe harbor” minimum of stochastic scenarios
 - Simplified documentation, including coordination with Asset Adequacy Analysis

C3 Phase III

- As a result of the comments, the LRBCWG agreed to consider:
 - A materiality test
 - Initially limiting the scope – provided that a clear definition can be developed to encompass all products with significant tail risk
- ACLI agreed to submit specific proposals for both items for the LRBCWG to consider
- The WG also asked for a detailed written response from the Academy C3 Life and Annuity Capital Work Group to comments, particularly the Aegon comments

C3 Phase III

- **Additionally, prior to the Winter NAIC meeting:**
 - The LRBCWG discussed, but never scheduled a conference call with the SOA concerning its report - Analysis of Proposed Principle-Based Approach
 - The Academy C3 Life and Annuity Capital Work Group provided draft RBC instructions for C3 Phase II and C3 Phase III to the LRBCWG

Winter NAIC Meeting

- **The LRBCWG exposed the draft C3 Phase II and C3 Phase III RBC instructions for comment for 45 days**
 - Most of the instructions are contained in two appendices
 - Appendix 2 contains the Academy C3 Life and Annuity Capital Work Group's C3 Phase II report along with existing requirements language in the instructions
 - Appendix 3 contains the Academy C3 Life and Annuity Capital Work Group's C3 Phase III report
 - The instructions were drafted to retain existing requirements
- The LRBCWG will schedule a conference call prior to end of the exposure period to discuss the instructions

Winter NAIC Meeting

- **The LRBCWG asked the ACLI to provide its proposals for a materiality test and scope limitation by January 4, 2010**
 - The LRBCWG is looking for language that is specific and detailed enough to be incorporated into the instructions
- **The LRBCWG will follow the LHATF decision for economic scenarios**
 - A proposal to LHATF to use a limited set of specific scenarios rather than stochastic scenarios for most business was not accepted
 - LHATF appears to be moving towards the use of the Academy Economic Scenario Work Group's scenario generator, perhaps with some modification

Winter NAIC Meeting

- **The LRBCWG was aiming to get C3 Phase III adopted by year-end 2009 for 2010 introduction to give companies a one-year lead time for implementation**
 - Since the changes the LRBCWG are currently reviewing would potentially reduce the work load, the WG agreed to a deadline of the Spring 2010 NAIC meeting to finalize C3 Phase III at which time the WG will determine whether a 2010 implementation date was still appropriate
 - If C3 Phase III is not finalized by the Spring meeting, there will not be 2010 implementation

C3 Phase II Results Subgroup

- **C3 Phase II Results Subgroup continues to review 2008 Results**
 - Although the subgroup has not reviewed all 12 of the Actuarial Memorandums it requested, the subgroup is in the process of developing a document with observations and recommended improvements, including priorities
 - The Subgroup is trying to schedule a Regulator-to-Regulator conference call in December to discuss the draft and hopes to finalize the document soon

Other Subgroups

- The Joint LHATF/CADTF Subgroup has not been active in the last quarter of 2009
- A new subgroup, the Solvency Modernization Subgroup chaired by New Mexico will coordinate the capital requirements of the Solvency Modernization Initiative for all RBC lines

VM-20 Update

Dave Neve, FSA, CERA, MAAA

Chair, American Academy of Actuaries Life Reserves Work Group
Vice President, Corporate Valuation, Aviva USA



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VM-20 Update: Topics Covered in this Session

- ACLI Net Premium Reserve (NPR) Proposal
- Status of LRWG Asset Default Proposal
- Economic Scenarios
- LRWG Priorities for 2010



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Net Premium Reserve (NPR) Proposal

- Under development by the ACLI
- Is a significant change from current VM-20 methodology
- A minimum formulaic floor that is designed to address tax concerns with current VM-20 methodology
- **The ACLI expects to have complete NPR method language drafted by January 1**



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Net Premium Reserve Framework

1. Calculate Formula Reserves as a floor (Net Premium Reserve)
 - a. Based on prescribed assumptions (mortality, lapses, interest and expense allowances)
 - b. The only variations in net premium reserves between companies will be solely because of policy structure
 - c. Cash Surrender Value floor on a policy by policy basis
2. Company can elect to exclude a group of policies from the stochastic and deterministic reserve requirements by passing separate exclusion tests
 - a. Stochastic exclusion test – same as VM-20
 - b. Deterministic exclusion test – test of adequacy of gross premiums by comparing a set of contract guarantees vs. valuation assumptions used for net premium reserve



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Net Premium Reserve Framework (cont'd.)

