LIFE ACTUARIAL (A) TASK FORCE

Society of Actuaries Research and Education Presentation (Attachment Twenty-Nine)
Update from the American Academy of Actuaries (Academy) Life Practice Council (Attachment Thirty)
Academy Knowledge Statements Presentation (Attachment Thirty-One)
American Council on Gift Annuities Presentation (Attachment Thirty-Two)

Life Actuarial (A) Task Force
Denver, Colorado
November 15–16, 2024

The Life Actuarial (A) Task Force met in Denver, CO, Nov. 15–16, 2024. The following Task Force members participated: Cassie Brown, Chair, represented by Rachel Hemphill (TX); Scott A. White, Vice Chair, represented by Craig Chupp (VA); Lori K. Wing-Heier represented by Sharon Comstock (AK); Mark Fowler represented by Sanjeev Chaudhuri (AL); Ricardo Lara represented by Ahmad Kamil and Thomas Reedy (CA); Andrew N. Mais represented by Wanchin Chou (CT); Doug Ommen represented by Mike Yanacheak and Kevin Clark (IA); Ann Gillespie represented by Vincent Tsang and Matt Cheung (IL); Holly W. Lambert represented by Scott Shover (IN); Vicki Schmidt represented by Nicole Boyd (KS); Robert L. Carey represented by Marti Hooper (ME); Grace Arnold represented by Fred Andersen and Ben Slutsker (MN); Chlora Lindley-Myers represented by William Leung and John Rehagen (MO); Eric Dunning represented by Margaret Garrison (NE); D.J. Bettencourt represented by Jennifer Li (NH); Justin Zimmerman represented by Seong-min Eom and David Wolf (NJ); Adrienne A. Harris represented by Bill Carmello (NY); Judith L. French represented by Peter Weber (OH); Glen Mulready represented by Andrew Schallhorn (OK); Michael Humphreys represented by Steve Boston (PA); and Jon Pike represented by Tomasz Serbinowski (UT). Also participating was David Hippen (WA).

1. <u>Adopted its Oct. 24, Oct. 10, Oct. 9, Sept. 12, Sept. 5, and Aug. 29 Minutes and the Reports of the IUL Illustration (A) Subgroup, the Experience Reporting (A) Subgroup, the Variable Annuities Capital and Reserve (E/A) Subgroup, and the Longevity Risk (E/A) Subgroup</u>

The Task Force met Oct. 24, Oct. 10, Oct. 9, Sept. 12, Sept. 5, and Aug 29. During these meetings, the Task Force took the following action: 1) adopted the 2024 Valuation Manual (VM)-20, Requirements for Principle-Based Reserves for Life Products, historical mortality improvement (HMI) and future mortality improvement (FMI) recommendation; 2) adopted its Summer National Meeting minutes; 3) adopted the 2025 Generally Recognized Expense Tables (GRET) recommendation; 4) adopted amendment proposal form (APF) 2024-11, which revises the life principle-based reserve (PBR) exemption to account for updates to the blanks; 5) exposed APF 2024-13, which would clarify the treatment of negative interest maintenance reserves (IMRs); 6) exposed APF 2024-14, which would require additional reporting for surrender charge waivers for variable annuities; 7) discussed the asset adequacy testing (AAT) for reinsurance actuarial guideline (AG ReAAT) draft; and 8) adopted its 2025 proposed charges.

The Task Force reviewed the reports of the Indexed Universal Life (IUL) Illustration (A) Subgroup, the Variable Annuities Capital and Reserve (E/A) Subgroup, the Experience Reporting (A) Subgroup and the Longevity Risk (E/A) Subgroup. Mary Bahna-Nolan (Society of Actuaries—SOA) provided an experience reporting update, noting that the SOA's Mortality Oversight Group (MOG) would be working on the development of a new Valuation Basic Table (VBT). Bahna-Nolan said that the group would work with the Experience Reporting (A) Subgroup to get input from regulators during the development of the new VBT. She also mentioned that the MOG would be restarting efforts to enhance the VM-51, Experience Reporting Formats, to better capture the impact of different underwriting practices including accelerated underwriting (AU).

