MEETING MATERIALS
SUPPLEMENTAL PACKET

LIFE ACTUARIAL (A) TASK FORCE

November 15-16, 2024

NAIC FALL NATIONAL MEETING

November 15 - 16, 2024

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VM-22 Model Office Presentation

VM-22 Field Test Update and Model Office Results

NAIC Life Actuarial Task Force

November 15, 2024

About the Academy

- The American Academy of Actuaries is a 20,000-member professional association whose mission is to serve the public and the U.S. actuarial profession. For more than 50 years, the Academy has assisted public policymakers on all levels by providing leadership, objective expertise, and actuarial advice on risk and financial security issues.
- The Academy also sets qualification, practice, and professionalism standards for actuaries in the United States.

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History

Since the 2022 final presentation of the reasonable assumptions for the standard projection amount, work has continued to develop the VM-22 field test

- ARCS drafted preliminary specifications for the field test, complete with a template for the collection of data in June 2022
- Draft preliminary specifications for public comment were exposed in Dec 2023
- Also in Dec 2023, the NAIC, Academy and the ACLI engaged EY to:
  - Assist all parties in the preparation for, conduct of, and analysis of the field test results; and
  - Develop a model office implementation of the VM-22 specifications, usings results from that model office to compare results with those from the field test and to assess products and/or scenarios which might be difficult for participants in the field test.
- EY reviewed preliminary draft specifications from ARCS, providing comments and suggestions to the NAIC, Academy and ACLI in Jan 2024
- Between Feb and June 2024, the NAIC, Academy, ACLI, and EY met weekly to review specifications and seek consensus.

Current State

Analyzing the results of the field test and the model office analysis

On Aggregation of results from field test:

- Aggregation to allow public dissemination of results as anonymized (requires a minimum of 5 entities for each set of results)
- Limits on public dissemination still allow regulators to view results which do not meet aggregation minima and to view individual company responses
- Academy working closely with EY on producing aggregated results.
- Aiming to have preliminary aggregate results for a VM-22 work group meeting scheduled for December 18th
  - Will inform work group by November 30th if this will be possible.
- Full aggregated results available by early January.

Results submitted:

# of Entities or Groups with Baseline results: 20

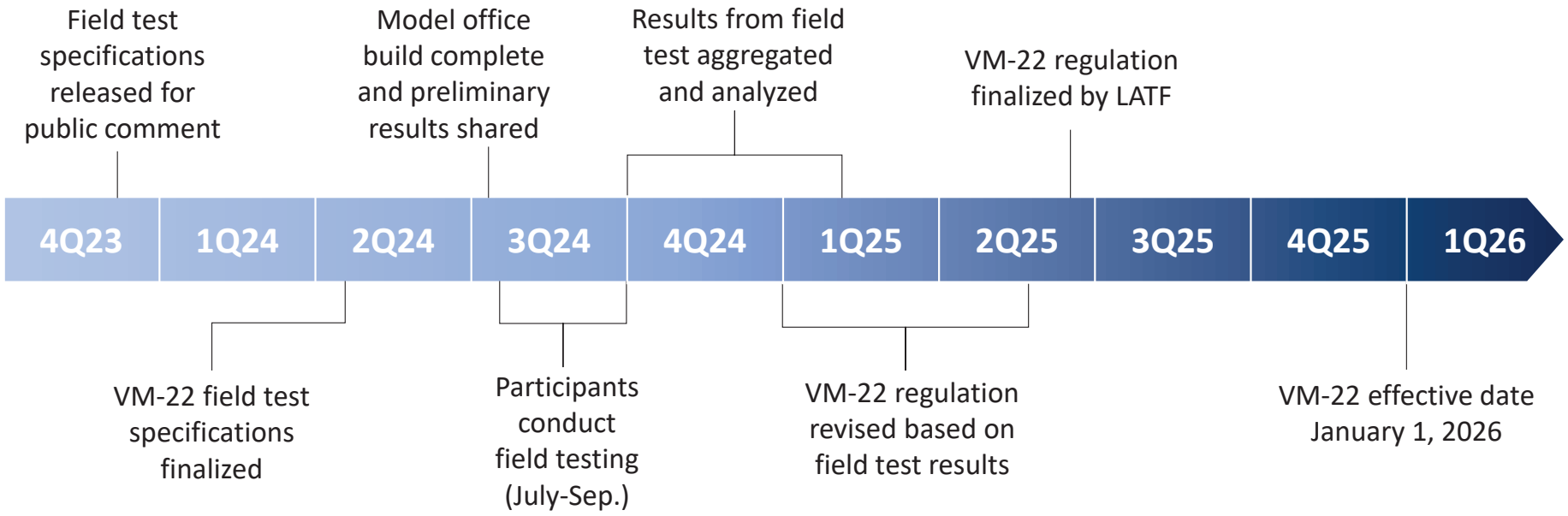
# of Entities with results for:

SPIA	9	FDA w/ no WB	13	FIA w/ no WB	13
SSC	5	FDA w/ WB	4	FIA w/ WB	11
PRT	6				

EY to discuss Project Timeline and Model Office Results

Target VM-22 Timeline

VM-22 field test timeline and key milestones are provided below:



VM-22 Field Test Model Office: Life Actuarial Task Force

November 15, 2024

Disclaimer

These model office results are based on the model specifications agreed upon by members of the NAIC, ACLI, and AAA. Results from actual companies participating in the field test will vary based on real product features, assumptions and distribution of inforce blocks.

Overview of Model Office

EY developed a Moody's AXIS-based model office to support the field test

Overview

Model office specifications were finalized after rounds of discussions between EY, NAIC, ACLI and Academy personnel. The specifications were also refined as per feedback provided by ACLI member companies and ARCSC.

Objectives

- Produce results to analyze VM22 framework on a **representative set of products**, under various sensitivities and scenarios
- Provide **first cut of analysis** in advance of field test commencement, to get ahead of any unexpected test-related results or issues
- Perform further ad-hoc analysis and sensitivities to **lighten the load** on the number of runs being demanded of industry participants
- **Establish a forum** with industry participants while field test is in progress, to triage emerging issues and provide support
- Assess products, scenarios or projections **which may not be feasible** for participants in the field test

VM-22 Impacts by Product

For the products modeled in the model office, deferred annuities with guaranteed living benefits had the largest decrease when moving from pre-PBR CARVM to VM-22.

Product	CARVM ($M)	SR ($M)	SPA ($M)	CSV ($M)	Final VM-22 reserve ($M)	Change from CARVM (%)
SPIA	530.6	512.4	500.5	N/A	512.4	(3.4%)
PRT	501.3	472.3	484.0	N/A	484.0	(3.5%)
FDA (no WB)	278.0	278.7	276.0	275.5	278.7	0.3%
FDA (WB)	1,055.3	808.7	836.7	765.7	836.7	(20.7%)
FIA (no WB)	281.1	289.3	294.0	279.3	294.0	4.6%
FIA (WB)	1,050.9	846.9	875.6	792.2	875.6	(16.7%)

* ***Important disclaimer for the FIA model office results***: the cost of the FIA hedges is currently accounted for via a spreadsheet topside for each scenario. The model currently incorporates the payoffs of the hedges, but not the costs. We have included the costs via topside, estimated as *option budget x AV / 12* (since there are annual resets), which are reflected in the results above and throughout this presentation. A system enhancement is in progress from the vendor.

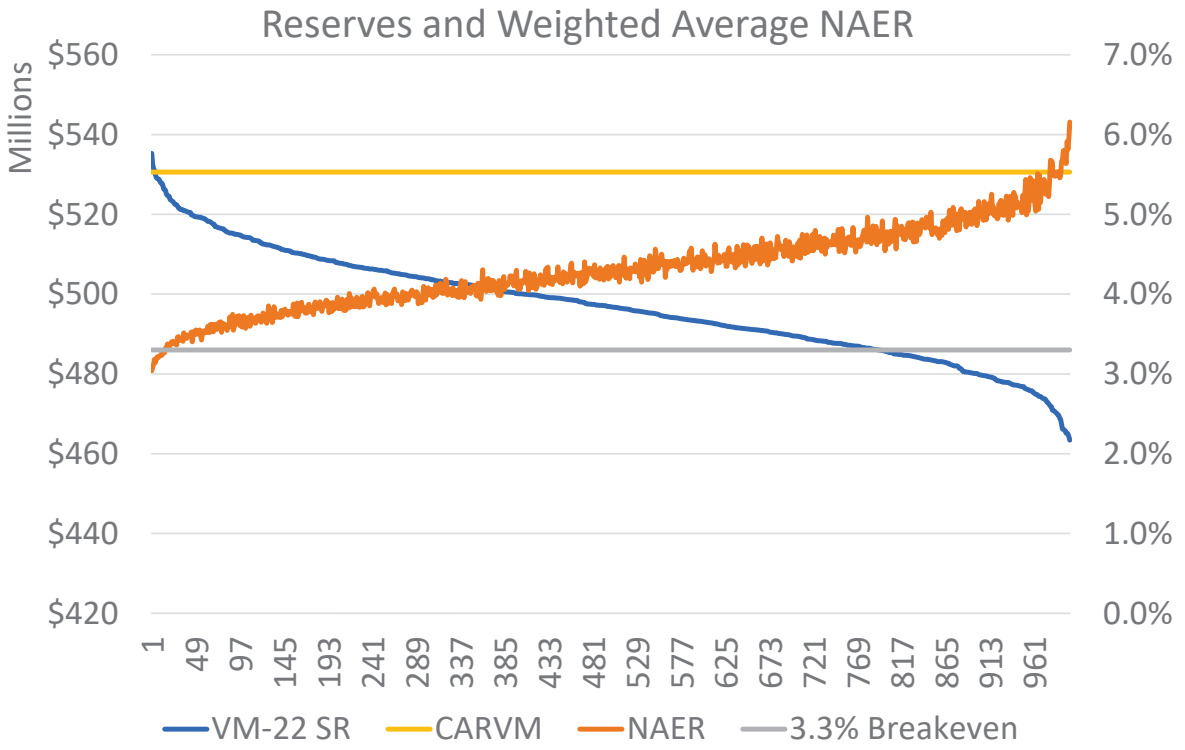
Payout Annuities Reserving Category: SPIA and PRT

SPIA: NAER Analysis

CARVM	SR	SPA	Final VM-22 Reserve	Change from CARVM
530.6	512.4	500.5	512.4	(3.4%)

Using an initial asset portfolio of 10- and 15-year bonds, weighted to produce a duration match with the liabilities, our model office produced a VM-22 reserve which was 3.4% lower than pre-PBR CARVM.

As part of the attribution of these results from current CARVM, we determined a "break-even" rate of 3.3%, by calculating a PV of benefits and expenses under the VM-22 scenarios that would equal the current CARVM reserve of $530.6m. The graph to the right shows the VM-22 reserves by scenario, compared with the weighted average earned rate. In nearly all 1,000 scenarios, the portfolio returns exceeded the break-even rate, driving the reduction in reserves under VM-22.



PRT Results by Sub-block

CARVM	SR	SPA	Final VM-22 Reserve	Change from CARVM
501.3	472.3	484.0	484.0	(3.5%)

The PRT block in our model office consisted of three sub-blocks: structured settlements (SS), a retiree block and a deferred block. Overall, the results from PRT were similar to SPIA, but in looking deeper at the sub-block level, we see differences in the comparisons of results. This is a product where we expect to see more variance in results from the industry participants, depending on the characteristics of the specific blocks, which has started to be revealed with some of the early submissions for PRT.

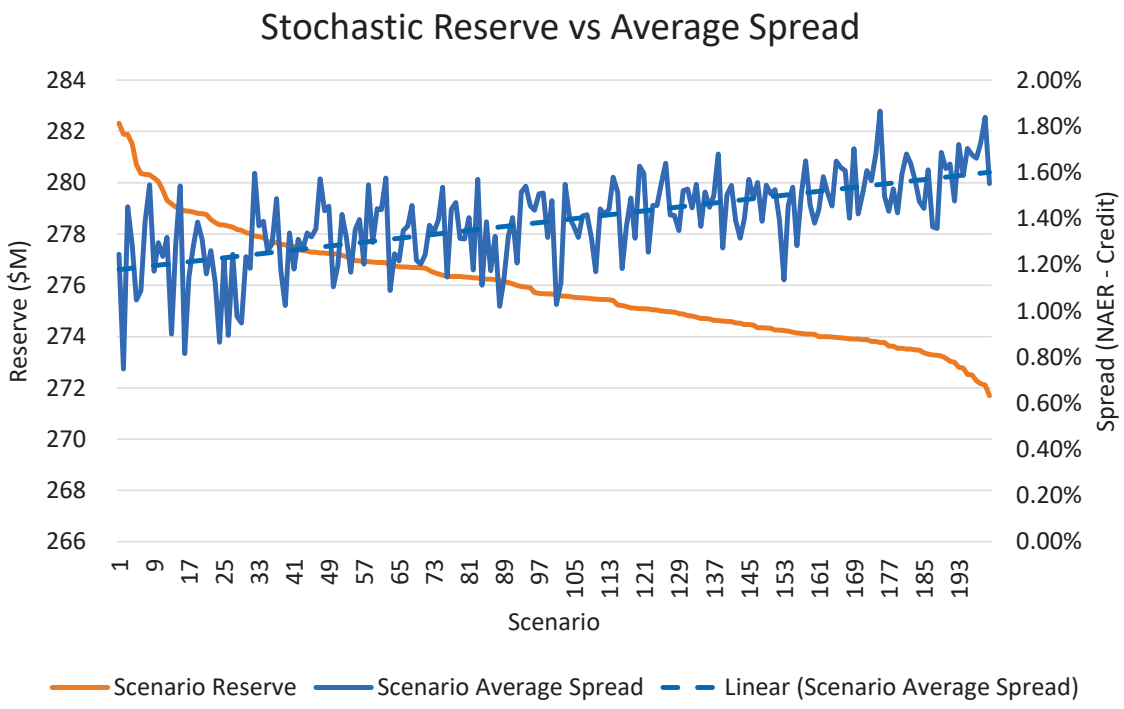
Description	Metric	SR ($M)	SPA ($M)	CARVM ($M)	Change from CARVM(%)
SS	CTE 70	318.5	316.8	337.6	(5.7%)
Retired	CTE 70	114.7	124.3	120.5	3.1%
Deferred	CTE 70	39.5	43.1	43.2	(0.1%)
Total	**CTE 70**	**472.3**	**484.0**	**501.3**	**(3.5%)**

- The results presented above are for the three sub-blocks of PRT.
  - No changes were made to the starting asset portfolio, economic scenarios, or reinvestment strategy to vary by block
- Nearly all of the reserve reduction from CARVM came from the structured settlement (SS) block, due to the higher mortality rates used in our prudent margin assumptions and prescribed SPA assumptions
- The Retired block saw an increase in VM-22 Reserve from CARVM, driven by the higher SPA amount
- The total line shows the results from the aggregate baseline run shown in slide 5

Accumulation Annuities Reserving Category: FDA and FIA

FDA without GLWB: Reserve Sensitivity by Weighted Average Spread

CARVM	SR	SPA	CSV	Final VM-22 Reserve	Change from CARVM
278.0	278.7	276.0	275.5	278.7	0.3%

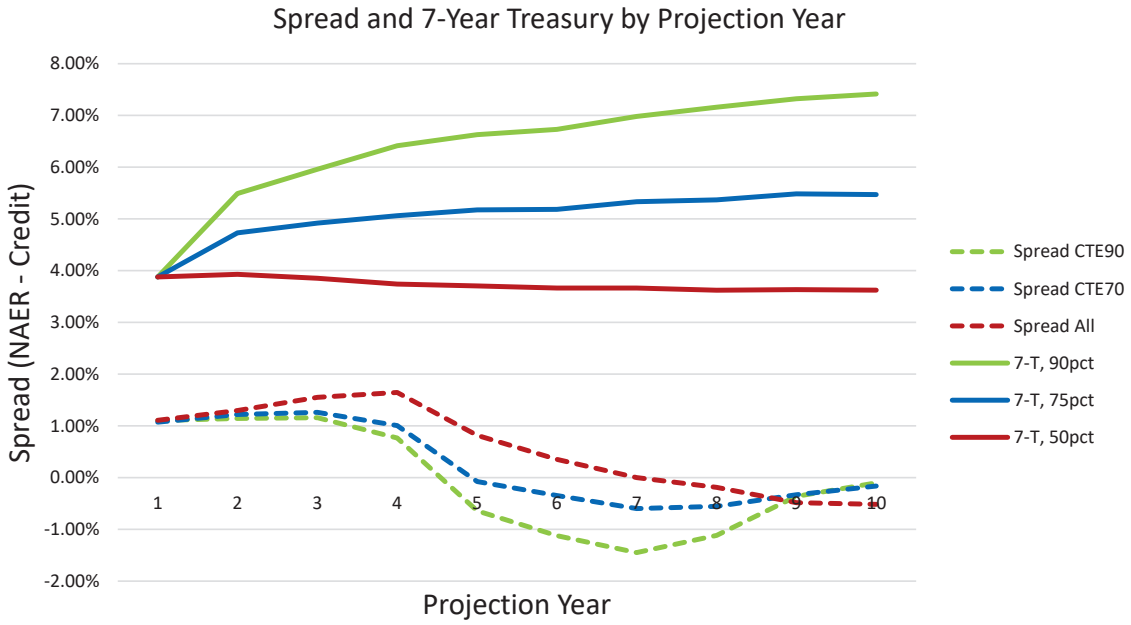


- For each of the 200 stochastic scenarios, the graph shows the VM-22 Stochastic Reserve (orange line) and average spread (blue line), where the average spread is calculated as the **weighted average NAER minus weighted average implied crediting rate**.
- This supports the intuition that larger reserves are correlated with compressed spreads as the scenario will require a larger beginning asset amount to support future cashflow needs.
- The relationship is more muted than seen on SPIA due to liabilities also being impacted by scenarios.

FDA without GLWB: Weighted Average Spread versus 7-Year Treasury

CARVM	SR	SPA	CSV	Final VM-22 Reserve	Change from CARVM
278.0	278.7	276.0	275.5	278.7	0.3%

In the graph below, the solid lines represent the 7-year treasury rates, for all Conning scenarios, anchored on the 50th, 75th and 90th percentiles. Dashed lines represent the average spread earned on investments, calculated as the weighted average NAER minus weighted average crediting rate. Years 1-10 are shown as ~85% of the block has decremented by year 10.

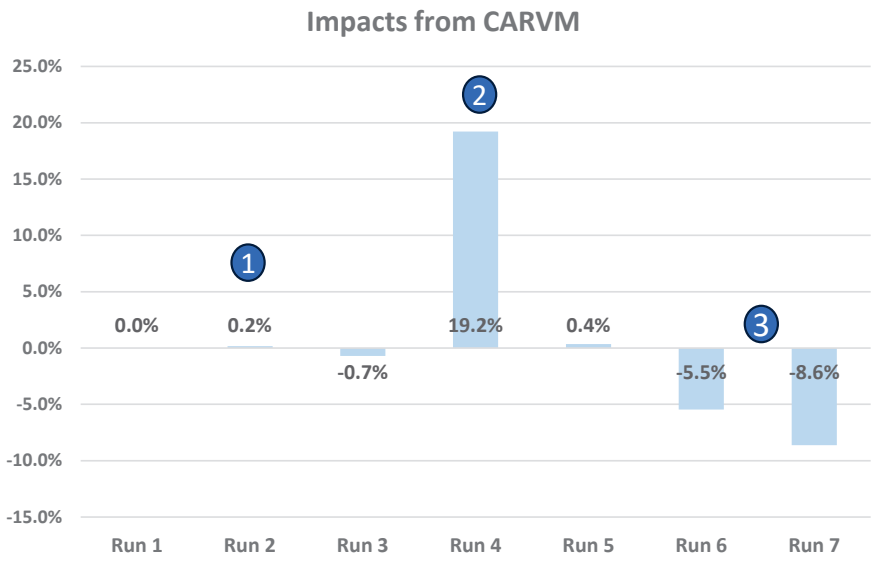


- The relationship shows higher CTEs are comprised of scenarios that observe worse (more negative) spreads, but also higher interest rates.
- The crediting rate formula for this representative product is the driver, as renewal credits equal 7-year Treasury minus 50 bps spread.
- The impact is also likely compounded by lower dynamic lapses when the crediting rate is outperforming the GMIR by greater margins.

FDA with GLWB: CARVM vs. VM-22

CARVM	SR	SPA	CSV	Final VM-22 Reserve	Change from CARVM
1,055.3	808.7	836.7	765.7	836.7	(20.7%)

We performed a set of runs to understand the reserve differences from the current CARVM methodology to VM-22.



Commentary
Run 1: CARVM reserve using immediate withdrawals as only withdrawal path, and SPA mortality assumption ($885.1M)
Run 2: VM-22 SPA, with no lapses and 100% immediate withdrawals ($886.6M)
Run 3: CARVM reserve using immediate withdrawals and CARVM mortality assumption ($878.9M)
Run 4: CARVM reserve using perfect efficiency on withdrawals ($1,055.3M)
Run 5: VM-22 SPA with no lapses, and partial withdrawal utilization assumption ($888.3M)
Run 6: VM-22 SPA with assumed lapses and utilizations ($836.7M)
Run 7: VM-22 SR with assumed lapses and utilizations ($808.7M)

There are three key takeaways from this analysis:

1. When we remove the perfect efficiency from CARVM, remove lapses from SPA, and use the same mortality assumption in both, the reserve differences are only 0.2%.
2. The CARVM implicit assumption of perfect withdrawal efficiency is main driver of differences between VM-22 and current reserving methodology. CARVM reserves increased by 19% when all paths were modeled.
3. VM-22 lapses also lowered the reserve, as shown in the Run 5 and Run 6 results for SPA and SR, respectively.

Reinvestment Guardrail Sensitivities

VM-22 Reinvestment Guardrail Sensitivities

The impacts of testing alternative reinvestment guardrails resulted in lower reserves than the baseline 50/50 A/AA split. The table below shows the impact on the Stochastic Reserve for the following tests:

- **Baseline:** 50% AA, 50% A
- **Sensitivity 1:** 5% Treasury, 15% AA, 40% A, 40% BBB
- **Sensitivity 2:** 5% Treasury, 15% AA, 80% A

Product	Baseline ($M)	Sensitivity 1 ($M)	Difference from baseline	Sensitivity 2 ($M)	Difference from baseline
SPIA	512.4	512.6	0.0%	511.9	(0.1%)
PRT	472.3	471.7	(0.1%)	470.2	(0.5%)
FDA (no WB)	278.7	277.4	(0.5%)	277.9	(0.3%)
FDA (WB)	808.7	802.3	(0.8%)	806.5	(0.3%)
FIA (no WB)*	289.3	286.2	(1.1%)	288.0	(0.4%)
FIA (WB)*	846.9	839.9	(0.8%)	844.3	(0.3%)

* ***Important disclaimer for the FIA model office results***: the cost of the FIA hedges is currently accounted for via a spreadsheet topside for each scenario. The model currently incorporates the payoffs of the hedges, but not the costs. We have included the costs via topside, estimated as *option budget x AV / 12* (since there are annual resets), which are reflected in the results above and throughout this presentation. A system enhancement is in progress from the vendor.

Stochastic Exclusion Ratio Test (SERT)

Stochastic Exclusion Ratio Test results

The table below summarizes the results of the stochastic exclusion ratio test for each product included in the model office. The impact of applying a +/- 5% mortality margin did not materially impact the resulting ratio for all products.

Product	95% Mortality Factor	100% Mortality Factor	105% Mortality Factor
SPIA	3.6%	3.3%	3.1%
PRT	3.7%	3.4%	3.2%
FDA (no WB)	1.3%	1.3%	1.3%
FDA (WB)	2.1%	2.2%	2.3%
FIA (no WB)*	5.8%	5.8%	5.8%
FIA (WB)*	33.8%	33.7%	33.6%

* ***Important disclaimer for the FIA model office results***: the cost of the FIA hedges is currently accounted for via a spreadsheet topside for each scenario. The model currently incorporates the payoffs of the hedges, but not the costs. We have included the costs via topside, estimated as *option budget x AV / 12* (since there are annual resets), which are reflected in the results above and throughout this presentation. A system enhancement is in progress from the vendor.

Next Steps for the VM-22 Field Test

- Field test results from participants have been received from all entities that were scheduled to submit
- Work is now in progress to aggregate and analyze participant results
- Additional model office sensitivity testing will be performed as necessary to support questions that arise from the field test participant results

Appendix: Modeling Specifications

SPIA Methods and Assumptions

The table below provides a summary of the assumptions and common model elements used in the development and testing of the model office's SPIA block.

Modeled Balance	Assumptions	Common Model Elements
Stochastic Exclusion Ratio Test (SERT)	• 95%, 100% and 105% of anticipated experience mortality assumption excluding margin as prescribed • Prudent estimate expenses (+5% margin) • 16 scenarios prescribed by the NAIC	• 50-year projection • Block of business consists of ~$500M current stat reserves (CARVM) • Greatest Present Value of Accumulated Deficiency (GPVAD) and Direct Iteration Method (DIM) reserving methods used for both exclusion testing and stochastic reserves
Stochastic Reserve (SR)	• 2012 IAM mortality table with 0.5% mortality improvement applied from 2012 up until each future projection year • Maintenance expense of $10 per contract with 2% annual inflation • Prudent margins for mortality and expenses • 200 and 1,000 scenario sets (random selection) from GOES scenario set #1*	
Standard projection amount (SPA)	• 2012 IAM mortality table with projection Scale G2 improvement factors applied from 2021 up until each future projection year • Maintenance expense of $50 per contract multiplied by 1.025^(valuation year – 2015) in the first projection year and increased by an annual inflation of 2% each year thereafter • 200 and 1,000 scenario sets from GOES scenario set	

SPIA Product Features

The table below provides a summary of the product features, in-force distribution and actuarial assumptions modeled for SPIA:

Modeled Balance	Assumptions
Base Product	• Single premium at issue • 10 year certain payout annuity with life contingent payments thereafter
Riders	• None
In-force distribution	• 1,200 policies (600 male, 600 female) • 10 issue years of business (2014-2023), distributed equally across issue months • Issue ages 60 (10%), 65 (25%), 70 (35%), 75 (20%), 80 (10%)
Anticipated experience assumptions	• Mortality: 2012 IAM ANB • Mortality improvement: 0.5%, using 2012 as base year • Lapses: 0% • Partial Withdrawals: N/A • Annuitizations: N/A • Maintenance expenses: $10 per contract with 2% annual inflation

PRT Product Features

The table below provides a summary of the product features, in-force distribution and actuarial assumptions modeled for PRT:

Modeled Balance	Assumptions
Base Product	• Three sub-blocks of business under PRT (to capture variations for SS and DIA) which can be reported and calculated separately or combined as needed: • 1) 80% retirees & 20% deferreds. For the deferreds, 75% take a lump sum prior to retirement and 25% annuitize (proxy for a deal where the carrier writes the contract prior to the plan conducting a termination) • 2) 90% retirees and 10% deferreds but 100% of the deferreds annuitize (proxy for a deal where the carrier writes the contract after the plan has already done a lump sum offering or a plan that does not offer lump sums at all) • 3) Younger age block (DIA and SS), with payments starting at specified age or duration
Riders	• None
In-force distribution	• 3,600 policies (1,800 male, 1,800 female) • 10 issue years of business (2014-2023), distributed equally across issue months • Issue ages 50 (3%), 55 (2%), 60 (15%), 65 (20%), 70 (20%), 75 (20%), 80 (20%)
Anticipated experience assumptions	• Mortality: 50/50 mix of blue and white collar mortality • Mortality improvement: None • Lapses: 0% • Partial Withdrawals: N/A • Annuitizations: Base case is all policies annuitize • Maintenance expenses: $61 per contract with 2% annual inflation and a 5% margin

FDA and FIA Methods and Assumptions

The table below provides a summary of the assumptions and common model elements used in the development and testing of the model office's FDA and FIA blocks.

Modeled Balance	Assumptions	Common Model Elements
Stochastic Exclusion Ratio Test (SERT)	• 95%, 100% and 105% of anticipated experience mortality assumption excluding margin as prescribed • 16 scenarios prescribed by the NAIC	• 50-year projection • Greatest Present Value of Accumulated Deficiency (GPVAD) and Direct Iteration Method (DIM) reserving methods used for both exclusion testing and stochastic reserves
Stochastic Reserve (SR)	• 2012 IAM mortality table with 0.5% mortality improvement applied from 2012 up until each future projection year • Base lapses of 1%, 1%, 2%, 2%, 2%, 2%, 3%, 3%, 4%, 5%, 10% (ultimate rate – 10 year CDSC product) • Dynamic lapse factors based on rider ITM, from 50% to 150% • Maintenance expense equal to SPA assumption • Prudent margins for mortality, lapses, expenses • 200 and 1,000 scenario sets (via scenario picker) from GOES scenario set #1*	
Standard projection amount (SPA)	• 2012 IAM mortality table with projection Scale G2 improvement factors applied from 2012 up until each future projection year and prescribed Fx • Maintenance expense of $75 per contract multiplied by 1.025^(valuation year – 2015) in the first projection year and increased by an annual inflation of 2% each year thereafter, plus 7bps of projected AV for each year in the projection • 200 and 1,000 scenario sets from GOES scenario set	

FDA (without GLWB) Product and Rider Features

The table below provides a summary of the product features, in-force distribution and actuarial assumptions modeled for FDAs (without GLWB):

Modeled Balance	Assumptions
Base Product	• Single premium at issue • 5-year surrender charge period (9%, 8.5%, 7.5%, 5.5%, 4%), with MVA • Free partial withdrawal of 10% • 1% minimum guarantee crediting rate • Crediting equal to 7-year treasury minus 50 bps spread; Crediting is reset at end of CDSC and then annually thereafter
Riders	• None
Commissions	• 5% of year 1 premium
In-force distribution	• 1,200 policies (600 male, 600 female) • 10 issue years of business (2014-2023), distributed equally across issue months and based on expected lapsation through valuation date • Issue ages 45 (5%), 50 (15%), 55 (20%), 60 (30%), 65 (25%), 70 (5%)
Anticipated experience assumptions	• Mortality: 2012 IAM ANB • Mortality improvement: 0.5%, using 2012 as base year • Base lapses: 1%, 1%, 2%, 2%, 4%, 40%, 10% (ultimate rate) • Dynamic lapses: Factor based on ITM, where ITM = Current Crediting Rate / Market Rate. If ITM <= 0.8, then Factor = 150%. If ITM >= 1.2, then Factor = 50%. Factor is interpolated between these points. • Partial Withdrawals: SPA prescribed assumption • Annuitizations: 0% • Maintenance expenses: SPA prescribed assumption

FDA (with GLWB) Product and Rider Features

The table below provides a summary of the product features, in-force distribution and actuarial assumptions modeled for FDAs (with GLWB):

Modeled Balance	Assumptions
Base Product	• Single premium at issue • 10-year surrender charge period (9%, 8.5%, 7.5%, 6.5%, 5.5%, 4.5%, 3.5%, 3%, 2%, 1%), without MVA • Free partial withdrawal of 10% • 1% minimum guarantee crediting rate • Crediting equal to 7-year treasury minus 50 bps spread; Crediting is reset at end of CDSC and then annually thereafter
Riders	• GLWB rider with fees equal to 75 bps of BB • BB grows at 8% (simple interest) per year for 10 years or until withdrawals begin (whichever comes first)
Commissions	• 5% of year 1 premium
In-force distribution	• 1,200 policies (600 male, 600 female) • 10 issue years of business (2014-2023), distributed equally across issue months and based on expected lapsation through valuation date • Issue ages 50 (15%), 55 (25%), 60 (35%), 65 (20%), 70 (5%)
Anticipated experience assumptions	• Mortality: 2012 IAM ANB • Mortality improvement: 0.5%, using 2012 as base year • Base Lapses: 1%, 1, 2, 2, 2, 2, 3, 3, 4, 5, 10 (ultimate rate) • Dynamic Lapses: Factor from 50% to 150% when AV > 0; Factor = 0% when AV = 0; Factor based on ITM, where ITM = PV of WB payments divided by CSV. If ITM <= 0.8, then Factor = 150%. If ITM >= 1.2, then Factor = 50%. Factor is interpolated between those two points. • Partial Withdrawals: assume policyholders withdraw 100% of the MWP; wait periods distributed by duration and attained age • Annuitizations: 0% • Maintenance expenses: SPA prescribed assumption

FIA (without GLWB) Product and Rider Features

The table below provides a summary of the product features, in-force distribution and actuarial assumptions modeled for FDAs (without GLWB):

Modeled Balance	Assumptions
Base Product	• Single premium at issue • 5-year surrender charge period (9%, 8.5%, 7.5%, 5.5%, 4%), with MVA • Free partial withdrawal of 10% • Option budget equal to 7-year treasury minus 50 bps spread, with 1-year cap crediting based on S&P index
Riders	• None
Commissions	• 5% of year 1 premium
In-force distribution	• 1,200 policies (600 male, 600 female) • 10 issue years of business (2014-2023), distributed equally across issue months and based on expected lapsation through valuation date • Issue ages 45 (5%), 50 (15%), 55 (20%), 60 (30%), 65 (25%), 70 (5%)
Anticipated experience assumptions	• Mortality: 2012 IAM ANB • Mortality improvement: 0.5%, using 2012 as base year • Base lapses: 1%, 1%, 2%, 2%, 4%, 40%, 10% (ultimate rate) • Dynamic lapses: Factor based on ITM, where ITM = Current Crediting Rate / Market Rate. If ITM <= 0.8, then Factor = 150%. If ITM >= 1.2, then Factor = 50%. Factor is interpolated between these points. • Partial Withdrawals: SPA prescribed assumption • Annuitizations: 0% • Maintenance expenses: SPA prescribed assumption

FIA (with GLWB) Product and Rider Features

The table below provides a summary of the product features, in-force distribution and actuarial assumptions modeled for FIAs (with GLWB):

Modeled Balance	Assumptions
Base Product	• Single premium at issue • 10-year surrender charge period (9%, 8.5%, 7.5%, 6.5%, 5.5%, 4.5%, 3.5%, 3%, 2%, 1%), without MVA • Free partial withdrawal of 10% • Option budget equal to 7-year treasury minus 50 bps spread, with 1-year cap crediting based on S&P index
Riders	• GLWB rider with fees equal to 75 bps of BB • BB grows at 8% (simple interest) per year for 10 years or until withdrawals begin (whichever comes first)
Commissions	• 5% of year 1 premium
In-force distribution	• 1,200 policies (600 male, 600 female) • 10 issue years of business (2014-2023), distributed equally across issue months and based on expected lapsation through valuation date • Issue ages 50 (15%), 55 (25%), 60 (35%), 65 (20%), 70 (5%)
Anticipated experience assumptions	• Mortality: 2012 IAM ANB • Mortality improvement: 0.5%, using 2012 as base year • Base Lapses: 1%, 1, 2, 2, 2, 2, 3, 3, 4, 5, 10 (ultimate rate) • Dynamic Lapses: Factor from 50% to 150% when AV > 0; Factor = 0% when AV = 0; Factor based on ITM, where ITM = PV of WB payments divided by CSV. If ITM <= 0.8, then Factor = 150%. If ITM >= 1.2, then Factor = 50%. Factor is interpolated between those two points. • Partial Withdrawals: assume policyholders withdraw 100% of the MWP; wait periods distributed by duration and attained age • Annuitizations: 0% • Maintenance expenses: SPA prescribed assumption

Please send questions or comments to:

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Agenda Item 3

GOES Field Test Update and Report

Update on GOES Field Test and GOES (E/A) Subgroup Report

Mike Yanacheak, Chair, GOES (E/A) Subgroup
Scott O'Neal

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Agenda

1. GOES Field Test Update
2. GOES (E/A) Subgroup Key Discussion Topics
   a) Model Governance
   b) Negative Rates, UST Flooring
   c) Equity Calibration
   d) SERT Scenarios
   e) Scenario Selection
   f) Initial Yield Curve Fitting
3. Next Steps

Status of Field and Model Office Testing

- There were five required runs using the new GOES field test scenario sets. The runs tested the latest calibration of the GOES as of year-end 2023, other alternative Treasury starting conditions, and included an equity market drop sensitivity.
- There were also seven optional field test runs that included additional Treasury, bond, and equity sensitivities along with a scenario set that used an alternative initial yield curve fitting methodology.
- Participants tested revised set of scenarios calibrated according to regulator-defined acceptance criteria, and confidential, participant-to-regulator discussions were held between July and October.
- Variable annuity and life model office testing results were presented in June and August, respectively to provide public disclosure of the impacts to reserves and capital. Many field test participants highlighted the value of the model office testing and were able to relate the results to that of their own field testing.

