SOCIETY OF ACTUARIES®

ValAct

2025 SOA VALUATION ACTUARY MEETING

SOA Antitrust Compliance Guidelines

Active participation in the Society of Actuaries is an important aspect of membership. While the positive contributions of professional societies and associations are well-recognized and encouraged, association activities are vulnerable to close antitrust scrutiny. By their very nature, associations bring together industry competitors and other market participants. The United States antitrust laws aim to protect consumers by preserving the free economy and prohibiting anti-competitive business practices; they promote competition. There are both state and federal antitrust laws, although state antitrust laws closely follow federal law. The Sherman Act, is the primary U.S. antitrust law pertaining to association activities. The Sherman Act prohibits every contract, combination or conspiracy that places an unreasonable restraint on trade. There are, however, some activities that are illegal under all circumstances, such as price fixing, market allocation and collusive bidding.

There is no safe harbor under the antitrust law for professional association activities. Therefore, association meeting participants should refrain from discussing any activity that could potentially be construed as having an anti-competitive effect. Discussions relating to product or service pricing, market allocations, membership restrictions, product standardization or other conditions on trade could arguably be perceived as a restraint on trade and may expose the SOA and its members to antitrust enforcement procedures.

While participating in all SOA in person meetings, webinars, teleconferences or side discussions, you should avoid discussing competitively sensitive information with competitors and follow these guidelines:

- **Do not** discuss prices for services or products or anything else that might affect prices
- **Do not** discuss what you or other entities plan to do in a particular geographic or product markets or with particular customers.
- **Do not** speak on behalf of the SOA or any of its committees unless specifically authorized to do so.
- **Do** leave a meeting where any anticompetitive pricing or market allocation discussion occurs.
- **Do** alert SOA staff and/or legal counsel to any concerning discussions
- **Do** consult with legal counsel before raising any matter or making a statement that may involve competitively sensitive information.

Adherence to these guidelines involves not only avoidance of antitrust violations, but avoidance of behavior which might be so construed. These guidelines only provide an overview of prohibited activities. SOA legal counsel reviews meeting agenda and materials as deemed appropriate and any discussion that departs from the formal agenda should be scrutinized carefully. Antitrust compliance is everyone's responsibility; however, please seek legal counsel if you have any questions or concerns.

Presentation Disclaimer

Presentations are intended for educational purposes only and do not replace independent professional judgment. Statements of fact and opinions expressed are those of the participants individually and, unless expressly stated to the contrary, are not the opinion or position of the Society of Actuaries, its cosponsors or its committees. The Society of Actuaries does not endorse or approve, and assumes no responsibility for, the content, accuracy or completeness of the information presented. Attendees should note that the sessions are audio-recorded and may be published in various media, including print, audio and video formats without further notice.

About the Academy

Mission:
To serve the public and the U.S. actuarial profession

Community:
Serving over 20K MAAAs & public stakeholders for 60 years

Standards:
Setting qualification, practice, and professionalism standards

Impact:
Delivering over 300 insight-driven publications & resources annually

Moderator and Panelists

Bruce Friedland
Friedland Actuarial
Chairperson; Annuity Reserve and Capital Subcommittee
Moderator/Panelist

Brent Dooley
Member; Annuity Reserve and Capital Subcommittee
Panelist

Jonah von der Embse
Member; Annuity Reserve and Capital Subcommittee
Panelist

Show of Hands Poll

- How many of you are new to VM-22?
- Somewhat familiar?
- Expert?

Timeline

Approved by the Life Actuarial (A) Task Force (LATF) 6/2025

Approved by the NAIC (expected Summer 2025)

Effective 1/1/2026 with 3-year transition

- Once elected, must continue with it, block by block
- Prospective only
- Capital is separate and may be retrospective

Retrospective application

Reserving Categories

Payout annuity

- Single Premium Immediate Annuity (SPIA)
- Deferred Income Annuity (DIA)
- Structured Settlements
- Supplementary Contracts

Longevity reinsurance

- Contracts where insurer assumes periodic payment longevity risk

Accumulation

- VM-22 annuities not included in payout or longevity

Old Rules

- Preneed, GIC, synthetic GIC, funding agreement and other stable value

Exemption Criteria

- < $1 billion Exemption Reserves
- $2 billion NAIC Group
- Gross of reinsurance
- Only contracts issued, otherwise subject to VM-22 due to exercise of contract benefits can be excluded
- Contracts with living benefits must be valued under VM-22

Stochastic Reserve (SR)

- Stochastic Reserve
- CTE 70 of scenario reserve
- Scenario reserve = starting asset amount + GPVAD – PIMR
- Scenario Reserve = iterated starting asset amount that covers all projected benefits and expenses - PIMR

Deterministic Reserve (DR)

- Subject to Single Scenario Test (SST)

- DR follows SR requirements over a single scenario
  - VM-20 scenario 12—deterministic scenario for valuation
  - Uniform downward shocks each month for 20 years, sufficient to get down to the one standard deviation point (84%) on the distribution of 20-year shocks. After 20 years, shocks are zero.