Chupp noted some editorial corrections that needed to be made to the Oct. 24 and Sept. 5 meeting minutes.

Chupp made a motion, seconded by Yanacheak, to adopt the Task Force's Oct. 24 (Attachment One), Oct. 10 (Attachment Two), Oct. 9 (Attachment Three), Sept. 12 (Attachment Four), Sept. 5 (Attachment Five), and Aug. 29 minutes (Attachment Six) with the corrections noted by Chupp and the reports of the IUL Illustration (A) Subgroup (Attachment Seven), the Variable Annuities Capital and Reserve (E/A) Subgroup (Attachment Eight) and its Oct.

18 minutes (Attachment Nine), the Experience Reporting (A) Subgroup (Attachment Ten), and the Longevity Risk (E/A) Subgroup (Attachment Eleven). The motion passed unanimously.

2. Adopted the Report of the VM-22 (A) Subgroup and Heard a Presentation on VM-22 Model Office Testing Results

Slutsker walked through the report of the VM-22 (A) Subgroup. The Subgroup met Nov. 6, Oct. 23, and Oct. 9. During these meetings, the Subgroup took the following action: 1) exposed longevity reinsurance reserve flooring methodologies for a 32-day public comment period ending Dec. 9; 2) discussed comments received on the VM-22 standard projection amount (SPA) draft exposure; 3) discussed questions received from companies during the VM-22 field test; 4) adopted a proposal to exclude preneed annuities from the scope of VM-22; and 5) made edits to the VM-22 draft based on Subgroup discussions.

Slutsker made a motion, seconded by Reedy, to adopt the report of the VM-22 (A) Subgroup (Attachment Twelve), including its Nov. 6 (Attachment Thirteen), Oct. 23 (Attachment Fourteen), and Oct. 9 (Attachment Fifteen) minutes. The motion passed unanimously.

Steve Jackson (American Academy of Actuaries—Academy), Chris Conrad (Academy), Angela McShane (Ernst & Young—EY) and Sean Abate (EY) delivered a presentation (Attachment Sixteen) on VM-22 model office testing results. Slutsker asked if it was fair to say that most of the difference between the Commissioner's Annuity Reserve Valuation Method (CARVM) and the VM-22 model office results for fixed deferred annuities with guaranteed lifetime withdrawal benefits (FDAs with GLWBs) was driven by the change in the policyholder behavior efficiency assumption. Abate confirmed that the change in the policyholder efficiency assumption was the major driver. Slutsker then asked what the largest driver of differences was for the single-premium immediate annuity (SPIA) model office results between the two methodologies. Abate replied that the SPIA model offices representative portfolio of long duration assets was the main driver of the change in results and noted that companies with other asset profiles could experience different impacts.

Connie Tang (Retired), noting that SPA results in the model office were higher than the stochastic reserve (SR) for some products, asked if the larger SPA results were due to SPA assumptions that were a work in progress or assumptions for the SR in the model office that needed more refinement. Abate stated that it was likely a bit of both, noting that: 1) the model office assumptions were less developed than what some companies might use, and 2) some companies had noted large deviations between their assumptions and those used in the SPA. Hemphill also asked Abate if the SPA results could be broken out into the unbuffered SPA and the buffer amount, to which he agreed.

Regarding the stochastic exclusion ratio test (SERT) scenarios and the limited results variation between the alternative mortality factors, Hemphill asked if Abate had any suggestions for alternative SERT sensitivity designs. Abate responded that perhaps a sensitivity involving lapses would be more impactful. Weber inquired why the VM-22 SERT had additional mortality assumption sensitivities compared to the VM-20 SERT, which only included varying economic scenarios. Hemphill noted that VM-20 has a deterministic reserve, whereas VM-22 does not. Slutsker added that mortality was added instead of policyholder behavior in order to ensure that companies were developing reasonable mortality assumptions rather than simply relying on a prescribed mortality table.