Required Field Test Runs:

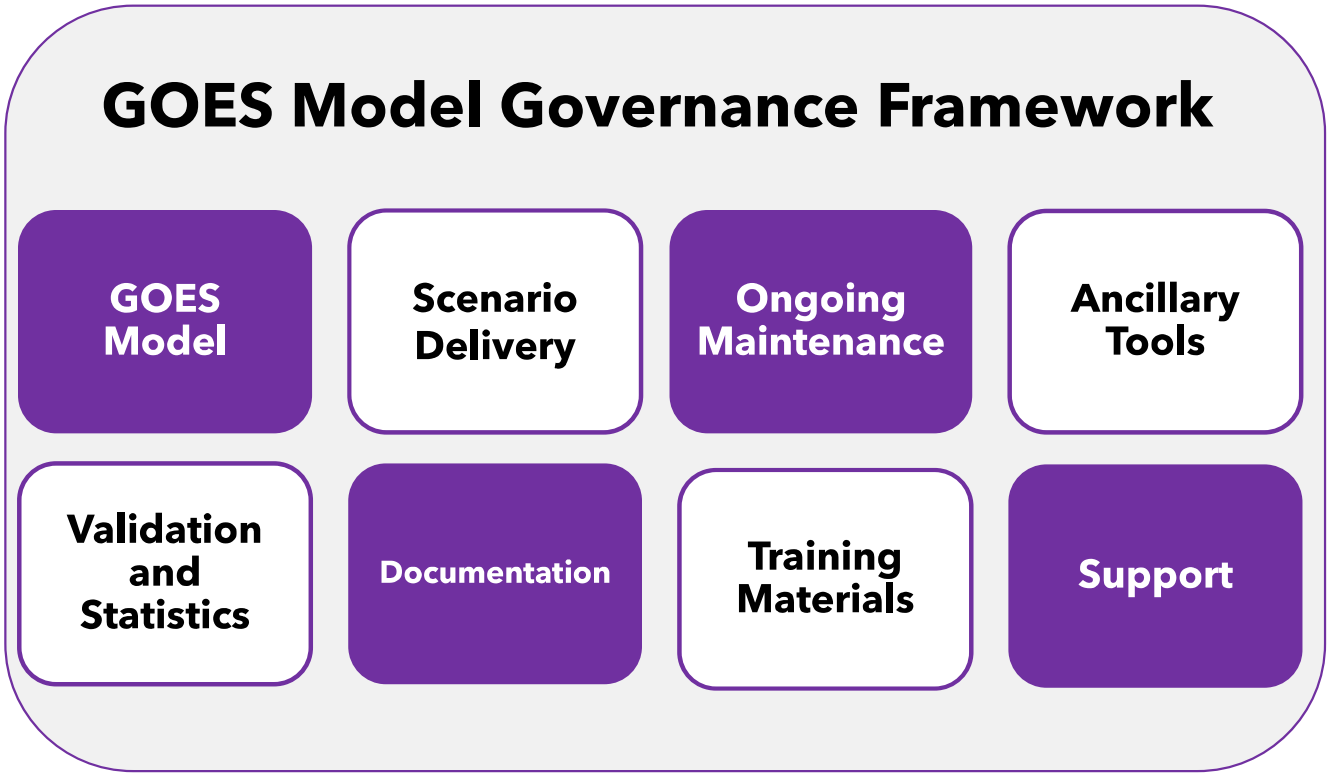
Field Test Run	Scenario Sets	Inforce
Baseline	Scenario set(s) the company used for 12/31/23 statutory reporting of reserves and RBC	As of 12/31/23
#1 - GOES	Conning scenarios as of 12/31/23	As of 12/31/23
#2 – Low-Rate Shock	Conning scenarios with a starting UST yield curve as of 3/9/20 but with 12/31/23 starting credit spreads.	As of 12/31/23 but modified as necessary for a different starting UST yield curve.
#3 – Up Rate Shock	Conning scenarios with a starting UST yield curve as of 10/31/89 but with 12/31/23 starting credit spreads.	
#4 – Normal Yield Curve	Conning scenarios with a starting UST yield curve as of 12/31/04 but with 12/31/23 starting credit spreads.	
#5 – Down Equity Shock	Same as #1	As of 12/31/23 but modified for a 25% drop in equity markets.

GOES (E/A) Subgroup: Key Discussion Topics

NAIC NATIONAL ASSOCIATION OF INSURANCE COMMISSIONERS

Model Governance

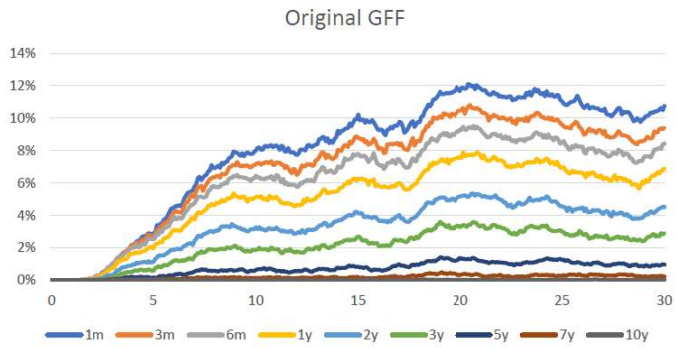
- Field test participants frequently commented on the need for a robust model governance framework.
- The monthly delivery of scenarios, periodic model updates, and documentation were all cited by participants as needing robust governance and controls.
- **A Draft GOES Model Governance Framework was exposed by the GOES (E/A) Subgroup for public comment on September 25th. The comment period was extended to Friday, November 22nd.**

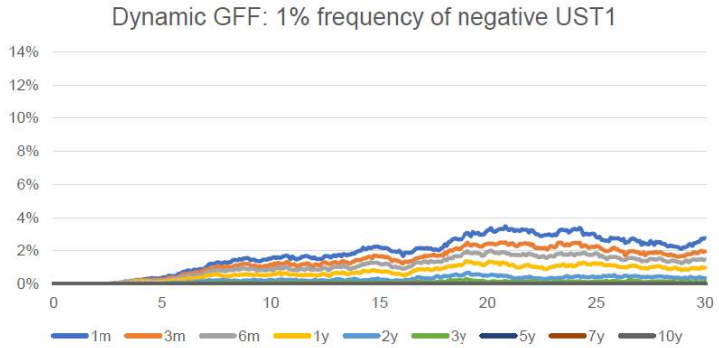


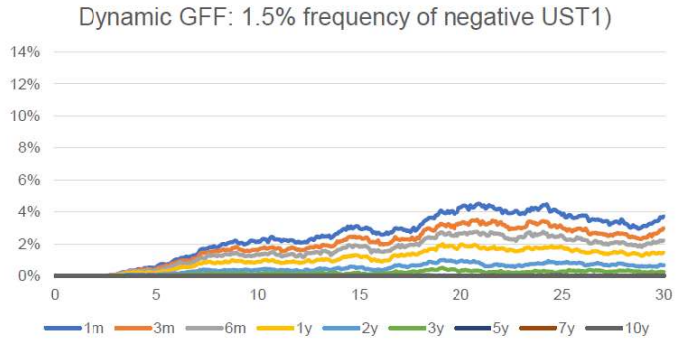
Negative UST Rates and Flooring

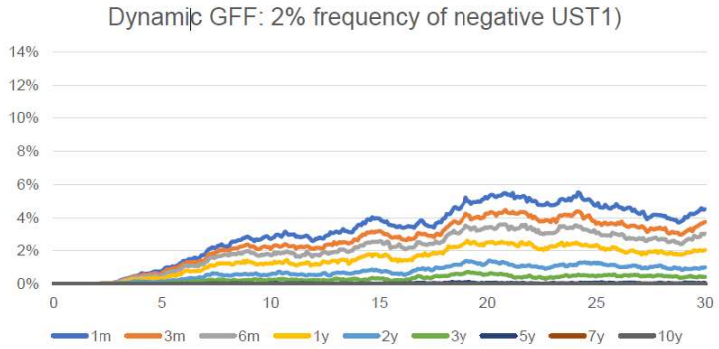
- Participants commented that the frequency and severity of negative interest rates was too severe - even with a generalized fractional floor (GFF) applied to control both the frequency and severity of negative UST rates in the field test scenarios.
- The American Council of Life Insurers (ACLI) has recommended a refined version of the GFF, the dynamic GFF, be applied. This version of the floor greatly reduces the frequency of negative interest rates.
- **State insurance regulators are considering the ACLI's proposal, and the potential to vary the parameters of the dynamic GFF to achieve different levels of negative UST rate frequencies.**

Dynamic GFF UST Flooring Alternatives









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Source: American Council of Life Insurers

Equity Calibration

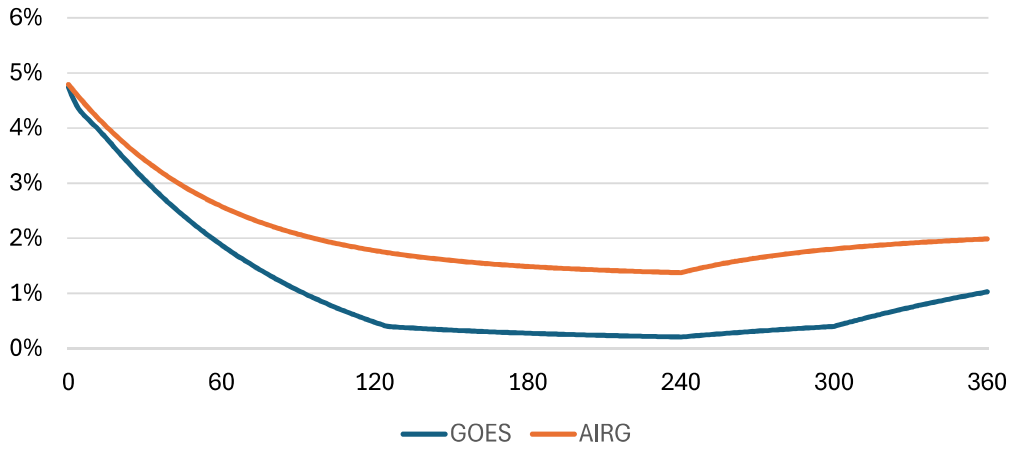
- Equity model acceptance criteria were developed by the American Academy of Actuaries based on the results of reasonably calibrated alternative models. Regulators specified that the acceptance criteria be based on the average of the models.
- The accumulated equity returns of the GOES field test scenarios in the left tail were lower than the average target but were within the acceptable range produced by the alternative models and satisfied the acceptance criteria overall.
- **An alternative equity model calibration proposed by the ACLI is being considered by state insurance regulators that has lower percentile GWFs closer to the targets. If desired by regulators, Conning could also alter their existing calibration to bring the lower percentile GWFs to be closer to the targets.**

	Targets						Simulated						Ratio					
Percentiles	1	5	10	20	30	50	1	5	10	20	30	50	1	5	10	20	30	50
0	0.46	0.25	0.22	0.25	0.29	0.46	0.49	0.21	0.14	0.08	0.17	0.26	1.08	0.87	0.64	0.29	0.57	0.57
1	0.70	0.58	0.60	0.79	1.15	2.82	0.70	0.55	0.53	0.63	0.94	2.17	1.00	0.95	0.88	0.79	0.82	0.77
5	0.82	0.80	0.91	1.36	2.20	6.38	0.82	0.79	0.88	1.29	2.03	5.47	1.00	1.00	0.96	0.95	0.92	0.86
10	0.88	0.93	1.12	1.81	3.08	9.78	0.88	0.92	1.11	1.74	2.93	8.81	1.00	0.99	0.99	0.96	0.95	0.90
15	0.92	1.02	1.28	2.18	3.84	12.94	0.93	1.02	1.28	2.10	3.73	11.91	1.00	1.00	1.00	0.96	0.97	0.92
25	0.99	1.18	1.54	2.81	5.26	19.23	0.99	1.18	1.55	2.80	5.17	18.42	1.00	1.01	1.01	1.00	0.98	0.96
30	1.01	1.24	1.66	3.12	6.01	22.79	1.01	1.25	1.67	3.13	5.89	22.02	1.00	1.00	1.00	1.00	0.98	0.97
50	1.09	1.48	2.15	4.47	9.23	39.98	1.10	1.49	2.17	4.48	9.28	39.64	1.01	1.01	1.01	1.00	1.01	0.99
70	1.17	1.74	2.71	6.30	14.12	68.89	1.18	1.76	2.75	6.36	14.09	69.20	1.01	1.01	1.02	1.01	1.00	1.00
75	1.19	1.82	2.89	6.93	15.88	80.22	1.20	1.83	2.92	6.96	15.89	80.89	1.01	1.01	1.01	1.00	1.00	1.01
85	1.25	2.02	3.36	8.69	21.06	115.31	1.26	2.03	3.40	8.62	21.02	115.56	1.01	1.01	1.01	0.99	1.00	1.00
90	1.28	2.15	3.71	10.09	25.20	147.92	1.30	2.17	3.76	9.97	25.08	145.91	1.01	1.01	1.01	0.99	1.00	0.99
95	1.34	2.37	4.30	12.33	33.19	210.72	1.36	2.39	4.38	12.30	32.53	211.90	1.01	1.01	1.02	1.00	0.98	1.01
99	1.45	2.82	5.64	18.18	53.74	397.23	1.47	2.83	5.68	17.53	50.56	394.09	1.01	1.00	1.01	0.96	0.94	0.99
100	1.76	4.20	8.98	42.03	140.72	1676.94	1.82	4.29	9.32	38.28	120.07	2292.44	1.03	1.02	1.04	0.91	0.85	1.37

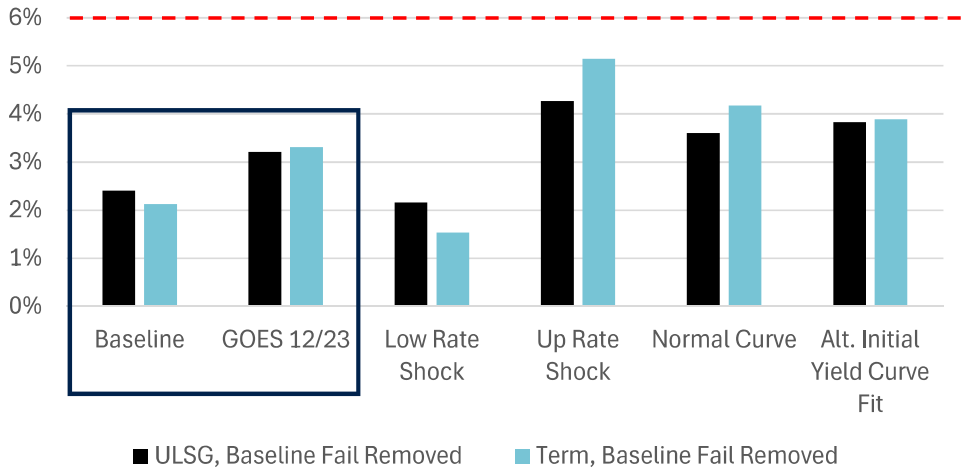
VM-20 SERT and Deterministic Reserve Scenarios

- VM-20 Stochastic Exclusion Ratio Test (SERT) scenarios are used to determine whether companies need to run the stochastic reserve for a given life model segment. The deterministic reserve scenario (1 of the 16 SERT scenarios) is also used to determine one of the VM-20 reserve components.
- Field test participants generally noted the increased conservatism/volatility of the field test SERT scenarios compared to the AIRG.
- Considering participants that passed the SERT in their baseline run, the average SERT ratio remained below the passing threshold (6%) for the field test participants. However, there were participants that failed the SERT in some field test runs that passed in the baseline.
- **The GOES (E/A) Subgroup exposed questions on the SERT and DR scenarios for public comment period ending Nov. 14th.**

Scenario 12 (DR Scenario), 1YR UST, 12/31/23



Select* GOES 2024 Field Test Participant Average SERT Ratios by VM-20 Reserving Category



*Field Test model segments where the SERT was failed in the baseline were removed from this chart

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Initial Yield Curve Fitting and Scenario Selection

Initial Yield Curve Fitting

- As part of the 2024 GOES Field Test, Conning's initial yield curve fitting methodology was used in the majority of the scenarios. An optional scenario set with an alternative initial yield curve fitting methodology proposed by the ACLI was also included in the field test.
- A number of 2024 GOES field test participants noted a preference for the ACLI proposed method.
- **This topic was discussed on the 10/9 call of the GOES (E/A) Subgroup, but a decision has not yet been made on which method to utilize going forward.**

Scenario Selection

- As part of the 2024 GOES Field Test, participants used an Excel-based tool developed by Conning to select scenario subsets.
- The tool allows users to select scenarios based on a 20-year UST significance measure or a Gross Wealth Factor from the Large Cap fund. All users get the same scenarios for a given number and method.
- Participants were able to successfully use the tool to create subsets, but limited feedback was received otherwise.
- **This topic was discussed on the 10/16 call of the GOES (E/A) Subgroup, but a decision on whether to utilize the tool has not yet been made.**

Next Steps

Continue Work of GOES (E/A) Subgroup

- The GOES (E/A) Subgroup will resume meetings in December 2024.
- A schedule of planned meeting topics will be distributed to members, interested regulators, and interested parties ahead of the planned meetings in December.
- Model office testing is planned for any revisions to the GOES determined by the GOES (E/A) Subgroup to estimate the reserve and capital impacts.

Adoption of GOES

- The Life Actuarial (A) Task Force will need to adopt related Valuation Manual amendments by mid-year 2025 and the Life RBC (E) Working Group will need to adopt blanks changes by mid-year 2026 for the generator to be effective for reserve and capital calculations in 2026.
- Work will begin early in 2025 on an amendment proposal form (APF) to modify the Valuation Manual for GOES, followed by work on changes to the Life RBC Blanks.

*Model governance program and documentation will be revised and enhanced on an ongoing basis

Agenda Item 4

GOES ACLI Proposals

ACLI
Financial Security for Life

ACLI Equity Calibration Proposal

November 15, 2024

ACLI

Background

- Prior to the 2024 GOES field test (FT2), ACLI identified that equity calibrations were meaningfully more severe for the tail distribution in the longer time horizon than the Academy's criteria
- Specifically, Gross Wealth Factor (GWF) targets at higher durations (20+ years) in the right (low return) tails were lower than targets with monthly returns more severe than history.
- ACLI has concerns developed a calibration as one way to address this issue, while also addressing Conning comments about correlations and jump processes in an early proposal.

ACLI

Key Enhancements

- Enhanced jump process parametrization, better aligned with historical equity returns (Slide 4)
- Tail short-term (monthly) returns better aligned with historical data (Slides 5-6)
- Tail long-term returns (GWF over 10+ years) better aligned with adopted acceptance criteria (Slide 8)
- ACLI calibration follows a repeatable ground-up process, directly tied to historical data using MLE calibration (Appendix)

ACLI

Parameter Comparison to GEMS FT2 Baseline

	ACLI Proposed			
	Large	Mid	Small	Aggressive
mu0	0.0723	0.0408	0.0556	0.1233
mu1	0.5744	2.0910	1.5311	-0.2500
alpha	0.0196	0.0307	0.0308	0.0191
beta	0.9519	1.1310	0.9408	0.4800
sigma	0.1254	0.1409	0.1409	0.1587
mu_jump	-0.1500	-0.2184	-0.2355	-0.1990
sigma_jump	0.0584	0.0476	0.0480	0.0678
lambda_jump	4.9442	4.6774	3.8906	3.6347
correlation	-0.4563	-0.6661	-0.6275	-0.3105
initial vol	0.1435	0.1648	0.1809	0.1997
theta	0.0206	0.0272	0.0327	0.0399
Avg. Jump Freq.	0.1019	0.1270	0.1273	0.1449
% Jump Variance	11.4%	18.9%	18.3%	13.8%

	GEMS FT2			
	Large	Mid	Small	Aggressive
mu0	0.0825	0.0882	0.0909	0.1058
mu1	0.0926	0.0020	0.0012	0.0186
alpha	0.0058	0.0048	0.0051	0.0086
beta	0.4627	0.2927	0.3141	0.3303
sigma	0.0747	0.0358	0.0520	0.0408
mu_jump	-0.0525	-0.0420	-0.0696	-0.0504
sigma_jump	0.0575	0.0575	0.0575	0.0595
lambda_jump	139.5882	113.4168	112.9784	128.7243
correlation	-0.4770	-0.5263	-0.4951	-0.4805
initial vol	0.1117	0.1283	0.1272	0.1615
theta	0.0125	0.0164	0.0162	0.0261
Avg. Jump Freq.	1.7419	1.8656	1.8288	3.3580
% Jump Variance	45.8%	36.5%	47.9%	43.9%

Avg. Variance: $\theta = {}^{\alpha}/_{\beta}$

Est. Jump Freq (annual) $= \theta\lambda$

Est. Variance due to Jumps:

$$V_{jump} = \theta\lambda\left(\mu_{jump}^2 + \sigma_{jump}^2\right)$$

% of Variance due to Jumps:

$$\frac{V_{jump}}{\theta + V_{jump}}$$

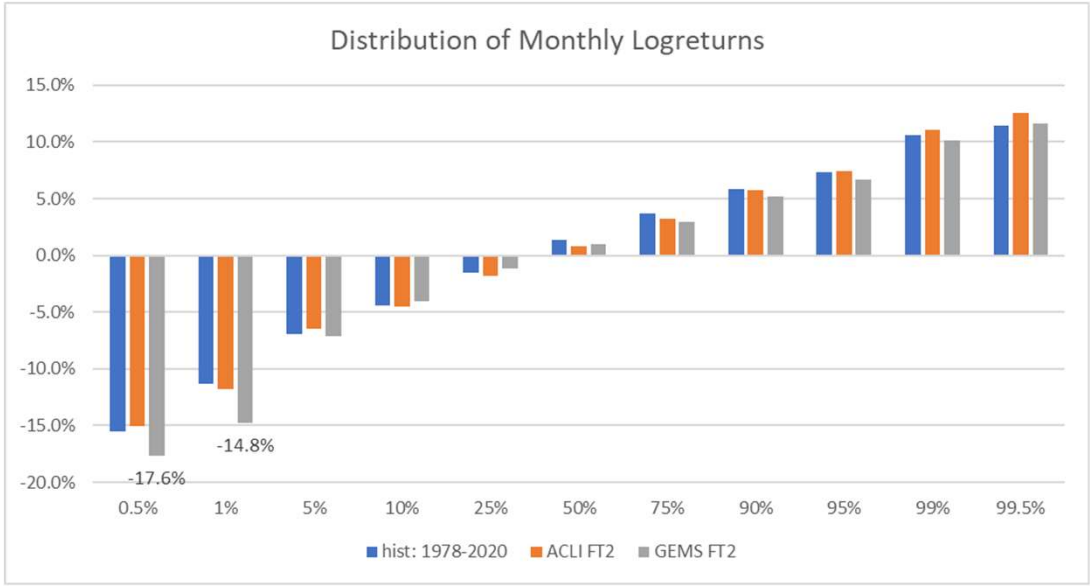
ACLI calibration key differences vs. GEMS FT2:

- ACLI parameters derived using historical MLE calibration, with subsequent adjustments to alpha and mu0 parameters to align to historical variance and Sharpe ratio of ~28.1% across all indices.
- **Jumps: lower frequency but higher severity, accounting for 10-20% of return variance compared to 40-50% of variance under FT2**
- Variance: higher mean reversion of the variance process
- Risk Premium Coefficient (mu1): larger coefficients and possible negatives.

ACLI

Distribution of Monthly Logreturn: Large Cap

	hist: 1978-2020	hist: 1992-2020	ACLI FT2	GEMS FT2	FT1 Run6
min	-24.2%	-18.4%	-62.1%	-69.1%	-52.9%
0.5%	-15.5%	-13.8%	-15.0%	-17.6%	-12.8%
1%	-11.4%	-11.4%	-11.8%	-14.8%	-10.5%
5%	-7.0%	-7.2%	-6.5%	-7.1%	-6.1%
10%	-4.4%	-4.5%	-4.5%	-4.1%	-4.3%
25%	-1.5%	-1.6%	-1.8%	-1.1%	-1.7%
50%	1.4%	1.3%	0.8%	1.0%	0.7%
75%	3.7%	3.4%	3.2%	3.0%	3.0%
90%	5.8%	5.6%	5.7%	5.2%	5.6%
95%	7.3%	7.0%	7.4%	6.7%	7.3%
99%	10.6%	9.2%	11.0%	10.2%	11.1%
99.5%	11.4%	10.4%	12.5%	11.6%	12.6%
max	12.6%	12.1%	33.6%	32.1%	31.6%



- Modeled monthly logreturns based on 10k scenarios and 50yrs of projection.
- FT2 baseline scenarios exaggerate severity of tail monthly returns, which also translate into long term GWF severity (see following slides)
- ACLI calibration amply recovers the distribution of historical monthly returns which includes 1987 Black Monday, Financial Crisis, and the Pandemic of 2020.

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ACLI

Distribution of Monthly Logreturn: All Indices

ACLI Scenarios (estimated)				
	large	mid	small	aggressive
min	-62.1%	-69.7%	-76.0%	-81.1%
0.5%	-15.0%	-21.6%	-23.4%	-23.0%
1%	-11.8%	-15.4%	-16.9%	-18.2%
5%	-6.5%	-7.5%	-8.3%	-9.3%
10%	-4.5%	-5.2%	-5.8%	-6.3%
25%	-1.8%	-2.1%	-2.3%	-2.3%
50%	0.8%	0.9%	1.0%	1.0%
75%	3.2%	3.8%	4.1%	4.1%
90%	5.7%	6.6%	7.3%	7.7%
95%	7.4%	8.5%	9.4%	10.2%
99%	11.0%	12.5%	13.8%	15.9%
99.5%	12.5%	14.2%	15.6%	18.3%
max	33.6%	39.6%	44.6%	56.7%

FT2 Baseline Scenarios				
	large	mid	small	aggressive
min	-69.1%	-53.5%	-70.1%	-63.7%
0.5%	-17.6%	-16.7%	-19.9%	-21.6%
1%	-14.8%	-14.1%	-16.9%	-18.4%
5%	-7.1%	-7.3%	-8.7%	-10.6%
10%	-4.1%	-4.8%	-5.1%	-6.9%
25%	-1.1%	-1.8%	-1.5%	-2.5%
50%	1.0%	1.0%	1.2%	1.3%
75%	3.0%	3.5%	3.6%	4.7%
90%	5.2%	5.9%	6.0%	7.7%
95%	6.7%	7.4%	7.6%	9.7%
99%	10.2%	10.6%	11.0%	13.6%
99.5%	11.6%	12.0%	12.3%	15.2%
max	32.1%	33.7%	30.7%	35.2%

historical 78-2020				
	large	mid	small	aggressive
min	-24.2%	-30.6%	-33.8%	-31.8%
0.5%	-15.5%	-24.0%	-24.0%	-25.2%
1%	-11.4%	-16.8%	-20.1%	-18.9%
5%	-7.0%	-7.5%	-8.2%	-9.7%
10%	-4.4%	-4.8%	-5.8%	-6.6%
25%	-1.5%	-1.7%	-2.1%	-2.2%
50%	1.4%	1.5%	1.7%	1.8%
75%	3.7%	4.2%	4.5%	4.5%
90%	5.8%	6.6%	7.3%	7.6%
95%	7.3%	8.2%	8.5%	10.3%
99%	10.6%	12.9%	13.3%	13.6%
99.5%	11.4%	13.7%	14.4%	15.3%
max	12.6%	15.6%	18.1%	19.9%

ACLI Monthly Logreturn (10k scenarios, 50yrs)				
	large	mid	small	aggressive
mean (annual)	7.3%	8.1%	8.6%	9.1%
st.dev (annual)	15.3%	18.3%	20.0%	21.6%
skew	-0.60	-0.96	-0.90	-0.68
kurtosis	6.48	8.06	7.69	7.17
Sharpe Ratio*	28.1%	28.1%	28.1%	28.2%
* assumes Rf = 3%				

GEMS FT2 Monthly Logreturn (10k scenario, 50yrs)				
	large	mid	small	aggressive
mean (annual)	7.2%	7.5%	7.6%	8.3%
st.dev (annual)	15.2%	16.1%	17.7%	21.6%
skew	-1.25	-0.81	-1.25	-0.81
kurtosis	8.29	5.79	7.32	5.14
Sharpe Ratio*	27.9%	28.2%	25.9%	24.8%
* assumes Rf = 3%				

Historical Monthly Logreturn (1978-2020)				
	large	mid	small	nasdaq
mean (annual)	11.2%	11.9%	11.6%	10.8%
st.dev (annual)	15.2%	18.2%	19.9%	21.5%
skew	-0.88	-1.18	-1.18	-0.94
kurtosis	6.00	7.84	7.51	6.04
Sharpe Ratio*	34.1%	32.4%	27.9%	22.1%
* assumes Rf = 6%				

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ACLI

Index Return Correlations: Realized vs. Historical

ACLI Scenarios (estimated)				
	Large	Mid	Small	Aggrsv.
Large	100%			
Mid	91%	100%		
Small	87%	97%	100%	
Aggrsv.	85%	87%	88%	100%

FT2 Baseline Scenarios				
	Large	Mid	Small	Aggrsv.
Large	100%			
Mid	88%	100%		
Small	87%	92%	100%	
Aggrsv.	81%	80%	80%	100%

Historical 1978-2020				
	Large	Mid	Small	Aggrsv.
Large	100%			
Mid	91%	100%		
Small	87%	98%	100%	
Aggrsv.	86%	89%	90%	100%

Table 10: Historic Correlations for Monthly Log Returns

	S&P500	MSCI-EAFE $USD	U.S. SmallCap	Aggressive Equity	Money Market	U.S. ITGVT	U.S. LTCORP
S&P500	1						
MSCI-EAFE $USD	0.560	1					
U.S. SmallCap	0.759	0.447	1				
Aggressive Equity	0.595	0.488	0.579	1			
Money Market	−0.046	−0.059	−0.053	0.002	1		
U.S. ITGVT	0.137	0.091	0.042	−0.064	0.113	1	
U.S. LTCORP	0.280	0.171	0.184	−0.005	0.026	0.822	1

- ACLI realized return correlations reasonably recover historical levels, and exceed those embedded in FT Baseline scenarios
- Both modeled and historical correlation between select indices is high, and well in excess of levels assumed in AIRG (see table to the left). This assumption would reflect a greater severity of systemic equity risk across all indices.

