July 31st, 2024

Annuity Reserves and Capital Subcommittee
American Academy of Actuaries
Reserves & Capital Field Testing
Description & Specifications

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Section I: Field Study Overview

Objectives

1) Measure the impact on actual business of the proposed reserve and capital frameworks relative to the current standards to ensure frameworks are working as intended.
    - Conduct field test to inform decisions related to the proposed non-variable annuity principle-based reserving (PBR) methodology:
        - Test exclusion testing, allocation, proposed treatment for hedging indexed credit, aggregation, and other methodology elements.
        - Whenever this document references the PBR methodology, it means the framework documented in the most recent exposure draft: VM-22 Draft ς July 2023.
        - Whenever this document references the SPA, it means the most recent exposure draft: VM-22 SPA ς June 2024 Clean.
2) At a high-level, ensure pillars of framework are met:
    - Appropriate Reflection of Risk τ All else equal, greater risk in *adverse conditions* requires greater statutory reserves/capital, and vice-versa.
    - Comprehensive τ

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Section II: Assumption Specifications

Asset Assumptions

- Use asset assumptions found in VM-22 draft instructions.
- Participants shall disclose their starting asset portfolio and reinvestment assets used.
- Participants should disclose methodology for asset allocation when providing results.
- Investment guardrails for fixed income investment strategy set to:
    - 50% AA, 50% A for baseline run.
- Index-based hedging programs shall use company assumptions, if possible, with the level disclosed. If not possible, for any reason, set index-based hedging program error to 1.5%.
    - Set all other hedging program error factors to 5%
    - Please share the reason it is not possible to use a company assumption if the field test default of 1.5% is assumed.
- Include margins on company experience assumptions (see subsection below).

Liability Assumption & Margin Requirements

- Prudent estimate assumptions for the VM-22 deterministic and stochastic reserve.
    - Set, and disclose with results, margins on mortality, policyholder behavior, expenses, hedging, non-guaranteed elements (NGEs), withdrawals, and other assumptions as deemed necessary.
    - If a company does not wish to use its own margins, then use the field test default margins below:
        - +/-10% mortality on plus/minus segments, +5% maintenance expenses, +/- 10% on lapses, 150% dynamic lapsesJE 9y0F1 11.Ta11.6(o)-5(n)3(m0 G -0.12 Tc[,)] TJETQq0.00000912 0 612 792 reW*nBT/F1 11.04 T

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- For value at risk (VaR)/CTE runs, if available, provide:
  - Actuarial present value of benefits, expenses, and related amounts less the actuarial present value of premiums and related amounts plus the balance of any separate account assets at each valuation time node.
  - Present values are calculated using the discount factors implied by the NAER vector under the path of discount rates specified by the economic scenario.

<u>Population</u>

- For projections, either create a population using inforce population based on the most recent issue year or use a pricing population (pricing cells) for a single year of issue business based on recent historical inforce business.

<u>Outer Loop Scenario Requirements</u>

The outer loop requirements should be based on unmargined PBR experience assumptions unless specified below. Use scenario 9, from the Exclusion Test Scenarios, for interest rates and equities from scenario gener4Tm0 en-US outer loop assumptions:

- Interest rate and equity scenario assumptions will be provided to field testing participants.
- Three sets of 200 scenarios, 600 in total (if including time 0, time 10, time 20)m0, will be providedeld testing participants at each valuation point.
- Assume 0.5% mortality improvement from the valuation date and 2% expense inflation applicable to per policy expenses.
- [illegible].
- Use VM prescribedng -term spreads and defaults.

Section V: Sensitivities

Remove each assumption margin (mortality, lapse, withdrawal, expense and other) and provide results (summary at minimum, but all detail including capital is preferred).

- For each sensitivity run, provide responses in a new version of the template (and at the same level of detail whenever possible).
- For t=0 scenarios, remove one at a time. For projection runs, remove all at once.
- Capital calculations continue to follow the instructim0 en-Uns in the attached /m10 en-USvities.

Test alternative investment guardrails at the aggregation group level:

- 5% Treasury, 15% AA, 40% A, 40% BBB required sensitivity run.

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Total Account Value = represents the current value of the contract, and it includes both the fixed account value, and any index account values, as applicable.

a rate that reflects the projected after-tax discount rates in that year. In addition, the company should add the Tax Adjustment as described below to the calculated CTEAT (98) value.

Additional Standard Projection Amount (ASPA) = is calculated using the methodology outlined in Section 6 of VM-22.

OLD Factor-Based Calculation (enter after-tax amount