- Single Scenario Test (SST) conditions
  - Predictable, stable cash flows
  - Limited contract holder behavior
  - Economic conditions do not influence contract holder behavior
  - No future hedging strategy except to support low utilization product features
  - Pass a version of an exclusion test

Deterministic Reserve

- Stochastic exclusion ratio test (SERT) with no adjustment to future mortality improvement only

- Stochastic exclusion demonstration test (SEDT)
  - Compare to DR rather than CARVM
  - Is SR on a standalone basis for the contracts subject to the SEDT < DR?
  - First year and once every three years thereafter

- SET Certification Method
  - Do not need to state/show not material mortality/longevity risk
  - Pass 16 SERT scenarios or NY 7 using CFT models
  - Reserves are >= assets needed to support the contracts

PBR Report (VM-31)

- Annuity summary rather than VA

- Annuity report rather than VA
  - Separate sub-reports for VM-21 and 22

- Not changed materially
  - Added “and VM-22” as well as specific items (e.g., future hedging for index credits)

- Significant amount of detail
  - Assumptions, non-guaranteed elements, hedging asset description, how margins are determined
  - **Report should provide a great deal of transparency and insight into the reserve calculations**

Governance (VM-G)

- Minimal changes (“and VM-22”)

- Assuming PBR reserves are calculated

- Board of Directors responsibilities
  - Oversight of senior management
  - Identify and correct material weakness in internal controls
  - Oversee PBR infrastructure (policies, procedures, controls, resources)
  - Review reports and certifications
  - Document in meeting minutes

Governance (VM-G)

Senior management responsibilities

- Ensure adequate PBR infrastructure and strong internal controls
- Review PBR methods, models, assumptions for consistency, as appropriate
- Ensure adequate resources
- Process exists to ensure models produce intended results, validates data used to determine assumptions
- Process exists to review PBR valuations to find and limit material errors/weaknesses
- Process exists to review adequacy of PBR reserves and appointed actuary oversight
- At least annual reporting to the Board, including management PBR knowledge and experience

Governance (VM-G)

Qualified actuary responsibilities

- Oversee PBR calculations for assigned block of policies
- Ensure assumptions, methods and models reflect VM requirements (e.g., prudent estimates)
- Ensure documented internal standards, controls and reserve documentation reflect VM
- Provide summary report to Board and Senior Management
  - Valuation processes used
  - PBR results
  - Level of PBR conservatism
  - Materiality of PBR reserves
  - Unusual issue and findings
- Qualified actuary responsibilities limited if exclusion test satisfied
  - In danger of failing exclusion test and readiness to calculate DR and SR

VM-22 Calculation Overview

Key VM-22 Quantities

Aggregate Reserve for all VM-22 business "AggR"

AggR = ***Stochastic Reserve*** *("SR" for contracts that don't pass Single Scenario Test / Exclusion Test or that elect SR)*

+ Deterministic Reserve *("DR" for eligible contracts that pass Single Scenario Test)*

+ Pre-PBR Reserves *(valued under VM-A/C for contracts that pass the Exclusion Test and elect out of SR)*

+ Additional Standard Projection Amount *("ASPA" for disclosure purposes only; calculated similarly to the SR except using prescribed assumptions (Contingent Tail Expectation with Prescribed Assumptions or "CTEPA")*

Risks Included in Reserve Calculation

Must Include:

Actual or potential events or activities that are directly related to in-scope contracts or their supporting assets and that are capable of materially impacting the reserve.

Each company needs to establish a materiality standard to determine whether an assumption, risk factor, or other element has a material impact on the size of the reserve.

Risk categories reflected in the reserve calculation include

- Asset Risks
- Liability Risks
- Combination Risks

Risks Included in Reserve Calculation

Asset Risks

- Credit risk
- Prepayment/extension risk, roll-over risk, call risk, etc.
- Equity, real estate, and Schedule BA asset performance risks
- Hedge misestimation, hedge performance, and hedge breakage risks
- Currency risks

Liability Risks

- Mortality, longevity, and mortality improvement/disimprovement risks
- Persistency, lapse, partial withdrawal, and premium/fee payment risks
- Benefit utilization, annuitization, and premium dump-in risks
- Expense and inflation risks
- Reinsurer default, impairment, or rating downgrade (if known prior to valuation date)

Combination Risks

- Anything the company identifies as material as part of its risk assessment processes
- Disintermediation risk
- Risks associated with revenue-sharing

Model Segmentation and Reserve Categories

There are two distinct concepts of segregation in VM-22:

Model Segments

Single asset/liability cashflow model instance consisting of contracts from one or more Reserving Categories projected together