ACLI

GWF Comparison vs. AAA Criteria: ACLI and FT2 Baseline

	ACLI Large Cap							AAA Criteria (Avg. GWF)							ACLI / AAA Criteria					
	1 Yr	5 Yr	10 Yr	20 Yr	30 Yr	50 Yr		1 Yr	5 Yr	10 Yr	20 Yr	30 Yr	50 Yr		1 Yr	5 Yr	10 Yr	20 Yr	30 Yr	50 Yr
Min	0.49	0.17	0.16	0.19	0.21	0.54	Min	0.46	0.25	0.22	0.25	0.29	0.46	Min	1.07	0.70	0.72	0.73	0.72	1.19
0.5%	0.67	0.51	0.48	0.62	0.89	2.13	0.5%							0.5%						
1.0%	0.70	0.57	0.58	0.76	1.15	2.75	1.0%	0.70	0.58	0.60	0.79	1.15	2.82	1.0%	1.00	0.99	0.97	0.96	1.00	0.97
5.0%	0.82	0.78	0.90	1.36	2.23	6.17	5.0%	0.82	0.80	0.91	1.36	2.20	6.38	5.0%	1.00	0.99	0.98	1.00	1.01	0.97
10.0%	0.88	0.92	1.11	1.82	3.05	9.48	10.0%	0.88	0.93	1.12	1.81	3.08	9.78	10.0%	1.00	1.00	0.99	1.01	0.99	0.97
25.0%	0.98	1.17	1.54	2.81	5.11	18.81	25.0%	0.99	1.18	1.54	2.81	5.26	19.23	25.0%	1.00	1.00	1.00	1.00	0.97	0.98
50.0%	1.09	1.47	2.14	4.44	9.20	39.45	50.0%	1.09	1.48	2.15	4.47	9.23	39.98	50.0%	1.00	1.00	1.00	0.99	1.00	0.99
75.0%	1.19	1.82	2.89	6.92	15.79	79.76	75.0%	1.19	1.82	2.89	6.93	15.88	80.22	75.0%	1.00	1.00	1.00	1.00	0.99	0.99
90.0%	1.29	2.16	3.70	9.99	25.22	148.83	90.0%	1.28	2.15	3.71	10.09	25.20	147.92	90.0%	1.00	1.00	1.00	0.99	1.00	1.01
95.0%	1.34	2.40	4.33	12.50	33.40	209.78	95.0%	1.34	2.37	4.30	12.33	33.19	210.72	95.0%	1.00	1.01	1.00	1.01	1.01	1.00
99.0%	1.47	2.91	5.62	19.04	52.86	415.11	99.0%	1.45	2.82	5.64	18.18	53.74	397.23	99.0%	1.01	1.03	1.00	1.05	0.98	1.05
99.5%	1.51	3.12	6.26	22.26	66.31	512.63	99.5%							99.5%						
Max	1.83	4.70	10.85	43.13	168.19	1,514.65	Max	1.76	4.20	8.98	42.03	140.72	1,676.94	Max	1.04	1.12	1.21	1.03	1.20	0.90

	GEMS FT2 Large Cap							AAA Criteria (Avg. GWF)							ACLI / AAA Criteria					
	1 Yr	5 Yr	10 Yr	20 Yr	30 Yr	50 Yr		1 Yr	5 Yr	10 Yr	20 Yr	30 Yr	50 Yr		1 Yr	5 Yr	10 Yr	20 Yr	30 Yr	50 Yr
Min	0.49	0.21	0.14	0.08	0.17	0.26	Min	0.46	0.25	0.22	0.25	0.29	0.46	Min	1.08	0.87	0.64	0.29	0.57	0.57
0.5%	0.66	0.47	0.42	0.50	0.69	1.45	0.5%							0.5%						
1.0%	0.70	0.55	0.53	0.63	0.93	2.07	1.0%	0.70	0.58	0.60	0.79	1.15	2.82	1.0%	1.00	0.95	0.88	0.79	0.81	0.73
5.0%	0.82	0.79	0.88	1.29	2.02	5.50	5.0%	0.82	0.80	0.91	1.36	2.20	6.38	5.0%	1.00	1.00	0.96	0.95	0.92	0.86
10.0%	0.88	0.92	1.11	1.74	2.93	8.83	10.0%	0.88	0.93	1.12	1.81	3.08	9.78	10.0%	1.00	0.99	0.99	0.96	0.95	0.90
25.0%	0.99	1.18	1.55	2.80	5.17	18.47	25.0%	0.99	1.18	1.54	2.81	5.26	19.23	25.0%	1.00	1.01	1.01	1.00	0.98	0.96
50.0%	1.10	1.49	2.17	4.48	9.28	39.71	50.0%	1.09	1.48	2.15	4.47	9.23	39.98	50.0%	1.01	1.01	1.01	1.00	1.01	0.99
75.0%	1.20	1.83	2.92	6.96	15.89	80.47	75.0%	1.19	1.82	2.89	6.93	15.88	80.22	75.0%	1.01	1.01	1.01	1.00	1.00	1.00
90.0%	1.30	2.17	3.76	9.97	25.08	148.39	90.0%	1.28	2.15	3.71	10.09	25.20	147.92	90.0%	1.01	1.01	1.01	0.99	1.00	1.00
95.0%	1.36	2.39	4.38	12.31	32.53	207.89	95.0%	1.34	2.37	4.30	12.33	33.19	210.72	95.0%	1.01	1.01	1.02	1.00	0.98	0.99
99.0%	1.47	2.83	5.69	17.54	50.60	413.34	99.0%	1.45	2.82	5.64	18.18	53.74	397.23	99.0%	1.01	1.00	1.01	0.96	0.94	1.04
99.5%	1.52	2.99	6.39	19.81	59.40	504.06	99.5%							99.5%						
Max	1.82	4.29	9.32	38.28	120.07	2,292.47	Max	1.76	4.20	8.98	42.03	140.72	1,676.94	Max	1.03	1.02	1.04	0.91	0.85	1.37

8

ACLI

GWF Comparison vs. FT2 Baseline: Large and Mid Cap

Revised ACLI

	Large Cap					
	1 Yr	5 Yr	10 Yr	20 Yr	30 Yr	50 Yr
Min	0.49	0.17	0.16	0.19	0.21	0.54
0.5%	0.67	0.51	0.48	0.62	0.89	2.13
1.0%	0.70	0.57	0.58	0.76	1.15	2.75
5.0%	0.82	0.78	0.90	1.36	2.23	6.17
10.0%	0.88	0.92	1.11	1.82	3.05	9.48
25.0%	0.98	1.17	1.54	2.81	5.11	18.81
50.0%	1.09	1.47	2.14	4.44	9.20	39.45
75.0%	1.19	1.82	2.89	6.92	15.79	79.76
90.0%	1.29	2.16	3.70	9.99	25.22	148.83
95.0%	1.34	2.40	4.33	12.50	33.40	209.78
99.0%	1.47	2.91	5.62	19.04	52.86	415.11
99.5%	1.51	3.12	6.26	22.26	66.31	512.63
Max	1.83	4.70	10.85	43.13	168.19	1,514.65

	Mid Cap					
	1 Yr	5 Yr	10 Yr	20 Yr	30 Yr	50 Yr
Min	0.43	0.20	0.13	0.16	0.22	0.56
0.5%	0.59	0.47	0.45	0.60	0.96	2.25
1.0%	0.65	0.55	0.55	0.78	1.20	3.15
5.0%	0.79	0.77	0.89	1.45	2.42	8.06
10.0%	0.86	0.90	1.13	1.94	3.58	12.70
25.0%	0.98	1.19	1.62	3.19	6.28	26.97
50.0%	1.11	1.55	2.35	5.29	11.95	60.44
75.0%	1.23	1.95	3.26	8.53	21.37	131.06
90.0%	1.33	2.36	4.26	12.86	35.90	253.99
95.0%	1.38	2.63	5.01	16.24	47.87	379.55
99.0%	1.50	3.20	6.74	25.05	82.19	774.76
99.5%	1.55	3.41	7.23	29.42	100.00	996.64
Max	1.86	4.93	12.60	58.24	352.44	2,777.67

FT2

	Large Cap					
	1 Yr	5 Yr	10 Yr	20 Yr	30 Yr	50 Yr
Min	0.49	0.21	0.14	0.08	0.17	0.26
0.5%	0.66	0.47	0.42	0.50	0.69	1.45
1.0%	0.70	0.55	0.53	0.63	0.93	2.07
5.0%	0.82	0.79	0.88	1.29	2.02	5.50
10.0%	0.88	0.92	1.11	1.74	2.93	8.83
25.0%	0.99	1.18	1.55	2.80	5.17	18.47
50.0%	1.10	1.49	2.17	4.48	9.28	39.71
75.0%	1.20	1.83	2.92	6.96	15.89	80.47
90.0%	1.30	2.17	3.76	9.97	25.08	148.39
95.0%	1.36	2.39	4.38	12.31	32.53	207.89
99.0%	1.47	2.83	5.69	17.54	50.60	413.34
99.5%	1.52	2.99	6.39	19.81	59.40	504.06
Max	1.82	4.29	9.32	38.28	120.07	2,292.47

	Mid Cap					
	1 Yr	5 Yr	10 Yr	20 Yr	30 Yr	50 Yr
Min	0.53	0.30	0.20	0.12	0.09	0.19
0.5%	0.66	0.51	0.47	0.54	0.75	1.58
1.0%	0.71	0.57	0.57	0.68	0.97	2.34
5.0%	0.82	0.78	0.88	1.27	2.08	5.91
10.0%	0.87	0.91	1.08	1.75	3.01	9.32
25.0%	0.98	1.16	1.53	2.82	5.41	20.27
50.0%	1.09	1.49	2.19	4.66	10.01	45.25
75.0%	1.21	1.88	3.06	7.43	17.70	96.94
90.0%	1.32	2.29	4.04	11.14	29.41	184.11
95.0%	1.38	2.56	4.75	14.16	39.00	271.15
99.0%	1.52	3.11	6.58	21.35	64.22	547.74
99.5%	1.57	3.27	7.08	24.13	76.76	745.84
Max	1.88	4.36	10.50	60.24	168.30	1,839.70

Revised ACLI / FT2

	Large Cap					
	1 Yr	5 Yr	10 Yr	20 Yr	30 Yr	50 Yr
Min	0.99	0.80	1.14	2.47	1.26	2.09
0.5%	1.02	1.09	1.14	1.24	1.29	1.47
1.0%	1.00	1.04	1.10	1.21	1.24	1.33
5.0%	1.00	0.99	1.02	1.06	1.10	1.12
10.0%	1.00	1.00	1.00	1.05	1.04	1.07
25.0%	0.99	0.99	0.99	1.00	0.99	1.02
50.0%	0.99	0.99	0.98	0.99	0.99	0.99
75.0%	0.99	0.99	0.99	0.99	0.99	0.99
90.0%	0.99	1.00	0.98	1.00	1.01	1.00
95.0%	0.99	1.00	0.99	1.02	1.03	1.01
99.0%	1.00	1.03	0.99	1.09	1.04	1.00
99.5%	0.99	1.04	0.98	1.12	1.12	1.02
Max	1.01	1.10	1.16	1.13	1.40	0.66

	Mid Cap					
	1 Yr	5 Yr	10 Yr	20 Yr	30 Yr	50 Yr
Min	0.81	0.67	0.66	1.27	2.46	2.88
0.5%	0.90	0.93	0.96	1.12	1.28	1.43
1.0%	0.92	0.95	0.97	1.15	1.24	1.35
5.0%	0.96	0.98	1.01	1.14	1.16	1.36
10.0%	0.98	0.99	1.04	1.11	1.19	1.36
25.0%	1.00	1.03	1.06	1.13	1.16	1.33
50.0%	1.01	1.04	1.07	1.14	1.19	1.34
75.0%	1.01	1.04	1.06	1.15	1.21	1.35
90.0%	1.01	1.03	1.05	1.15	1.22	1.38
95.0%	1.00	1.03	1.05	1.15	1.23	1.40
99.0%	0.99	1.03	1.02	1.17	1.28	1.41
99.5%	0.99	1.04	1.02	1.22	1.30	1.34
Max	0.99	1.13	1.20	0.97	2.09	1.51

ACLI

GWF Comparison vs. FT2 Baseline: Small Cap and Aggressive

Revised ACLI

Small Cap	1 Yr	5 Yr	10 Yr	20 Yr	30 Yr	50 Yr
Min	0.39	0.15	0.10	0.12	0.21	0.39
0.5%	0.57	0.41	0.40	0.53	0.80	1.90
1.0%	0.62	0.49	0.49	0.70	1.12	2.85
5.0%	0.76	0.73	0.85	1.39	2.40	8.13
10.0%	0.84	0.87	1.09	1.92	3.54	13.60
25.0%	0.97	1.19	1.63	3.30	6.78	30.89
50.0%	1.11	1.59	2.46	5.86	13.84	78.25
75.0%	1.25	2.06	3.57	9.99	26.65	184.34
90.0%	1.36	2.56	4.82	15.81	48.08	397.94
95.0%	1.43	2.89	5.82	20.92	66.09	609.89
99.0%	1.57	3.57	7.99	33.97	118.70	1,352.69
99.5%	1.63	3.84	8.84	39.59	140.37	1,740.91
Max	1.91	5.57	15.56	94.36	680.18	5,728.16

Aggressive	1 Yr	5 Yr	10 Yr	20 Yr	30 Yr	50 Yr
Min	0.37	0.07	0.04	0.04	0.02	0.01
0.5%	0.56	0.31	0.24	0.28	0.37	0.77
1.0%	0.60	0.38	0.33	0.40	0.56	1.32
5.0%	0.74	0.63	0.68	1.03	1.70	5.34
10.0%	0.82	0.81	0.96	1.65	2.92	10.73
25.0%	0.96	1.18	1.61	3.30	6.91	31.97
50.0%	1.11	1.65	2.66	6.79	16.57	101.05
75.0%	1.27	2.22	4.10	12.80	37.38	303.97
90.0%	1.42	2.83	5.82	21.68	73.93	741.62
95.0%	1.51	3.26	7.22	29.39	107.63	1,237.20
99.0%	1.70	4.40	10.52	53.22	215.88	3,004.52
99.5%	1.83	4.80	12.01	68.58	271.59	3,958.46
Max	2.62	9.91	24.87	158.33	1,000.18	20,311.70

FT2

Small Cap	1 Yr	5 Yr	10 Yr	20 Yr	30 Yr	50 Yr
Min	0.45	0.16	0.12	0.07	0.07	0.16
0.5%	0.61	0.42	0.38	0.38	0.56	1.02
1.0%	0.66	0.52	0.48	0.50	0.72	1.54
5.0%	0.79	0.72	0.79	1.13	1.67	4.63
10.0%	0.85	0.87	1.02	1.58	2.63	8.09
25.0%	0.97	1.15	1.51	2.72	5.14	19.31
50.0%	1.10	1.51	2.23	4.71	10.22	46.50
75.0%	1.23	1.94	3.18	7.90	19.41	108.70
90.0%	1.34	2.36	4.28	12.30	32.48	222.35
95.0%	1.41	2.66	5.11	15.62	43.45	324.38
99.0%	1.54	3.30	6.96	23.83	76.17	713.21
99.5%	1.58	3.52	7.61	27.12	90.62	936.46
Max	1.84	5.99	15.46	56.38	183.63	3,135.58

Aggressive	1 Yr	5 Yr	10 Yr	20 Yr	30 Yr	50 Yr
Min	0.42	0.24	0.12	0.05	0.06	0.10
0.5%	0.59	0.39	0.33	0.33	0.44	0.88
1.0%	0.63	0.45	0.41	0.45	0.62	1.31
5.0%	0.76	0.66	0.72	0.99	1.59	4.48
10.0%	0.82	0.81	0.95	1.50	2.54	8.36
25.0%	0.95	1.12	1.48	2.81	5.51	22.91
50.0%	1.11	1.56	2.39	5.49	12.74	67.17
75.0%	1.27	2.13	3.77	10.49	28.50	191.25
90.0%	1.43	2.80	5.55	17.95	56.55	470.39
95.0%	1.52	3.26	6.88	24.71	80.40	808.50
99.0%	1.71	4.33	10.21	43.81	164.57	2,022.47
99.5%	1.77	4.71	11.99	51.65	206.30	2,855.67
Max	2.24	7.32	22.45	120.23	540.32	22,014.52

Revised ACLI / FT2

Small Cap	1 Yr	5 Yr	10 Yr	20 Yr	30 Yr	50 Yr
Min	0.86	0.95	0.86	1.82	3.11	2.41
0.5%	0.93	0.98	1.05	1.38	1.43	1.87
1.0%	0.94	0.93	1.02	1.41	1.55	1.85
5.0%	0.97	1.00	1.07	1.23	1.44	1.76
10.0%	0.99	1.00	1.07	1.21	1.35	1.68
25.0%	1.00	1.04	1.08	1.21	1.32	1.60
50.0%	1.01	1.05	1.10	1.24	1.35	1.68
75.0%	1.02	1.07	1.13	1.26	1.37	1.70
90.0%	1.02	1.08	1.13	1.29	1.48	1.79
95.0%	1.02	1.09	1.14	1.34	1.52	1.88
99.0%	1.02	1.08	1.15	1.43	1.56	1.90
99.5%	1.03	1.09	1.16	1.46	1.55	1.86
Max	1.04	0.93	1.01	1.67	3.70	1.83

Aggressive	1 Yr	5 Yr	10 Yr	20 Yr	30 Yr	50 Yr
Min	0.88	0.29	0.31	0.81	0.31	0.05
0.5%	0.94	0.80	0.74	0.85	0.86	0.88
1.0%	0.94	0.83	0.79	0.90	0.90	1.00
5.0%	0.98	0.94	0.95	1.04	1.07	1.19
10.0%	1.00	1.00	1.02	1.10	1.15	1.28
25.0%	1.01	1.05	1.09	1.17	1.25	1.40
50.0%	1.01	1.05	1.11	1.24	1.30	1.50
75.0%	1.00	1.04	1.09	1.22	1.31	1.59
90.0%	1.00	1.01	1.05	1.21	1.31	1.58
95.0%	0.99	1.00	1.05	1.19	1.34	1.53
99.0%	1.00	1.02	1.03	1.21	1.31	1.49
99.5%	1.03	1.02	1.00	1.33	1.32	1.39
Max	1.17	1.35	1.11	1.32	1.85	0.92

ACLI

GWF Comparison vs. FT1 Run 6: Large and Mid Cap

Revised ACLI

	Large Cap					
	1 Yr	5 Yr	10 Yr	20 Yr	30 Yr	50 Yr
Min	0.49	0.17	0.16	0.19	0.21	0.54
0.5%	0.67	0.51	0.48	0.62	0.89	2.13
1.0%	0.70	0.57	0.58	0.76	1.15	2.75
5.0%	0.82	0.78	0.90	1.36	2.23	6.17
10.0%	0.88	0.92	1.11	1.82	3.05	9.48
25.0%	0.98	1.17	1.54	2.81	5.11	18.81
50.0%	1.09	1.47	2.14	4.44	9.20	39.45
75.0%	1.19	1.82	2.89	6.92	15.79	79.76
90.0%	1.29	2.16	3.70	9.99	25.22	148.83
95.0%	1.34	2.40	4.33	12.50	33.40	209.78
99.0%	1.47	2.91	5.62	19.04	52.86	415.11
99.5%	1.51	3.12	6.26	22.26	66.31	512.63
Max	1.83	4.70	10.85	43.13	168.19	1,514.65

	Mid Cap					
	1 Yr	5 Yr	10 Yr	20 Yr	30 Yr	50 Yr
Min	0.43	0.20	0.13	0.16	0.22	0.56
0.5%	0.59	0.47	0.45	0.60	0.96	2.25
1.0%	0.65	0.55	0.55	0.78	1.20	3.15
5.0%	0.79	0.77	0.89	1.45	2.42	8.06
10.0%	0.86	0.90	1.13	1.94	3.58	12.70
25.0%	0.98	1.19	1.62	3.19	6.28	26.97
50.0%	1.11	1.55	2.35	5.29	11.95	60.44
75.0%	1.23	1.95	3.26	8.53	21.37	131.06
90.0%	1.33	2.36	4.26	12.86	35.90	253.99
95.0%	1.38	2.63	5.01	16.24	47.87	379.55
99.0%	1.50	3.20	6.74	25.05	82.19	774.76
99.5%	1.55	3.41	7.23	29.42	100.00	996.64
Max	1.86	4.93	12.60	58.24	352.44	2,777.67

FT1 Run 6

	Large Cap					
	1 Yr	5 Yr	10 Yr	20 Yr	30 Yr	50 Yr
Min	0.43	0.14	0.13	0.31	0.23	0.54
0.5%	0.67	0.50	0.51	0.66	0.95	2.22
1.0%	0.71	0.57	0.59	0.79	1.20	2.97
5.0%	0.83	0.80	0.92	1.41	2.32	6.91
10.0%	0.89	0.94	1.14	1.85	3.20	10.25
25.0%	0.99	1.19	1.58	2.90	5.41	19.96
50.0%	1.09	1.50	2.17	4.55	9.49	41.20
75.0%	1.19	1.82	2.90	6.83	15.89	80.13
90.0%	1.28	2.15	3.66	9.85	24.35	144.23
95.0%	1.33	2.34	4.22	12.01	31.70	198.49
99.0%	1.43	2.75	5.37	17.19	52.06	349.38
99.5%	1.47	2.94	5.97	19.75	61.17	455.82
Max	1.79	3.97	9.38	33.26	135.23	1,089.03

	Mid Cap					
	1 Yr	5 Yr	10 Yr	20 Yr	30 Yr	50 Yr
Min	0.36	0.07	0.10	0.21	0.17	0.49
0.5%	0.59	0.47	0.49	0.61	0.91	2.42
1.0%	0.65	0.53	0.57	0.77	1.18	3.40
5.0%	0.80	0.77	0.90	1.47	2.56	8.37
10.0%	0.87	0.93	1.15	2.00	3.64	13.33
25.0%	0.99	1.22	1.66	3.25	6.58	28.51
50.0%	1.11	1.56	2.37	5.39	12.23	63.08
75.0%	1.22	1.95	3.26	8.62	21.73	132.37
90.0%	1.32	2.33	4.26	12.57	35.30	256.01
95.0%	1.38	2.60	4.95	15.66	46.52	369.93
99.0%	1.49	3.09	6.36	23.02	77.92	752.74
99.5%	1.53	3.40	6.98	26.70	90.74	945.65
Max	1.81	4.38	9.80	44.43	281.03	3,564.58

Revised ACLI / FT1 Run 6

	Large Cap					
	1 Yr	5 Yr	10 Yr	20 Yr	30 Yr	50 Yr
Min	1.12	1.24	1.23	0.60	0.92	1.01
0.5%	1.00	1.04	0.95	0.94	0.93	0.96
1.0%	0.99	0.99	1.00	0.96	0.96	0.92
5.0%	0.99	0.98	0.97	0.97	0.96	0.89
10.0%	0.99	0.98	0.97	0.99	0.95	0.92
25.0%	0.99	0.98	0.98	0.97	0.94	0.94
50.0%	1.00	0.98	0.99	0.97	0.97	0.96
75.0%	1.00	1.00	1.00	1.01	0.99	1.00
90.0%	1.01	1.01	1.01	1.01	1.04	1.03
95.0%	1.01	1.03	1.03	1.04	1.05	1.06
99.0%	1.03	1.06	1.05	1.11	1.02	1.19
99.5%	1.03	1.06	1.05	1.13	1.08	1.12
Max	1.02	1.18	1.16	1.30	1.24	1.39

	Mid Cap					
	1 Yr	5 Yr	10 Yr	20 Yr	30 Yr	50 Yr
Min	1.18	2.72	1.35	0.74	1.26	1.12
0.5%	1.00	1.00	0.93	0.99	1.05	0.93
1.0%	1.00	1.03	0.97	1.01	1.02	0.93
5.0%	0.98	0.99	1.00	0.99	0.94	0.96
10.0%	0.99	0.97	0.98	0.97	0.98	0.95
25.0%	0.99	0.98	0.98	0.98	0.95	0.95
50.0%	1.00	0.99	0.99	0.98	0.98	0.96
75.0%	1.00	1.00	1.00	0.99	0.98	0.99
90.0%	1.01	1.01	1.00	1.02	1.02	0.99
95.0%	1.00	1.01	1.01	1.04	1.03	1.03
99.0%	1.01	1.04	1.06	1.09	1.05	1.03
99.5%	1.01	1.00	1.04	1.10	1.10	1.05
Max	1.03	1.13	1.29	1.31	1.25	0.78

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GWF Comparison vs. FT1 Run 6: Small Cap and Aggressive

Revised ACLI

	Small Cap					
	1 Yr	5 Yr	10 Yr	20 Yr	30 Yr	50 Yr
Min	0.39	0.15	0.10	0.12	0.21	0.39
0.5%	0.57	0.41	0.40	0.53	0.80	1.90
1.0%	0.62	0.49	0.49	0.70	1.12	2.85
5.0%	0.76	0.73	0.85	1.39	2.40	8.13
10.0%	0.84	0.87	1.09	1.92	3.54	13.60
25.0%	0.97	1.19	1.63	3.30	6.78	30.89
50.0%	1.11	1.59	2.46	5.86	13.84	78.25
75.0%	1.25	2.06	3.57	9.99	26.65	184.34
90.0%	1.36	2.56	4.82	15.81	48.08	397.94
95.0%	1.43	2.89	5.82	20.92	66.09	609.89
99.0%	1.57	3.57	7.99	33.97	118.70	1,352.69
99.5%	1.63	3.84	8.84	39.59	140.37	1,740.91
Max	1.91	5.57	15.56	94.36	680.18	5,728.16

	Aggressive					
	1 Yr	5 Yr	10 Yr	20 Yr	30 Yr	50 Yr
Min	0.37	0.07	0.04	0.04	0.02	0.01
0.5%	0.56	0.31	0.24	0.28	0.37	0.77
1.0%	0.60	0.38	0.33	0.40	0.56	1.32
5.0%	0.74	0.63	0.68	1.03	1.70	5.34
10.0%	0.82	0.81	0.96	1.65	2.92	10.73
25.0%	0.96	1.18	1.61	3.30	6.91	31.97
50.0%	1.11	1.65	2.66	6.79	16.57	101.05
75.0%	1.27	2.22	4.10	12.80	37.38	303.97
90.0%	1.42	2.83	5.82	21.68	73.93	741.62
95.0%	1.51	3.26	7.22	29.39	107.63	1,237.20
99.0%	1.70	4.40	10.52	53.22	215.88	3,004.52
99.5%	1.83	4.80	12.01	68.58	271.59	3,958.46
Max	2.62	9.91	24.87	158.33	1,000.18	20,311.70

FT1 Run 6

	Small Cap					
	1 Yr	5 Yr	10 Yr	20 Yr	30 Yr	50 Yr
Min	0.30	0.04	0.05	0.11	0.16	0.29
0.5%	0.56	0.38	0.39	0.47	0.72	1.87
1.0%	0.61	0.47	0.46	0.65	1.03	2.82
5.0%	0.77	0.73	0.85	1.37	2.43	8.05
10.0%	0.85	0.90	1.12	1.93	3.57	13.73
25.0%	0.98	1.22	1.68	3.36	7.01	31.57
50.0%	1.12	1.61	2.48	5.86	13.85	77.20
75.0%	1.24	2.03	3.51	9.72	25.82	171.67
90.0%	1.35	2.47	4.61	14.55	43.08	346.14
95.0%	1.41	2.73	5.41	18.50	58.08	515.80
99.0%	1.53	3.40	7.06	27.78	99.82	1,082.56
99.5%	1.59	3.73	7.76	32.36	118.72	1,473.17
Max	1.93	5.23	12.00	66.21	449.09	4,322.95

	Aggressive					
	1 Yr	5 Yr	10 Yr	20 Yr	30 Yr	50 Yr
Min	0.27	0.04	0.04	0.04	0.02	0.06
0.5%	0.54	0.28	0.22	0.21	0.31	0.57
1.0%	0.60	0.35	0.30	0.32	0.43	1.01
5.0%	0.74	0.61	0.63	0.93	1.58	4.82
10.0%	0.82	0.79	0.93	1.50	2.73	10.29
25.0%	0.97	1.17	1.59	3.22	6.72	32.53
50.0%	1.12	1.67	2.69	6.83	16.71	103.80
75.0%	1.27	2.29	4.26	13.29	39.46	324.43
90.0%	1.41	2.92	6.24	23.51	79.89	862.78
95.0%	1.50	3.42	7.59	32.14	120.89	1,449.71
99.0%	1.67	4.37	11.21	55.41	252.27	3,687.17
99.5%	1.75	4.68	12.92	68.95	320.91	4,996.51
Max	2.25	9.52	23.82	219.21	1,104.92	24,015.57

Revised ACLI / FT1 Run 6

	Small Cap					
	1 Yr	5 Yr	10 Yr	20 Yr	30 Yr	50 Yr
Min	1.32	3.53	2.06	1.08	1.32	1.34
0.5%	1.02	1.08	1.02	1.13	1.11	1.02
1.0%	1.01	1.04	1.08	1.09	1.08	1.01
5.0%	1.00	1.00	1.00	1.02	0.99	1.01
10.0%	0.99	0.97	0.97	0.99	0.99	0.99
25.0%	0.99	0.98	0.97	0.98	0.97	0.98
50.0%	1.00	0.99	0.99	1.00	1.00	1.01
75.0%	1.01	1.01	1.02	1.03	1.03	1.07
90.0%	1.01	1.04	1.05	1.09	1.12	1.15
95.0%	1.01	1.06	1.08	1.13	1.14	1.18
99.0%	1.02	1.05	1.13	1.22	1.19	1.25
99.5%	1.03	1.03	1.14	1.22	1.18	1.18
Max	0.99	1.07	1.30	1.43	1.51	1.33

	Aggressive					
	1 Yr	5 Yr	10 Yr	20 Yr	30 Yr	50 Yr
Min	1.36	1.64	0.93	0.99	1.05	0.08
0.5%	1.03	1.12	1.10	1.34	1.19	1.35
1.0%	0.99	1.08	1.09	1.27	1.30	1.31
5.0%	1.00	1.03	1.07	1.11	1.07	1.11
10.0%	1.00	1.02	1.04	1.10	1.07	1.04
25.0%	0.99	1.01	1.01	1.03	1.03	0.98
50.0%	1.00	0.99	0.99	0.99	0.99	0.97
75.0%	1.00	0.97	0.96	0.96	0.95	0.94
90.0%	1.00	0.97	0.93	0.92	0.93	0.86
95.0%	1.01	0.95	0.95	0.91	0.89	0.85
99.0%	1.02	1.01	0.94	0.96	0.86	0.81
99.5%	1.04	1.03	0.93	0.99	0.85	0.79
Max	1.17	1.04	1.04	0.72	0.91	0.85

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Appendix

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Appendix A: Calibration and Parameters

	Large	Mid	Small	Aggressive
mu0	0.0723	0.0408	0.0556	0.1233
mu1	0.5744	2.0910	1.5311	-0.2500
alpha	0.0196	0.0307	0.0308	0.0191
beta	0.9519	1.1310	0.9408	0.4800
sigma	0.1254	0.1409	0.1409	0.1587
mu_jump	-0.1500	-0.2184	-0.2355	-0.1990
sigma_jump	0.0584	0.0476	0.0480	0.0678
lambda_jump	4.9442	4.6774	3.8906	3.6347
correlation	-0.4563	-0.6661	-0.6275	-0.3105
initial vol	0.1435	0.1648	0.1809	0.1997
theta	0.0206	0.0272	0.0327	0.0399
Avg. Jump Freq.	0.1019	0.1270	0.1273	0.1449
% Jump Variance	11.4%	18.9%	18.3%	13.8%
MLE Sum LL	914	838	788	756
MLE Avg. LL	1.8	1.7	1.6	1.5

Equity return assumed to be independent of short rate, i.e. follows constant mean return, implying the short rate as part of total return is effectively set to zero.

Model parameters calibrated to monthly historical data using generalized MLE:

- Large Cap: S&P total return index from 8/1978 to 12/2020, based on data provided by Link Richardson from a combination of sources
- Mid Cap: Willshire Mid Cap from 8/1978 to 12/2020 , sourced from FRED
- Small Cap: Willshire Small Cap from 8/1978 to 12/2020 , sourced from FRED
- Aggressive: NASDAQ Composite from 3/1971 to 12/2020 , sourced from FRED

Adjustments / Targeting

- MLE calibration included a 12% cap on jump frequency, to better align with historical correlations. Note that this frequency was subject to variance adjustment below.

- Large Cap drift coefficient, mu0, was adjusted by -.0383 to align with 8.75% average target proposed by NAIC in the original AIRG specification

- Mid, Small, and Aggressive alpha (variance target) parameter was adjusted to align with historical relationship to Large Cap returns

- Mid, Small and Aggressive, had mu0 adjusted to align with the Sharpe Ratio of 28.1% implied in the Large Cap scenarios, and assuming a risk-free rate of 3%.

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Appendix B: Constructing the Correlation Matrix

	Large Var	Large Ret	Mid Var	Mid Ret	Small Var	Small Ret	Aggr. Var	Aggr. Ret
Large Var	1.0000							
Large Ret	-0.4563	1.0000						
Mid Var	0.8172	-0.5429	1.0000					
Mid Ret	-0.4995	0.9405	-0.6661	1.0000				
Small Var	0.7667	-0.4927	0.9642	-0.6193	1.0000			
Small Ret	-0.4840	0.9004	-0.6505	0.9816	-0.6275	1.0000		
Aggr. Var	0.7889	-0.3309	0.8026	-0.3917	0.7996	-0.3890	1.0000	
Aggr. Ret	-0.3857	0.8931	-0.4965	0.9196	-0.4713	0.9276	-0.3105	1.0000

Correlation matrix based on historical data from 8/1978 to 12/2020:

- Variance/Return, or skew, correlation for each individual index based on each specific MLE
- Cross index Variance/Variance explicitly calculated using filtered historical Heston variance based on calibrated parameters
- Cross-skew correlation computed based on same filtered variances as above, but scaled to align with MLE-based correlation coefficients
- Cross index Return/Return explicitly calculated based on historical data, and subsequently adjusted by +3% for all coefficients except Mid/Small to adjust for the noise from the jump process.

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Appendix C: Notes on Proposed Calibration

- ACLI proposal calibrated to the history by using Maximum Likelihood Estimation (MLE) with additional adjustments to make sure appropriate relationship across model indices.
- Equity returns do not reflect explicit linkage to short rates, and the returns/volatilities have been adjusted to reflect reasonable historical relationships. No additional adjustments are required.
- Modeled ACLI results are based on externally implemented GEMS proxy model based on publicly disclosed model details. Proposed parameters must be run directly through GEMS software to confirm intended outcomes and for possible minor refinements.

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Financial Security for Life

ACLI Dynamic Generalized Fractional Floor (GFF) Proposal

November 15, 2024

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Generalized Fractional Floor (GFF)

- In 2021, discussions began to introduce a flooring mechanism to the Generator.
- The 3-factor CIR model, coupled with the low-for-long criteria, can be challenged to simultaneously produce high historical rates (1980s) without producing extremely negative and volatile short rates.
- To address this challenge, several floor proposals were discussed, ultimately resulting in reflecting a GFF in the Generator.
- While the GFF produced some improvements, the frequency of negatives is still quite severe.