3. Adopted the Report of the GOES (E/A) Subgroup and Heard an Update on the GOES Field Test

Yanacheak and O'Neal walked through a presentation (Attachment Seventeen) providing an update on the Generator of Economic Scenarios (GOES) (E/A) Subgroup. The Subgroup met Oct. 16, Oct. 9, Oct. 2, and Sept. 25. During these meetings, the Subgroup took the following action: 1) exposed the GOES model governance framework for a 58-day public comment period ending Nov. 22; 2) discussed GOES field test participant feedback;

and 3) exposed questions on VM-20 SERT scenarios, the VM-20 deterministic reserve (DR) scenario, and scenario statistics for a 30-day public comment period ending Nov. 14.

After Yanacheak concluded the presentation with next steps for the Subgroup, Eom suggested that the model governance program should be developed and adopted by the time the changes to the VM are adopted mid-2025. Brian Bayerle (American Council of Life Insurers—ACLI) said that although the changes to the life risk-based capital (RBC) blanks were due later than the VM amendments, it would be beneficial for companies to see the changes in conjunction with those being worked on for the VM.

Yanacheak made a motion, seconded by Slutsker, to adopt the report of the GOES (E/A) Subgroup, including its Oct. 16 (Attachment Eighteen), Oct. 9 (Attachment Nineteen), Oct. 2 (Attachment Twenty) and Sept. 25 (Attachment Twenty-One) minutes. The motion passed unanimously.

4. Discussed GOES Equity Calibration and Interest Rate Flooring Options

Bayerle delivered a presentation (Attachment Twenty-Two) on the ACLI's alternative GOES equity calibration proposal. Yanacheak, noting that the current GOES equity calibration was likely more conservative than the ACLI's proposal, asked what the best approach would be to determining the model to use going forward. Bayerle noted that the ACLI's proposal was developed using a "history-plus" lens framework where worse scenarios than what has occurred in history would be reflected. Hemphill said that it makes sense to consider how the Academy developed the acceptance criteria using the average of multiple reasonably calibrated reference models. Hemphill noted that in her review of the acceptance criteria, she found that the reference model average in the lower tail was often heavily influenced by an outlier reference model result that was much less conservative than the corresponding results of the other reference models; Hemphill noted that often in the lower tail three of the four reference models were all comfortably below the average. Therefore, Hemphill concluded that she had a concern that risk could be understated by simply hitting the average target or sometimes exceeding the average target, as the ACLI calibration does. Bayerle noted challenges with governance in determining when a scenario set was valid without either closely hitting a target or establishing ranges around which a model result is acceptable. Hal Pedersen (Academy) noted that from the Academy's perspective, the equity acceptance criteria were meant to be hit closely.

Daniel Finn (Conning) then walked through a presentation (Attachment Twenty-Three) on Conning's review of the ACLI's proposed equity calibration. Bayerle asked Finn how the recalibration process would work going forward if Conning's recommended equity model was chosen for adoption. Finn said the approach had similarities to what the ACLI outlined in its calibration approach but also included certain proprietary elements that would not be fully disclosed.

Bayerle then delivered a presentation (Attachment Twenty-Four) on the ACLI's proposed dynamic generalized fractional floor (DGFF) interest rate flooring methodology. Slutsker said that the ACLI's proposed DGFF would severely limit the reflection of negative interest rates and that he supported a steady state one-year UST negative rate frequency of at least 5% in the scenarios, given the international experience and an aging population in the US. Hemphill also noted that she would support higher negative UST rate frequencies than what was included in the ACLI's presentation. Pedersen noted that the Academy is not generally supportive of the DGFF given the tradeoffs with overriding a greater proportion of the scenarios.

5. Heard a Presentation on VM-20 HMI and FMI

Marianne Purshotham (SOA) delivered a presentation (Attachment Twenty-Five) on an updated methodology to develop the VM-20 HMI and FMI factors. Reedy asked if there were any concerns with not being able to distinguish term conversion business. Purushotham replied that the SOA is currently working on a mortality and lapse

experience study that may be able to help inform the HMI and FMI analysis. Noting that the SOA had utilized a predictive model to analyze the HMI and FMI under a variety of factors, Chou asked why the final assumption was only split by gender. Purushotham responded that the analysis under different factors was useful in determining that further breakdowns of the assumption into other categories were not needed.