Contracts in a single segment should share a single portfolio or investment strategy, share risk management processes, and should be managed together from a business perspective

Examples

- Smaller company with only FIA business and a single asset portfolio may have a single model segment
- Medium-sized company with FIA and MYGA blocks managed in a single asset portfolio may have a single model segment
- Large company with many product lines subject to VM-22 may have multiple model segments just for its FIA business due to different hedging strategies for certain vintages

Model Segmentation and Reserve Categories

There are two distinct concepts of segregation in VM-22:

Reserving Categories

Defined in VM-22 as Payout Annuity Reserving Category, Accumulation Reserving Category, and Longevity Reinsurance Reserving Category

Contracts in different reserve categories generally cannot be aggregated (with one important exception—see next page)

Some companies may have multiple segments within each Reserving Category (e.g., a FIA model segment and a MYGA model segment)

Some companies may have a single model segment that cuts across multiple reserving categories (e.g., a block of payout annuities emanating from prior annuitizations of deferred annuity contracts that is managed with a MYGA block in an integrated risk management framework using an integrated ALM strategy)

Other Aggregation Considerations

Important Exception: Payout Annuity Reserving Category and the Accumulation Reserving Category can be aggregated under certain conditions

- Company manages the risks between the blocks in an integrated manner using either a single portfolio or multiple portfolios with a common ALM strategy
- LATF VM-22 Subgroup plans to revisit this exception and may ultimately impose additional requirements

Amount of aggregation benefit and allocation method must be disclosed

Longevity Reinsurance Reserving Category cannot be aggregated with other reserve categories

- Each individual Longevity Reinsurance contract is subject to a floor equal to 2% of the benefits payable in the next 12 months

Contracts for which a *DR* is calculated cannot be aggregated with other blocks

Determining the Stochastic Reserve

Pre-tax asset/liability projection using data as of the valuation date

- Can use data up as-of up to three months prior to the valuation date (e.g., liability census, asset inforce)
- Need to apply appropriate adjustments down to valuation date (e.g., roll-forward, gross-up, etc.)

Key topics in determining the SR include:

- Starting assets—a particularly important topic given the asset-intensive nature of many in-scope liabilities
- Starting liabilities
- Cashflows
- Reinvestment/disinvestment process
- Assumptions
- Economic scenarios
- Treatment of reinsurance
- Treatment of hedges
- Treatment of nonguaranteed elements

Calculating the Stochastic Reserve

Method 1: Greatest Present Value of Accumulated Deficiencies ("GPVAD")

1. For each scenario and each model segment, start with an asset amount roughly equal to the stat reserve
2. Project the asset and liability cashflows to run-off using the economic scenario
3. Discount the accumulated deficiency (which may be negative) for each year using the Net Asset Earned Rate on additional assets ("NAER - AA") for that scenario
4. Scenario Reserve for scenario X = Starting asset amount – allocated pre-tax IMR + greatest present value (as of proj date) of the projected accumulated deficiencies for that scenario
    i. If using multiple model segments, combine the present values for each model segment and take the greatest present value in aggregate for each scenario
    ii. The scenario reserve cannot be less than the aggregate cash surrender value on the valuation date for the contracts modeled in the projection ("CSV floor")
    iii. Liability market value adjustment ("MVA") can be considered in CSV floor if all supporting assets are held at market value
5. Calculate the Contingent Tail Expectation at the 70th percentile (CTE(70)) of the scenario reserves (aggregate scenario reserves if using multiple model segments)

Calculating the Net Asset Earned Rate on Additional Assets ("NAER-AA")

- NAER - AA = vector of earned rates determined by projecting the post-expense, post-expected default yield on an additional invested asset portfolio ignoring any liability cashflows and using the company's reinvestment policy
- The initial portfolio size used to determine the NAER – AA is set arbitrarily and then increased until the size is sufficient to cover the accumulated deficiency at the end of each projected year
- NAER - AA portfolio must consist of assets not included in the starting asset portfolio
  - General Account assets available on the valuation date
  - Cash
- Acceptable choices for the additional asset portfolio could include
  - Pro-rata slice of the starting asset portfolio
  - Cash that is assumed to be immediately reinvested according to the company's reinvestment strategy
  - Assets that could be transferred to the portfolio from the company's general account to cover any shortfall
- Need to be careful not to double count assets across multiple PBR applications within the same legal entity

Calculating the Stochastic Reserve

Method 2: Direct Iteration

1. For each scenario and each model segment, determine an initial asset amount believed to be roughly equal to the reserve (e.g., prior period reserve plus new premium less benefit payments) to initialize the loop
2. Project the asset and liability cashflows on a pre-federal income tax basis using the economic scenario
3. Determine whether there are any accumulated deficiencies at the end of any projection year
    i. If there are no deficiencies in any year and no undefeased liabilities in the final period, end loop
    ii. If there are deficiencies in one or more years or undefeased liabilities in the final period, increase your starting assets and re-start the solve loop
4. Scenario Reserve for scenario = Starting asset amount from the solve loop—allocated pre-tax IMR
5. If using multiple model segments, combine the starting asset amount from the solve loop for each segment and subtract the aggregate pre-tax IMR
6. The scenario reserve cannot be less than the CSV floor specified in Method 1
7. Calculate the Contingent Tail Expectation at the 70th percentile (CTE(70)) of the scenario reserves (aggregate scenario reserves if using multiple model segments)

Show-of-hands poll

What *SR* calculation method does your company expect to use for its VM-22 business?