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Dynamic GFF

- ACLI is proposing a dynamic GFF to provide flexibility to more precisely calibrate the appropriate level of modeled negative rates in terms of both frequency and severity.
- In addition to the Current GFF terms, would need to define:
  - Minimum floored rate (-1% which aligns with the current GOES scenarios and targeting criteria);
  - The desired frequency of the negative rates in the steady state distribution (1% which aligns with the Academy worse than history criteria)
- Once these are defined, the floor formula parameters would be set based on how these two criteria interact with the relevant unfloored (shadow) rate distribution

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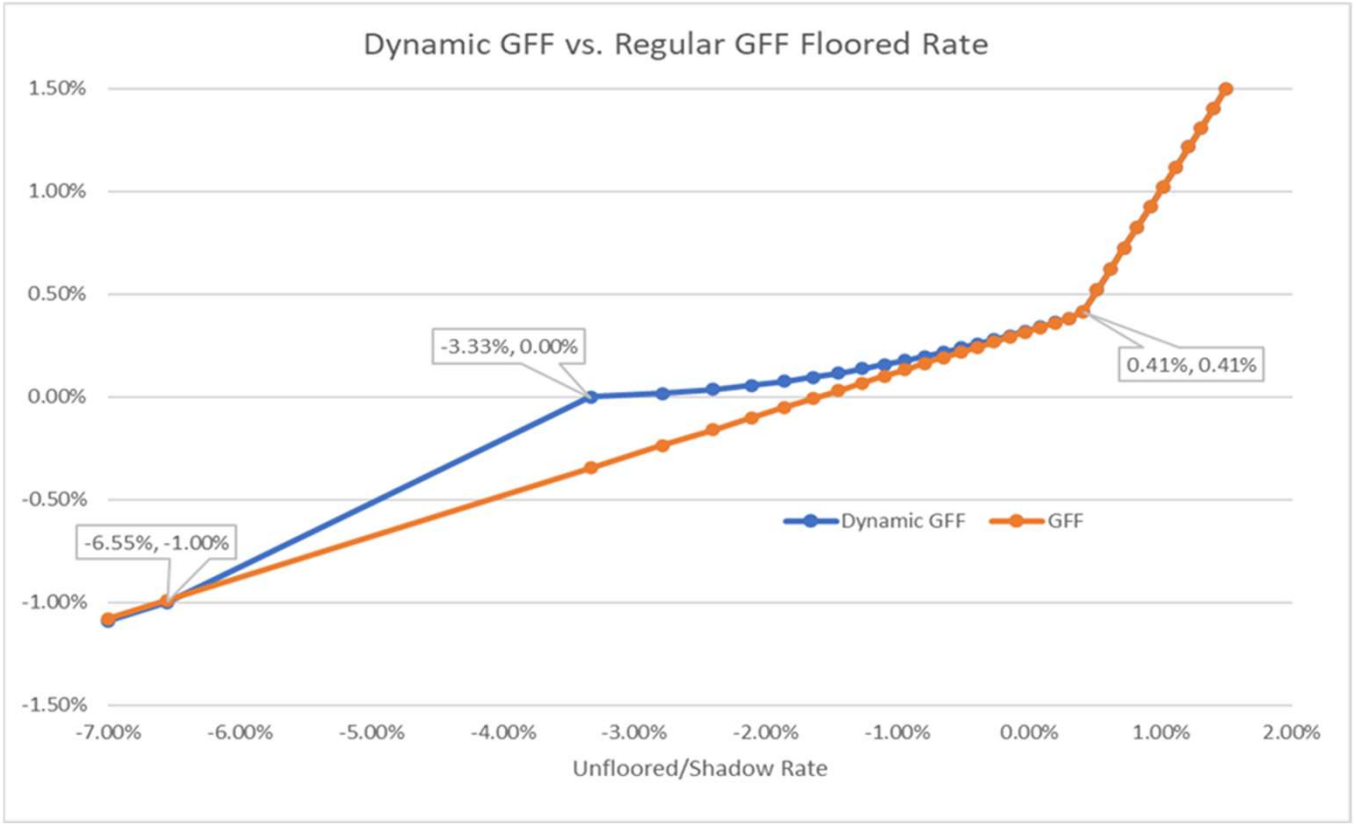
Resulting steady-state (years 80+) floored rates as of 12/31/2023 (FT2 Baseline):



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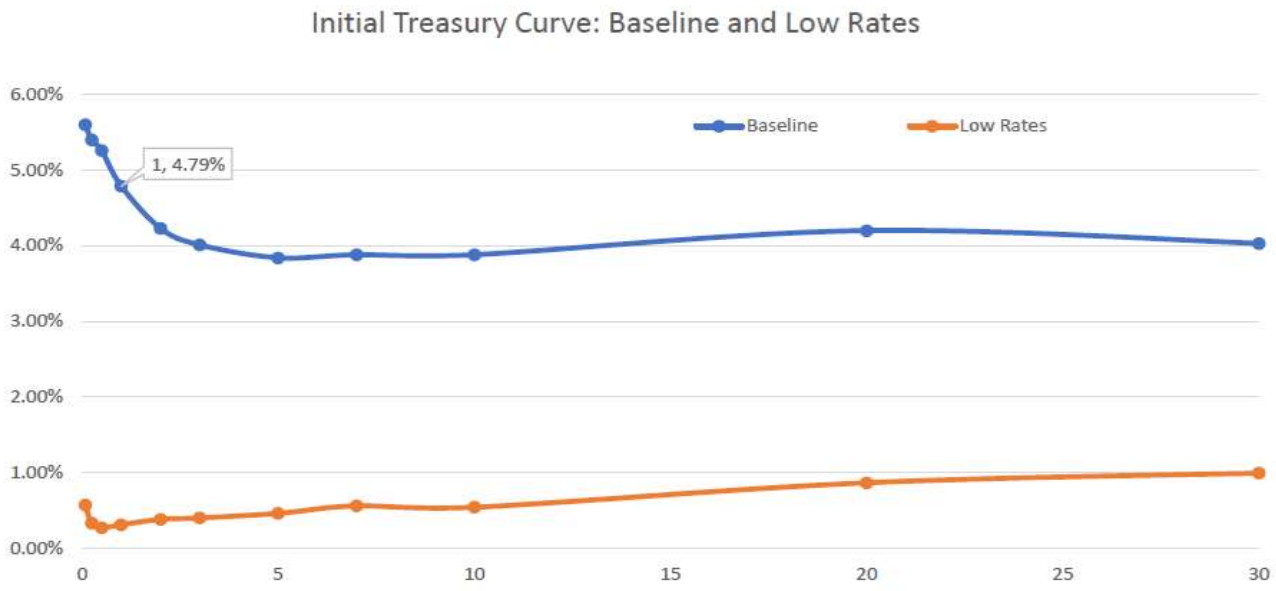
Initial Treasury Curve: Baseline (12/2023) and Low Rates (3/2020)

- Distribution of negative rates is sensitive to starting conditions
- The next slides compare negative rate distributions between current and dynamic GFF on these valuation dates used in FT2



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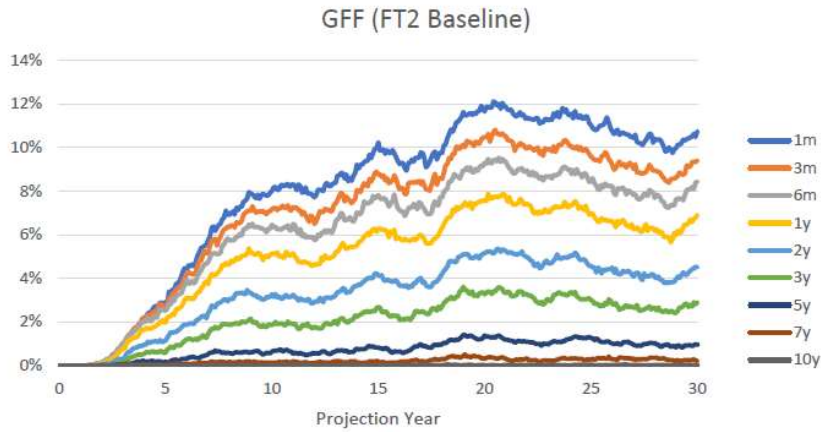
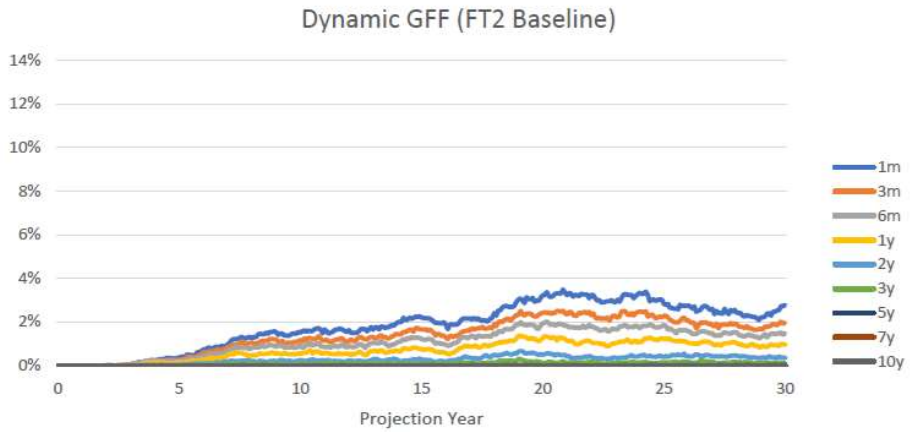
Frequency of Negative Rates: Baseline FT2 Scenarios (first 30 years of the projection)





Frequency of Negative 1yr Rate by Projection Year

Proj. Year	GFF	Dynamic GFF
1	0.0%	0.0%
2	0.1%	0.0%
5	2.0%	0.2%
10	5.1%	0.5%
20	7.6%	1.3%
30	6.9%	1.0%

- Under current GFF up to 12% of 1-month rates, and 8% of 1-year rates fall below 0% in the Baseline scenarios
- Dynamic GFF significantly mitigates frequency of negative rates in the projection.
- Frequency of negative rates is diminished in the early years due to high starting rates (UST 1yr = 4.79%)

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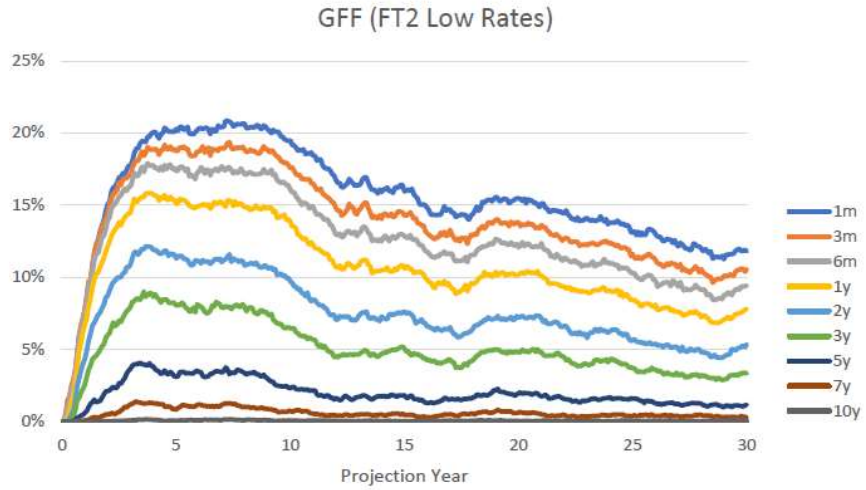
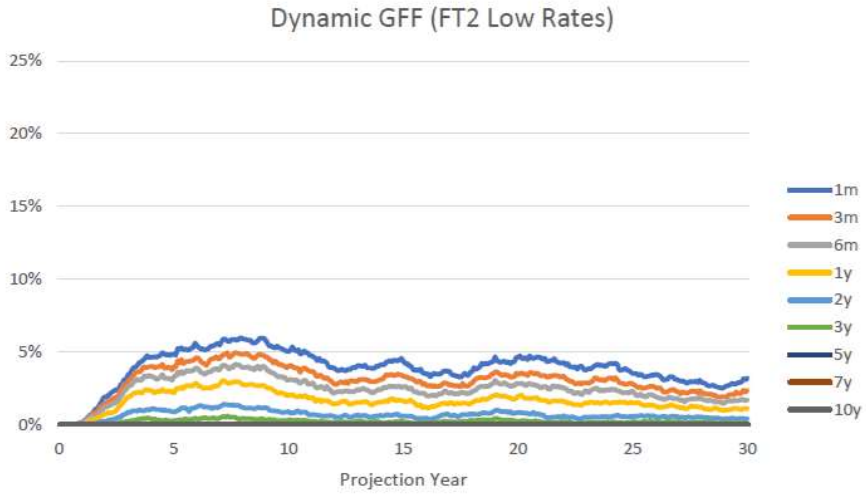
Frequency of Negative Rates: Low Rates FT2 Scenarios ((first 30 years of the projection)





Frequency of Negative 1yr Rate by Projection Year

Proj. Year	GFF	Dynamic GFF
1	6.7%	0.1%
2	12.1%	0.7%
5	15.1%	2.2%
10	13.8%	2.1%
20	10.2%	2.0%
30	7.8%	1.1%

- Current GFF produces up to 20% of 1-month rates, and 15% of 1-year rates below 0% in the Low Rate scenarios
- Dynamic GFF significantly mitigates frequency of negative rates in the projection. Note that the frequency of negative rates is higher compared to the Baseline scenario set under both flooring methods, since the initial curve is 3%+ lower.

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Alternatives

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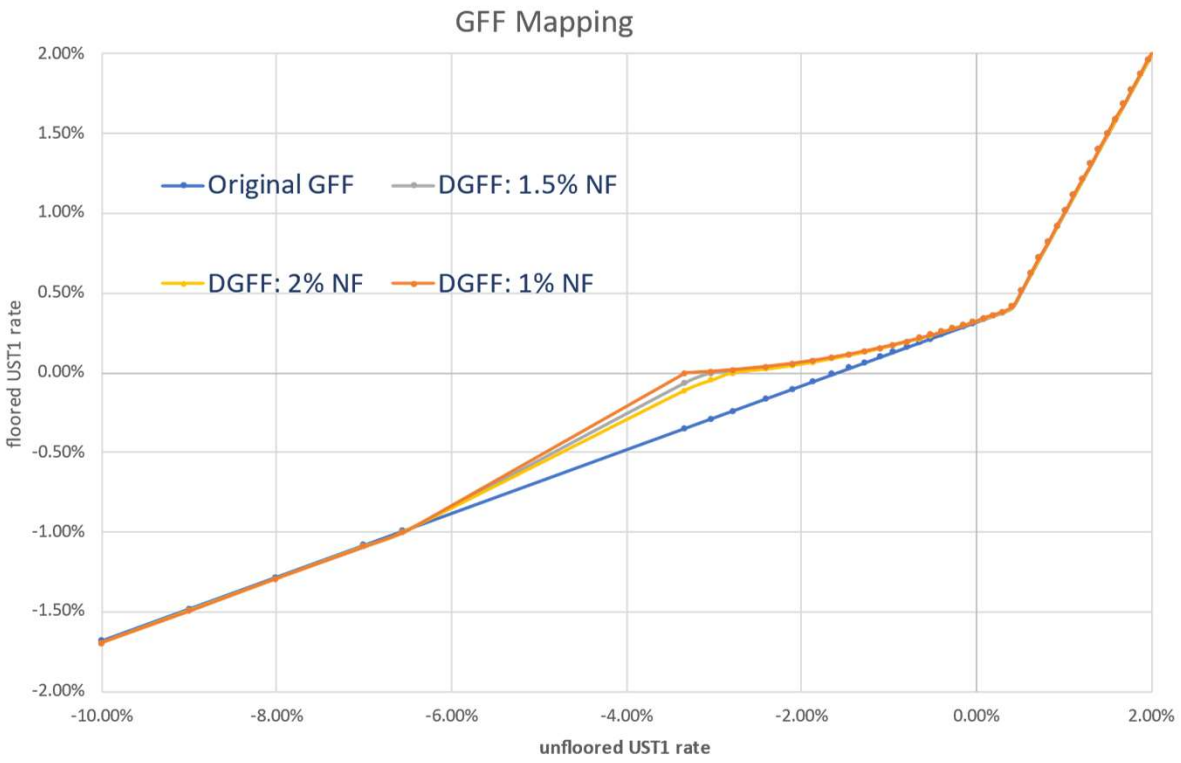
Dynamic GFF Alternatives: impact of flooring



- Original GFF maps unfloored rate of -1.6% to 0%, effectively targeting 6-7% frequency of negative UST1
- Dynamic GFF allows for targeting of any desired frequency of negative UST1 by adjusting the unfloored rate level that maps to 0%
  - 1% frequency: unfloored rate of -3.33%
  - 1.5% frequency: unfloored rate of -3.03%
  - 2% frequency: unfloored rate of -2.79%
- Resulting flooring gets closer to original GFF as the desired frequency of negative UST1 is increased.

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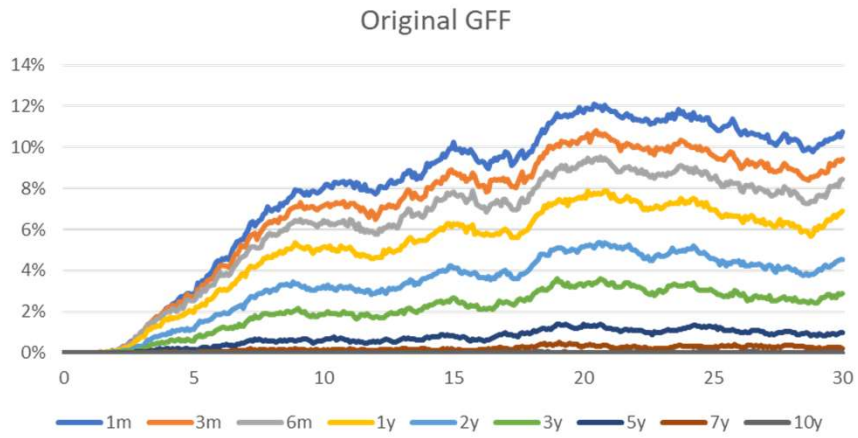
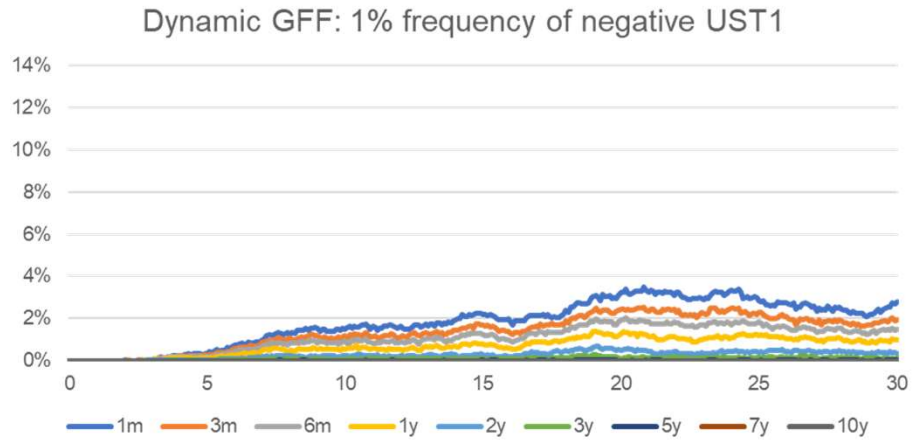
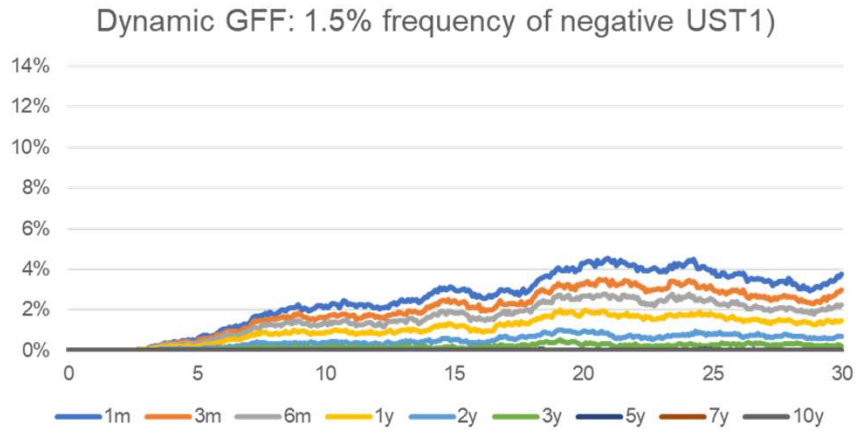
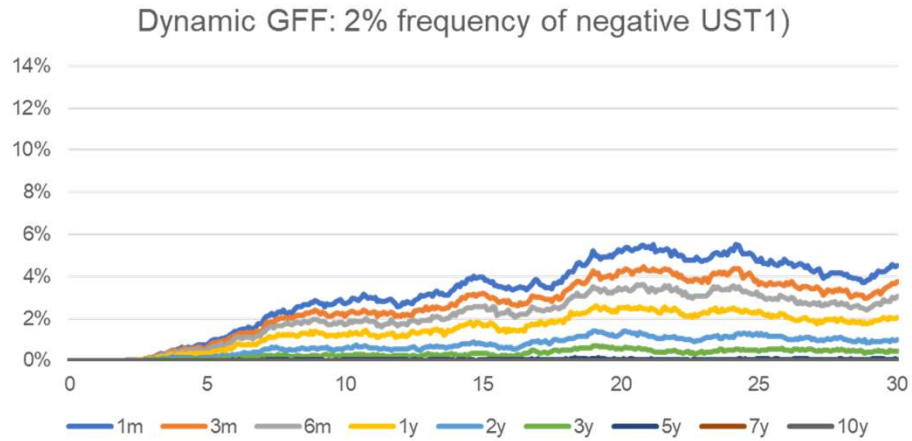
Baseline FT2 Scenarios









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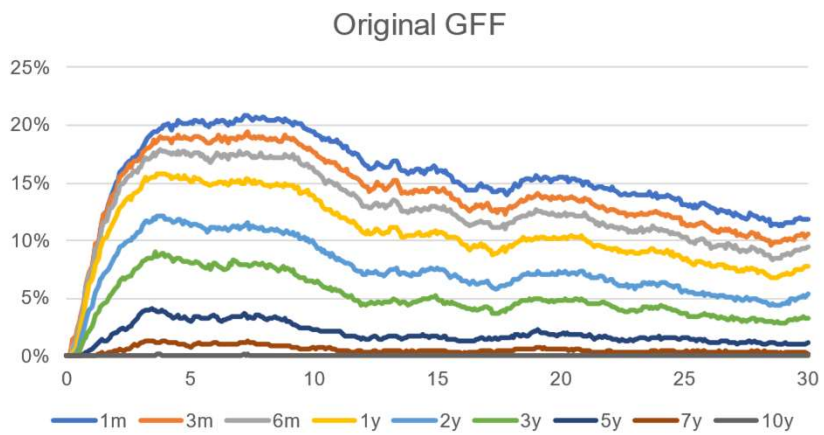
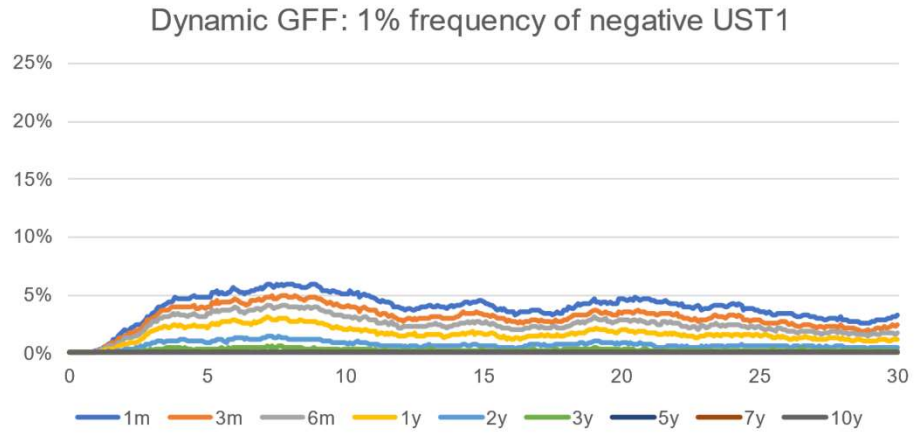
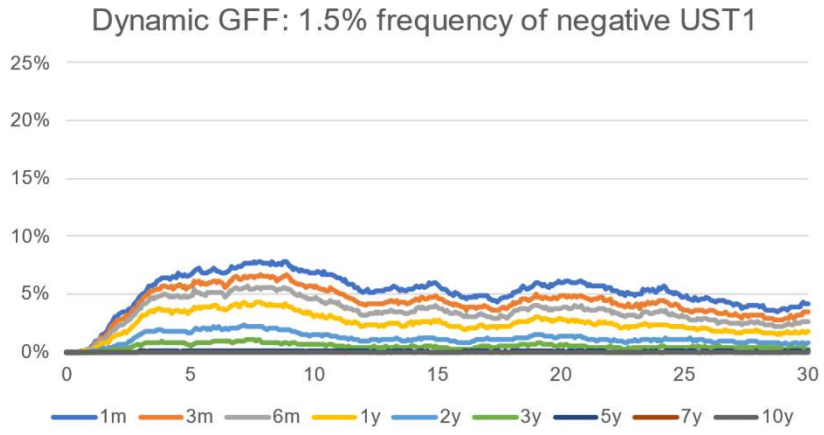
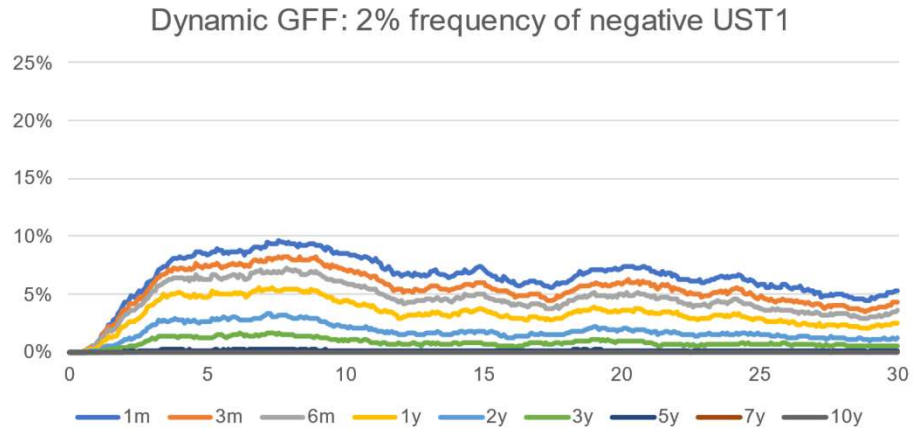
Low Rate FT2 Scenarios









Low Tail Distribution in Steady State (80-100yrs of the projection)

Original GFF

	1m	3m	6m	1y	2y	3y	5y	7y	10y
min	-1.3%	-1.2%	-1.1%	-1.0%	-0.8%	-0.7%	-0.5%	-0.4%	-0.2%
0.5%	-0.6%	-0.6%	-0.5%	-0.4%	-0.3%	-0.2%	-0.1%	0.1%	0.2%
1%	-0.5%	-0.5%	-0.4%	-0.3%	-0.2%	-0.1%	0.0%	0.1%	0.3%
2%	-0.4%	-0.3%	-0.3%	-0.2%	-0.1%	0.0%	0.1%	0.2%	0.3%
3%	-0.3%	-0.3%	-0.2%	-0.2%	-0.1%	0.0%	0.2%	0.3%	0.4%
4%	-0.3%	-0.2%	-0.2%	-0.1%	0.0%	0.1%	0.2%	0.3%	0.6%
5%	-0.2%	-0.2%	-0.1%	-0.1%	0.0%	0.1%	0.3%	0.4%	0.7%
6%	-0.2%	-0.1%	-0.1%	0.0%	0.1%	0.2%	0.3%	0.4%	0.9%
7%	-0.1%	-0.1%	0.0%	0.0%	0.1%	0.2%	0.3%	0.5%	1.1%
8%	-0.1%	0.0%	0.0%	0.1%	0.2%	0.2%	0.4%	0.7%	1.2%
9%	0.0%	0.0%	0.0%	0.1%	0.2%	0.3%	0.4%	0.8%	1.3%
10%	0.0%	0.0%	0.1%	0.1%	0.2%	0.3%	0.5%	0.9%	1.4%

Dynamic GFF: 1% frequency of negative UST1

	1m	3m	6m	1y	2y	3y	5y	7y	10y
min	-1.3%	-1.2%	-1.1%	-1.0%	-0.7%	-0.5%	-0.2%	0.0%	0.0%
0.5%	-0.3%	-0.3%	-0.2%	-0.1%	0.0%	0.0%	0.1%	0.1%	0.2%
1%	-0.2%	-0.1%	-0.1%	0.0%	0.0%	0.0%	0.1%	0.2%	0.3%
2%	-0.1%	0.0%	0.0%	0.0%	0.0%	0.1%	0.2%	0.2%	0.3%
3%	0.0%	0.0%	0.0%	0.0%	0.1%	0.1%	0.2%	0.3%	0.4%
4%	0.0%	0.0%	0.0%	0.1%	0.1%	0.1%	0.2%	0.3%	0.6%
5%	0.0%	0.0%	0.1%	0.1%	0.1%	0.2%	0.3%	0.4%	0.7%
6%	0.0%	0.1%	0.1%	0.1%	0.1%	0.2%	0.3%	0.4%	0.9%
7%	0.1%	0.1%	0.1%	0.1%	0.2%	0.2%	0.3%	0.5%	1.1%
8%	0.1%	0.1%	0.1%	0.1%	0.2%	0.3%	0.4%	0.7%	1.2%
9%	0.1%	0.1%	0.1%	0.2%	0.2%	0.3%	0.4%	0.8%	1.3%
10%	0.1%	0.1%	0.1%	0.2%	0.2%	0.3%	0.5%	0.9%	1.4%

Steady State (80-100yrs) Tail: Dynamic GFF

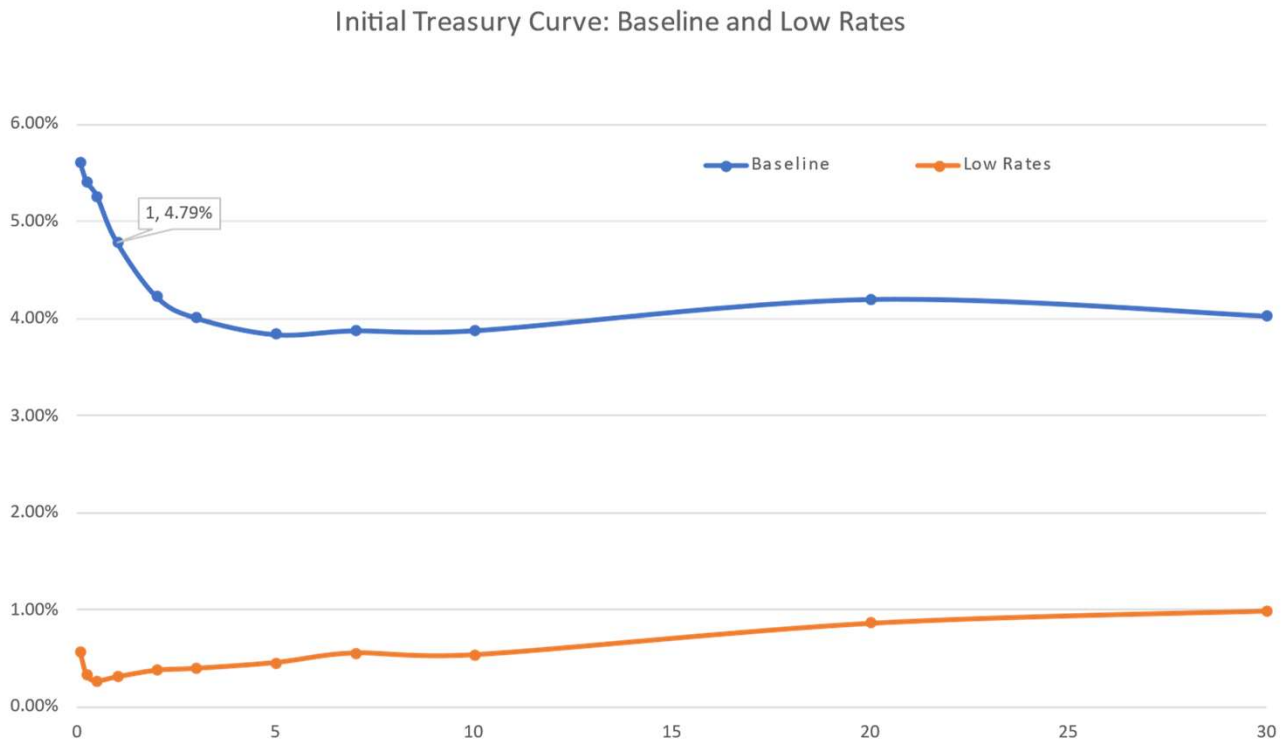
	1m	3m	6m	1y	2y	3y	5y	7y	10y
min	-1.3%	-1.2%	-1.1%	-1.0%	-0.8%	-0.6%	-0.3%	-0.1%	0.0%
0.5%	-0.4%	-0.3%	-0.2%	-0.2%	0.0%	0.0%	0.1%	0.1%	0.2%
1%	-0.3%	-0.2%	-0.1%	-0.1%	0.0%	0.0%	0.1%	0.2%	0.3%
2%	-0.1%	-0.1%	0.0%	0.0%	0.0%	0.1%	0.2%	0.2%	0.3%
3%	0.0%	0.0%	0.0%	0.0%	0.1%	0.1%	0.2%	0.3%	0.4%
4%	0.0%	0.0%	0.0%	0.1%	0.1%	0.1%	0.2%	0.3%	0.6%
5%	0.0%	0.0%	0.0%	0.1%	0.1%	0.2%	0.3%	0.4%	0.7%
6%	0.0%	0.0%	0.1%	0.1%	0.1%	0.2%	0.3%	0.4%	0.9%
7%	0.0%	0.1%	0.1%	0.1%	0.2%	0.2%	0.3%	0.5%	1.1%
8%	0.1%	0.1%	0.1%	0.1%	0.2%	0.2%	0.4%	0.7%	1.2%
9%	0.1%	0.1%	0.1%	0.2%	0.2%	0.3%	0.4%	0.8%	1.3%
10%	0.1%	0.1%	0.1%	0.2%	0.2%	0.3%	0.5%	0.9%	1.4%