3. If required, calculate the stochastic reserve using the same approach currently defined in VM-20. Take the greater of the aggregate Net Premium Reserve (item 1) or the aggregate stochastic reserve for same contracts.
4. If required, calculate the deterministic reserve using the same approach currently defined in VM-20, but on an aggregate basis with no CSV floor. Take the greater of the aggregate Net Premium Reserve (item 1) or the aggregate deterministic reserve for same contracts.
5. The order of the exclusion tests will be performed so that either item 3 or item 4 will be performed (but not both).



Order of Calculation

1. Calculate the NPR on a seriatim basis before reinsurance for each policy, compare to the cash surrender value on a policy-by-policy basis, and take the greater of the two
2. Perform the stochastic exclusion test (SET) for any subset of policies so elected
3. If policies fail the SET, then compute the stochastic reserve per VM-20 for those policies, compare to the NPR for the policies in the aggregate, take the greater of the two, and skip steps 4-6 (next slide)



Order of Calculation (cont'd.)

4. If policies pass the SET, then perform the deterministic exclusion test (DET) for those policies
5. If policies fail the DET, then compute the deterministic reserve per VM-20 (but in the aggregate with no policy-by-policy comparison to the CSV)
6. If policies pass the DET, then the NPR is the final reserve for those policies



Details Likely to Generate Further Discussion

- Level of aggregation for stochastic exclusion test and deterministic exclusion test
- Appropriateness of the deterministic exclusion test
- Appropriateness of prescribed assumptions
- Treatment of reinsurance – many issues



Summary of Asset Default Framework

1. A prescribed methodology with parameters set by regulators
2. It's an asset-by-asset approach. Each asset is associated with a benchmark asset of the same quality rating and weighted average life
3. Projected default costs are the sum of four components:
 - a. Annual historical default cost for the benchmark asset based on long-term statistics, set at a conservative level, such as CTE 70
 - b. Temporary adjustment for an N year period (currently N=3) to reflect either somewhat higher or lower default costs in the short run based on the level of current market spread (of the specific asset) relative to historical mean spreads
 - c. Additional temporary adjustment for N years to ensure that each asset has a default cost that is not lower than a prescribed minimum
 - d. Additional temporary adjustment for N years if the portfolio current market spread is > a defined threshold (currently A3/A-)



Status of LRWG Asset Default Proposal

1. LRWG originally proposed a prudent estimate approach, but has developed this prescribed approach at the request of LHATF
2. At September NAIC Meeting, LHATF agreed in concept to the methodology, but had several questions on the application of the framework
3. Since September, the LRWG refined the approach and completed a report giving a detailed description of the framework
4. Conclusions from December NAIC Meeting:
 - a. LHATF agreed to implement the framework for all asset types that have an independent external rating, including public and private bonds, CMBS and RMBS. The independent rating could be from a rating agency or the NAIC's SVO.
 - b. Non-rated assets, such as commercial mortgages (CM), would be excluded from the framework and a simplified prescribed factor would be used.
 - c. LHATF agreed to consider ideas from the LRWG to incorporate CM in the default framework at the upcoming Spring NAIC Meeting



Next Steps for LRWG

1. By the Spring NAIC Meeting (March), develop VM-20 language for asset default costs including treatment of all major general account asset types and a fail-safe for "all others" (fail-safe is the "simplified prescribed factor")
2. Complete any additional analysis to assist with initial parameterization of our methodology and/or gain regulator comfort by March
3. Develop proposal for reinvestment spreads



Economic Scenarios

1. LHATF discussed an approach that would greatly reduce the use of stochastic scenarios, and instead replace them with a small number (5-20) of prescribed deterministic scenarios that all companies would use
2. The LRWG expressed opposition to this approach for several reasons:
 - a. Extremely difficult to define a small number of scenarios that appropriately capture the risk across all products and all companies
 - b. Current SET in VM-20 allows companies to exclude policies with little or no interest rate or equity return risk from stochastic modeling requirement
 - c. Even if stochastic modeling is required, VM-20 allows the use of scenario reduction techniques to reduce the number of stochastic scenarios
3. After discussion, LHATF agreed to continue with current VM-20 approach
4. The Academy Modeling Efficiency Work Group is currently working on scenario-reduction techniques to address the concern from regulators and industry regarding the work load required to run 1000+ scenarios