Hemphill noted a divergence between the overall population and insured population mortality improvement at older ages and asked how Purushotham became comfortable with including positive mortality improvement in the older ages when the insurer experience showed deterioration. Purushotham said that the deterioration seen in the older ages surprised the SOA's Mortality Improvement Life Working Group (MILWG), and that they would be working with NAIC staff to perform model office testing of the potential impact on the mortality improvement assumptions in the older ages to guide its thinking on the development of the assumptions. Chou asked about the source of the decline in the overall population mortality improvement experience seen approximately in ages 50 to 70. Purushotham stated that the MILWG has not been able to pinpoint the exact cause but noted that the decline was not present in the insured data and speculated that it could be due to early retirees not having access to healthcare ahead of access to Medicare at age 65. Chupp asked what the plan was to utilize data after 2019 to better assess the impact of COVID-19 on the mortality improvement in the insured population. Purushotham said that the MILWG relied on the receipt of insured population mortality experience from the NAIC which had provided data up to 2019 thus far. However, Purushotham noted that the MILWG would also consider additional recent data sources to provide more information on the impact of COVID-19.

6. Re-Exposed APF 2024-13

Chupp made a motion, seconded by Chou, to expose APF 2024-13 for a 14-day public comment period ending Dec. 2. The motion passed unanimously.

7. Adopted APF 2024-14

Hemphill reintroduced APF 2024-14, noting that the amendment would add a reporting requirement for companies to provide documentation of circumstances when they would waive policyholder surrender charges, the historical frequency of any waived surrender charges, and how the waived surrender charges were reflected in their valuation. Colin Masterson (ACLI) spoke to the ACLI's comment letter, noting concerns with data availability and the additional reporting effort required for an amount that could be immaterial. Donna Claire (Claire Thinking Inc.) said that another more common practice at insurance companies was to waive surrender charges on required minimum distributions. Hemphill noted that the analysis of company historical data to illustrate the materiality of waived surrender charges could be performed and then it could perhaps be a period of years before the analysis would need to be refreshed. Slutsker suggested noting that in the minutes that if there are challenges with getting data on the surrender charge waivers, to work with the domestic regulator to determine a reasonable alternative. Hemphill agreed and noted that potential revisions to the language could occur later after state insurance regulators receive some initial information on surrender charge waivers.

Slutsker made a motion, seconded by Reedy, to adopt APF 2024-14 (Attachment Twenty-Six) and note in the minutes the flexibility in meeting these requirements. The motion passed unanimously.

8. Exposed APF 2024-15

Weber introduced APF 2024-15 to correct a mistake, which was introduced with the adoption of APF 2024-07 that unintentionally changed the industry mortality table used in the VM-21, Requirements for Principle-Based Reserves for Variable Annuities, SPA from a ceiling to a floor for variable annuities with guaranteed living benefits.

Weber made a motion, seconded by Chupp, to expose APF 2024-15 for a 21-day public comment period ending Dec. 9. The motion passed unanimously.

9. <u>Discussed a Universal Life Nonforfeiture Product Filing Issue</u>

Katie Campbell (Interstate Insurance Product Regulation Commission—Compact) requested guidance from the Task Force on nonforfeiture issues that had come up at the Compact's Product Standards Committee regarding universal life (UL) products. Campbell noted that UL products evolved with many features that were not addressed by the requirements in the *Universal Life Insurance Model Regulation* (Model #585), including multipliers, bonuses, and early cash value features. Campbell said that the two most pressing UL nonforfeiture issues are: 1) for a UL product with multiple account values with differing interest and/or expense guarantees, should the guarantees for each account be tested for compliance; and 2) what interest rate should be used to determine the expense allowance. Regarding the second issue, Campbell stated that as minimum guaranteed interest rates had declined in recent years, so had the rate used to determine the expense allowance.

Regarding the first issue, Weber stated that testing of both accounts should be done so that you can determine the constraining minimum guarantee. Naomi Kloeppersmith (Compact) said that type of testing at issue would be challenging to determine what would always be the constraining minimum guarantee path. Hemphill said that the guidance to the Compact would be to test the guarantee for each account associated with the policy. Carmello asked whether the Task Force needed to consider whether an actuarial guideline or other formal feedback was needed to resolve the Compact's issue. Hemphill said that the Task Force could provide informal guidance today and consider whether more formal guidance would need to be delivered later. Hemphill also stated that more work would need to be done on the second issue before any guidance from the Task Force could be determined.