Dynamic GFF: 2% frequency of negative UST1

	1m	3m	6m	1y	2y	3y	5y	7y	10y
min	-1.3%	-1.2%	-1.1%	-1.0%	-0.8%	-0.6%	-0.3%	-0.1%	0.0%
0.5%	-0.4%	-0.4%	-0.3%	-0.2%	-0.1%	0.0%	0.1%	0.1%	0.2%
1%	-0.3%	-0.2%	-0.2%	-0.1%	0.0%	0.0%	0.1%	0.2%	0.3%
2%	-0.2%	-0.1%	-0.1%	0.0%	0.0%	0.1%	0.2%	0.2%	0.3%
3%	-0.1%	0.0%	0.0%	0.0%	0.1%	0.1%	0.2%	0.3%	0.4%
4%	0.0%	0.0%	0.0%	0.0%	0.1%	0.1%	0.2%	0.3%	0.6%
5%	0.0%	0.0%	0.0%	0.1%	0.1%	0.2%	0.3%	0.4%	0.7%
6%	0.0%	0.0%	0.1%	0.1%	0.1%	0.2%	0.3%	0.4%	0.9%
7%	0.0%	0.1%	0.1%	0.1%	0.2%	0.2%	0.3%	0.5%	1.1%
8%	0.1%	0.1%	0.1%	0.1%	0.2%	0.2%	0.4%	0.7%	1.2%
9%	0.1%	0.1%	0.1%	0.2%	0.2%	0.3%	0.4%	0.8%	1.3%
10%	0.1%	0.1%	0.1%	0.2%	0.2%	0.3%	0.5%	0.9%	1.4%

ACLI

Initial UST Treasury Curves: FT2 Baseline and Low Rates



ACLI

Tail Distribution of 1yr Spot Rate under FT2 GEMS Scenarios

percentile	Floored (GFF)	Unfloored
min	-0.99%	-6.55%
1%	-0.35%	-3.33%
1.5%	-0.29%	-3.03%
2%	-0.24%	-2.79%
3%	-0.16%	-2.40%
4%	-0.10%	-2.11%
5%	-0.05%	-1.86%
6%	-0.01%	-1.64%
7%	0.03%	-1.45%
8%	0.07%	-1.27%
9%	0.10%	-1.10%
10%	0.13%	-0.94%

- Steady state distribution of 1yr Spot rate based on baseline FT2 GEMS scenarios, and years 80 to 100 of the projection.
- Unfloored/Shadow rates calculated by inverting the GFF formula to solve for the implied unfloored rates.
- Unfloored rates at given severity can be used directly to target the frequency of negative rates in the distribution.
- Example: to target 1.5% negative rate frequency in the steady state, set parameter s_0 = -3.03%

ACLI

Appendix

ACLI

Current Generalized Fractional Floor (GFF)

$$rate(s) = max(\kappa + m\ (s - \kappa), s)$$

- Where:

s is the natively modeled shadow, or unfloored, rate

$\boldsymbol{rate(s)}$ is the floored rate as a function of the shadow rate s and the GFF parameters κ and *m*

$\boldsymbol{\kappa}$ is the threshold parameter – shadow rates below this threshold are subject to the fractional flooring

$\boldsymbol{m}$ is the constant fraction parameter which applies to the difference $s - \kappa$. Setting *m=0* would imply simple flooring at k, while *m=1* would imply no flooring as *rate(s) = s*

- For purposes of GOES, GFF parameters are set to: $\kappa = .004$ and $m = .2$, and the floor applies to the continuous spot rates generated by a 3-factor CIR model

ACLI

Proposed Dynamic Generalized Fractional Floor (GFF)

$$rate(s) = max(\kappa + m(s)\ (s - \kappa), s)$$

$$m(s) = m_0 + max(min(s, \kappa) - s_0, 0)\ R_0 - max(s_0 - max(s, s_{min}), 0)\ R_{min}$$

- Where:

  $\bar{m}$ is the terminal fraction level that applies when $s = \kappa$; subject to constraint $\bar{m} < \frac{2\kappa}{\kappa - s_0}$

  $m_0 = \frac{\kappa}{\kappa - s_0}$ is the fraction that ensures $rate(s_0) = 0$

  $R_0 = \frac{\bar{m} - m_0}{\kappa - s_0}$

  $m_{min} = \frac{\kappa - rat\ _{min}}{\kappa - s_{min}}$ is the fraction that ensures $rate(s_{min}) = rate_{min}$

  $R_{min} = \frac{m_0 - m_{min}}{s_0 - s_{min}}$

- We assume m(s) can be recast as a piecewise linear function, based on additional targets to explicitly control for (i) frequency of negative rates and (ii) minimum floored rate boundary

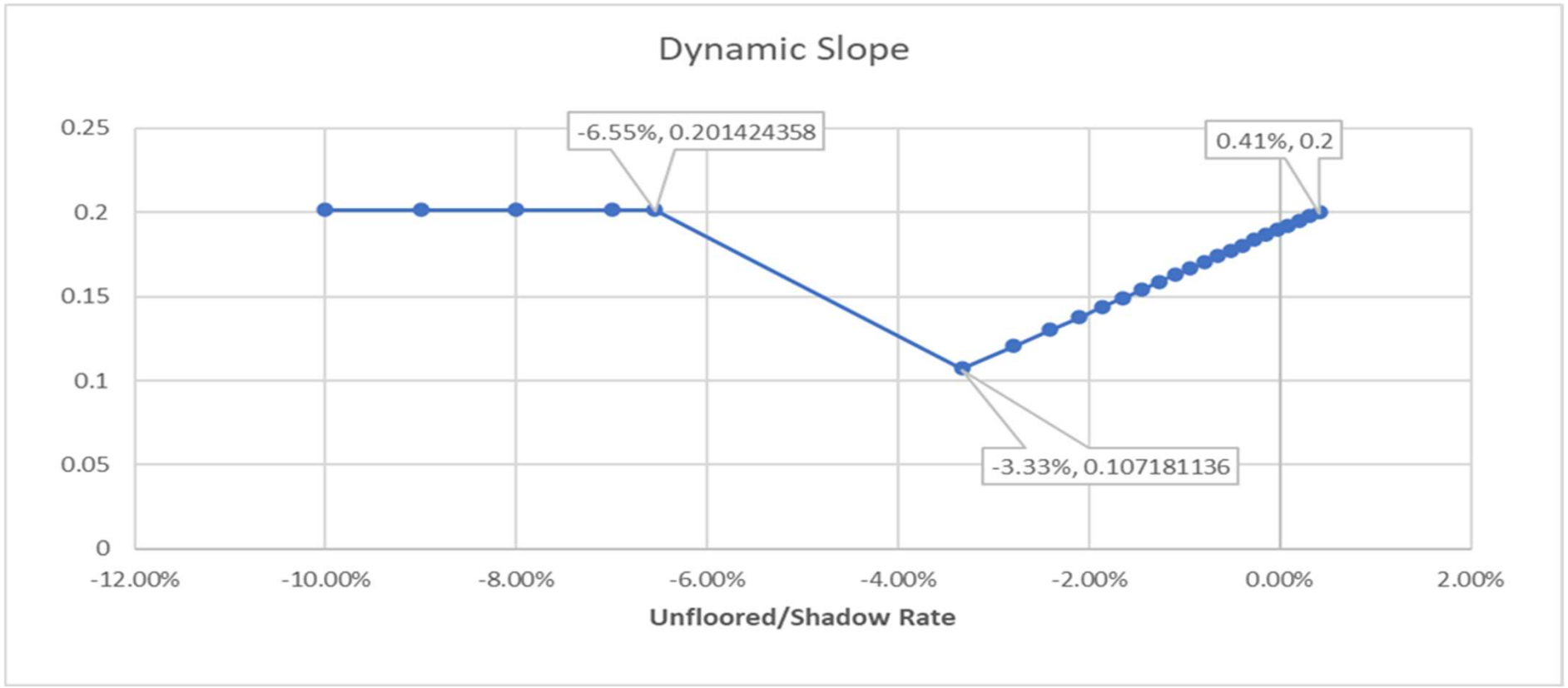
ACLI

Recipe for Setting Dynamic GFF Parameters

1. Start with the core GFF parameters, $\kappa = .004$ and $\overline{m} = .2$
2. Produce the target distribution of shadow rates as basis for targeting: include tail percentile levels such as minimum, 1%, 2%, etc. and pick the desired short rate tenor, such as 1yr.
3. Target negative frequency: s_0 = -3.3% which is the 1st percentile of the 1yr shadow rate distribution in years 81-100 (steady state) FT2 baseline scenarios. Note that this could also be set to 1.5% or 2% tail levels, to allow for more negative rates in the distribution.
4. Check to see if $\overline{m}$ satisfies the constraint (which it does), and lower accordingly.
5. Set the low-rate boundary (the ultimate floor): $s_{min} = -6.55\%$ (minimum shadow rate in FT2 scenarios) and $rate_{min} = -1\%$. Any other suitable level, like -1.5% would also work. Note that the FT2 baseline scenario 1yr spot rate bottoms out at ~ -1% as well.

ACLI

This parameterization results in the following dynamic fraction $m(s)$;
The fraction $m(s)$ linearly grades from $\bar{m}$ to m_0 at s=-.0333, to m_{min} at s = .0655 as intended.



Agenda Item 7

ACLI Comments on APF 2024-14

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September 19, 2024

Rachel Hemphill
Chair, NAIC Life Actuarial (A) Task Force (LATF)

Re: APF 2024-14 (Surrender Charge Waivers)

Dear Chair Hemphill:

The American Council of Life Insurers (ACLI) appreciates the opportunity to provide feedback on APF 2024-14, which aims to add reporting on the waiver of surrender charges, and the included cover letter question asking for comments on "whether it would be preferable to specify a specific number of years that are required for historical data reporting".

While we do think the APF could explicitly list the timeframe for reporting information, we consider the language, as written, to be a substantial amount of work for surrender charge waivers that are generally an immaterial consideration (both from an economics perspective and from an impact to overall decrement perspective). Further, there is concern that these changes could require companies to provide past years' worth of data that is likely not clean or readily available, if it is available at all.

Therefore, to ensure that the work being done as a result of this APF is as useful as possible for regulators and is administratively and technically feasible for companies to obtain and prepare, we suggest the requirement be implemented on a going forward basis. In the absence of historical data, other disclosures could be considered, such as having companies compare expected versus actual surrender charges if part of a dynamic model validation.

Thank you once again for considering our comments and we look forward to further discussion at a future session of LATF.

American Council of Life Insurers | 101 Constitution Ave, NW, Suite 700 | Washington, DC 20001-2133

Sincerely,

cc: Scott O'Neal, NAIC

Agenda Item 11

Provide Update on AG 53 Reports

Updates on Actuarial Guideline 53

Fred Andersen, FSA, MAAA

11/15/2024

NATIONAL ASSOCIATION OF INSURANCE COMMISSIONERS

11/15/2024

AG 53 provides uniform guidance for the asset adequacy testing applied to life insurers and is effective for reserves reported with respect to the Dec. 31, 2022, and subsequent annual statutory financial statements. A statement of actuarial opinion on the adequacy of the reserves and assets supporting reserves after the operative date of the Valuation Manual is required under Section 3B of the NAIC Standard Valuation Law (#820) and VM-30 of the Valuation Manual. Section 14A of Model #820 provides that actuarial opinions and related documents, including an asset adequacy analysis, are confidential information, while Section 14B provides that such confidential information may be shared with other state regulatory agencies and the NAIC. The asset adequacy analyses required under AG 53 reviewed in the preparation of this report were shared with the Valuation Analysis (E) Working Group and the NAIC in accordance with these requirements and continue to remain confidential in nature.

Notice Regarding Confidentiality

AG 53 provides uniform guidance for the asset adequacy testing, and is effective for reserves reported with respect to the Dec. 31, 2022, and subsequent annual statutory financial statements. A statement of actuarial opinion on the adequacy of the reserves and assets supporting reserves after the operative date of the Valuation Manual is required under Section 3B of the NAIC Standard Valuation Law (#820) and VM-30 of the Valuation Manual. Section 14A of Model #820 provides that actuarial opinions and related documents, including an asset adequacy analysis, are confidential information, while Section 14B provides that such confidential information may be shared with other state regulatory agencies and the NAIC. The asset adequacy analyses required under AG 53 reviewed in the preparation of this report were shared with the Valuation Analysis (E) Working Group and the NAIC in accordance with these requirements, and continue to remain confidential in nature.

Agenda

1. Summary of Reviews
2. Discussion on model rigor
3. Potential Next Steps and Reminders

AG 53 provides uniform guidance for the asset adequacy testing applied to life insurers and is effective for reserves reported with respect to the Dec. 31, 2022, and subsequent annual statutory financial statements. A statement of actuarial opinion on the adequacy of the reserves and assets supporting reserves after the operative date of the Valuation Manual is required under Section 3B of the NAIC Standard Valuation Law (#820) and VM-30 of the Valuation Manual. Section 14A of Model #820 provides that actuarial opinions and related documents, including an asset adequacy analysis, are confidential information, while Section 14B provides that such confidential information may be shared with other state regulatory agencies and the NAIC. The asset adequacy analyses required under AG 53 reviewed in the preparation of this report were shared with the Valuation Analysis (E) Working Group and the NAIC in accordance with these requirements and continue to remain confidential in nature.

Net yield / net spread reviews - follow up from last year (year-end 2022)

- Identified outlying net yield assumptions for 14 companies
- Several of them agreed with our recommendations and were taken off the outlier list
- Some did not agree and remained on the list

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Net yield / net spread reviews – this year

- We continue to engage with last year's outliers that did not agree with our recommendations
- We also identified several additional companies that were not outliers last year but are this year
- Responses are currently being reviewed
- Not intended to be a safe harbor for non-outlying companies

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Identification of outliers

- Tended to be companies with an asset type with high assumed net yields / net spreads and substantial allocations
- Particular concerns: reinvestments or initial assets that last a long time assumed to earn excessive net yields
- Upcoming graph:
  - Benchmarks as focus for comparison
  - Outliers tend to be well outside benchmarks
    - And well outside NY Special Considerations and VM-20 yield and spread maximums or guidance

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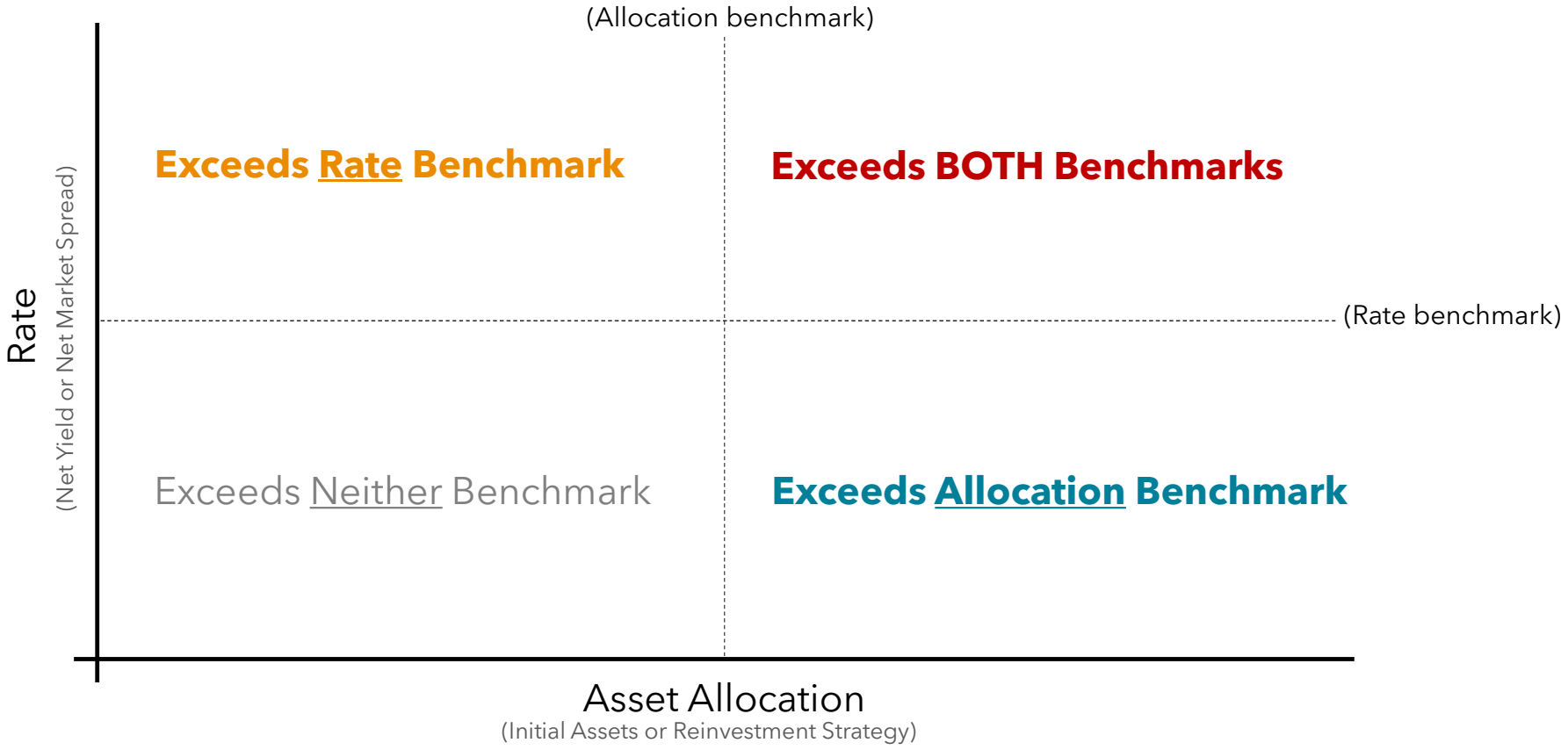
Scatter Plot Quadrants Used to Assess Concern



NAIC NATIONAL ASSOCIATION OF INSURANCE COMMISSIONERS

11/15/2024

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Potential next steps after two years of reviews

Possibility A: Enough companies are cooperative, we can further address outliers

Possibility B: Optimistic assumptions are a more widespread concern and LATF may need to consider assumption guardrails

- Too early to tell on scenario A or B
- Early favorable responses towards Possibility A
  - Will provide updates at future LATF meetings

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Model rigor

- Are models capturing key risks associated with Projected High Net Yield Assets?
- Section 4.B. of AG 53 contains expectations
- 2 choices:
  - Have a model that captures the risks associated with high yield assets OR
  - Apply conservatism such that any non-capturing of risk does not lead to more favorable results

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Model rigor

- Many companies attribute a vast majority of their assets' excess spread to illiquidity
- Section 4.B.i.(b) of AG 53:
  - "Asset cash flows should be appropriately projected to reflect anticipated liquidity under adverse conditions. If such model aspects are not developed, sufficient additional conservatism to reflect this risk shall be applied."
- Expectation that, if higher yield is assumed due to illiquidity, risk resulting from illiquidity should be accounted for
  - In modeling OR
  - Through added conservatism
- Will be area of focus

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Additional review aspects

- Reinsurance collectability
  - Monitoring, analysis, mitigation
  - Reliability of any perceived protections?
- Payment in Kind
- Tranche-level analysis

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YE 2024 Guidance Document

- Payment in Kind
  - Appointed Actuary should describe interactions with investment department re: development of PIK metrics
- Verify consistency with VM-30 assumptions
- Simplifications should not lead to more favorable results

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Agenda Item 12

AAT for Reinsurance Actuarial Guideline

Presentation and Comment Letters

Reinsurance Asset Adequacy Testing

Fred Andersen, FSA, MAAA
11/15/2024

NATIONAL ASSOCIATION OF INSURANCE COMMISSIONERS

11/15/2024

Agenda

1. Discuss sequence of areas of focus
2. Scope – status or past and current items
3. Aggregation - comments & discussion
4. Discuss options for content of Actuarial Guideline
5. Case studies
6. Comments on other topics
7. Potential next steps

Upcoming plan

1. Potential sequence
   - Focus on affiliated transactions now (perhaps now through January)
   - Then focus on non- affiliated specific issues such as any lack of data
2. Note that affiliated will likely need a special definition for purposes of this Guideline
   - Probably stricter than the 10% ownership definition

Status of scope topics – progress previously made

- Broad or narrow scope?
  - **Narrow, determined 10/10/24**
- Restrict consideration of cash-flow testing (CFT) requirements to asset intensive reinsurance
  - **Yes, have placeholder definition to discuss**
- Application to transactions as of certain dates
  - **Likely going with bifurcation of affiliated (wider scope of dates) and non-affiliated (narrower scope of dates)**
- Exclude from scope if assuming company files a VM-30 report
  - **A lot of support but issues to work through later**

Status of scope topics – new concepts

- Potential for lesser analysis for certain non-affiliated treaties with substantial risk protections
  - **Initial concept to consider, details need to be worked out**
- Reliance on reports similar to VM-30 / AG 53
  - **Likely a high bar, need transparency on assumptions**
  - **How is moderately adverse determined, including all key risks, incl. complex assets?**
  - **Availability of data, non-affiliated versus affiliated**
- Size
  - **Add up reserve credits (where there's no VM-30) when considering scope?**

Aggregation

- Aggregation ok within counterparties (multiple treaties with a single assuming company)?
- Consideration of line of business restrictions

Options for Actuarial Guideline content

- Option 1:
  - Anticipate the concerns we'll find in reinsurance asset adequacy testing that we should attempt to address in the 2025 adoption of AG ReAAT.
- Option 2:
  - Mainly receive disclosure for YE 2025 (reasons for reserve decreases, reserve adequacy testing in some form), ID concerns at that point.
  - And then figure out how to address those concerns, potentially through prescriptive measures

Case study - Background

- Relevant information for each case (differentiated on the next slide):
  1. Fixed income annuities with guaranteed living benefits GLBs
     - US Stat (CARVM) reserve is $100 Million
  2. Post-reinsurance reserves are 80% of pre-reinsurance reserves, $80 Million
     - Reason: lower efficiency than in CARVM of policyholder selection of GLBs
  3. US RBC: $5 Million
  4. US Total Asset Requirement (TAR) = $105 Million
  5. Bermuda affiliate
  6. Coinsurance with funds withheld
  7. "Funds withheld amount = US Stat reserves"

Setting up each case

- Case study #1
  - On US basis = $100 M US Stat reserves backed by primary security
    - + $0 capital & surplus
  - On Bermuda basis = $80 M economic reserves
    - + $20 M surplus

- Case study #2
  - $80 M primary security, $20 M other security

Attribution analysis background

- Focus on affiliated transactions for this discussion
  - Presumably data would be available
- Start with Pre-Reinsurance Reserve (US stat for life, known as CARVM for annuities)
  - (ACLI comment re: start with best estimate)
- Reserve adjustment from US stat due to assumption differences from baseline:
  - Policyholder behavior and mortality / longevity assumptions
  - Investment return assumptions versus US stat discount rate
  - Other, including:
    - Removal of CSV floor
    - Market value vs. book value
    - Moderately adverse to best estimate

Case studies – attribution analysis

- Both cases:
  - Pre-reinsurance reserve: $100
    - Deduction for policyholder behavior inefficiency: $20
    - Deduction for different in investment return assumptions: $0
    - Other deductions: $0
  - Post-reinsurance reserve supported with primary security: $80

Cash-flow testing background

- Starting assets = amount of post-reinsurance reserve supported by primary security
  - Could be book value then marked to market; or market value
- Project liability cash flows (cash surrenders, annuitizations, death benefits, premiums, expenses)
- And asset cash flows (bond coupons, par, proceeds from asset sales, other asset cash flows)
  - Offset by investment expenses, defaults, reduced cash flows due to under-performance
- Cash flows are projected across multiple risk-free rate scenarios such as NY 7
- Assumptions on: asset returns, reinvestments, policyholder behavior, mortality, expenses, other
- Assumptions and scenarios should be consistent with those applied in the cedant's AAT approach
  - Including margins reflecting moderately adverse conditions

Cash-flow testing background, 2

- Result is present value of surplus
  - This surplus metric is only related to the block of business cash flows, not company surplus
  - If negative, could be indicator of need for additional AAT reserves

Case studies – cash-flow testing

- Both cases:
  - Starting assets = $80, amount of post-reinsurance reserve supported by primary security

Cash flow testing details

- Should New York 7 risk-free rate scenarios be analyzed and disclosed?
- AG 53-like net yield and net spread exposure should also help with analysis of asset risk
- AG 53 model rigor considerations re: analyzing all key asset risks, including illiquidity
- Consider development of a template to facilitate more efficient submissions and reviews

Additional comments and next steps

Asset Adequacy Testing for Reinsurance Comment Letters

a) Updated AAA Comment Letter
b) ACLI Comment Letter – Scope and Aggregation
c) ACLI Comment Letter – Remaining Sections
d) BILTIR Comment Letter
e) CIRCA Comment Letter – Scope and Aggregation
f) CIRCA Comment Letter – Remaining Sections
g) Missouri Comment Letter and AG Draft
h) Edit Peter Gould Comment Letter
i) RAA Comment Letter
j) John Robinson Comment Letter
k) RRC Comment Letter n. Aaron Ziegler Comment Letter

October 10, 2024

Rachel Hemphill
Chair, Life Actuarial (A) Task Force
National Association of Insurance Commissioners

Re: AAT for Reinsurance Actuarial Guideline Draft Exposure

Dear Chair Hemphill:

On behalf of the Life Practice Council (LPC) of the American Academy of Actuaries,[1] I appreciate the opportunity to provide comments to the Life Actuarial Task Force (LATF) regarding the AAT for Reinsurance Actuarial Guideline Draft (the Exposure). The LPC believes this is an important issue and appreciates LATF's consideration of public comments.

In response to the Exposure, the LPC offers the following feedback, which we developed to express our view that the Appointed Actuary should be able to apply actuarial principles and judgment in their Asset Adequacy Testing (AAT), while understanding the need for regulators to provide additional guidance regarding the specific risks causing concern.

It is important to us that any new requirements appropriately consider the protection of insurance company policyholders and the general public. Therefore, we support exploring where existing policyholder protections may not be working as intended, with any necessary new requirements focused on ensuring an appropriate level of policyholder protections based on risk.

Further, we recognize that reinsurance has proved to be an effective risk mitigation tool and believe that any changes to AAT requirements should be targeted to material treaties that are of specific concern to avoid these changes disincentivizing insurance companies from implementing appropriate reinsurance solutions. Targeting specific treaties should also minimize the creation of adverse effects on policyholders.

The following comments are based on the understanding that the additional analysis proposed in the Exposure, when viewed comprehensively alongside other pertinent analyses and data, will better inform the Appointed Actuary in support of forming their actuarial opinion and

[1] The American Academy of Actuaries is a 20,000-member professional association whose mission is to serve the public and the U.S. actuarial profession. For more than 50 years, the Academy has assisted public policymakers on all levels by providing leadership, objective expertise, and actuarial advice on risk and financial security issues. The Academy also sets qualification, practice, and professionalism standards for actuaries in the United States.

determining the amount of any additional reserves they may recommend. Note that the Scope and Aggregation sections below have not changed since our October 3 letter but are included for completeness.

Scope

1. We assume that the impact of the proposal's scope would only cover whether a life insurer is subject to **any** new requirements introduced by Exposure, and not specifically what those requirements are, which is covered in other sections.
2. Regarding the options laid out in the Exposure, we recommend "Option 1: Narrow scope, some analysis expected for all treaties in the scope." We suggest that any new Actuarial Guideline requiring more detailed analysis than is already performed by the Appointed Actuary be a function of the specific risks of concern to the regulators. As noted in LATF's original goals on this topic, there is a desire to "prevent work by US ceding companies where there's immaterial risk,"[2] and therefore a narrow scope is appropriate.

   We also believe that a narrow scope has the following benefits:

   a. Provides added policyholder protection elements in instances in which there are specific risks of regulatory concern.
   b. Limits the burden on the industry by reducing non-value-added analysis / work being prepared for the regulator that is non-responsive to regulator needs.
   c. Minimizes review burden on the regulatory community.
   d. Excludes certain treaties / business that are clearly not the drivers of current regulatory concern (e.g., traditional YRT; immaterial reinsurance exposure to any single counterparty).
   e. Allows for a more timely implementation.
   f. Eases implementation efforts and allow for learning from the first set of submissions.

   In addition, there is already guidance for actuaries when performing actuarial services in connection with preparing, determining, analyzing, or reviewing financial reports for internal or external use that reflect reinsurance or similar risk transfer programs on life insurance, annuities, or health benefit plans (including disclosure requirements) contained in Actuarial Standard of Practice No. 11 *Treatment of Reinsurance or Similar Risk Transfer Programs Involving Life Insurance, Annuities, or Health Benefit Plans in Financial Reports*.
3. We support the proposed exemption criteria as laid out in Section 2A. However, we have the following suggestions for improvement:

[2] From attachment 9 of the LATF Spring 2024 meeting materials

   a. The size threshold refers to "reserve credit or funds withheld or modified coinsurance reserve." As written, this could lead to double counting, as the reserve credit may already include the funds withheld. We suggest clarifying so that double-counting does not occur.
   b. The treatment of business that includes separate accounts is unclear. We suggest clarifying that if the reinsured business includes separate accounts for which associated risks are assumed by the reinsurer, those separate account reserve credits would be considered in assessing the size threshold.
   c. We suggest including reserves held in Exhibit 7, rather than only including Exhibit 5 reserves in the quantitative scope criteria.
   d. For the quantitative exclusion criteria in Section 2A (1)-(4), we note that the reinsurance reserve reported in Schedule S, Part 3 may not reflect the actual reserve exposure of the reinsurance agreement—for example, when a business is subject to PBR and reserve credits are determined on an allocation basis. Therefore, it may not be appropriate for determining materiality. In such instances, it may be more appropriate to use a reserve calculated by the cedant as the difference between an aggregate reserve pre-reinsurance ceded and an aggregate reserve post reinsurance ceded
4. We also recommend considering the materiality of a group of treaties or counterparties when determining whether a life insurer is in scope. Doing so may help avoid a situation in which multiple immaterial treaties or counterparties have the same outcome as one material treaty or counterparty but would otherwise cause the life insurer to be exempt from the requirements solely due to individual treaty size.
5. We believe that a key concern raised by regulators relates to reinsurance treaties that result in the pursuit of more aggressive investment strategies and/or a significant reduction in the total asset requirement (reserves plus required capital). Based on this belief and given LATF's stated objective to prevent work by U.S. ceding companies where there is immaterial risk, we believe it may be appropriate to exempt treaties where such conditions do not exist. For example, consideration for an exemption could be given to treaties that meet all of the following conditions: (1) no assets are transferred or assets transferred are segregated (for example, using modified coinsurance, a funds withheld, or having assets held in trust); (2) such assets are adequate (e.g., based on the latest standalone asset adequacy testing) to support the business on a stand-alone basis; and (3) have not been subject to subsequent changes (e.g., material deterioration in experience or material changes in the investment portfolio) that would bring into question the conclusions arrived at in (2).
6. We support the inclusion of older treaties with significant reinsurance collectability risk as outlined in Section 2.B.

Definitions

1. Regarding the definition of Attribution Analysis, we believe there are significant drivers of differences between the pre-reinsurance Statutory Reserve and the Total Reserve. Therefore, we suggest adding the following to the end of the definition, "due to factors such as differences in individual key assumptions, differences in methodologies, such as application of a reserve floor, or differences due to consideration of risk diversification across policies."

2. Regarding the definitions of Deficient Block and Sufficient Block, we suggest clarifying that "cash flow testing scenarios" refers to U.S. statutory cash flow testing at the initial inception date of the treaty, but could be on some other basis for subsequent valuation dates.

Risk Identification for Purposes of Establishing Analysis and Documentation Expectations

1. We generally agree that the higher the risk, the more rigorous and frequent the analysis should be. However, we also note that a less rigorous approach with more conservatism may also be appropriate. We also believe that degree of rigor and frequency should allow for judgment by the Appointed Actuary and should consider the practicality of performing the analysis. For example, it may not be feasible to perform cash flow testing very frequently.

2. We believe that the list of relevant risks is reasonable. The ultimate determination and evaluation of the relevant risks should be performed by the Appointed Actuary, as such determination considers the specific facts and circumstances of a given reinsurance arrangement.

3. We agree that risk mitigants, such as trusts or funds withheld, should be considered. Important considerations in the event of risk mitigants may include provisions related to the amount, nature, maintenance, and fungibility of the assets, as well as the extent to which the assets are set aside solely for claims on the ceded business.

4. We agree with consideration of reinsurance agreements that are both within and outside the U.S. In other words, guidance should be based on the risk profile, rather than the jurisdiction of the reinsurer.

Analysis and Documentation Expectations in Light of Risk

1. Regarding item A, we believe that the guidance in ASOP No. 22 is sufficient. It requires that the actuary consider using cash flow testing and allows application of judgment in the choice of which method to use. It also states that cash flow testing is generally appropriate where cash flows vary under different economic conditions.
2. We believe that if the cash flows associated with the reinsured business are not expected to materially vary under different economic scenarios, a requirement for cash flow testing may not be necessary. In those situations, for otherwise scoped-in reinsured business, we recommend an allowance for other forms of testing, such as stress testing.
3. We also note there may be practical challenges in performing cash flow testing if the Appointed Actuary does not have adequate information regarding the specific liabilities reinsured and/or the associated assets that can limit the usefulness of the analysis. For example, if cash flow testing is required in circumstances in which the Appointed Actuary does not have adequate information (e.g., a block where the cedant has exited that line of business, the liabilities are 100% reinsured, and the reinsurer or a TPA performs policy administration), they would need to utilize more judgment to make assumptions for use in cash flow testing. This, in turn, may indicate the need to include additional margin. Per ASOP No. 22, which states "When determining the level of assumption margins, if any, the actuary should take into account the following: a. the level of uncertainty for the assumption, including sparsity of data." The actuary would also need to follow ASOP No. 41, which requires disclosure of "any cautions about risk and uncertainty" as well as "any limitations or constraints on the use or applicability of the actuarial findings."
4. We also suggest considering the use of submissions to a non-U.S. regulator as an alternative documentation approach. For example, if the business is tested under a scenario analysis submitted to a non-U.S. regulator, that information may be sufficient for use in assessing reserve adequacy or, at a minimum, such information could be used to further narrow the need for any additional analysis to risks not already addressed.