LRWG Priorities in Early 2010

1. Provide analysis to LHATF on the net premium approach
2. Finalize prescribed default framework and prescribed spreads for reinvestment assets
3. More guidance/requirements on margins
 - a. At the request of LHATF, discuss the possibility of resurrecting the “Z-factor” metric as a way to quantify the aggregate margin
 - b. Review current margin guidance in the Canadian principle-based approach for possible changes in VM-20
4. Analysis of September 2009 SOA PBA modeling report

C3 Phase 3 Practice Note Update

Todd Erkis, FSA, CERA, MAAA
Chair, American Academy of Actuaries’
Life PBA Practice Note Work Group

Towers Perrin

C3 Phase 3 Practice Note

- Work group working on this practice note since October 2007
- Since calculation is not in place yet, we have discussed expected practice
- Practice notes are not binding and do not define generally accepted practice
- Note has been reviewed by C3 Work Group, LRWG, Reinsurance Work Group
- Is in final stages of posting – should be on web site by end of day

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Selected Question: Common Practice

Q2.2: What will be the relationship between C3 Phase 3 as described in the Report and proposed VM-20 if adopted as currently drafted?

A: There are no specific references in either of the two documents to each other. However, some actuaries may be familiar with exposure drafts of VM-20 and may make use of the information in VM-20 in making the calculations required by C3 Phase 3.



Selected Question: Use of Data Prior to the Valuation Date

Q5.2: Will actuaries take into account experience after the Valuation Date but prior to the date the calculations are performed in the determination of C3 Phase 3 RBC?

A: It is not clear whether practice will lead to modifications of assumptions for information learned after the Valuation Date but prior to the date the calculations are performed. Some actuaries may modify calculation assumptions if such new information would lead to material changes in assumptions that would materially affect the Reported Amount.



Selected Question: Asset Modeling

Q6.3: How should the actuary choose which assets to include in the calculation?

A: The C3 Phase 3 Report states that the assets used in the calculation must be associated with the group of policies that are modeled together to project the future Accumulated Deficiencies. Policy loans and deferred premium assets are examples of assets that are associated with specific policies. Some actuaries would look to the company's asset segmentation plan, investment strategies or approach used to allocate investment income for statutory purposes in deciding which assets are appropriate for the C3 Phase 3 calculation.



Selected Question: Margins

Q9.9: To what extent should the size of the company affect the size of the Margins used?

A: Some actuaries would not modify the size of the Margins based solely on the size of the company. For example, larger Margins should generally coincide with a reduction in uncertainty that might be due to a large number of observations, but is not necessarily dependent on company size since a large number of observations could be generated over time from a smaller company.



Selected Question: Mortality

Q10.3: Would the actuary need to use a specific credibility method, such as the one in the proposed VM-20, to determine the credibility of the mortality experience used to develop the mortality assumption?

A: The Report does not require the use of the proposed VM-20 credibility method in the capital calculation for mortality. However, some actuaries would follow a statistical approach to determine credibility of mortality experience. Methods such as what is described in the proposed VM-20 or other statistical approaches such as the Panjer method are also commonly used. Another resource on credibility methods is the Credibility Practice Note.



Selected Question: Reinsurance

Q17.2: Do the assumptions used by both the assumed and ceded company have to be the same for a specific block part of a reinsurance treaty?

A: No. Per Section 9.A.2 of the C3 Phase 3 Report, "The assumptions that are used by a ceding company to determine the Reported Amount for policies that are ceded to a reinsurer shall be appropriate for the ceding company and need not be the same as the assumptions used by the assuming company to determine the Reported Amount for these policies."



Next Steps

- Expected posting on Academy web site by end of day
- Seeking input from actuaries
 - Help inform work group of industry practice
 - Identify technical corrections needed
 - Identify any areas where wording is confusing or needs modification
- Will likely provide addendum or revision in 2010
- Will start work on Life Reserves practice note in the future
 - Could use additional volunteers – likely start date of late 2010



Questions?