- GPVAD / NAER-AA
- Direct Iteration

Liability Assumptions

- Must establish “prudent estimate assumptions” for each risk factor

- General guidance is provided for developing all assumptions
  - Assumptions should be on conservative end of the spectrum.
  - In theory, reserve should be at CTE70-level across the joint distribution of all future outcomes for all material risk factors
  - Larger the uncertainty → greater the margin
  - Not permissible to set the margin for a single risk factor less towards the conservative end of the spectrum to recognize implicit or prescribed margins in other risk factors

- Specific guidance is included for developing policyholder behavior and mortality assumptions

Policyholder Behavior Prudent Estimate Assumptions

- Includes surrender, partial withdrawal, benefit utilization, account transfers, future deposits, income start date, commutation of benefits, resets/ratchets of the guaranteed amounts, and other behavioral assumptions
- Reflect differentiation in assumptions by factors such as product, market, distribution channel, policy year, issue age, time to maturity, options embedded in the product, elective/non-elective nature of benefits, etc.
- Should include margin for uncertainty in addition to the anticipated experience assumption supported by the data.
- As value of an option or behavior increases, utilization should increase. However, behavioral formulas can have both rational and irrational components.
- Should use a dynamic assumption (i.e., by economic scenario) wherever possible. Static assumptions with appropriate margins for uncertainty are also permitted but require sensitivity testing and higher margins.

Mortality Prudent Estimate Assumptions

Start with expected mortality curves based on available experience or published tables, adjusted as necessary for data uncertainty and credibility (i.e., should include a margin for data uncertainty)

- Start with recent direct data for the segment (e.g., for the past three to seven years) if available
- Can use experience from similar contracts if direct experience is not available or credible
- If no data is available, can use Standard Projection Assumptions (though this not a safe harbor)
- If direct data is not fully credible, blend with the SPA assumptions

Should also consider trends in mortality experience, age of experience data, periodic volatility in A/E ratios, trends by amount, changes in the mix of business, potential anti-selection, etc.

Should adjust for historical mortality improvement (for longevity segments). Future mortality improvement should also be applied in the *SR*/*DR* if it would increase the reserve.

Mortality groupings should reflect variation in factors reasonably expected to impact mortality assumptions.

- At a minimum, different assumption groupings are required for payouts or deferred annuity contracts with GLB's and deferred annuity contracts without GLB's.

Inforce Asset Assumptions

Project values and income net of projected defaults using investment returns consistent with their book value and the projected economic scenario (if applicable)

Defaults for starting fixed income assets follow VM-20 prescribed default rates (stated as % of STAT statement value), which equal the sum of three components:

- Baseline annual default cost factor—published by the NAIC
- Spread related factor
  - Varies by asset credit quality and weighted-average life (WAL)
  - Initially 25% * (current market prescribed spread – long-term prescribed spread) [can be positive or negative]
  - Subject to a minimum of negative the baseline cost and a maximum of two times the baseline cost
  - Grades to zero for years four and beyond
- Maximum net spread adjustment factor
  - Same for each starting fixed income asset
  - Details are involved, but it essentially forces you to add default costs if the portfolio spread exceeds a benchmark asset with credit quality BBB/Baa, WAL = company portfolio WAL, and 10bps of investment expense
  - Grades to zero in years four and beyond

Inforce Asset Assumptions (cont.)

- For sales/disinvestment, credit spreads are prescribed for public, non-callable corporate bonds, grading from current levels to long-term levels by the start of projection year 4
- If borrowing is modeled, it follows the greater of the company's cost of borrowing and the rate at which positive cashflows are reinvested in the same time period
- Interest rate swap spreads follow VM-20 prescribed swap spreads

Reinvestment Asset Assumptions

- Reinvestment asset types/qualities/WAL's follow company reinvestment strategy
- Reinvestment strategy can be no more favorable than a prescribed portfolio (portfolio = 5% Treasuries, 15% Aa2/AA, 80% A2/A) with WAL = portfolio WAL in company reinvestment strategy
- Price, structure, and cashflow pattern of reinvestment assets is part of the model representation
- Credit spreads follow VM-20, which grade from current values to long-term values over three years
- Defaults follow VM-20 prescribed default rates

Economic Scenario Generation

Can simply use the prescribed scenario generator from VM-20 (the GOES project) to generate interest rate scenarios, equity scenarios, fund returns for certain generic funds (e.g., S&P 500, Russell Midcap, NASDAQ, MSCI EM, short duration Treasury fund, high yield bond fund, etc.)