Attribution Analysis

1. Attribution analysis may not be effective in ascertaining whether assets are adequate to cover policyholder obligations. Attribution analysis may be helpful in enhancing the understanding of the drivers of a reinsurance transaction and the components of the NAIC statutory framework that may contribute to a company's desire to use reinsurance. However, such analysis will take time and effort to perform and may not provide as much value as analyses to assess reserve adequacy (e.g., cash flow testing or stress testing). If regulators are interested in exploring drivers behind reserve levels pre- and post-reinsurance, the use of attribution analysis may be considered as part of a separate research initiative or field study, rather than implementing it as a mandatory submission

requirement.

2. We would also suggest that if attribution analysis is used in some form, accommodations be made to allow for reasonable approximations and judgment. Note that such analysis would not be used to directly compare different company results, given the dependence on the order in which the analysis is performed.
3. Finally, consistent with our comments on the definition of attribution analysis, we suggest adding a category for diversification methodology under "(b) Other reserve adjustments due to:".

Aggregation Considerations

1. ASOP No. 22 currently provides guidance to Appointed Actuaries (AAs) applying judgment as to when blocks of business may be aggregated for purposes of testing the adequacy of assets supporting booked reserves.

   If LATF chooses to provide additional guidance on aggregation in an Actuarial Guideline, to the extent possible we recommend aligning it with existing guidance in section 3.1.4 of ASOP No. 22, i.e., "the actuary may aggregate reserves … for multiple blocks of business if the assets or cash flows from the blocks are available to support the reserves. … [T]he actuary should not use assets or cash flows from one block of business to discharge the reserves and other liabilities of another block of business if those assets or cash flows cannot be used for that purpose."
2. Regarding item B of the Exposure, we would support new requirements that include disclosure by the Appointed Actuary of the rationale for aggregation.
3. Regarding item C of the Exposure, which comments on reliability and stability of a sufficient block that is "subsidizing" a deficient one, we believe it would be appropriate to follow the guidance in ASOP No. 22, which states: "When considering aggregation of results to offset deficiencies, the actuary should take into account the type and timing of cash flows, the related cash flow risks, and the comparability of elements of the analysis such as analysis methods, scenarios, discount rates, and sensitivity of assumptions" (section 3.2.4). For example, if a sufficient block has very "back ended" cash flows that are available to support a deficient block on a present value basis, we believe the Appointed Actuary should take into account whether those back ended cash flows can actually support the earlier cash shortfalls for the deficient block. In addition, ASOP No. 7, *Analysis of Life, Health, or Property/Casualty Insurer Cash Flows*, states, "The actuary should consider the impact of any negative interim earnings during the cash flow projection period, if it is appropriate for the purpose of the analysis" (section 3.11). As occurs today, we believe that evaluation of interim surplus results is an important

consideration in assessing adequacy. If there are future interim shortfalls on an aggregate book value basis under moderately adverse conditions, the Appointed Actuary would evaluate whether additional reserves might be needed to address the shortfall.

Documentation

We suggest removing from item A the requirement to present the New York 7 results, and instead leaving the appropriate scenarios to disclose based on the risk profile of the business to the judgment of the actuary. Otherwise, the documentation requirements laid out in the Exposure appear reasonable.

*****

If you have any questions or would like to discuss these comments further, please contact Amanda Barry-Moilanen, the Academy's life policy analyst.

Sincerely,

Vice President, Life
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October 3, 2024

Rachel Hemphill,
Chair, NAIC Life Actuarial (A) Task Force (LATF)

Fred Andersen,
Minnesota Department of Commerce

Re: AAT for Reinsurance Actuarial Guideline Draft – Scope and Aggregation

Dear Chair Hemphill and Mr. Andersen:

The American Council of Life Insurers (ACLI) appreciates the opportunity to provide feedback on the recently exposed Asset Adequacy Testing (AAT) for Reinsurance Actuarial Guideline Draft (Guideline/draft AG) that was exposed by LATF shortly after the NAIC 2024 Summer National Meeting in Chicago, Illinois. We would also like to take this time to express our sincere gratitude to LATF members and staff for the extensive amount of work and discussion that has taken place so far this year as a part of this effort.

Industry remains committed to helping regulators address the concerns articulated during LATF meetings. We appreciate that LATF and the regulatory community are working hard to balance the importance of reinsurance as an effective risk-mitigation tool with maintaining policyholder protection and enabling consumer access to essential life insurance and retirement solutions. Additionally, we appreciate the engagement of LATF, its parent A Committee, the impacted E Committee, and NAIC Commissioners at large as we continue this important dialogue and come to a shared understanding of the concerns and mitigants in place.

American Council of Life Insurers | 101 Constitution Ave, NW, Suite 700 | Washington, DC 20001-2133

Our comments are provided with an understanding that the results of the analysis required by this Guideline would not be binding but would instead give the Appointed Actuary, domestic regulator, and interested regulators greater transparency into the risks associated with the reinsurance counterparties and inform Appointed Actuaries' assessment of reinsurance counterparties.

ACLI would also like to emphasize the interconnected nature of all sections of the Guideline and the need for this to be an iterative process. As the Guideline development progresses, our views on individual sections may evolve based on developments in other areas of the conversation.

The following describes our position with respect to Scope (Section 2) and Aggregation (Section 7). ACLI believes the Guideline should provide greater transparency regarding reserve adequacy associated with material asset intensive reinsurance transactions and be targeted to address the potential risks in the transactions of specific concern to regulators.

Scope

We suggest refining the Scope by creating an affirmative definition of asset intensive reinsurance transactions. Specifically, Asset Intensive Reinsurance Transactions ("AIRT") are coinsurance arrangements involving life insurance products that transfer significant, inherent investment risk including credit quality, reinvestment, or disintermediation risk. The matrix included in Appendix A-791 of the Life and Health Reinsurance Agreements Model Regulation identifies the following life products with significant, inherent investment risk:

- Universal Life Fixed Premium
- Universal Life Flexible Premium
- Indeterminate Premium Permanent Life
- Adjustable Premium Permanent Life
- Traditional Participating Permanent Life
- Traditional Non-participating Permanent Life
- Single Premium Whole Life
- Other Annuity Deposit Business
- Guaranteed Interest Contracts
- Flexible Premium Deferred Annuities
- Single Premium Deferred Annuities[1]
- Immediate Annuities[1]

For avoidance of doubt, yearly renewable term (YRT)[2] reinsurance, retrocession transactions with underlying YRT business, and nonproportional reinsurance such as stop loss or catastrophe reinsurance are not considered asset intensive reinsurance transactions and would not be considered within the scope of the Actuarial Guideline.

Given the regulator concerns around the level of reserve reduction and lack of transparency in the assets and asset assumptions supporting certain transactions, we would appreciate a broader discussion at the Fall National Meeting related to situations where assets are being held at appropriate levels (such as at the US statutory reserve) and with transparency into those assets and their assumptions. For example, we recommend removing modified coinsurance where fully

[1] ACLI views Pension Risk Transfer as included within Immediate Annuities and Deferred Annuities
[2] Yearly renewable term transactions as defined by *SSAP 61R – Life, Deposit-Type and Accident and Health Reinsurance* only transfer mortality/morbidity risk for a premium that varies each year with the amount of risk and age of insureds. This form of reinsurance does not transfer permanent plan reserves and thus should be considered out of scope for asset intensive reinsurance.

admissible assets equal to the full US statutory reserve are held on the cedant's balance sheet, given the level and transparency into the assets held. Additional reinsurance arrangements would have similar logic, so we would like to better understand regulator concerns around such structures. At a minimum, the structures should be considered as part of the assessment of risk and the mitigants available to address those risks.

In addition to excluding counterparties that are VM-30 filers from scope, we also recommend excluding counterparties that can demonstrate "VM-30 equivalence" in the reporting to their domestic regulator. This concept would need to be a defined term in the Guideline, and we would like to work with regulators to establish what information would need to be disclosed to achieve this equivalence.

Proposed language for these changes can be found in Appendix A.

Further, we suggest a greater emphasis on the relationship between scope and level and degree of rigor of any subsequent analysis. This could include the consideration of whether reinsurance transactions have been subject to regulatory approval (by cedant and/or assuming entity regulator), the company's existing stress testing, ongoing experience monitoring, supporting collateral balances, recapture analysis, and other similar analyses in lieu of further testing. We will provide additional considerations in our next letter.

Aggregation

Aggregation is a critical component in AAT, and that principle should carry over in this Guideline. For cash flow testing or an alternative analysis, the Appointed Actuary should be allowed to aggregate all treaties within a counterparty at their discretion, including treaties that are not otherwise in scope (such as those before the cutoff date). Aggregation should be consistent with Section 3.1.4 of ASOP 22 (allowance of aggregation of ". . . reserves and other liabilities for multiple blocks of business if the assets or cash flows from the blocks are available to support the reserves and other liabilities of the aggregated blocks of business"). Further, given our understanding that this is intended as a disclosure requirement, we do not believe that definitions for "Deficient Block" or "Sufficient Block" are necessary, and we would recommend striking them.

While these are our initial thoughts, ACLI has been discussing a framework for how the scope could be correlated with rigor, and we look forward to working with regulators and NAIC staff on this aspect. Additionally, we are continuing to evaluate alternative solutions that could address regulator concerns related to the amount of reserves and types of assets supporting life insurance business that relies substantially on asset returns.

As we understand this to be an iterative drafting and revising process, ACLI would again like to thank you for the opportunity to provide this feedback and we look forward to continued conversations with regulators as we begin to finalize Scope, Aggregation, and the other remaining issues that must be addressed prior to implementation.

Much appreciated,

cc: Scott O'Neal, NAIC

Appendix A - Proposed Edits to Draft Actuarial Guideline:

[Replace Section 2 Scope with the following]

2. Scope

This Guideline shall apply to all life insurers with:

A. Asset Intensive Reinsurance Transactions that:
   (i) Are ceded to entities that have **not** submitted a VM-30 memorandum or VM-30 Equivalent Report to their domestic regulator in transactions established 1/1/[YEAR][3] or later; AND
   (ii) is **not** fully secured by collateral qualified under the NAIC Model Regulation on Credit for Reinsurance; AND
   (iii) Meet any of the criteria determined by counterparty in subsections (1) through (4) below:
      (1) Combined reserve credit[4] in excess of $5 billion
      (2) Combined reserve credit[3] in excess of:
         a) $1 billion, and
         b) 2% of ceding company gross reserves[5]
      (3) Combined reserve credit[3] in excess of:
         a) $100 million, and
         b) 10% of ceding company gross reserves[4]
      (4) Combined reserve credit[3] in excess of:
         a) $10 million, and
         b) 20% of ceding company gross reserves[4]

[New Section 3.A Definition with existing definitions relabeled]

Asset Intensive Reinsurance Transactions ("AIRT") - Coinsurance arrangements involving life insurance products that transfer significant, inherent investment risk including credit quality, reinvestment, or disintermediation risk as determined by Appendix A-791 of the Life and Health Reinsurance Agreements Model Regulation.

[Remove Section 3.B "Deficient Block" and 3.F "Sufficient Block" with existing definitions relabeled]

[Replace Section 7 Aggregation Considerations with the following]

7. Aggregation Considerations

A. When performing quantitative analysis with respect to this Guideline, the Appointed Actuary may aggregate all treaties within a counterparty at their discretion and consistent with Section 3.1.4 of ASOP 22, including treaties that are not otherwise in scope (such as those established before 1/1/[YEAR]).

[3] ACLI recommends prospective application of the requirements

[4] Reserve credit determined based upon the statutory annual statement filed by the ceding company for the prior year. Including funds withheld and reserve credit would be double counting certain amounts on funds withheld treaties

[5] Gross reserves include separate accounts where the life insurance company retains investment risk plus Exhibit 5 gross life insurance and gross annuity reserves

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October 11, 2024

Rachel Hemphill,
Chair, NAIC Life Actuarial (A) Task Force (LATF)
Fred Andersen,
Minnesota Department of Commerce

Re: AAT for Reinsurance Actuarial Guideline Draft – Remaining Sections beyond Scope and Aggregation

Dear Chair Hemphill and Mr. Andersen:

The American Council of Life Insurers (ACLI) appreciates the opportunity to provide additional feedback on the recently exposed Asset Adequacy Testing (AAT) for Reinsurance Actuarial Guideline Draft (Guideline) that was exposed by LATF shortly after the NAIC 2024 Summer National Meeting in Chicago, Illinois.

This letter should be viewed in conjunction with our comment letter dated October 3 that focused on Scope (Section 2) and Aggregation (Section 7). The following describes our position with respect to the remaining sections beyond Scope and Aggregation consistent with that prior letter. As noted in our previous comment letter, the interconnected nature of the sections requires appropriate alignment of scope, assessment of risks, and degree of analysis, and our remarks are based on our current understanding of regulator concerns and in line with our view on scope.

As stated in our prior letter, our comments are provided with an understanding that the results of the analysis required by this Guideline would not be binding but would instead give the Appointed Actuary, domestic regulator, and interested regulators greater transparency into the risks

associated with the reinsurance counterparties and inform Appointed Actuaries' assessment of reinsurance counterparties.

While we are providing specific commentary on some of the text in the draft Guideline, we wish to focus on 3 "big picture" topics to help guide the next discussion.

Topic 1: Availability and Applicability of Data

Consistent with prior written and verbal comments, we are concerned about the availability and applicability of data for existing treaties that the current draft Guideline assumes is available. Specifically, the Guideline seems to require insight into the assuming company's reserves, assets, and assumptions that might not always be available to the cedant. While there are cases in which this data would be more readily available, it is not clear that it is available in all instances.

While some aspects of this information may be available on a prospective basis at some future date, the question remains regarding the appropriateness of the data. The assumptions developed by the assuming company in many instances do not solely rely on the cedant's information. Further, given the proprietary nature of many of these assumptions, providing this information can lead to competitive issues.

We note that regulators may have other avenues to gather assumption data. For example, in our proposed "VM-30 Equivalence", US regulators could identify the information on data and assumptions they believe is necessary for their analysis while maintaining the confidentiality of such proprietary data. For affiliate transactions, Supervisory Colleges can provide a forum for the types of information sharing that may be beneficial to US regulators; for example, the cedant's domestic regulator and BMA or CIMA will be at the table for an international company with entities domiciled in those jurisdictions.

This assumption on availability of data significantly impacts both the attribution analysis and cash flow testing capacities of the cedant, and concepts behind the definitions (Section 3) of "Total Reserve", "Reserve Decrease", and "Attribution Analysis".

Topic 2: Attribution Analysis (Section 6)

The limitations on availability of data impacts the ability of the cedant to perform Attribution Analysis when deemed appropriate by the Appointed Actuary. Notably, lacking reserve balances and asset and liability assumptions from the assuming company may make attribution of adjustments from Pre-reinsurance Reserve to Total Reserve unfeasible for existing reinsurance transactions.

Consistent with our comments on the July 25, 2024, LATF call, we believe this effort would be better served by allowing the cedant to attribute to their own "best estimate". This approach would be similar to the Impact of Margins analysis in VM-31 Section 3.D.11 for life insurance and Section 3.F.13.d for variable annuities, with further adjustments made for differences in statutory bases between the jurisdictions. We provided a version of a template (also included with this submission) that reflects this approach. Further, as companies may already have their own internal analysis on attribution, other formats besides the general template should be acceptable for submission.

We note that even with an approach linked to cedant best estimate, there may still be situations where such attribution would be challenging for companies. We request that a company be able, but not required, to provide an analysis with a higher degree of rigor than attribution analysis.

Topic 3: Cash Flow Testing

Companies have had concerns regarding the proposed cash flow testing since the initial discussions of the proposal. Our understanding is that regulators would like to have the cedant perform cash flow testing using information (including asset mix, asset assumptions, liability policy behavior assumptions, etc.) from the assuming entity. In many instances, the assuming entity would consider such data to be proprietary and generally not made available to the cedant. Further, we have concerns for transactions such as business divested through reinsurance transactions that the Appointed Actuary for a cedant may need to use assumptions that purely rely on the assuming entity, or worse, use assumptions that may not align with the experience of the business within the reinsurance transaction. We are concerned this undermines the value of the Appointed Actuary's work and does not seem to provide a value-add to them or their regulator reviewing this information.

We think that, given these concerns, to the extent that the Appointed Actuary determines cash flow testing is appropriate (given the risks associated with the transaction considered against the mitigants and other "offsets" in place), significant flexibility should be provided. For example, the Appointed Actuary might consider recapture analysis (either using cash flow testing or other techniques) as the best way to assess the transactions. Further, we believe the Appointed Actuary should always be able to consider other transactions with the same counterparty in their analysis (also addressed in our previous comments on Aggregation). Finally, mitigants (such as collateral), reinsurance transaction regulatory approval, and company evaluation (including stress testing and recapture analysis should all be considered relative to the assessed risks inherent in transactions. We are hopeful that the Minnesota inquiry will help provide greater insight to regulators on the types of mitigants and evaluations that are in place, and we are hopeful additional documentation will be beneficial to inform regulators about the risks, mitigants, and monitoring associated with transactions.

Specific Feedback on Remaining Sections:

Definitions (Section 3)
Consistent with our previous comments regarding Scope (Section 2), we suggest adding a definition of "Asset Intensive Reinsurance Transactions". Additionally, as discussed in our previous comment letter, the definitions of Deficient and Sufficient Blocks are not necessary given our understanding of the intention of the Actuarial Guideline as a disclosure requirement.

We suggest removing the references to Primary Security given this is a more stringent standard than the NAIC Model Regulation on Credit for Reinsurance.

Depending on available information, it may be appropriate to reference Reserve Credit rather than Reserve Decrease, since ceding companies know the reserve credit taken but not necessarily the reserve held by reinsurers. Given the reference to reserve credit in Scope, we would suggest including a definition for "Reserve Credit" such as the one footnoted in our previous comment letter.

Per our comments above, the definition of "Total Reserve" and "Attribution Analysis" would need to be reconsidered if applied to existing transactions given the lack of information available for some.

Risk Identification for Purposes of Establishing Analysis and Documentation Expectations (Section 4)

The draft Guideline's general guidance states that the rigor and frequency of the analysis and documentation to be performed by a cedant's Appointed Actuary should be in line with the specific reinsurance transaction's level of risk. As stated in our letter on Scope and Aggregation, ACLI fully

supports this kind of correlation as it relates to the level of rigor found in the analysis. Regarding frequency, however, we suggest a different approach. For previously assessed transactions where regulators deem the cedant's initial assessment and analysis to be sufficient, companies should instead be allowed to engage in monitoring to avoid duplicative efforts that are not administratively and financially feasible to perform and do not result in any new insights for regulators.

Section 4 brings in the concept of considering whether an assuming company provides a VM-30 Actuarial Memorandum to U.S. regulators. Consistent with our suggestion in our proposed Scope that VM-30 filers be exempt from the requirements in any future Guideline, we would suggest also considering whether a company provides a "VM-30 Equivalent" type of document for transactions with assuming companies who are not VM-30 filers, particularly with respect to qualifying reciprocal jurisdictions. Such reporting, like that which is provided to jurisdictions like the Bermuda Monetary Authority, could contain much of the same information as a VM-30 report that is helpful to regulators and should be viewed with equivalent levels of deference.

Analysis and Documentation Expectations in Light of Risks (Section 5)

ACLI believes that the more effort-intensive analysis requirements of the Guideline should be targeted, as this will allow regulators to focus on their primary concern of preventing damaging insolvencies. Scoping in immaterial treaties will simply create additional, unnecessary, low value work without substantial benefit and distract focus from more material treaties. As mentioned previously, transaction riskiness should be assessed by the Appointed Actuary after considering all information available related to risks, mitigants, and other considerations. In this scenario, the more inherent risk found in a reinsurance transaction being analyzed, a company would have to perform increasingly rigorous analysis as they move along the risk spectrum, starting with no additional disclosures beyond what is required in AG 53 and ASOP 11, increased Appointed Actuary reporting and documentation, attribution analysis (or an alternative comparable analysis), and cash flow testing (or an alternative analysis).

An important note that we will add is that for some companies, cash flow testing may be easier to perform than something like attribution analysis, so we are also proposing that companies be allowed to choose the type of analysis they want to perform, provided that it meets the necessary degree of rigor.

Section 5 also states that some aggregation may be allowed between treaties for a single counterparty subject to the considerations in Section 7. Given that aggregation has been considered for Scope, we would suggest that the same level of aggregation apply throughout the Guideline when evaluating rigor and applying whatever analysis is required by the corresponding level of riskiness. We note that this view of aggregation is consistent with AG 53 and broader applicability of Asset Adequacy Analysis.

Similarly, 5.D. notes that the domestic commissioner continues to have the option to require CFT for individual treaties or counterparties, as they may deem necessary to understand and evaluate risk. While we acknowledge it is the domestic regulator's prerogative to have additional requirements, it is imperative that regulators work towards a consensus on the objectives and anticipated future steps of this effort to reduce the potential for conflicting requirements between states.

More potentially troubling language is present where the Guideline mentions "Where information on cash flows or any aspect of the analysis is not available, the Appointed Actuary may use simplifications, approximations, and modeling efficiency techniques if the Appointed Actuary can demonstrate that the use of such techniques does not make the analysis results more favorable." ACLI believes this is VM language that doesn't seem to fit with the remainder of the Guideline and

raises a number of questions (If Appointed Actuaries don't know something, how do they make sure the approximations are not more favorable? More favorable than what? And, since we cannot demonstrate that, what is the remedy to lack of information?). With this in mind, we instead propose language suggesting that any such simplification be documented with respect to potential impact to the analysis.

Editorially, since there is a separate section of the exposure (Section 8) dedicated to this topic, ACLI would also like to suggest that the title of the Section be changed to "Analysis in Light of Risks".

Documentation (Section 8)

A key statement within the current Section 8 is that if cashflow testing is performed, ceding companies should present results and key assumptions from their New York 7 (NY7) work, along with other results the company selects to disclose. ACLI believes pointing to such a specific regulatory requirement is inappropriate in this context, as not all companies run the NY7, nor is it a requirement. Results of these scenarios may not produce meaningful results, for example if a company has significant equity or foreign currency exposure. New York has also modified their scenario definitions, leaving this long-understood term now to be a bit more ambiguous. We suggest striking references to NY7 from the Guideline.

We believe that the documentation required for the Guideline should reflect, to the extent transactions are in scope, the risks, mitigants, and evaluations reviewed in the Appointed Actuary's assessment of rigor, plus any documentation, attribution analysis, and results of any cash flow testing analysis where appropriate.

We appreciate the opportunity to submit these comments and look forward to engaging with LATF as this effort continues.

Much appreciated,

cc: Scott O'Neal, NAIC

ACLI Draft AAT for Reinsurance Attribution Template

https://content.naic.org/sites/default/files/call_materials/Reins AAT Attribution Concept - ACLI Draft - 071724_0.xlsx

BILTIR
BERMUDA INTERNATIONAL LONG TERM INSURERS AND REINSURERS

October 11, 2024

***Via Electronic Mail to*:** soneal@naic.org

Cassie Brown, Chair
Life Actuarial (A) Task Force
National Association of Insurance Commissioners
1100 Walnut Street, Suite 1500 Kansas City, MO
64106-2197

RE: AAT for Reinsurance Guideline Draft

The Bermuda International Long Term Insurers and Reinsurers ("**BILTIR**") thanks the task force for the opportunity to comment on the exposed AAT for Reinsurance Guideline Draft.[1] BILTIR's mission is to support the long-term insurance and reinsurance industry's growth and success in Bermuda and globally, and in doing so is committed to engaging with the NAIC and state regulators regarding reinsurance reserves standards of relevance for the global reinsurance market. Because the draft guideline is focused on life sector reinsurance, we submit that BILTIR's ongoing input will be valuable to assessing and developing approaches to ensure they do not restrict the ability of reinsurance to support the availability of retirement products to U.S. consumers.

Bermuda's Regulatory Regime and Solvency Protections

Underpinned by a well-capitalized industry, decades of reliably supporting the general insurance markets, and the robust regulations developed by the Bermuda Monetary Authority ("**BMA**") that further strengthen policyholder protections, Bermuda is emerging as a model for other jurisdictions and is a positive force in helping address the retirement protection gap which numbers in the trillions worldwide.

Bermuda provides a stable regulatory climate while encouraging innovation and investment. Beginning in 2013, the BMA introduced comprehensive regulations for the long-term sector that resulted in Bermuda being awarded equivalence under the European Solvency II regime. The NAIC also recognizes Bermuda as both a Qualified Jurisdiction and Reciprocal Jurisdiction, a recognition that is revisited annually and that includes all sectors. Bermuda's regulations feature a comprehensive model risk framework with a risk-based supervisory approach, and

[1] BILTIR represents the long-term insurers and reinsurers in Bermuda. Backed by Bermuda's over 40-year history of providing insurance solutions at the forefront of the evolving long-term insurance industry, BILTIR represents the policy interests and drives advocacy for the market and its members. BILTIR membership is comprised of more than 70 annuity, life insurance, and reinsurance businesses and servicing companies on the island. More information about BILTIR is available at https://www.biltir.com.

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were updated in 2023. To date, public indications are that the update has been well received by U.S. regulators who are re-assessing Bermuda's Qualified and Reciprocal Jurisdiction status pursuant to the NAIC's annual process. That re-assessment provides a forum to comprehensively review the regulatory regime, rather than conduct piecemeal inquiries into aspects of it.

The assets backing Bermuda-based liabilities underscore the strength of that regime. Based on a recent survey of BILTIR membership,[2] 92% of assets under management held by BILTIR's membership are rated investment-grade, and overall assets held exceed liabilities by $231 billion. 77% of those assets have additional protection in the form of secured trusts, fund with-held or modified coinsurance, and 95% of bonds, debentures and structured assets held by membership are investment grade. Those assets meaningfully exceed liabilities, with the median solvency ratio for the long-term sector in Bermuda as of year-end 2022 at 261%, which is well in excess of required capital levels.[3]

The Bermuda Regulatory Framework Addresses the Task Force Goals

The Bermuda regulatory framework already addresses what appear to be the core goals of the task force.

BMA and State Regulator Collaborative Approval: Beginning in 2023 the BMA began a practice of reviewing reinsurance transactions in which a Bermuda domestic insurer assumes in force business (in some cases a Bermuda domestic insurer assumes in force business from insurers domiciled outside of Bermuda, some of which business is asset-intensive). As a part of these reviews the BMA is consulting with the ceding insurer's domestic regulator, and in some cases the ceding insurer's group supervisor, prior to approving the proposed reinsurance transaction. Similarly, as to reinsurance involving a U.S. domiciled insurer and its affiliate, individual transactions exceeding the size threshold identified in the state's holding company regulations are submitted to the ceding insurer's state of domicile for prior approval. As a result, these transactions between a U.S. domestic insurer and a Bermuda reinsurer are already scrutinized and regulated, and the regulation is normally customized to fit the nature, size and impact of the transaction on the financial condition of the U.S. domestic ceding company. Likewise, under the U.S. state holding company regulations, the U.S. regulators already have the ability to require cash-flow testing on reinsured business where deemed necessary.

Strength of Bermuda's Liability Methodology:

The U.S. and Bermuda regulatory frameworks in different ways apply prudence to achieve the outcome of consumer protection. In Bermuda, insurance reserves (called "technical provisions") are valued on an economic basis. There are notable similarities as well as some important differences from U.S. statutory reserves. In Bermuda, reserves/technical provisions are the sum of two components: a best estimate liability ("BEL") and a risk margin.

[2] BILTIR's survey sample of 55 companies drew from 94% of the total BILTIR members, representing invested assets of $800 billion, as reported for the 2022 financial period (which excludes non-Bermuda assets of Bermuda consolidated groups). Total assets held by Bermuda-based long-term (re)insurers, which includes intangibles and other non-invested assets, totaled more than $1 trillion at YE22.

[3] Note that there is no substantial difference between what investments would be non-admitted and therefore not count for solvency purposes in the U.S. and Bermuda.

The BEL is a discounted, current, probability-weighted average of projected future cash flows, using updated assumptions. Discounting uses either a standard approach or the scenario-based approach ("SBA"). The standard discounting approach uses current risk-free rates plus BMA-prescribed illiquidity spreads. Accordingly, all contracts valued under the standard method use the same discount rates as of a particular valuation date.

In contrast to the standard approach, the SBA uses the illiquidity premium that is embedded in the insurer's actual portfolio of assets used to support the block of business.[4] Distinct from traditional risk assessment methods that often rely on historical data, the SBA emphasizes forward-looking analysis, allowing companies to model diverse scenarios, like economic shifts, regulatory changes, and catastrophic events. This ensures that insurers and reinsurers are resilient to risks associated with asset-liability mismatches, for which there is an explicit cost. By focusing on matching cash flows of assets and liabilities, the SBA enforces a rigorous asset-liability management discipline within insurers, ensuring that reinvestment assets must align with the insurer's existing and board-approved ALM and investment policies. In doing so, the SBA not only enhances the visibility of insurers' risk management practices, but it ensures that the resulting resilience to risk is achieved in a sustainable manner.

The BMA has placed guardrails around the use and application of the SBA, including new guardrails that were added in 2023. For example, (re-)insurers must demonstrate a high degree of cash-flow matching, and recent reforms have introduced a prior approval process. Cash-flow matching is further incentivized by the requirement to value liabilities using the market value of assets that produces zero surplus at the end of the projection under the worst of eight prescribed economic scenarios, an approach that resembles the U.S. standards for principle-based reserving and cash flow testing.

The BMA also limits the types of assets that can be used within the SBA. For example, the BMA requires that nearly all SBA assets have a fixed maturity date. The BMA further prescribes most asset default and downgrade costs, which are subtracted to derive the implicit illiquidity premium. Reinvestment assumptions must be consistent with the insurer's existing asset portfolio, and no "unsellable" (highly illiquid) assets may be assumed to be sold to meet cashflow shortfalls throughout the entirety of the projection.

The BMA also has liquidity risk management, stress testing, governance, model risk management, and documentation provisions that are tailored to users of the SBA.

The risk margin, which is added to the best-estimate liability, is intended to reflect the compensation required by risk-averse capital providers to bear the uncertainty inherent in the insurance liabilities. The BMA requires insurers to calculate the risk margin using the cost-of-capital method, using a 6% cost of capital rate. The BMA's approach is consistent with international frameworks such as the European Solvency II regime and IFRS reporting. We believe it is essential for the task force to consider framework differences, both conceptual and technical, before concluding that U.S.-style asset adequacy testing is appropriate to assess liabilities that are reinsured to Bermuda. We also encourage consideration of the total level of financial resources (including both reserves/technical provisions and capital) that reinsurers hold to satisfy their obligations to cedents.

[4] For insurers, a primary appeal of the SBA is that it limits the financial volatility that is often characteristic of long-term insurance businesses under market-based accounting and solvency regimes.

Governance for Actuarial Assumptions: The BMA prescribes stringent standards for actuarial projections. All long term (re)insurers must appoint an Actuary, being an actuarially skilled individual, for the purposes of opining upon their technical provisions. This appointment is subject to approval by the Authority. Each Actuary approval is specific to the subject insurer's application, is uniquely determined and is contingent upon the nature, scale and complexity of the insurer's business and the Actuary candidate's suitability to serve as an appointed Actuary for that insurer based upon fit and proper criteria. Fit and proper criteria includes whether, commensurate with the nature, scale and complexity of the insurer's business and the requirements and standards of the Act, the person possesses the appropriate integrity, competency, resources, qualifications and experience including being appropriately conversant with the Authority's established EBS valuation requirements and guidance material. Included in the approval process is the applicant company confirming that the appointed Actuary shall have the ability to communicate directly with the board without the need for management review or approval; and that the board shall have direct access to the Actuary. The Actuary's estimate of technical provisions and any other matters specified by the Authority are expected to be prepared in accordance with accepted actuarial practice and all applicable standards of practice of their credentialing actuarial body and the Authority's established requirements.

Collateral: Many reinsurance transactions are structured to provide collateral to mitigate credit and other counterparty risks even where not required for credit for reinsurance purposes. The level of collateral provided may, in certain cases, even exceed reinsurer or cedent reserve requirements which may be driven, in part, by whether reserves and assets are measured on a book or market value basis. Such collateral, whether it constitutes assets backing reserves or surplus, are available to support the obligations for the reinsurance liability and, for assets pledged to U.S. cedents would generally be comprised of assets meeting the definition of "admitted assets" in the relevant domiciliary jurisdiction of the cedent.

The Task Force Should Revisit the Guideline's Approach

We appreciate that the task force will be assessing the draft guideline in stages in order to focus on certain component parts. BILTIR will engage in those discussions. However, we want to state clearly our broader, more fundamental observations early in the process, both in the interest of transparency to the task force and to provide context for our more specific comments. We have several concerns about the guideline's approach to addressing asset adequacy.

The Proposal is Narrowly and Improperly Focused on Reserve Levels. What matters to consumers and to the financial system is collectability of reinsurance, rather than a narrow focus on level of reserves. This collectability is supported by both reserves as well as capital held in the system, whether that capital is held in trust or elsewhere.

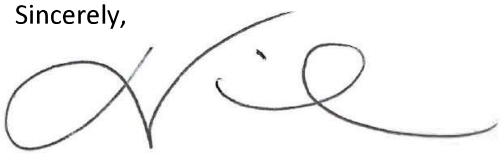
Likewise, the focus on reserves depends upon an inaccurate characterization of reserve assumptions. Not every jurisdiction's valuation regime uses assumed returns on a company's own assets, and Bermuda is a case in point. As discussed above, some business is valued using the SBA, which employs discounting using own asset returns (with various adjustments), while non-SBA business is valued using risk-free rates plus an illiquidity premium.

Adopting a Disclosure-based Approach: A disclosure-based approach would increase transparency to meet regulator needs, but without disrupting the reinsurance market. Such a

disclosure-based approach would still enable regulators to identify one-off transactions that are overly risky or premised on aggressive asset return assumptions.

