

UL Work Group Update for LHATF

June 10, 2005



AMERICAN ACADEMY *of* ACTUARIES

Copyright © 2005 by the
American Academy of Actuaries
ULWG Update for LHATF
June 2005 1

Objectives of this Session

1. Review Basic Framework of Proposed Framework.
2. Summarize observations and concerns raised from face-to-face meetings with Task Force members
3. Review list of Basic Principles; request the LHATF expose the Principles for comment
4. Discuss key elements of “principles-based” approach as outlined in 28-page document included in the actuarial mailing



Basic Framework of Proposed Methodology



Basic Framework

Based on Gross Premium Reserve (GPR):

- Reserve = PV of future benefits and expense (excluding FIT) less PV of future gross premiums
- Reserve assumptions will be determined for all material risks (mortality, interest, expenses, lapse, premium levels, etc.)
- Reserve assumptions will include a margin for adverse deviation (not best estimates)
- Discount rates will be pre-tax



Basic Framework (cont)

Reserve is the greater of:

1. A deterministic, seriatim, single scenario reserve calculation
2. A stochastically derived reserve (if needed) using a prescribed CTE level

Since the stochastic reserve is done in the aggregate, risk offsets between contracts are recognized.



Basic Framework (cont)

Deterministic Reserve:

- Uses a single set of assumptions that is aligned with economic reality, yet still provides an appropriate level of conservatism
- Is not designed to capture tail risk



Basic Framework (cont)

Stochastic Reserve:

- Multiple scenarios will be defined to properly capture the “tail risk” of the contract (risks that have high impact, but low probability)
- Will use a CTE (conditional tail expectation) level that is set by regulators, such as 65 CTE
- Current thinking is that only interest rate movements will be modeled stochastically



Basic Framework (cont)

“Prudent Best Estimate” Assumptions

- Assumptions will be based on “prudent best estimates” under the same definition used in the VACARVM work
- Definition: Conservative end of actuaries best estimate confidence interval, which includes a provision for adverse deviation
- Since actuarial judgment is involved, will need to set limits and controls



Basic Framework (cont)

Asset Model Still Needed to Project Cash Flows

- Needed for both Deterministic and Stochastic Reserve
- Asset Model is used to determine:
 - Discount rates for GPR
 - Earned rates for surrender benefits
- Discount rates for GPR
 - Based on projected portfolio rates in each year
 - New money treasury rates will be prescribed for Deterministic Reserve; modeled for Stochastic



Basic Framework (cont)

Principles-based versus Asset Adequacy Analysis

- Both involve more actuarial judgment than current “rules-based” valuation approach
- Asset adequacy analysis has very few limits and controls; actuary has a high degree of discretion in setting assumptions
- In contrast, the principle-based approach will have numerous controls, caps and limits placed throughout the framework



Summary of
Observations and Concerns
Raised from
Face-to-Face meetings with
Task Force Members



States Participating

Meetings were held from mid-April to mid-May. States participating included:

New York

Minnesota

California

Kansas

Connecticut

Arkansas

Texas

Pennsylvania

Alaska

Ohio

Oklahoma



Benefits of Discussions

1. Enhanced understanding of the ULWG proposal by Task Force members
2. Education of other staff members on the principles-based approach
3. Facilitated specific feedback to the ULWG (i.e. what they like, what they don't like, suggestions to improve, etc).

Several states requested that we come back periodically in the future to provide updates



General Observations (cont)

- The suggestion was made that LHATF begin the effort to amend the SVL now, rather than waiting until the ULWG proposal is finalized. Both can be done in parallel.
- Most support the concept of developing a set of industry mortality tables representing the experience of several preferred and standard risk classes separately as part of the principles-based approach.
- A few states expressed a desire to impose a non-company specific minimum floor on mortality, at least for the first few years until there is sufficient comfort with the new approach.