- Fund returns (other than those directly prescribed) use some combination of the prescribed funds
- Expected returns and volatility are expected to be consistent (i.e., no free lunch principle)
- Implied volatility scenarios are left to the judgment of the company
  - Must be arbitrage free, demonstrate consistency with historical data, be consistent with the realized volatility with the scenario, etc.
  - TAR should not be reduced due to a gap between implied volatility and realized volatility

Companies can also seek to use their own economic scenario generator

- Must pass certain calibration requirements
- Cannot materially decrease reserves

Treatment of Reinsurance

AggR must be determined both pre-reinsurance ceded and post-reinsurance ceded

- Only treaties that meet statutory accounting requirements to be treated as reinsurance can be reflected
- All provisions in the reinsurance agreement should be reflected

Determining the appropriate assets to use for the ceded portion of the business may be complicated

- One acceptable approach for quota share coinsurance is to use assets similar to those supporting retained business
- For co-funds withheld or mod-co, modeling the segregated assets directly may be appropriate

Should assume all parties are knowledgeable about treaty provisions and will exercise them to their own advantage

If a counterparty is known to be financially impaired, a default margin should be applied

If a risk factor related to reinsurance is not stochastically modeled in the *SR*, an external risk analysis may be used to quantify the impact to the reserves and adjust the assumptions and/or reserve accordingly

Treatment of Hedges

- No future hedging strategy → run-off existing hedging instruments held on the valuation date but don't reflect any purchases or rebalancing in the cashflow modeling

- Future hedging strategy solely covers index credits → run-off existing hedging instruments and model purchases/rebalancing only for offsetting index credits to contract holders subject to a margin
  - Minimum 1.5% multiplicative margin with no maximum margin (20% required if no credible experience)

- Future hedging strategy covers something other than index credits → run-off existing hedging instruments and model purchases/rebalancing expected to be held in the future
  - *SR* = CTE70-BE + E * max(0, CTE70-Adj – CTE70-BE), where E ranges from 5% to 100%
  - CT70-Adj assumes no future hedging strategy except index credit purchases and either runs-off existing hedge assets for non-index credit hedges or replaces existing hedging instruments with cash/other assets
  - CTE70-BE may use either explicit (i.e., directly in cashflows) or implicit (external to SR cashflow model) modeling approach
  - The value of E must be justified based on model considerations, historical performance, back-testing, etc.

Deterministic Reserve

- For groups of contracts that pass the Single Scenario Test and elect not to determine an *SR*
- Only permitted for contracts with predictable, stable cashflows, limited contract holder behavior, no future hedging programs, etc.
- *DR* = scenario reserve projecting cashflows according to the methodology used for determining the *SR* and a single economic scenario
- Economic scenario = VM-20 scenario 12 (uniform downward monthly shocks for 20 years that reach one standard deviation level; no shocks after 20 years)

Additional Standard Projection Amount

- *ASPA* = An additional aggregate amount (not less than zero) calculated using the *CTEPA* Method
  - Aggregate amount for all contracts within each reserving category that calculate the *SR* (additional *ASPA* is calculated if you have contracts that calculate the *DR*)
  - *CTEPA* uses the same approach as the *SR*, but uses a laundry list of prescribed assumptions for mortality, policyholder behavior, expenses, etc. instead of company-determined prudent estimate assumptions

- Company is required to assess the impact of aggregation on the *ASPA* using either a specified measurement approach in the VM or an alternative method discussed with domiciliary regulator

- *ASPA* is currently only a disclosure item, but companies should be prepared to describe why they have a non-zero APSA

LATF Direction on Attribution Analysis

- LATF provided direction to the VM-22 subgroup in April 2025 regarding the current "disclosure only" nature of the *ASPA*

- While not reflected in the current draft due to time constraints, several items will be added to VM-22 for 1/1/2027 and should be included effective 1/1/2026 to the extent companies are able to
  - Attribution analysis covering all material drivers between the *SR* and *SPA* whenever *ASPA* > 0
  - Attribution analysis covering all material drivers between the *SR* and *SPA* at least once every three years even if *ASPA* = 0
  - Clarify that if *ASPA* > 0 and a company doesn't strengthen reserves, support based on reliable, relevant, and credible data is required to justify the lack of strengthening
  - Reiteration that the *SPA* assumptions do not represent a safe harbor (e.g., if company experience indicates less favorable assumptions are appropriate, you should not simply use the *SPA* assumptions)

- Decision for *APSA* to be disclosure only will be re-visited within three-year period

Exclusion Testing, Field Test Results,* and Go-Live Prep

*The Academy partnered with EY to run the field test and create Model Office results. Results were presented to the VM-22 Subgroup over multiple sessions and are publicly available.