We thank the task force for considering our perspective and look forward to continued input and serving as a resource as the task force moves ahead. We are happy to address any questions you may have, and to offer further input as discussions continue.

Sincerely,



Suzanne Williams-Charles
BILTIR Executive Director

October 3, 2024

Rachel Hemphill,
Chair, NAIC Life Actuarial (A) Task Force (LATF)

Dear Chair Hemphill:

Thank you for the opportunity to provide comments on the Life Actuarial (A) Task Force (LATF) AAT for Reinsurance Actuarial Guideline Draft exposure. I write as a representative of the Cayman International Reinsurance Companies Association (CIRCA). Founded in October 2020, CIRCA is now made up of over 60 members. The association is dedicated to promoting collaboration, advocating for regulatory excellence, and driving educational initiatives in the Cayman Islands' reinsurance sector. I have taken the liberty of including an Appendix to this letter that provides information about the Cayman Islands Monetary Authority (CIMA) which we feel is helpful additional context when reviewing our feedback.

CIRCA has been closely following the discussions occurring at LATF regarding asset adequacy testing for reinsurance and the development of the current exposure. After review from our members and ongoing discussions with interested parties, CIRCA has developed initial feedback below for the requested initial exposure, Section 2, Scope and Sections 5.C and 7, Aggregation.

Section 2, Scope

According to the exposure, LATF is contemplating applying either a narrow or broad scope to the Actuarial Guideline. CIRCA encourages LATF to adopt a narrow scope, as outlined in Option 1. Also, our members suggest including a provision that would allow for entities that provide disclosures comparable to VM-30 to their regulator be out of scope for the Actuarial Guideline. Specifically, if an assuming reinsurer provides to their regulator a technical document which is consistent with the methodology, nature, and overall purpose of the VM-30 Actuarial Opinion and Memorandum Requirements, then the reinsurance ceded to that reinsurer should be excluded from the scope of this Actuarial Guideline proposal.

As currently drafted, the Actuarial Guideline exposure appears to focus on situations where the reserves set by the assuming reinsurer are materially lower than the U.S. Statutory Reserve ceded by the ceding company. CIRCA contends that what matters to the ceding company is the level of contractually obligated assets they have unfettered access to in order to satisfy the ceded policyholder obligations. Therefore, CIRCA recommends that the Actuarial Guideline exclude from its scope transactions where the contractually obligated assets supporting the ceded risk are no less than the ceded U.S. Statutory Reserve. This would include Modified Coinsurance or Coinsurance Funds Withheld where those assets remain in the ceding company's possession and on their balance sheet or Coinsurance supported by a reserve credit trust compliant with NAIC Model 785.

If such transactions are not fully excluded, we recommend that the focus of analysis of the transaction by the Appointed Actuary be on the committed asset level, reflecting any overcollateralization contractually provided by the reinsurer, available to the ceding company

and not the stated reserve for the risk held by the reinsurer assuming another accounting basis. If the contractually required collateral is used in place of that stated reinsurer reserve in the provided Attribution Analysis spreadsheet, the result would be a total volume of supporting assets greater than or equal to the reserve which CIRCA believes would result in the transaction posing a low risk.

Sections 5.C and 7, Aggregation

CIRCA members believe that any aggregation requirements set out in the Actuarial Guideline exposure should be consistent with those applicable to the aggregation requirements outlined in VM-30 and relevant actuarial guidance. LATF should apply consistent aggregation requirements for their disclosures, regardless of whether the reinsurance transaction is ceded to a domestic or offshore reinsurer.

The testing should include all contractual resources for a transaction, including the reserves held by the reinsurer, coinsurance funds withheld, comfort trusts and any other form of NAIC Model 785 compliant contractual support. Ceding companies often negotiate overcollateralization as an additional layer of protection so CIRCA would also recommend assets supporting the overcollateralization to be available in any AAT analysis of the ceded business.

Other Comments

Also, both Primary Securities and Other Securities as described in AG 48 (4D and 4E, respectively) should be included as "Acceptable Assets" in support of policyholder obligations, consistent with permissible investments in the relevant regulator's state. For reference, in AG 48 Section 4E, Other Securities are defined to be: "Any asset, including any asset meeting the definition of Primary Security, acceptable to the Commissioner of the ceding insurer's domiciliary state." On this point, CIRCA would like to highlight that ceding companies negotiate investment guidelines with the reinsurer as a protection to meet their policyholder obligations. Assets held on the ceding company's balance sheet under Modified Coinsurance or Funds Withheld will be such that the company is compliant in total under the domiciliary state's investment limitations. Reserve credit trusts supporting Coinsurance transactions are even more restrictive, limiting the assets in the trust to SVO-rated, cash or cash equivalents, letters of credit from a qualified institution, or other assets as specifically authorized by the ceding company's domiciliary commissioner. All assets supporting the ceded business are held in the U.S.

As stated above, CIRCA appreciates the opportunity to provide comments to LATF and thanks you for your consideration. We welcome any opportunity to discuss these and any other points further as the Task Force deems appropriate.

Sincerely,

David C. Self

Chair of Board of Directors
Cayman International Reinsurance Companies Association.

Appendix – The Cayman Islands Monetary Authority

The Cayman Islands Monetary Authority (CIMA) is the primary regulator and supervisor of the financial services industry in the Cayman Islands. In its supervisory role, CIMA is responsible for monitoring the activities of its domestic and international licenses through integrated risk-based supervisory approach of onsite and offsite supervision. CIMA has a long history of international cooperation and leadership in international regulatory policymaking and standard setting. CIMA is a founding member of the International Association of Insurance Supervisors (IAIS), and member of its Reinsurance task force responsible for the creation of the international reinsurance regulatory standards (ICP 13). CIMA has been a member of the International Organization of Securities Commissions (IOSCO) since 2009 and participates in international initiatives with the NAIC, Organization for Economic Cooperation and Development (OECD), Financial Action Task Force (FATF) and International Monetary Fund (IMF).

The provision of assistance to overseas regulatory authorities is one of CIMA's principal functions. Such international cooperation takes place primarily through the exchange of information, facilitated through Memorandums of Understanding ("MOUs"), other agreements and through CIMA's active participation in international forums. CIMA has 70+ bilateral and multilateral cooperation arrangements with international regulatory authorities, including an MOU with the NAIC and direct MOUs with other state regulators. CIMA is also a signatory of the IAIS Multilateral Memorandum of Understanding which allows CIMA to cooperatively exchange information with other signatories.

According to Section 9(1)(a) of the Insurance Act and the Actuarial Valuations Rules and Statement of Guidance, each Cayman Islands licensed life and annuity reinsurer is required to provide CIMA with an annual Actuarial Valuation Report that is compliant with the requirements of the IAIS. The Actuarial Valuation Report is a detailed test of solvency, requiring an actuarial analysis of the valuation of the assets and liabilities as well as capital adequacy of the company. Various stress testing that reflects the risks of the business must be included in the analysis. This Report is prepared by the Appointed Actuary and reviewed by the Peer Reviewing Actuary. Both roles must be approved by CIMA, at the time of the licensing of the company and for any ongoing changes within the roles. The criteria used by CIMA when determining whether to recognize or approve an actuary are set out in the CIMA Regulatory Policy on The Recognition and Approval of an Actuary.

October 11, 2024

Rachel Hemphill,
Chair, NAIC Life Actuarial (A) Task Force (LATF)

Dear Chair Hemphill:

Thank you for the continued opportunity to provide comments on the Life Actuarial (A) Task Force (LATF) AAT for Reinsurance Actuarial Guideline Draft exposure. I write as a representative of the Cayman International Reinsurance Companies Association (CIRCA). Founded in October 2020, CIRCA is now made up of over 60 members. The association is dedicated to promoting collaboration, advocating for regulatory excellence, and driving educational initiatives in the Cayman Islands' reinsurance sector.

We most recently commented with regard to Scope and Aggregation. This week CIRCA is taking the offered opportunity to address other items within the exposure draft. These other items are the definitions of Total Reserve and Primary Security.

Total Reserve

CIRCA has emphasized in our previous letters that all of our transactions are fully collateralized. The ceding company has possession of or contractual access to assets with a value equal to or in excess of the ceded U.S. Statutory Reserve. The assets committed by a reinsurer to a transaction (and available to a ceding company in the event of a recapture) is this collateral value and not the reserve posted in its financials. We stated previously our assertion that fully collateralized agreements should be out of scope but, absent this treatment, we strongly believe the definition of Total Reserve in 3.G. should be:

Total Reserve – (a) The reserve held by the ceding company, plus (b) the greater of (i) the reserve held by the assuming company; or (ii) the total contractually obligated resources by the reinsurer for the benefit of the policyholder; less (c) the amount of reserves held by the assuming company supported with assets other than Acceptable Assets (to be addressed in next section).

The contractually obligated resources may include assets held on the ceding company balance sheet supporting risks ceded under modified coinsurance or coinsurance with funds withheld. It also can include clean, irrevocable, unconditional and "evergreen" letters of credit from qualified U.S. institutions or assets held on the reinsurer's balance sheet but in the U.S. with a trustee in a reserve credit trust. Further, it often includes contractual levels of overcollateralization held for the benefit of the ceding company.

This modification to the Total Reserve definition would then be used in determining Reserve Decrease (3.E.), in performing Cash Flow Testing (5.A.), in performing Attribution Analysis (6.A.) and in evaluating Relevant Risks (4.B.)

CIRCA

Primary Security

We commented on this definition in our last letter but would like to reiterate our position. In 3.D. we would recommend defining and using "Acceptable Assets" to include both Primary Securities and Other Securities as described in AG 48 (4D and 4E, respectively). This is consistent with permissible investments in the relevant regulator's state. For reference, in AG 48 Section 4E, Other Securities are defined to be: "Any asset, including any asset meeting the definition of Primary Security, acceptable to the Commissioner of the ceding insurer's domiciliary state."

CIRCA again appreciates the opportunity to provide comments to LATF and thanks you for your consideration. We welcome any opportunity to discuss these and any other points further as the Task Force deems appropriate.

Sincerely,

David C. Self

Chair of Board of Directors
Cayman International Reinsurance Companies Association.

Missouri prefers the narrow and specific scope under Option 1 and will offer the following comments:

2A:

a) We need to take out the reference to VM-30. Exempting reinsurance transactions to US reinsurers through this VM-30 reference creates an unlevel playing field for covered agreement reinsurers and could run afoul of the covered agreement. By removing the VM-30 reference we are focusing only on the reinsurance transaction itself regardless of the location of the reinsurer.

b) The size factors are very small so we suggest increasing them and adding a catch all (5) for small companies that might have transactions that otherwise not hit the transaction size but still be material to them. The revision is summarized below:

	MO's revised Scope				Original Scope	
	reserve credit ($M)	% of GR			reserve credit ($M)	% of GR
1	5000			1	5000	
2	1000	5		2	1000	2
3	500	10		3	100	10
4	100	20		4	10	20
5		50				

c) Reserve credit is determined irrespective of the amount of fund withheld. We suggest remove the reference to fund withheld in the scope criteria.

2B: We suggest deleting the verbiage in B(1) and B(2), which appears to be redundant. LATF can add additional guidance to significant collectability risk as it sees fit.

2. Scope

OPTION 1: Narrow scope, some analysis expected for all treaties in the scope

This Guideline shall apply to all life insurers with:

A. Reinsurance ceded to entities ~~that are not required to submit a VM-30 memorandum to US state regulators in~~ **for** treaties established 1/1/2016 or later that meet any of the criteria determined ~~by~~ for each counterparty in subsections (1) through (4**5**) below:

(1) In excess of $5 billion of combined reserve credit ~~or funds withheld or~~ and~~-~~modified coinsurance reserve ceded

(2) Combined reserve credit~~, funds withheld~~, and modified coinsurance reserve ceded in excess of:

(a) $1 billion and

(b) ~~2~~**5**% of ceding company ~~gross~~ Exhibit 5 gross life insurance plus gross annuity reserves

(3) Combined reserve credit~~, funds withheld~~, and modified coinsurance reserve ceded in excess of:

(a) $~~1~~**5**00 million and

(b) 10% of ceding company ~~gross~~ Exhibit 5 gross life insurance plus gross annuity

reserves

(4) Combined reserve credit, ~~funds withheld~~, and modified coinsurance reserve in excess of:

(a) $10**0** million and

(b) 20% of ceding company ~~gross~~ Exhibit 5 gross life insurance plus gross annuity reserves

(5) Combined reserve credit~~, funds withheld~~, and modified coinsurance reserve ceded in excess of 50% of ceding company ~~gross~~ Exhibit 5 gross life insurance plus gross annuity reserves

B. Reinsurance ceded to entities, regardless of treaty establishment date, that results in significant reinsurance collectability risk

~~(1) For year-end 2025, significant reinsurance collectability risk is determined according to the judgment of the ceding company's Appointed Actuary~~

~~(2) For year-end 2026, [placeholder for more objective guidance?]~~

~~OPTION 2: Broader scope for the AG, details on whether analysis is expected is contained in the Analysis sections~~

~~This Guideline shall apply to all life insurers with combined reserve credit, funds withheld, and modified coinsurance reserve in excess of: $10 million or 20% of ceding company gross Exhibit 5 gross life insurance plus gross annuity reserves.~~

PETER GOULD

September 19, 2024

Life Actuarial (A) Task Force
NAIC

Re: Reinsurance Asset Adequacy Testing Concepts - https://content.naic.org/sites/default/files/inline-files/Straw%20Man%20Draft%20-%20AG%20ReAAT%20-%20LATF%20081124.pdf

Dear Members of the LATF:

I am a retiree and am writing to comment as a consumer and annuity contract owner with skin in the game. My wife and I depend on Guaranteed Lifetime Withdrawal Benefits from Roth IRA variable annuities for a considerable portion of our retirement income. We did not purchase annuities as speculative investments.

As an annuity owner, the insurer's obligations to me are spelled out in my contracts. However, there are no provisions in my contracts that protect me or provide me rights to prevent my insurer from becoming insolvent or unable to meet their contractual obligations to me. **Consumers rely entirely on state regulators** to adopt and enforce regulations that **proactively and effectively** prevent impairment of insurers' solvency, inability of insurers to honor their contractual obligations to policyowners and failures of insurers.

With respect to reinsurance and counterparty transactions by which risk is transferred to a third party, I'm totally dependent on state regulators to ensure that the invested assets of the reinsurer are adequate to support the ceded reserves so that the money is there when I submit a claim.

Reinsurance and counterparty transactions frequently result in substantial reductions to Total Asset Requirements (TAR). Without your oversight and regulation, these practices increase the likelihood that I will outlive my insurer and that my contractual benefits (bought with my hard-earned dollars remitted as premiums) will not be paid to me when I need them. I don't want to be left "holding the bag", like the 92,000 PHL Variable Life policy owners.

I strongly support the broadest, most in-depth scope for these rules as possible. To that end, I offer the following comments on scope of the Straw Man Draft - AG ReAAT - LATF 081124.pdf:

1. Effective Date - To me, this is a component of scope and I support making the changes applicable to December 31, 2024 Annual Statements. Delaying the effective date until 2025 will be detrimental to consumers as it will facilitate an increase of the already exponential rate by which insurers are moving business offshore to sidestep US reserve requirements and arbitrage regulation and enforcement.

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2. Scope - to cast the widest net of consumer protection, I support option 2, modified as follows: "This Guideline shall apply to all life insurers with combined reserve credit, funds withheld, and modified coinsurance reserve in excess of the lesser of: $1 million or 5% of ceding company gross Exhibit 5 gross life insurance plus gross annuity reserves."

   In addition, these rules should apply to all treaties/ceded business regardless of establishment date. There's no reason to compromise consumer protection by giving a free pass to older arrangements. Given the huge amount of reinsurance already in place and its exponential growth, it's essential to cover all such arrangements. Prior comments have suggested that it may be too difficult to assemble and analyze the data. Given the systemic risk, the incremental cost to provide this information pales in comparison to the cost of an insurer liquidation.

Thanks for your consideration of my comments and the work that you do to protect consumers.

Yours truly,

Peter Gould

Peter Gould

REINSURANCE ASSOCIATION OF AMERICA

October 3, 2024

Rachel Hemphill, Chair
Fred Andersen
Life Actuarial Task Force
c/o Scott O'Neal, soneal@naic.org

RE: Asset Adequacy Testing for Reinsurance: Comments on Scope

Dear Rachel and Fred,

The Reinsurance Association of America (RAA) appreciates the opportunity to provide input on the Life Actuarial Task Force's (LATF) AG Reinsurance Asset Adequacy Testing (AAT) Straw Man Draft 1 proposal. The Reinsurance Association of America (RAA) is the leading national trade association representing reinsurance companies doing business in the United States. RAA membership is diverse, including reinsurance underwriters and intermediaries licensed in the U.S. and those that conduct business on a cross-border basis. The RAA also has life reinsurance affiliates and insurance-linked securities (ILS) fund managers and market participants that are engaged in the assumption of property/casualty risks. The RAA represents its members before state, federal and international bodies.

The RAA appreciates LATF's ongoing consideration of industry input, and we remain committed to providing LATF feedback on its efforts. We also applaud LATF and the NAIC for its enhanced coordination on workstreams impacting reinsurance. As requested, this comment letter is restricted to comments on Scope as set forth in Section 2 of the AG ReAAT Straw Man Draft 1 proposal (the " Guideline").

"Asset Intensive" Reinsurance Transactions

In general, we support a narrow scope for the proposed Guideline. A narrower scope enables regulators to focus their attention and resources only on the "asset intensive" transactions for which regulators have expressed collectability, reserving, and asset quality concerns. To narrow the scope, we propose defining an "asset intensive" reinsurance transactions using the chart in Section 2.f. of Appendix A-791 which identifies life insurance products that have significant asset/investment risk including credit quality, reinvestment, and disintermediation risk.

In doing so, the Guideline would apply to asset intensive reinsurance transactions but not to transactions without significant asset risk such as transactions reinsuring term life business, yearly renewable transactions reinsuring only mortality or morbidity risks, and non-proportional reinsurance transactions such as catastrophic and stop-loss coverage.

Once the asset intensive reinsurance transactions are identified, the proposed thresholds in

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Scoping Option 1 could be applied to determine which asset intensive reinsurance transactions are subject to the Guideline.

Retroactive v. Prospective Application

LATF has discussed whether the Guideline should apply to existing asset intensive transactions. In our view, application of the Guideline to existing asset intensive transactions should be limited, applying only to material transactions with effective dates on or after January 1, 2020. Materiality could be determined based upon the size of the transaction relative to the ceding companies' net reserves, capital and surplus or some other financial measure.

Modified Coinsurance or Coinsurance with Funds Withheld Arrangements

Scoping Option 1 of the proposed Guideline provides scoping thresholds with respect to funds withheld and modified coinsurance agreements. In our view, the Guideline should contain an exemption for modified coinsurance or coinsurance with funds withheld arrangements where the total modco and funds withheld assets held by the ceding company equal or exceed the total US statutory reserve ceded under the reinsurance contract. These assets are held by, and on the books of, the ceding company, and the ceding company has control over these assets.

LATF has expressed concern over the transparency to regulators of the assets backing the ceded reserves in asset intensive reinsurance transactions. The Statutory Accounting Principles Working Group (SAPWG) has exposed a proposal (Ref #2024-07) requiring the identification of funds withheld and modified coinsurance assets supporting reinsurance transactions. Under the proposal, ceding companies would identify these assets on a new addendum to Schedule S in the life annual statement blank resulting in full transparency of these assets to regulators. If these assets cover the US statutory reserve, there should be no concern requiring additional scrutiny.

Assets Pledged as Collateral and Meeting the Requirements for Credit for Reinsurance

Section 3 of the NAIC Credit for Reinsurance Model Law allows as an asset or a reduction from liability for the reinsurance ceded by a domestic insurer to an unauthorized reinsurer. The reduction is in the amount of funds held by the ceding insurer or on behalf of the ceding insurer in a credit for reinsurance trust, as security for the payment of the reinsurer's obligation. The security must held in the United States subject to withdrawal solely by, and under the exclusive control of, the ceding insurer; or, in the case of a trust, held in a qualified U.S. financial institution. The security may be in the form of:

A. Cash;

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B. Securities listed by the Securities Valuation Office of the National Association of Insurance Commissioners, including those deemed exempt from filing as defined by the Purposes and Procedures Manual of the Securities Valuation Office, and qualifying as admitted assets;

C. Clean, irrevocable, unconditional letters of credit, issued or confirmed by a qualified U.S. financial institution; or

D. Any other form of security acceptable to the commissioner.

In our view, the Guideline should allow a credit or offset against the scope thresholds for funds withheld assets, assets in trust, or qualifying letters of credit issued by qualified US Financial Institutions so long as those assets meet the requirements for credit for reinsurance because those assets are held by, under the control of, and on the books of the ceding company.

Additionally, if the SAPWG proposal regarding the identification of funds withheld and modified coinsurance assets supporting reinsurance transactions is adopted, these assets will be identified and fully transparent to regulators.

Transactions Subject to Regulatory Approval

Certain reinsurance transactions are subject to regulatory approval by the ceding company's domiciliary regulator. Those reinsurance transactions include transactions subject to various state laws and certain affiliated transactions. We believe those transactions should be exempt from the Guideline because they are subject to regulatory approval, and during the approval process, the domiciliary regulator has the discretion to impose requirements such as cash flow testing of the reinsurance transaction as a condition to approving the transaction.

Regulators have expressed concerns regarding affiliated transactions but we are unaware of the nature of the concerns. Perhaps further discussions would be helpful in identifying those concerns. In our view, consideration should be given to these existing regulatory requirements for certain reinsurance transactions to avoid unnecessary duplication with respect to such transactions.

Reinsurance Ceded to a Reinsurer filing a VM-30 Report

The Guideline exempts reinsurance transactions ceded to a reinsurer that files a VM-30 Report. While we do not object to this exemption, the exemption practically limits the Guideline to reinsurance transactions ceded to offshore reinsurers and perhaps, onshore captive reinsurers. LATF indicated the purpose of the Guideline is to gather information. Gathering information only on offshore reinsurance transactions likely does not violate the Covered Agreements between the US and EU and the US and the UK (Covered Agreements). However, if, after gathering this information, additional requirements are imposed on

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transactions between US ceding companies and offshore reinsurers located in the EU or UK, those additional requirements likely would violate the Covered Agreements. Furthermore, applying additional requirements to reinsurance agreements between US ceding companies and Reciprocal Reinsurers located in Reciprocal Jurisdictions would violate the spirit and intent of the laws and regulations adopted by all states regarding Reciprocal Jurisdictions and Reciprocal Reinsurers.

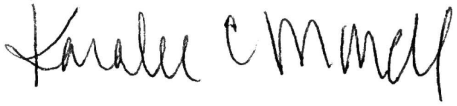
Perhaps LATF should consider an exemption for reinsurers that file a report that is equivalent to a VM-30 Report. The Guideline could identify the requirements for determining whether a report is equivalent to a VM-30 Report.

Conclusion

We urge a solution that is narrowly tailored to effectively address the concerns identified by regulators, ensuring the collectability of reinsurance. Implementation of overly broad regulatory requirements that duplicate existing regulatory tools risks the loss of needed reinsurance protection and the resulting opportunity to close the protection gap. Adding regulations that create friction and costs may discourage effective risk management through reinsurance without commensurate benefits.

The RAA continues to support LATF's work to find an appropriate solution that addresses the problem without severely disincentivizing the deployment of reinsurance capacity. Ensuring that the scope of this Guideline is appropriately tailored is a crucial first step in this process.

Sincerely,



Karalee C. Morell
SVP and General Counsel

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RAA

Re-AAT Comments

John Robinson FSA, FCA, MAAA

August 26, 2024

LATF,

Thank you for the opportunity to comment on this document, which I believe is very important. The conversation started from the observation that if an insurer has modco reinsurance, in which case, it has both the assets and liabilities on their books, then the insurer should perform CFT on this block for the same reasons that it performs CFT for the other reserves on its books. The conversation has clearly gone a long way from there, and I am thankful for the progress.

Comment 1: Concerning Section 2, "Scope":

1. Option 1, Statement 2(b): "2% of ceding company gross Exhibit 5 gross life insurance plus gross annuity reserves."

   Comment: This statement, as written, can be interpreted in two ways:
   (2% of ceding company gross Exhibit 5 gross life insurance) plus (gross annuity reserves).

   Or

   2% of (ceding company gross Exhibit 5 gross life insurance plus gross annuity reserves)

   Please re-write to make it clearer which interpretation applies. Note that this phrase occurs several times, including in Option 2.

Comment 2: Concerning the choice between Option 1 and Option 2:

I am concerned that Option 1 can be defeated by the insurer simply increasing the number of counterparties participating in the reinsurance of a block of business.

Comment 3a: Definition of "Deficient Block"

This is a minor wordsmith: Instead of "When a block of business shows negative…", say "A block of business that shows negative…"

Comment 3b: Definition of "Sufficient Block"

This is a minor wordsmith: Instead of "When a block of business shows positive…", say "A block of business that shows positive…"

Comment 4: Definition of "Pre-reinsurance reserve"

The use of the phrase "in the absence of the reinsurance transaction" suggests that the term applies in the context of a single transaction between the insurer and reinsurer. Please assess whether the use of the term in the document is consistent with this interpretation. I suggest you apply the same consideration to the use of the terms "Total Reserve" and "Reserve Decrease".

Comment 5: Definition of "Attribution Analysis"

This is a minor wordsmith: Since the pre-reinsurance reserve is defined to be a US statutory reserve, the phrase "U.S. statutory" in the definition of "Attribution Analysis" can be deleted.

Comment 6: Requirements

I am unclear as to what work the document requires. The Scope section identifies which companies are subject to the provisions, not which treaties are to be analyzed. The closest I can come to Requirements is Section 5A, which suggests (but does not state explicitly) that the insurer is required to perform some form of asset adequacy analysis on the Total Reserve. If the Total Reserve only pertains to a single transaction, as mentioned above, then this implies that the insurer must perform a stand-alone analysis for each transaction. I suggest you add a "Requirements" paragraph.

Thank you 😊

Memo

To: Rachel Hemphill, FSA, MAAA, FCAS, Life Actuarial Task Force

From: Patricia Matson, FSA, MAAA, Partner, RRC
Ben Leiser, FSA, MAAA, Director, RRC

Date: October 11, 2024

Subject: RRC Comments Regarding LATF's Reinsurance AAT Actuarial Guideline Draft Exposure

Background

The Life Actuarial Task Force (LATF) is requesting comments on the AAT for Reinsurance Actuarial Guideline (AG) Draft ("the Exposure"). Per LATF's request for earlier comments regarding the Scope and Aggregation sections of the Exposure, RRC provided prior comment letters on September 19th.and October 3rd. For ease of reference, we have included in this comment letter our previously submitted comments as well as comments on the remaining sections. Note that we have two additional comments on the Scope section that were not previously provided, and those are in bold font.

RRC appreciates the opportunity to offer our comments. Should you have any questions, we would be glad to discuss our comments with you and Task Force members.

We appreciate the work LATF has undertaken to address what we believe is a critical industry issue, namely the significant use of reinsurance, including offshore reinsurance, to provide US insurers with material reserve and capital relief.

RRC has assisted regulators in reviewing a variety of reinsurance transactions that result in material reductions in the total asset requirement (TAR) backing the policyholder obligations. We understand that while these transactions are executed for a variety of appropriate business and financial strategies, we also believe that in some cases they can result in reserves or capital that are reduced to a level that raises questions about their appropriateness from a policyholder protection perspective.

General Comments

We believe that when an insurer makes a promise to its direct policyholders, it is critical for the insurer to set operational and financial standards that will enable it to meet that promise. One such standard would be to ensure there are sufficient assets to pay future claims. This does not change when the insurer chooses to reinsure the business.

Based on this important promise, in a case in which an insurer uses reinsurance to reduce reserve and capital requirements that it views as overly conservative, we believe it would be reasonable to expect the insurer to continue to hold *adequate* reserves and capital, based on US statutory requirements. Based on the overall statutory framework, reserve adequacy has tended to be viewed as the level that would be sufficient under moderately adverse conditions (which may equate to an 85% confidence level). Capital would then cover conditions beyond moderately adverse, up to a higher confidence level (such as 95%).

Therefore, we believe that a goal of the Exposure (which we recognize is focused on reserves) should be

to set guardrails so that reserve financing transactions do not result in those reserves declining below a level that would be sufficient to cover policyholder obligations with approximately 85% confidence (or under moderately adverse conditions) based on the US statutory framework. This seems to be a fundamental minimum, under US statutory guidance, to meet policyholder protection while still allowing for the use of reinsurance to finance reserves.

Comments on Effective Date

We believe that additional guidance is needed as soon as feasible, and therefore we support a December 31, 2025 effective date (since sooner implementation does not appear feasible). We also support ultimately incorporating the AG into the Valuation Manual.

Comments on Scope

With respect to the two options laid out in the Exposure, RRC is in favor of "Option 1: Narrow scope, some analysis expected for all treaties in the scope." Our rationale for this is to address the areas of concern while avoiding creating significant work for Appointed Actuaries and regulators that does not materially address the areas of concern.

Based on our experience, it appears to be a relatively small subset of all reinsurance transactions that result in a material reduction in TAR. Therefore, we are in favor of limiting the scope of the new guidance to reinsurance transactions that result in such material reduction (or may result in such reduction in the future).

We are in favor of using a size threshold as laid out in the Exposure.

We agree with exempting treaties in situations in which the reinsurer is required by law to provide a VM-30 memorandum, since such treaties are unlikely to result in a significant reduction in TAR. **The VM-30 report exclusion is valuable primarily because a counterparty reporting under VM-30 is highly unlikely to have a materially lower reserve requirement, and not because the report itself would address the areas of concern. Therefore, we disagree with excluding transactions solely on the basis that the reinsurer provides a VM-30-like report without actually being subject to VM-30.**

We agree with including any treaty that presents significant collectability risk. Potential approaches to defining such risk are:

1. Credit rating (however, we don't believe that this alone is sufficient)
2. Solvency position (e.g. the reinsurer's capital exceeds the regulatory intervention threshold in its jurisdiction)
3. Delays in payment on the reinsurance agreement that exceed a defined period such as 180 days

We also note that in the case of significant collectability risk, an appropriate reserve would need to take into account the potential need for the cedant to re-establish the full U.S. Statutory reserve if the reinsurer were to default. For example, if the U.S. Statutory reserve is materially higher than an 85th percentile reserve set solely based on the projected underlying asset and liability cash flows, and the reinsurer defaults, the cedant would have to hold the full statutory reserve. This should be considered by the cedant's Appointed Actuary in their asset adequacy assessment.

LATF may want to consider exempting from scope treaties that meet the following criteria, since such treaties are unlikely to result in a significant reduction in TAR:

1. The treaty does not involve business with material investment risk (for example, YRT treaties)
2. The current and projected future reserves that will be held by the reinsurer are not materially less

than those required under the U.S. Statutory framework

We do not believe that scoping out modified coinsurance transactions or those that use a trust or funds withheld makes sense, because such transactions can result in a material reduction in assets available to fund future obligations.

Comments on Definitions

Regarding the definition of Attribution Analysis, we suggest including in the definition other anticipated significant contributors, beyond assumptions, to differences between the pre-reinsurance Statutory Reserve and the Total Reserve. Suggested language could be "….differences in individual key assumptions, underlying methodology, application of any floors, and allowances for risk offsets among policies" or similar.

Regarding the definitions of Deficient and Sufficient Block, we suggest clarifying that the cash-flow testing scenarios are those used under a US Statutory Framework. In other words, the assessment of sufficiency and deficiency is based on the US Statutory cash flow testing approach.

Comments on Risk Identification

We agree with the criteria outlined for determination of the relative level of risk, and with the concept that higher risk should imply more rigorous and frequent analysis by the Appointed Actuary.

Another risk that may be worth consideration is the risk profile of the assets backing the liabilities post reinsurance transaction. Suggested language could be "A significant change in the investments or investment strategy that results in higher risk or higher volatility in the current or future asset portfolio."

Comments on Analysis and Documentation in Light of Risks

We believe that cash flow testing should be mandatory in instances in which there is a Significant Reserve Decrease (as defined in the Exposure) and "where cash flows vary under different economic scenarios" (as described in Actuarial Standard of Practice No. 22, STATEMENTS OF ACTUARIAL OPINION BASED ON ASSET ADEQUACY ANALYSIS OF LIFE INSURANCE, ANNUITY, OR HEALTH INSURANCE RESERVES AND OTHER LIABILITIES (ASOP 22).

As described in our General Comments above, in a case in which an insurer uses reinsurance to reduce reserve and capital requirements that it views as overly conservative, we believe it would be reasonable to expect the insurer to continue to hold *adequate* reserves and capital, based on US statutory requirements. Use of cash flow testing would be an appropriate approach to make such an adequacy assessment for business for which the cash flows are expected to vary with variation in economic scenarios. If there is a Significant Reserve Decrease and the business does not have cash flows that are expected to vary under different economic scenarios, alternative approaches as laid out in ASOP 22 (such as a gross premium valuation) would be reasonable (although there may not be many transactions that fit these criteria, as noted in item B(1) of the Exposure).

We do not believe that the existence of a trust or funds withheld should impact whether cash flow testing is performed. If there is a Significant Reserve Decrease, an assessment of asset adequacy would be needed to determine if there are sufficient assets to cover future policyholder obligations regardless of who is holding the assets.

We do not believe that review of counterparty risk/collectability alone is sufficient to address concerns regarding material reductions in TAR. The Appointed Actuary is already required to evaluate counterparty risk per the requirements of actuarial standards of practice (both ASOP 22 and ASOP 11, Treatment of Reinsurance or Similar Risk Transfer Programs Involving Life Insurance, Annuities, or Health Benefit Plans in Financial Reports), and that would continue. However, review of counterparty risk alone would not address situations in which a company cedes a large proportion of its reserves to a strong counterparty that suffers a subsequent material decline in the counterparty's financial resources, resulting in the ceding company needing to recapture the business with insufficient assets available to cover TAR. In addition, if a lot of reinsured business is concentrated in a small number of reinsurers, insolvency of one or more of those reinsurers could lead to systemic risk. In light of the increasing trend to move economically sensitive business offshore, the industry could face a situation similar to the current long term care crisis, i.e., without sufficient total assets available to pay policyholder claims. We support requirements for the Appointed Actuary to directly assess the adequacy of the invested assets backing the ceded reserves.

