Aggregate Margin Task Force: LATF Update

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Aggregate Margin Task Force

American Academy of Actuaries

AMERICAN ACADEMY *of* ACTUARIES

Life Actuarial Task Force

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Agenda

- Refresher: Background and objectives of the Aggregate Margin Task Force (AMTF)
- Overview of conceptual goals of an aggregate margin
- Pros and cons of methods considered
- Recommendation
- Next steps

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Background

- Concern with the use of aggregate margins was a major conclusion of the 2011 NAIC VM-20 Impact Study
  - Margins were difficult to determine
  - Resulted in a total margin in the reserve that many felt was too high
  - Does not consider correlations among risks
- Proposal submitted to LATF in early 2012 to replace the individual margin approach with an new aggregate margin approach. LATF decided to defer the analysis of possible aggregate margin approaches until after NAIC adoption of the Valuation Manual due to timing concerns
- LATF formed a subgroup in late 2012 to review aggregate margin approaches, and the Academy also formed a subgroup to make a recommendation regarding approach

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Objectives of the AMFT

- Review and research various alternative aggregate margin approaches
- Provide an analysis of the pros and cons of each alternative
- Provide a recommendation for a specific aggregate margin approach, along with reasons to support the recommendation
- The AMTF also chose to evaluate practical considerations, including a potential implementation method

The AMTF's work was to identify a conceptual framework – additional work will be needed to define implementation specifics

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Goals of the Aggregate Margin

- Provide adequate policyholder protection
- Cover all material risks that are directly related to the policies for which reserves are established
- Allow for a reasonably practical implementation
- Result in a reserve that is auditable and reasonably transparent
- Consider current and evolving approaches for evaluation of risk in a reserve framework

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Assumptions Underlying the Work

- Margin will be added to an "anticipated experience" (or best estimate) reserve with no implicit or explicit margins
  - Practically speaking, if the starting point reserve does have some implicit margins, the task force reported on how the aggregate margin could be adjusted to avoid double counting
- Margin is meant to be used for the reported reserve, and not as a cap or floor used in conjunction with an individual margin approach

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Aggregate Margin Approaches

- Percentage Add-On
- Confidence Interval
- Cost of Capital

Viewed as potential approaches for use in PBR and therefore analyzed in detail as part of task force's work

- "Pure" Exit Value
- Discount Rate Adjustment
- Sensitivity Testing

Discarded early in our work and not evaluated in detail

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Confidence Interval

- This approach involves projecting future net losses under multiple scenarios that cover the universe of possible outcomes considering all material risks
- Once a distribution of outcomes is determined, a point on the distribution (the confidence level) is then selected to determine the total reserve amount (the difference between the mean, or expected, outcome and the outcome at this confidence level is the margin)
- The Conditional Tail Expectation (CTE) is a modified confidence interval approach. It calculates the mean of the losses of a defined tail of a distribution. For example, CTE(70) is the mean of the highest 30% of the distribution.
- In terms of differentiating between reserves and capital, a different confidence level is used for reserves versus capital

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Cost of Capital

- The cost of capital method is based on the concept that the margins for uncertainty should reflect the cost of holding capital to back the underlying risks being modeled (or valued)
- Theoretically, such a margin would be sufficient to compensate another insurance company to take on the risks in the event the policyholder obligations were not met
- Under this method the probability level for reserve adequacy depends greatly on the remaining length of the contract (i.e., higher margins for longer contracts)
- Margin equals the present value of the "opportunity cost" of holding sufficient capital to protect (with a high degree of confidence) against the risk of adverse deviation

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Pros and Cons of Approaches Considered

Method	Pros	Cons
Cost of Capital	• Adequate policyholder protection through liability transfer • Consistency with global market views on margins for risk • Ability to leverage existing frameworks for determining capital	• Complex to apply, so some simplifications will be needed • Does not directly quantify sufficiency of margin to cover obligations in a runoff scenario
Confidence Interval	• Direct quantification of sufficiency of margin to cover obligations in a runoff scenario • Consistency with existing US principle-based approaches	• Complex to apply, so some simplifications will be needed
Percentage Add-On	• Simple to apply	• Does not quantify sufficiency of margin to cover obligations in a runoff scenario • May not appropriately capture risks

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Recommendation

- Task force recommends the Cost of Capital method based on the following:
  - Provides a clear quantification of the level of prudence
  - Consistent with quantification of risk in the marketplace
  - There are existing measures of capital in use that may be leveraged
  - This method aligns with certain international risk quantification approaches
- However, in light of similarities in approach, also recommend continued evaluation of Confidence Interval

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Potential Implementation Methods

- Task force considered the following potential methods for implementation:
  - Representative Scenarios Approach (as discussed by Mark Birdsall at Spring LATF meeting)
  - Use of Company's Internal Capital Model
  - Use of External Capital Measure (RBC or Rating Agency)
- Based on assessment of pros and cons of each, preferred implementation method is Representative Scenarios

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Key Implementation Considerations

- The following implementation considerations were also considered and addressed, at a high level, by the task force:
  - Practicality, auditability and transparency
  - Pattern of margin runoff and extent of surplus strain
  - Alignment of approaches for reserves and capital
  - Approach for allocation of margin to the product level
  - Responsiveness to market conditions ("dynamic-ness")
  - Stress testing of resulting reserve for adequacy

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Suggested Next Steps

- If an aggregate margin method is adopted by LATF, significant additional work will be needed to implement such a method, including items such as:
  - Defining implementation details for purposes of the valuation manual
  - Performing “field testing” of the method using actual company data to assess the impact of the approach
  - Coordinating with other work on principle-based reserves, such as the work currently underway related to annuity products
- To the extent further support by the Academy may be needed on the implementation details, we suggest a combined effort with other relevant groups, such as the Annuity Reserves Work Group
- LATF may also wish to liaise with other organizations for field testing

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