

**American Academy of Actuaries
Valuation Law and Manual Team
Subgroup 4 Report**

**Presented to the National Association of Insurance
Commissioners
Life and Health Actuarial Task Force**

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Valuation Manual Team Subgroup 4

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Background

- The Principles-Based Approach (PBA) began with the work on variable annuities with secondary guarantees for Risk-Based Capital.
- Expanded to include reserves for universal life and term insurance.
- Further expanded to include reserves for all life insurance products.
- Exemptions for a small number of products.



Background (Cont)

- Regulators and industry groups have commented on:
 - Product exemptions.
 - The complexity and expense of the PBA process as it applies to all products, even though some products may have minimal tail risk.
 - Non-discriminating application of a PBA approach may be more expensive and complicated than is necessary or practical to compute reserves for some types of life insurance products.
 - The cost and use of resources to perform a full, stochastic-based PBA analysis may not be necessary for products that do not have a significant tail risk.



Major Areas of Concern

- The process to justify the exclusion from stochastic modeling is perceived to be too complex. The resources required for this process will put a strain on many companies where it may not be needed given their product mix.
- The cost of an extensive and independent PBA review of a complex PBA process.
- The experience reporting required for a myriad of assumptions, including mortality, lapse and policyholder behavior may be unnecessary (or at least not necessary annually) for companies that do not have material experience.
- The cost of the PBA approach may put smaller companies at a disadvantage in a way that may lead to an unlevel playing field.



Cost/Benefit Analysis

- Cumulative costs may exceed benefits.
- Recommend that initial consideration be given to defining the various important tradeoffs of cost and benefits.
- Any method of comparison should consider both the current or alternative options that may be developed.



Approaches Considered

- Three types of approaches:
 - Phase-In
 - Simplifications but variations of current LRWG Model
 - Simplified methods outside of current LRWG approach
- These do not address all of the concerns listed above because we would like further direction and input on what approaches would be considered by LHATF and the LRWG.



1. Phase In the LRWG Requirements

- Consider initial adoption of PBA for more complex products only (e.g., Variable, UL with long term secondary guarantees)
- Delayed adoption or temporary exemption from all or parts of the PBA process for other products with less tail risk
- Allow actuaries and regulators to gain experience and a familiarity with the new PBA process based on a limited set of products
- Use valuation manual to extend to other products
- Implement simplified methods



1. Phase in the LRWG Requirements (Cont)

- Definitions of these products based on the risks of the product would be required.
- Extensive use of certain types of investments (e.g., equities, options) may also require stochastic testing.
- May require a better definition of significant tail risk.
- May be desirable to require an actuarial opinion to specify that no embedded options have been included in the product design that would classify the product as one of the types requiring testing.
- Other Considerations.



2. Changes within Current LRWG Model

■ Approach 1

- Start with the presumption that reserves ought to be deterministic and computed policy by policy.
- Develop a test to determine if stochastic work is required.
- If the product fails the test, reserves are computed using the LRWG requirements.
- If it passes, the deterministic method is used.



2. Changes within Current LRWG Model (Cont)

■ Approach 1 (Cont)

– Putting deterministic first serves two purposes:

- A contract by contract methodology may fit better in the current tax law because there is one underlying basis for the reserve.
- The reordering more clearly makes the point that the PBA requirements are not mandating stochastic testing for all products.



2. Changes within Current LRWG Model (Cont)

- Approach 2
 - PBA as currently designed with the following changes:
 - A simplified exclusion test which, if satisfied, would allow the use of a Deterministic Reserve
 - A simplified approach to setting Prudent Estimate assumptions.
 - For companies with products that qualify, this would reduce the cost of modeling and the cost of any independent PBR review required.
 - We are currently working with the LRWG to identify areas that can be simplified and still retain the PBA principles.



3. Development of Simplified Methods that are Outside of the Current LRWG Approach

- **Approach 1:** Require an initial actuarial opinion that would cover all products.
 - The actuary would classify the reserve approach needed for a product as either:
 - current formulaic approach (net premium reserves)
 - deterministic gross premium reserves, or
 - the current LRWG draft proposal.
 - This opinion would be fixed and would require justification for the classification, based on scenario testing and risk profiles present in the products.



3. Development of Simplified Methods that are Outside of the Current LRWG Approach (Cont)

■ Approach 1 (Cont)

- Future valuations would correspond to the classifications above.
- A change of method would require approval by the commissioner.
- The rationale supporting the initial opinion would be monitored on a periodic basis.
- Any material changes may require redetermination of the appropriate reserve methodology.



3. Development of Simplified Methods that are Outside of the Current LRWG Approach (Cont)

- **Approach 2:** Calculate a gross premium reserve under anticipated experience assumptions using a seriatim, deterministic approach.
 - A provision for risk is added, which would need to be determined before this approach could be adopted, agreed to by regulators and specified in the valuation manual.
 - For contracts with non-guaranteed elements, the approach is simplified further by use of a “valuation basis underlying guarantees.”
 - This is a set of gross premium valuation assumptions under which, at issue, the present value of premiums equals the present value of guaranteed benefits and expenses.



3. Development of Simplified Methods that are Outside of the Current LRWG Approach (Cont)

■ Approach 2 (Cont)

- Normally, the assumptions in this valuation basis will be conservative.
- This valuation basis is locked and used to value future guarantees (excluding non-guaranteed elements) on each future valuation date, subject to a simple adequacy test of valuing the guarantees under current assumptions.
- Secondary guarantees would be included as guarantees under this approach.



3. Development of Simplified Methods that are Outside of the Current LRWG Approach (Cont)

- **Approach 3:** Calculate a deterministic reserve as in the current PBR requirements, but with the seriatim reserve based on option 3b. above.
 - Use a NAIC rate for interest and a CSO table chosen by an underwriting scoring test. The stochastic exclusion test would be a cash flow test with predefined extreme scenarios set by a regulatory body, such as the Centralized Examination Resource Office, each year.
 - The predefined extreme scenarios could vary by product.
 - The use of this test may be deemed by the regulatory body to be inappropriate for some products, in which case the stochastic exclusion tests in the current LRWG draft would be required.



3. Development of Simplified Methods that are Outside of the Current LRWG Approach (Cont)

■ Approach 3 (Cont)

- Any deficiency means the test is failed and the stochastic reserve is computed as in the PBR model.
- If no deficiency, the recalculated deterministic reserve is computed using the greatest present value of accumulated deficiencies (GPVAD).



Future Work

- Subgroup 4 will continue to work with the LRWG on the approaches outlined in this report.
- A combination of these approaches may be considered as well, such as initial product exemptions where the number of product exemptions are reduced based on additional flexibility provided in the LRWG model.
- Any input LHATF can provide to help focus the efforts is welcome.



Valuation Manual

We support the direction of the Valuation Manual to handle new approaches as products, methods, and techniques evolve which will enable this manual to handle the options provided in this report.