General Observations (cont)

- Several stated the need to start working on the RBC requirement.
- A suggestion was made to grade the new approach in over several years.
- Another suggestion was to weight the Deterministic and Stochastic reserve, rather than taking the greater of the two.
- Many stated that mortality improvement should not be assumed beyond the valuation date.
- A few states mentioned that consistency with VACARVM / C3 Phase II is not critical.



Concerns Raised

- Gross Premium approach doesn't recognize timing of profits (may lead to higher reserves increases in later years compare to earlier years)
- Negative reserves in early years under GPV
- Need a seriatim cash value floor
- Non-forfeiture rules may need to be changed
- Establishing controls on setting assumption margins
- Projecting future premium levels will be difficult
- Projected expense should be on a cash basis
- Need an alternative approach for small companies



Concerns Raised (cont)

- The “greater of Deterministic Reserve and Stochastic Reserve” approach could lead to an overall reduction in industry reserve levels via reinsurance arrangements between two parties, where one has the Deterministic Reserve being the greater of the two, and other has the Stochastic Reserve being the greater of the two.
 - Volatility due to unlocking of reserve assumptions
 - Strong guidance is needed to define level of asset default assumptions.
 - How will hedges be modeled?
 - Method used to determine mortality credibility



Basic Principles of a Principles-based Framework for Life Products



AMERICAN ACADEMY *of* ACTUARIES

Copyright © 2005 by the
American Academy of Actuaries
ULWG Update for LHATF
June 2005 18

Basic Principles

- **Principle 1**: Methodology will **appropriately capture the degree of risk** underlying the product being valued, particularly the magnitude of “tail risk”. In other words, the higher the risk, the higher the reserve.
- **Principle 2**: Methodology will provide a framework that can be **applied to all individual life insurance products**.
- **Principle 3**: A **deterministic** reserve approach may be appropriate for certain products, depending on the level of risk, and **stochastic** approaches may be necessary for other products.



Basic Principles (cont)

- **Principle 4**: For risks that the company has some degree of control over (e.g., mortality), **assumptions should reflect a blend of company experience (if credible data is available), and prescribed assumptions.** For risks that the company has no control over (e.g., interest rate movements), prescribed assumptions or methods for setting the assumption should be used that are the same for all companies.
- **Principle 5**: For risks that are not stochastically modeled, assumptions should be based on “**prudent best estimates**” that incorporate appropriate margins for uncertainty.



Basic Principles (cont)

- **Principle 6:** An acceptable regulatory review and **governance process** must be established (e.g., peer review, disclosure requirements, etc.) to enable the regulator to properly evaluate the appropriateness of the results.
- **Principle 7:** Since this Approach will rely more heavily on **actuarial judgment** to establish assumptions and other related items than the current rules-based approach, **appropriate controls, limits and caps will be incorporated** throughout the methodology to establish boundaries on the degree of actuarial judgment that can be exercised.



Basic Principles (cont)

- **Principle 8:** Assumptions will not be locked in at issue, but will be allowed to change as expectations as to future experience and economic conditions change.
- **Principle 9:** While a stochastic cash flow model attempts to include all real world risks, **it will still contain limitations because it is only a model.** The calculation of the Stochastic Reserve is based on the results derived from the application of the stochastic cash flow model to scenarios while the actual statutory reserve needs of the company arise from the risks to which the company is (or will be) exposed in reality.



Basic Principles (cont)

- **Principle 10:** A cash flow scenario model attempts to represent reality, but will always remain an approximation thereto. **The use of assumptions and risk management strategies should be appropriate to the business and not merely constructed to exploit “foreknowledge” of the components of the required methodology.** The use of assumptions and methods in the model that serve solely to reduce the calculated statutory reserve without also reducing risk on scenarios similar to those used in the actual cash flow modeling are inconsistent with these principles.



Key Elements of Proposed Framework for Further Discussion



Key Areas for Discussion

- Mortality Assumptions
- Asset Assumptions
- Expense Assumptions
- Treatment of Reinsurance