VM-22 Exclusion Testing (ET)

Purpose

Eligibility

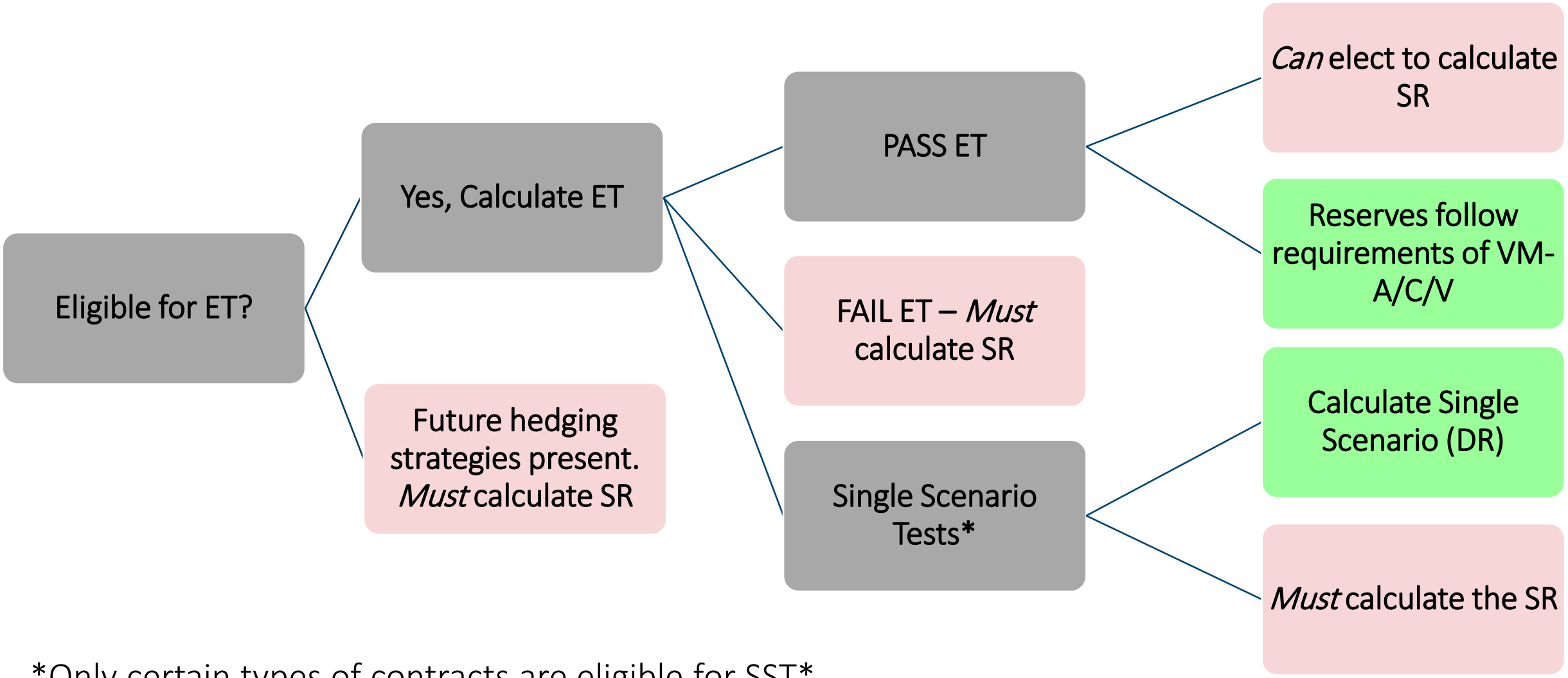
Methods

Single Scenario Tests (SST)

Exclusion Testing Options

- Stochastic Exclusion Ratio Test (SERT)
- Demonstration Test
- Certification Method

VM-22 Exclusion Testing Flow chart



Only certain types of contracts are eligible for SST

VM-22 ET Model Office results

- VM-22 FT did not get enough participation in SERT to share results. EY model office results are shown.
- Regulators set the passing threshold for SERT at **6%**
- What could change these numbers?
  - Mortality improvement vs mortality scalar shocks
  - Product mix/assumptions
  - Initial Assets (e.g., equities)
  - New vs mature block

Product	No Shocks	With +/- 5% Shock
SPIA	3.3%	5.6%
PRT	3.4%	6.0%
FDA (no GLB)	1.3%	1.4%
FDA (with GLWB)	2.2%	2.2%
FIA (no GLB)	5.8%	5.8%
FIA (with GLWB)	33.7%	33.8%