10. <u>Heard an Update on the SOA's Education Redesign</u>

Doug Norris (SOA) provided an update on SOA's changes to its fellowship pathway. Norris noted that the current structure that locks Fellowship candidates into distinct educational tracks would be changed so that candidates could have more flexibility to choose different coursework as suited to their needs. In addition, Norris said that the SOA proposed requiring three specific Fellowship courses plus earning a life regulatory certificate to meet the education requirements to sign NAIC annual statements.

11. <u>Heard an Update on AG 53 Reporting</u>

Andersen walked through a presentation (Attachment Twenty-Seven) that provided an update on state insurance regulators' reviews of Actuarial Guideline LIII—Application of the Valuation Manual for Testing the Adequacy of Life Insurer Reserves (AG 53) filings.

12. <u>Discussed the AAT for Reinsurance Actuarial Guideline Draft</u>

Andersen delivered a presentation (Attachment Twenty-Eight) that highlighted key issues in developing the AG ReAAT draft. Andersen proposed that drafting efforts on the AG ReAAT be focused first on affiliated reinsurance transactions due to concerns with lack of data for non-affiliated treaties. Noting that sometimes there can be gray areas in determining affiliated versus non-affiliated treaty status, Andersen also suggested that any treaty falling into the gray area be treated as affiliated for purposes of the AG ReAAT. No Task Force members objected to this approach.

On the topic of aggregation, Bayerle commented the ACLI would support allowing aggregation up to the individual counterparty level at a minimum. Hemphill noted a concern with allowing too much aggregation and a desire for

consistency with the reserving categories present in principle-based reserving. Yanacheak agreed and stated that if aggregation across reserving categories were allowed it would incentivize more affiliated offshore reinsurance. Bayerle said that the less aggregation that was allowed, the further away from the spirit of cashflow testing. Andersen noted that historically AAT has been applied as an additional guardrail for business that has already been reserved for under a conservative methodology. He continued that some of the concerning treaties may not have reserves with this level of conservatism behind them, making the AAT all the more important to determining adequacy. Slutsker suggested evaluating current treaties to see how different lines of business were being aggregated to inform the development of the AG ReAAT.

Regarding the choice of whether to go with a rules-based or disclosure-based approach, Yanacheak said that moving forward with a disclosures-based approach for AG ReAAT would make progress, whereas the rules-based approach may not work. Hemphill agreed but noted that known concerns could also potentially be addressed. Eom noted a desire to have companies post additional reserves where deficiencies are revealed through AAT. Reedy supported a disclosure-based approach but noted that states should have the authority to require companies to hold additional reserves with or without the adoption of the AG ReAAT. Clark supported the disclosure-based approach, noting that there are likely to be complications in assessing the practices of other jurisdictions and their comparability and other unforeseen challenges that make a disclosure-based approach more appropriate starting out. Andersen noted a consensus seemed to be forming with the disclosure-based approach. Bayerle noted that the ACLI supported the disclosure-based approach to promote an increased understanding of the underlying issues. Patricia Matson (Risk & Regulatory Consulting—RRC) said that there could be a rush of companies trying to enter into reinsurance agreements ahead of potential prescriptive requirements and that the language in the AG ReAAT should account for that.

13. Heard an Update from SOA Research and Education

Dale Hall (SOA) presented the SOA Research Institute's update (Attachment Twenty-Nine). Discussing the SOA's dashboard for life insurance mortality experience, Tsang noted a correlation between face amounts and actual-to-expected ratios and inquired about the presence of additional underlying factors. Hall confirmed the existence of other factors, such as socioeconomic status, and highlighted that the dashboard is interactive, allowing for the study of these impacts.