We also note (as stated in the Scope section above) that in the case of significant collectability risk, an appropriate reserve would need to take into account the potential need for the cedant to re-establish the full U.S. Statutory reserve if the reinsurer were to default. For example, if the U.S. Statutory reserve is materially higher than an 85th percentile reserve set solely based on the projected underlying asset and liability cash flows, and the reinsurer defaults, the cedant would have to hold the full statutory reserve. This should be considered by the cedant's Appointed Actuary in their asset adequacy assessment.

We support inclusion of the option for the domestic insurance commissioner to require cash flow testing for individual treaties or counterparties.

Comments on Attribution Analysis

Attribution analysis alone would not ensure adequate assets to cover policyholder obligations. Therefore, we do not believe that requiring disclosure of attribution analysis alone is sufficient to address this important issue. We believe that any company ceding reserves for economically sensitive business to a reinsurer has an obligation to understand how the reinsurer is managing the assets and mitigating risk. Most agreements include investment guidelines. Therefore, it seems that the Appointed Actuary should be able to gain some insight into how the reinsurer is investing. While it is true that the Appointed Actuary may not be able to obtain sufficient details to model each actual asset backing the business, reasonable approximation methods could be used. Therefore, as noted above, we are in favor of prescribing cash flow testing for economically sensitive business based on specific and defined risk-based criteria. If a US insurer is willing to write business, that insurer should be willing to ensure assets are held in support of that business at a level that covers moderately adverse conditions. This is a very reasonable minimum threshold.

If attribution analysis is used as the sole basis to address asset adequacy for reinsured business, and the use of results is left to the discretion of the individual actuary and their regulator, there may be material differences in how the results impact the amount of assets held in support of reinsured business from company to company. We believe that this is an undesirable result, as we believe there is currently industry and regulator concern regarding a "non-level playing field" due to the current significant level of discretion in how AAT is performed for reinsured business.

Comments on Aggregation

Based on our experience, the transactions that are generating regulatory concern are those in which the insurance company achieves a significant reduction in TAR. In other words, the treaty is entered into for

the express purpose of reducing reserves and/or capital. While such a transaction may be done for good business reasons, we strongly believe that there should not be adverse impacts on policyholder protection. Therefore, we believe that the assets available to cover future policyholder obligations should remain at a level that aligns with overall statutory principles. As described above, this would imply that the reserves backing the transferred business would still be set at approximately an 85% confidence level, and capital at a 95% confidence level. Therefore, we believe that standalone testing of the adequacy of the assets backing reserves for the transferred business is appropriate. Such testing would be used to ensure that the assets backing the reserves post-transaction are still adequate to cover policyholder obligations under moderately adverse conditions. This seems like an appropriate minimum standard, and would still allow companies to free up capital in situations in which formulaic statutory reserves are viewed as excessive (i.e. materially greater than an 85% confidence level). In other words, we do not support aggregation across treaties, counterparties, or with retained blocks of business.

While we recognize that current asset adequacy testing (AAT) allows for aggregation of business, the purpose of AAT is as a backstop test to ensure that the formulaic statutory reserves (which are intended to be conservative) continue to be sufficient. Therefore, the testing allows for aggregation of deficient blocks (i.e. blocks that have booked statutory reserves that are below the 85% confidence level) with sufficient ones as long as "the assets or cash flows from the blocks are available to support the reserves" (per ASOP 22, *Statements of Actuarial Opinion Based on Asset Adequacy Analysis for Life Insurance, Annuity, or Health Insurance Reserves and Other Liabilities*). We believe that in a situation in which an insurance company is proactively seeking surplus relief through a reinsurance treaty (typically because reserves are believed to be overly conservative), it is reasonable to expect that the post-transaction reserves continue to be sufficient on a standalone basis.

Comments on Documentation

We believe this section contains reasonable documentation expectations, and do not have any specific comments.

Thank you for the opportunity to provide comments on this important topic. We can be reached at 860-305-0701/tricia.matson@riskreg.com or 201-870-7713/ben.leiser@riskreg.com if you or other members have any questions.

Response to Straw Man Draft for Reinsurance AAT Actuarial Guideline

Document: Straw Man Draft - AG ReAAT - LATF 081124.pdf (naic.org)
Document Date: 8/11/2024

Date of response: 9/6/2024
Author: Aaron Ziegler, FSA, CERA, MAAA
Title: Chief Actuary and Appointed Actuary – Illinois Mutual Life Insurance Company
Email: ATZiegler@illinoismutual.com

To: Scott O'Neal: soneal@naic.org

Note: My response below represents solely my own opinion. No part of my response should be deemed to represent the opinions of Illinois Mutual nor the opinions of the other actuaries at Illinois Mutual.

I thank you for your time and efforts and the ability to make comments on this exposure draft.

Request:

The request for commentary was broken into a few parts:

1. For **Section 2, Scope**, please provide related comments by **Sep. 19** to allow for discussion at a Sep. 26 meeting of LATF.
2. For **Sections 5.C and 7, Aggregation**, please provide related comments by **Oct. 3** to allow for discussion at a Oct. 10 meeting of LATF.
3. Comments on the **remaining sections** are requested by **Oct. 11**.

Part 1 – Section 2 scope

The scope is broken down into two separate sections:

1. Option 1: Narrow scope, some analysis expected for all treaties in the scope
2. Option 2: Broad scope

For option 1 –
Part A: The description states that is applies for reinsurance "ceded to entities that are not required to submit a VM-30". Maybe better would be simply to state whether the reinsurer is an "admitted" reinsurer.

I would like to see some guidance here regarding what is NOT in scope. To me: highly rated reinsurers who are "admitted reinsurers" should be excluded from the scope.

I urge caution regarding the thresholds defined in 1-4. There may be certain instances where a 5% reserve credit is too large and risky whereas a 30% reserve credit might be stable and reasonable.

Part B: I applaud the wording here. “Significant reinsurance collectability risk” … “according to the judgement of the ceding company’s Appointed actuary.”
This is excellent phrasing each insurer (and correspondingly reinsurer) are unique. It’s important to leverage the expertise and judgement of the Appointed actuary to determine whether there is “significant collectability risk.”

For option 2
Option 2 is too broad and brings in TOO many “plain vanilla” reinsurance agreements (co-insurance on term policies) where there has been very small amounts of risk to the industry for the last 50+ years. I urge the regulators to proceed with caution when painting with a broad brush. The general tendency over the last number of years is to create onerous regulation which does little to add to the strength of the industry.

In particular, small insurance companies often have large reinsurance credits on a percentage basis. This is not necessarily a bad thing! Small companies get the benefit of experience and stability from highly rated reinsurers. Moreover, the ability for small companies to be in the market and compete with large companies benefits the consumer with lower and more competitive prices.

Suggested “Option 3” for scope
In general, the appointed actuary is responsible for the credit worthiness and reliability of the reinsurers that the company is transacting with. The wording of Option1.B is excellent, why not start there to define scope? If, in the opinion of the appointed actuary all reinsurance agreements are out of scope, a small writeup / explanation from the appointed actuary describing the thought process in the AOMR would be a reasonable request for this regulation.

Part 2 – 5C and 7, Aggregation

The regulators need to be extremely careful here. There are a number of things going on in the details which may not be aptly considered.

While 5E suggests that the actuary may use “simplifications”, I humbly ask the regulators to recognize that asset adequacy testing (AAT) is not (typically) performed on a seriatim basis (i.e. policy by policy and reinsurance agreement by reinsurance agreement). As it is, AAT is performed using a model and approximations.

On this front, many insurance companies have model point compression (lumping more than one policy together) and the process for modeling reinsurance is rarely done on a treaty by treaty basis. This is done for a number of reasons:

1. When the model points are compressed, if 5% of the business in the model point is reinsured, then the model will reimburse 5% of the benefits. It’s possible that some of these

policies in the singular model point were reinsured at 100% and some may not have been reinsured at all. Overall – the impact to the company is immaterial.

2. Even if we side-step model point compression and look instead at a singular policy – it is common for a company to share the reinsurance with more than one reinsurance company. When the financial benefits of this is modeled ["Modeled" is an important key word as this should be understood as "estimated" or "approximated"] more often than not, a simple calculation is made for a singular reinsurance benefit in the model (even though it may come from more than 1 reinsurance company).

Why is this done? It's a model! Models are simplifications of reality. Run time, computation time, analysis time are all very expensive. Actuaries use judgement to make simplifications and efficiencies.

Is it a concern that a single policy might be reinsured by more than 1 reinsurance company but is not modeled that way? No. In fact, this is conservative! It is rare that a highly-rated reinsurer goes bankrupt, but it is even more rare that MULTIPLE highly rated reinsurers go bankrupt. So, by modeling "split company reinsurance" through a simple mechanism in a model is conservative.

Additionally, as a follow-up here, 5E suggests that the actuaries can use "modeling efficiency techniques if the appointed actuary can demonstrate that the use of such techniques does not make the analysis results more favorable." This language is borrowed from the existing valuation manual, VM20. This is easier said than done. Reworded, this sentence suggests that in order to prove that you can use modeling efficiencies – you must model without the efficiencies first and then you can use the efficiencies. These things are not always possible. I urge the regulators to rely upon the opinion of the Appointed Actuary and his/her judgement on these matters.

Now, with this said, my comments heretofore have been primarily focused on plain-vanilla reinsurance contracts. If, however, the reinsurance agreements were highly complex and asset intensive – then perhaps a more rigorous approach to reinsurance modeling would be warranted. I recognize the importance of this and the risk of such an agreement, but I share my thoughts with the regulators because I want to make sure that the regulation does not paint with too broad of a brush putting unnecessary burden – especially on small company actuaries and simple reinsurance arrangements.

Part 3 - Comments on other sections

Section 6 describes an attribution analysis for "relevant treaties." I've mentioned before, up above, but it bears repeating that plain-vanilla reinsurance is often not modeled on a treaty by treaty basis in actuarial AAT models. The analysis described, may be worthwhile for the risky and asset intensive reinsurance agreements, but regarding simple YRT or coinsurance arrangements on simple level term policies – this would be onerous and would not provide the regulators with useful information.

Section 8.A states: "If cash flow testing is performed, present New York 7 results." Some companies are not subject to New York and therefore may not run the NY7 scenarios. Moreover, VM30 does not require nor define what the "New York 7" scenarios are. It does not seem appropriate to inherently require the NY7 scenarios through this backdoor amendment regarding reinsurance. If the regulators desire to have a fixed set of scenarios – this should be requested in VM30 directly not independently required here.

A question at the beginning of the document is of keen interest to me:
"Should these requirements not apply to reinsurance treaties established prior to a certain date? … [this] may leave out a few substantial treaties of interest."
Given that the regulators are already apparently aware of certain concerns with some treaties, why go the route of creating a new actuarial guideline instead of just going directly to those companies of concern? The regulators already have the authority to do this.

This is a similar problem that regulators faced when dealing with ULSG in the early 2000's. Instead of using the regulatory powers to discipline actuaries who were creating products simply to sidestep reserve requirements, AG38 was amended and reamended ad nauseum. We must be careful not to over-regulate the industry because of a few bad actors.

Agenda Item 16

Academy Life Knowledge Statements

Presentation and Comment Letter

American Academy of Actuaries Update on Life Actuary Knowledge Statement Request

Darrell Knapp
Tricia Matson
Linda Lankowski

November 16, 2024

American Academy of Actuaries

About the Academy

AMERICAN ACADEMY of ACTUARIES

- The American Academy of Actuaries is a 20,000-member professional association whose mission is to serve the public and the U.S. actuarial profession. For more than 50 years, the Academy has assisted public policymakers on all levels by providing leadership, objective expertise, and actuarial advice on risk and financial security issues.
- The Academy also sets qualification, practice, and professionalism standards for actuaries in the United States.

For more information, please visit:

www.actuary.org

AMERICAN ACADEMY of ACTUARIES

Agenda

- Background
- Public Comment Response
- Next steps

American Academy of Actuaries

Background

Request from LATF at 2023 Fall National Meeting

- LATF requested American Academy of Actuaries recommend knowledge statements for life actuaries signing certain Statements of Actuarial Opinion, including for actuaries serving as appointed actuaries, as illustration actuaries, and as qualified actuaries for principle-based reserves.
- The Academy shared drafts of knowledge statements for life and health appointed actuaries in Chicago during the Summer National Meeting.

American Academy of Actuaries

Public Comment Response

- Following the public comment period, the Academy has offered a formal response to LATF.
- Any additional direction or requested modifications from LATF to adjust the drafted appointed actuary knowledge statements will be made prior to our final submission.
- Work continues on the qualified actuary knowledge statements (shared at this meeting) and on the illustration actuary knowledge statements (to be shared with LATF before year-end).

American Academy of Actuaries

Reminder—Important Considerations

- The knowledge statements provided are recommendations in response to the LATF request.
- Knowledge statements are not a position of the Committee on Qualifications, and future use and modification of these recommendations are the responsibility of LATF.
- The knowledge statements focus on the additional knowledge that an actuary should have to perform specifically identified tasks. This does not include basic knowledge of actuarial mathematics, accounting, economics, and risk theory that all actuaries should have (primarily knowledge demonstrated prior to the associateship level in either the SOA or the CAS).
- Fulfillment of the knowledge statements does not imply an actuary is qualified to provide a given opinion. There are additional qualification requirements, and there may be additional knowledge required dependent on the topics covered under the opinion.
- An actuary should adhere to the "Qualification Standards for Actuaries Issuing Statements of Actuarial Opinion in the United States" (USQS) and meet the continuing education (CE) requirements before issuing any statements of actuarial opinion.

American Academy of Actuaries

Qualified Actuary Knowledge Statements

- With VM-22 not yet adopted, the regulators and interested parties may want to be aware that the drafted knowledge statements are focused on VM-20 and VM-21 actuaries. This is particularly important as it relates to VM-31 reports or the extent to which a Qualified Actuary is involved in setting Fixed Annuity reserves. The statements may need to be refined given any VM-xx updates, especially VM-22 updates.
- Since the knowledge statements are intended to cover both VM-20 and VM-21 Qualified Actuaries, regulators and interested parties should keep in mind that not every part of the draft will apply to every Qualified Actuary.
- LATF may want to consider knowledge statements for each individual VM chapter in the future, which could be addressed in the future by statements incorporated into the VM itself.

American Academy of Actuaries

Next Steps

The completed drafts of all three knowledge statements will be submitted to LATF by the end of the year.

The Academy is happy to meet virtually with LATF to discuss the qualified actuary and the illustration actuary knowledge statements.

American Academy of Actuaries

Questions?

For more information, please contact

Geralyn Trujillo, trujillo@actuary.org

American Academy of Actuaries

November 14, 2024

Rachel Hemphill, Chair
Craig Chupp, Vice Chair
Life Actuarial (A) Task Force
National Association of Insurance Commissioners (NAIC)
1100 Walnut Street, Ste 1000
Kansas City, MO 64106

Re: Draft Life Qualified Actuary Knowledge Statements

Dear Chair Hemphill and Vice Chair Chupp,

On behalf of the American Academy of Actuaries (Academy),[1] I appreciate the opportunity to share an update regarding the Life Actuarial (A) Task Force's (LATF) request following the Fall National Meeting in Orlando.

In your November 30, 2023, letter, you requested that the Academy develop knowledge statements that outline the knowledge necessary for life actuaries signing certain statements of actuarial opinion, including the roles of appointed actuary, illustration actuary, and qualified actuary for principles-based reserves. After meeting with you and several other members of LATF to better understand your expectations, the Academy has drafted the attached materials. This draft reflects our initial effort to develop such knowledge statements for qualified actuary roles for the blue blank filings (life). The draft knowledge statements for illustration actuaries are under development and we anticipate sharing them with you before year end.

The drafted knowledge statements are intended to reflect a baseline level of knowledge that the actuary should have for a designated role. Meeting this baseline level of knowledge does not imply that an actuary is qualified to issue the specified actuarial opinion. The *Qualification Standards for Actuaries Issuing Statements of Actuarial Opinion in the United States* (USQS) has many components of qualification beyond the baseline level of knowledge. In addition, there

[1] The American Academy of Actuaries is a 20,000-member professional association whose mission is to serve the public and the U.S. actuarial profession. For more than 50 years, the Academy has assisted public policymakers on all levels by providing leadership, objective expertise, and actuarial advice on risk and financial security issues. The Academy also sets qualification, practice, and professionalism standards for actuaries in the United States.

may be certain situations where the specified actuarial opinion is so limited in scope that some components of the baseline level of knowledge are not necessary.

The knowledge statements were developed by a group of Academy volunteers and have not been subject to a formal exposure process. As such, they should not be interpreted to be prescriptive or to be an interpretation of the USQS.

The Academy is pleased to be able to assist LATF in this analysis. We appreciate your ongoing collaboration and feedback on this effort. If you have any further questions, please feel free to contact Geralyn Trujillo, senior director of public policy (trujillo@actuary.org, 202-785-7875).

Sincerely,

Darrell Knapp, President
American Academy of Actuaries

cc: Scott O'Neal, NAIC

Knowledge Statements for Qualified Actuaries Submitting a VM-31 PBR Actuarial Report

These knowledge statements would apply to Qualified Actuaries submitting the VM-31 PBR Actuarial Report and apply to the Life, Accident and Health (A&H) Annual Statement, also known as the Life Blank or Blue Blank for the Life A&H Annual Statement and Fraternal Annual Statement.

In the NAIC Valuation Manual (VM), Section VM-01 defines the term "qualified actuary." This definition explains that "[a]n individual qualified actuary must be qualified with respect to the area(s) that they are providing a certification and/or opinion. For example, if there are separate life and variable annuity qualified actuaries providing the relevant certifications for VM-20 and VM-21, they each need to be qualified in their own respective area."

The Qualified Actuary must submit a report, and specific certifications, including the following:

- The Life Report and/or the Variable Annuity (VA) Report, and any sub-reports thereto covering one or more groups of policies, as specified in VM-31 Section 2.A;
- "Qualified Actuary on Investments—A certification by a qualified actuary, not necessarily the same qualified actuary that has been assigned responsibility for the PBR Actuarial Report or this sub-report, that the modeling of any future hedging strategies supporting the policies is consistent with the company's actual future hedging strategies and was performed in accordance with VM-20 and in compliance with all applicable ASOPs, and the alternative investment strategy as defined in VM-20 Section 7.E.1.g reflects the prescribed mix of assets with the same WAL as the reinvestment assets in the company investment strategy."
- "Qualified Actuary on Interest Rate and Volatility Risks—Certification, by the qualified actuary assigned responsibility under VM-G for a group of policies that qualifies for exclusion from the requirement to calculate a SR under the provisions of VM-20, Section 6.A.1.a.iii, that this group of policies is not subject to material interest rate risk or asset return volatility risk." There is no parallel requirement for VA contracts.
- "Qualified Actuary on Accordance with VM-20 and Model #820—Certification by the qualified actuary, for the groups of policies for which responsibility was assigned, that the principle-based valuation was performed in accordance with the requirements outlined in VM-20 and the relevant sections of Model #820." For VA replace VM-20 with VM-21 and policies with contracts.
- "Qualified Actuary on Assumptions and Margins—Certification by the qualified actuary, for the groups of policies for which responsibility was assigned, that the assumptions used in the principle-based valuation under VM-20, other than assumptions used for risk factors that are prescribed or stochastically modeled, are prudent estimate assumptions and the margins applied therein are appropriate."
- "Qualified Actuary on Conservatism of Converted Policies—Certification by the qualified actuary assigned responsibility under VM-G for a group of policies that qualifies for exclusion from the requirement to calculate a DR under the provisions of VM-20 Section 6.B.2.b, that the total reserve for this group of policies includes a prudent provision for the additional mortality associated with the conversion and reasonably

exceed the value of a DR which otherwise would have been calculated for this group of policies."

The Academy qualification standards for rendering an opinion are in the "Qualification Standards for Actuaries Issuing Statements of Actuarial Opinion in the United States" (USQS), effective January 1, 2022. The standards were revised from prior editions of this qualification standard and therefore specifically apply to actuaries issuing Statements of Actuarial Opinion (SAO) starting on January 1, 2023. Furthermore, such actuaries need to meet the continuing education (CE) requirements before issuing any SAO.

Section 2.1 of the USQS specifies the Basic Education and Experience Requirements, stating that an actuary should have achieved the following:

- Through education or mutual recognition, received a Fellow or Associate designation from either the Society of Actuaries (SOA) or the Casualty Actuarial Society (CAS). It is important to note that this would most likely be the SOA for an actuary issuing an opinion related to the Life/Blue Blank.
- Membership in the Academy.
- Three years of responsible actuarial experience, which is defined as work that requires knowledge and skill in solving actuarial problems.
- Be knowledgeable, through education or documented professional development, of
    1. U.S. Law, including statues, regulations, judicial decisions, and other statements having legally binding authority, applicable to the SAO, and
    2. U.S. actuarial practices and principles.
- Have either
    1. Obtained Fellowship in the CAS or SOA. In addition to obtaining this fellowship, the actuary must:
        i. Have completed education relevant to the subject of the SAO. Such education may have been obtained in attaining the fellowship designation or highest possible designation of a non-U.S. actuarial organization, or by completing additional education relevant to the subject of the SAO; or
        ii. Have a minimum of one year of responsible actuarial experience in the particular subject relevant to the SAO, under the review of an actuary who was qualified to issue the SAO at the time the review took place under the USQS in effect at the time.

        OR
    2. Have a minimum of three years of responsible actuarial experience in the particular subject relevant to the SAO, under the review of an actuary who

was qualified to issue the SAO at the time the review took place under the USQS in effect at that time.

Section 3 of the USQS specifies the Specific Qualification Standards beyond those required to satisfy the General or Basic Education and Experience requirements. For issuing Life, A&H, and Fraternal SAO, this includes examinations administered by either the Academy or SOA covering

(a) policy forms and coverages,

(b) dividends and reinsurance,

(c) investments and valuations of assets and the relationship between cash flows form assets and related liabilities,

(d) statutory insurance accounting,

(e) valuation of liabilities, and

(f) valuation and nonforfeiture laws.

Alternatively, this education may be acquired through responsible work or self-study, if another qualified actuary familiar with the work is willing to attest to the knowledge of the opining actuary. To meet the experience requirement, an actuary is required to have at least three years of responsible experience relevant to the Opinion, under the review of another actuary who was qualified to issue the Opinion at the time the review took place.

Section 3, Specific Qualification Standards, of the USQS applies to appointed actuaries but does not apply to qualified actuaries, as the insurance products covered in the VM-31 report are generally less comprehensive. Appointed Actuaries must consider a broader perspective, including the adequacy of reserves for the entire company, often including multiple products. While the Valuation Manual methodologies are intended to provide adequate reserves, the Qualified Actuary does not provide an opinion on reserve adequacy; instead, the Qualified Actuary opines on whether the reserves are calculated following the rules set forth in the Valuation Manual.

A. Policy Forms and Coverages

The Qualified Actuary must be able to assess the effect of insurance coverages and changes on the reserves for which the Qualified Actuary is opining, along with the associated risks and uncertainties. The Qualified Actuary must understand the types of insurable exposures and related insurance products.

1. VM-20 Individual Life Insurance (issued since 2017 to 2020, depending on transition date)
   a. Whole Life, with annual or limited payment periods
   b. Universal Life, with or without secondary guarantees

i) Fixed interest rate credits
ii) Indexed interest rates credits
iii) Variable amounts depending on investment fund values
iv) Variable amounts depending on an index

c. Term Insurance
i) Annually renewable term
ii) Term with certain period

d. Single and joint policies

e. Riders attached to the above policies
i) Accidental death benefit
ii) Waiver of Premium
iii) Term insurance on the life of
(1) The insured
(2) Spouse
(3) Child
iv) Critical illness benefits
v) Chronic illness benefits
vi) Accelerated terminal illness benefits
vii) Return of Premium

f. Policies created due to nonforfeiture values

g. Supplemental Benefits, as defined by law or the Valuation Manual

2. VM-21 Variable Annuity Contracts (issued since 1980)
a. Guaranteed minimum death benefits
b. Guaranteed living benefits, including but not limited to:
i) Accumulation guarantees
ii) Investment return guarantees
iii) Lifetime withdrawal guarantees
iv) Annuitization guarantees
c. Riders attached to the contracts above
i) Critical illness benefits
ii) Chronic illness Benefits
d. Nonforfeiture benefits
e. Supplemental Benefits, as defined by law or the Valuation Manual

B. Law, Statutes and Regulations

The Qualified Actuary must be able to assess the effect of the legal environment on the reserves for which the Qualified Actuary is opining, along with the associated risks and uncertainties. The Qualified Actuary must understand relevant U.S. and state insurance law, regulatory authority, and regulations.

1. Insurance law with respect to its impact on Life, A&H insurance and Fraternal insurers.
2. U.S. federal and state laws and regulations that pertain to the SAO.
3. Relevant state specific laws, regulations, regulatory authority and rules regarding the preparation of annual statements.
4. Principles of statutory accounting and sources of guidance.
5. Familiarity with statutory accounting blanks, the NAIC's Accounting Practices and Procedures Manual, including all relevant SSAPs and Actuarial Guidelines related to the lines of business for which the Qualified Actuary is writing the opinion.
6. The particular VM section providing rules related to valuation of the products in the opinion and VM-31 reporting.
7. Treatment of reinsurance in statutory accounting, including transfer of risk issues (see Section G for more on reinsurance).
8. Elements of the risk-based capital (RBC) formula and the regulatory impact of RBC (only for VM-21).

C. Principles of insurance and underwriting

The Qualified Actuary must be able to assess the effect of underwriting and marketing, and changes therein on the reserves for which the Qualified Actuary is opining, along with the associated risks and uncertainties. The Qualified Actuary must understand how insurance companies assume risk through marketing and underwriting.

1. Various types of underwriting for each of the coverages and features described in Section A, Policy Forms and Coverages above, including differences between full underwriting, accelerated underwriting, simplified issue, and guaranteed issue.
2. Concept of insurable risk.
3. Product characteristics giving the insured optionality to select against the insurer.
4. Various types of marketing and distribution methods for each of these coverages, as well as the differences in underwriting and/or policyholder behavior that may be associated with each.
5. For products most commonly offered by health carriers and associated characteristics, behavioral choices involved as a form of underwriting, including:
   a. Impact of limited networks and limited coverages;
   b. Impact of healthy lifestyle benefits on individual choice;
   c. Individual choice relationship to funding sources.
6. Seasonal patterns of claim incurrals for various products.
7. Impact of management actions, possibly related to Non-Guaranteed Elements, which may impact Policyholder Behavior (PHB).
8. Effect of investment market changes, competition, and other economic factors on PHB.

D. Reserves and Assets

The Qualified Actuary must understand and apply reserving methods, analysis, and diagnostics to derive actuarial reserves. The derivation of reserves in the Valuation Manual requires assumptions about assets and knowledge of the investment strategy, therefore methods, analysis and diagnostics related to assets are also important. The Qualified Actuary must also understand the company's internal operations and data, external environment, and relevant changes therein. Furthermore, the Qualified Actuary must be able to produce an SAO, an Actuarial Opinion summary, and an Actuarial Report in accordance with the NAIC Annual Statement Instructions and understand and produce the statutory minimum reserve for each product. Also, the Qualified Actuary must be knowledgeable of the methods of analysis used, as referred to in VM-20 and VM-21. This section cites conformance with Actuarial Standards of Practice (ASOPs) and methods of analysis that are deemed appropriate for such purposes by the Actuarial Standards Board. The Qualified Actuary should have a strong understanding of modeling techniques, modeling options, and interpretation of results.

1. All non-modeled reserves, such as formulaic and PBR Net Premium Reserve, when applicable.
2. Modeled Reserve required by the Valuation Manual (as knows as Principle-Based Reserve).
    a. Knowledge of models:
        i) Impacts of model simplification
        ii) Interactions between models (such as liability models and asset models)
        iii) Stochastic modeling techniques and tail risk (conditional tail expectations)
        iv) Validation and controls
        v) Governance practices
    b. Knowledge of experience studies and assumption development:
        i) Credibility of data
        ii) Volatility of assumptions/impact on results
    c. Appropriate use of margins or assumption pads
        i) Margins and pads that are determined by the Qualified Actuary
        ii) Valuation Manual prescribed margins and/or assumptions
    d. The discount rate and net asset earned rate (NAER) assumptions for PBR reserve, understanding of assets, asset risks, asset returns, reinvestment assumptions
    e. Appropriate use of sensitivity testing
    f. Knowledge of exclusion tests
3. Expenses
    a. Policy/contract maintenance
    b. Investment
    c. Claims
    d. Commissions
    e. Overhead
    f. Premium Taxes

4. Other items, which may or may not be included in the modeled reserve, but not limited to the following:
   a. Unearned premium reserve
   b. For health products attached to modeled reserves: ALR/contract reserve, unearned premium reserve, DLR/claim reserve, and premium deficiency reserve
   c. Interest maintenance reserve
   d. Asset valuation reserve, if included in the model
5. Assets being held to support the reserves being modeled
   a. Types of assets may include, but also may not be limited to:
      i) Cash
      ii) Bonds
      iii) Asset backed securities
      iv) Equities
      v) Real estate
      vi) Mortgages
      vii) Policy loans
      viii) Derivative instruments and derivative features
      ix) Any other assets included in the PBR model
   b. Contract investment funds
   c. Asset Models and Assumptions related to the asset, risks present in individual assets or types of assets, and return assumptions related to assets
      i) Default costs
      ii) Spreads
      iii) Swap details and spreads
      iv) Call, put, prepayment, extension and other similar risks
      v) Volatility
      vi) Other assumptions, which may include, but not be limited to, structure, sector, market, payment in kind options, etc.
   d. Reinvestment and divestment assumptions, including the availability of assets in the future for purchase as reinvestment assets, as well as the risks related to the timing of future reinvestments and divestments
      i) Purchase and sale/borrowing options
      ii) Differences between company portfolio strategy and VM alternatives
   e. How the starting assets and reinvestment strategy impact NAER and discount rates
   f. Hedging processes and impact on interest credits, risk management, portfolio selection, etc.
6. Policyholder/contract holder behavior
   a. Premium Payments
   b. Withdrawals (full or partial)
   c. Lapses

   d. Policy Loans
   e. Changes to faces amount
   f. Fund transfers
   g. Annuitization/benefit payments
7. Reinsurance (see Section E for more specifics related to reinsurance)
   a. Impact on cash flows, including timing differences between entities
   b. Assets associated with these agreements
   c. Recapture
   d. Rate increase
   e. Collectability of Claims
8. Explanation of results
   a. Impact of margins
   b. Impact of assumption changes
   c. Impact of changes to starting assets, portfolio strategy and hedging procedures
   d. Impact of changes to inforce
   e. Impact of management actions during the year
   f. Impact of switching between the reported reserve (SPA/CTE70 or NPR/DR/SR)

E. Reinsurance

The Qualified Actuary must be able to assess the effect of reinsurance on the reserves for which the Qualified Actuary is opining, along with the associated risks and uncertainties. The Qualified Actuary must understand the functions and types of reinsurance, relevant contract features, risk transfer principles, and reinsurance accounting, recognition and collectability issues. The Qualified Actuary must understand basic reinsurance terminology (e.g., limits, retentions/attachment points, quota share, excess of loss, non-proportional, experience refund, allowances, clauses, reinstatements, co-insurance, commissions). The Qualified Actuary must also understand:

1. The function and types of reinsurance.
   a. YRT (guaranteed or not)
      i) Quota share
      ii) Attachment point
      iii) Excess
   b. Coinsurance.
      i) Indemnity coverage
      ii) Assumption
      iii) Mod-Co
      iv) Funds withheld
2. Reinsurance treaty provisions.
   a. Overall interpretation of how the treaty functions.

   b. Determination of the treatment of loss adjustment expenses (LAE) (e.g., within limits, in addition to limits, shared pro rata).
   c. Commutations and novations including definition, motivations of parties, accounting treatment, impact (or not) on policyholders.
3. Impact on financial statements from contract qualification criteria for prospective or retroactive reinsurance accounting treatment or deposit accounting treatment.
4. Reinsurance risk transfer testing.
5. Assessing collectability (e.g., sources, rating agencies, letters of credit, news items, amounts in dispute or overdue).
6. The impact of authorized, unauthorized, certified reinsurance on collateral and collectability.
7. Differences between reinsurance and primary reserving procedures (e.g., adapting methods for available data, type of reinsurance, terms).
8. Factors considered in the evaluation of the applicability of a reinsurance program to an unpaid claim estimate.
9. Possible parameter differences for direct, assumed, gross, ceded and net data (e.g., loss development factors and initial expected loss ratios).
10. Treatment of assets and reserves on the financial statements. For example, mod-co reserves and assets are held by the cedant; FWH assets, even in a trust, are owned by the cedant; plain-vanilla coinsurance agreements have both parties holding separately calculated assets and liabilities.
11. Consideration of the treatment of reinsurance by reinsurers outside of US jurisdiction.

F. Other Considerations

The Qualified Actuary must understand the treatment of reserve changes related to basis, method and assumption changes, and whether they flow through income or surplus, when and how.

G. Professionalism and Business Skills

The Qualified Actuary must have professional and business skills to enable the Qualified Actuary to perform the required actuarial services in an ethical manner that upholds the reputation of the actuarial profession. The Qualified Actuary must know and adhere to the Code of Professional Conduct, as well as relevant ASOPs and must meet the USQS. The Qualified Actuary must have the professional and business skills to manage the tasks, make informed decisions, communicate effectively with users of the actuary's work products, resolve disagreements, and seek guidance as necessary.

1. Code of Conduct: Familiarity with the Code of Conduct and its application in professional scenarios.
2. USQS: Profound understanding of the USQS.
3. ASOPs and Applicability: Mastery of applicable ASOPs and guidelines for their application. The actuary should refer to the Academy's Applicability Guidelines for help in determining applicable ASOPs.
4. The importance of documentation of work as discussed in many ASOPs and as required by the Laws and Regulations applicable to the SAO.

Familiarity with the relevant Practice Notes from the Academy is also a valuable component of professionalism.