SR vs SPA—Payouts

SPA vs SR	EY MO	Mean	Median	Range	Total Participants
SPIA	-2.3%	-2.4%	-2.7%	3.1%	5
Structured Settlements	-0.5%				
PRT - Retired	8.4%				
PRT - Deferred	9.1%				

Negative value means SR is **less than SPA

- Limited participation from the FT. A new SPA expense added since the FT will slightly increase the SPA result
- SPIAs unlikely to be bound by SPA
- PRT SPA is dependent on assumed mix of Blue/White collar

CARVM vs VM-22*—Payouts

CARVM vs VM-22	EY MO	Mean	Median	Range	Total Participants
SPIA	-3.4%	-3.3%	-0.9%	44.8%	8
PRT (Retired + Deferred)	2.3%	-0.4%	-1.0%	13.2%	6
Structured Settlements	-5.7%	20.9%	9.7%	83.1%	5

Negative value means VM-22 is **less than CARVM

- EY MO calculated a larger reserve release than FT mean for all products when PRT is not floored at SPA.

- Payouts had the largest range of results, highlighting importance of initial asset modeling

*VM-22 Reserve = SR + ASPA - PIMR

SR vs SPA—Accumulation

SPA vs SR	EY MO	Mean	Median	Range	Total Participants
FDA (no GLB)	-1.0%	-0.8%	-1.0%	5.0%	6
FDA (with GLB)	3.5%				
FIA (no GLB)	1.6%	-3.1%	-3.0%	18.6%	7
FIA (with GLB)	3.4%	1.3%	0.0%	12.6%	6

Negative value means SR is **less than SPA

- SPA was more likely to be greater than SR for accumulation, especially for products with GLBs

- FIA had a wider range of results relative to FDA

CARVM vs VM-22*—Accumulation

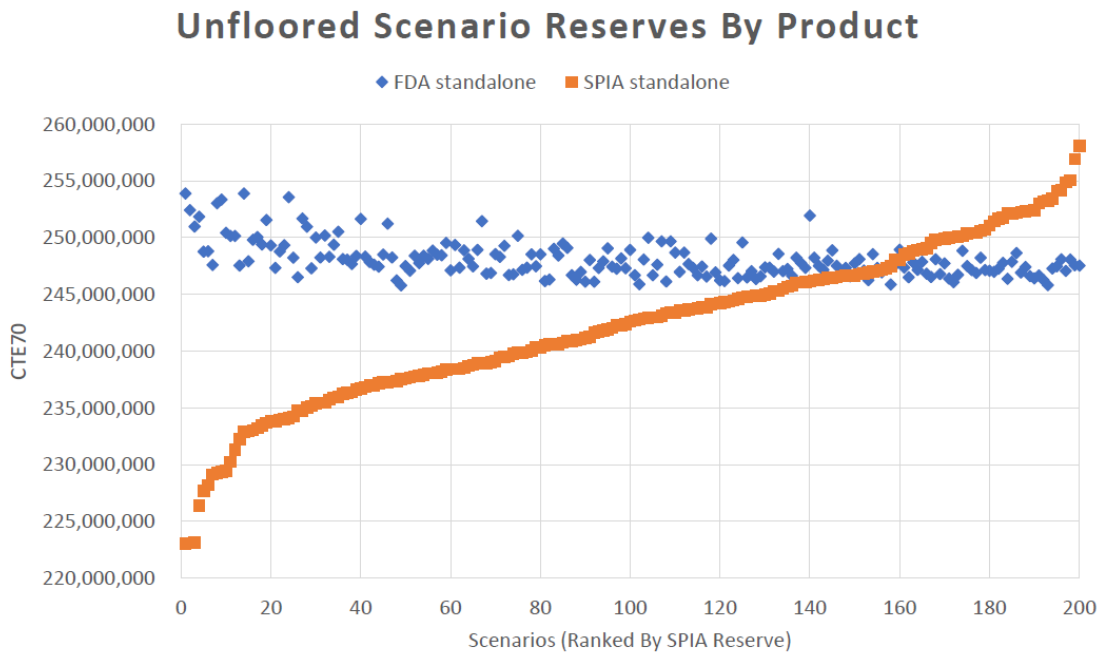
CARVM vs VM-22	EY MO	Mean	Median	Range	Total Participants
FDA (no GLB)	0.3%	2.6%	1.6%	17.7%	11
FDA (with GLB)	-20.7%				
FIA (no GLB)	4.6%	6.3%	3.9%	27.9%	12
FIA (with GLB)	-16.7%	-4.5%	-5.0%	26.5%	12

Negative value means VM-22 is **less than CARVM

- EY MO consistently results in lower VM-22 results relative to CARVM compared to field test participants
- Products with GLBs are expected to have the largest reserve reductions under VM-22
- Relatively large range in results for products, especially those with no GLB, highlights importance of asset selection and modeling