14. Heard an Update from the Academy Council on Professionalism and Education

Darrel Knapp (Academy), Kevin Dyke (Actuarial Standards Board—ASB), and Shawna Ackerman (Actuarial Board for Counseling and Discipline—ABCD) jointly presented an update from the Academy Council on Professionalism and Education (COPE). Knapp discussed the Academy's Committee on Qualifications (COQ) and the US Qualification Standards (USQS), which outline the qualifications required for issuing a statement of actuarial opinion. He noted that the COQ is closely monitoring draft proposals for potential changes to the education and underlying US actuarial credentials in relation to the USQS. The COQ will provide appropriate qualifications guidance.

Dyke highlighted recent work on Actuarial Standards of Practice (ASOPs), including the adoption of updates to ASOP 24, which pertains to compliance with the *Life Insurance Illustrations Model Regulation* (Model #582). He also mentioned a new exposure draft on pricing reinsurance or similar risk transfer transactions involving life insurance, annuities, or long-duration health benefit plans, which closed on Nov. 1 and received 12 comment letters. The ASB will review these comments and present any revisions to the exposure draft in 2025. Additionally, the ASB has approved a second exposure draft for ASOP 41 on external communications and is expected to release a new enterprise risk management standard that would consolidate ASOP 46 and 47. Ackerman emphasized the outreach efforts of the ABCD, and the professionalism webinars conducted by its members.

15. Heard an Update from the Academy Life Practice Council

Amanda Barry-Moilanen (Academy) delivered a presentation (Attachment Thirty) on the activities of the Academy's Life Practice Council.

16. Exposed Academy Life Knowledge Statements for Appointed Actuaries and Qualified Actuaries

Linda Lankowski (Academy), Patricia Matson (Academy), and Knapp presented on the Academy's work regarding life knowledge statements (Attachment Thirty-One).

Hemphill exposed the Appointed Actuary and Qualified Actuary knowledge statements for a 51-day public comment period ending Jan. 8, 2025.

17. Heard a Presentation on Charitable Gift Annuities

Phil Purcell (American Council of Gift Annuities—ACGA), David Ely (ACGA), and Shane Leib (ACGA) delivered a presentation (Attachment Thirty-Two) on ACGA's role in the gift annuity space.

Yanacheak inquired about the credibility of the 50,000 contracts under study and their size relative to the annuity market. Ely noted that it is challenging to determine due to non-standard state regulations affecting gift annuity (GA) reporting. Yanacheak further asked how the GA experience study results compare to mortality tables specific to annuity valuation. Leib responded that the results closely align with the 2012 Individual Annuity Reserving (IAR) tables, with the study showing that the mortality experience is, on average, about 110% of the 2012 IAR. Tang asked if GAs allow for joint survivorship. Leib explained that ACGA produces rates for both individuals and joint gift annuities. Leung asked if ACGA requires insurance companies to price according to its assumptions. Ely responded that the ACGA suggests gift annuity payout rates to charities nationwide, but donors and charities have the option not to use ACGA rates. Carmello mentioned that in this context, the charity acts as the insurance company, and some have recently started reinsuring their books of business with insurance companies to mitigate concentration risk.

18. Disclosed Regulator only Session

Hemphill disclosed that the Task Force met on Oct. 31 in regulator-to-regulator session jointly with the Health Actuarial (B) Task Force pursuant to paragraph 6 (consultations with NAIC staff members) of the NAIC Policy Statement on Open Meetings. The Task Forces heard a confidential update regarding changes to the SOA fellowship pathway.

19. Exposed Considerations for Reinsurance Asset Adequacy Testing

Andersen discussed a series of questions and considerations on the AG ReAAT that could help inform its development. Andersen made a motion, seconded by Chou, to expose the AG ReAAT considerations for a 58-day public comment period ending Jan. 15, 2025. The motion passed unanimously.

Having no further business, the Life Actuarial (A) Task Force adjourned.