EY Model Office Results—Aggregation SPIA + FDA

	FDA	SPIA	CTE(70) ($Ms)	Delta
Product Mix	100%	0%	250	
	0%	100%	250	
	50%	50%	497.4	**-1.0%**
	90%	10%	497.7	**-0.9%**
	10%	90%	499.5	**-0.2%**



- FDA and SPIA have an offsetting relationship—only 5 of the 60 tail scenarios were shared
- FDA has a narrow distribution of results relative to SPIA, which has a longer and sharper tail
- The addition of SPIA is the driver in total aggregation benefit

Sensitivities and Margins

- Reinvestment guardrail switch from 50/50 AA/A to 5/15/80 Treasury/AA/A reduces SR by 10-50 bps in the EY MO

- Margins
  - Mortality averaged around 5-15 bps for FDA/FIA no WB and 100bps with WB
  - Lapses averaged around 45-65 bps

What *Changed* Since the Field Test?

- SERT & SST
- SPA expense for payouts & no longer binding
- New guardrail
- Aggregation

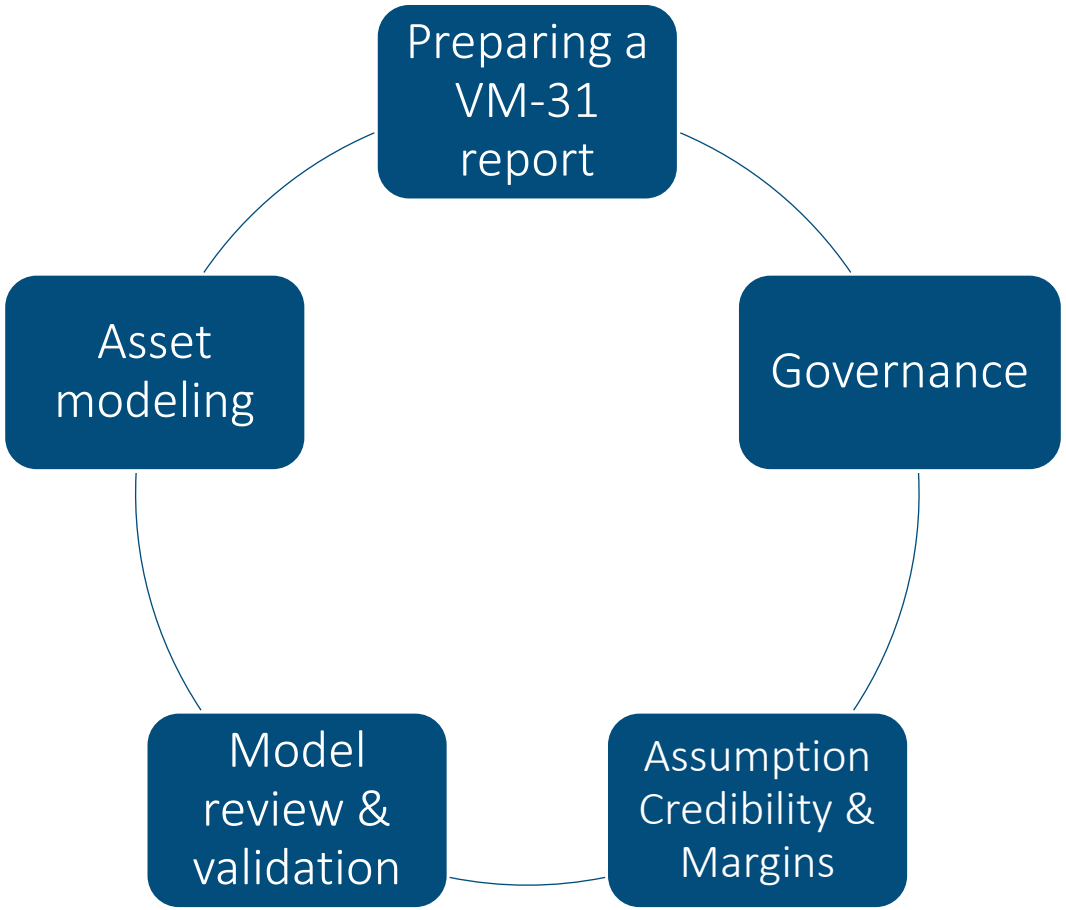
What *was missing* from the Field Test?

- Longevity Reinsurance
- Additional Products
- Single issue year vs mature block
- Hedging
- Reinsurance

VM-22 Day 2 Items

- Explore inforce adoption
- SPA attribution analysis
- Aggregation
- Reserve treatment for Settlement Options
- Deposit-Type Contracts

Keys to a successful VM-22 implementation



Questions?

For more information, please contact the Academy's Policy Project Manager, Life

Amanda Barry-Moilanen

barrymoilanen@actuary.org


Fill Out the Evaluation and Claim Your CPD Credits