SharePoint/NAIC Support Staff Hub/Committees/Member Meetings/A CMTE/LATF/2024-3 Fall/National Meeting/Minutes Packet/LATF Fall National Meeting Minutes.docx

Draft: 11/6/24

Life Actuarial (A) Task Force
Virtual Meeting
October 24, 2024

The Life Actuarial (A) Task Force met Oct. 24, 2024. The following Task Force members participated: Cassie Brown, Chair, represented by Rachel Hemphill (TX); Scott A. White, Vice Chair, represented by Craig Chupp (VA); Mark Fowler represented by Sanjeev Chaudhuri (AL); Lori K. Wing-Heier represented by Sharon Comstock (AK); Ricardo Lara represented by Ahmad Kamil and Thomas Reedy (CA); Andrew N. Mais represented by Wanchin Chou (CT); Doug Ommen represented by Mike Yanacheak and Kevin Clark (IA); Ann Gillespie represented by Vincent Tsang (IL); Holly W. Lambert represented by Scott Shover (IN); Vicki Schmidt represented by Nicole Boyd (KS); Robert L. Carey represented by Marti Hooper (ME); Grace Arnold represented by Fred Andersen and Ben Slutsker (MN); Chlora Lindley-Myers represented by William Leung and John Rehagen (MO); Eric Dunning represented by Margaret Garrison (NE); D.J. Bettencourt represented by Jennifer Li (NH); Justin Zimmerman represented by Seong-min Eom and David Wolf (NJ); Adrienne A. Harris represented by Bill Carmello and Amanda Fenwick (NY); Judith L. French represented by Pete Weber (OH); Michael Humphreys represented by Steve Boston (PA); and Jon Pike represented by Tomasz Serbinowski (UT).

1. Received a Summary of its Oct. 17 Meeting

Hemphill said that the Task Force met Oct. 17 in regulator-to-regulator session, pursuant to paragraph 3 (specific companies, entities, or individuals) of the NAIC Policy Statement on Open Meetings, to discuss specific company indexed universal life (IUL) illustrations and universal life nonforfeiture calculations, and that no actions were taken.

2. Continued Discussion on Comments Received on the Scope and Aggregation Sections of the AAT for Reinsurance Actuarial Guideline Draft

Andersen gave a presentation (Attachment One-A) highlighting key decision points related to the scope and aggregation sections of the Asset Adequacy Testing (AAT) for Reinsurance Actuarial Guideline (AG) draft. Regarding the question for whether treaties could be excluded if a report meeting similar standards to *Valuation Manual* (VM)-30, Actuarial Opinion and Memorandum Requirements was filed with a relevant regulator, Yanacheak noted that it was not sufficient to simply file a report. He added that the report needs to be done to high standards. Eom stated that when considering what reports would qualify as similar, that it was important to make sure AAT was performed as part of the testing supporting the report. Hemphill noted that there were potentially two approaches in determining what constituted a similar report: 1) defining "similar" in the AAT for Reinsurance AG; or 2) creating a smaller list of aspects used to make the determination.

Andersen asked for an example of a report that could be considered similar to VM-30. Jeff Mulholland (Insurance Capital Markets Holdings) said that rating agencies require reporting that would meet many if not all of the VM-30 requirements. Jeremy Trader (Knighthead Annuity & Life Assurance) noted that comparisons of reporting across regulatory and rating agency regimes were available online. Clark said that even if a report is filed, it is not always accessible to the cedant's state insurance regulator. Brian Bayerle (American Council of Life Insurers—ACLI) stated that he supported developing a set of guidelines to define what a report similar to VM-30 could mean. Andsersen said that the next step would be to review reporting that may be considered similar to VM-30 requirements to see how they compare.

Andersen then prompted the next discussion topic on whether treaties could be exempted if the assuming company held full U.S. statutory reserves. Hemphill noted that when referring to "full U.S. statutory reserves," commenters are often talking about formula reserves which may be found to be deficient with AAT. Therefore, Hemphill stated that she would not be comfortable with not requiring AAT at all for treaties where full US statutory reserves are held. Hemphill then suggested AAT could be performed at the onset of the treaty with additional sensitivity testing representing alternative economic environments to give state insurance regulators comfort that the formula reserves held were not deficient. Hemphill concluded by stating that she would be comfortable with exempting treaties where the assuming company holds full U.S. statutory reserves computed under principle-based requirements.

Andersen then asked whether the Task Force would have concerns with exempting treaties where there was no reserve reduction. Leung noted that this type of exemption would mean that all US reinsurers would be exempted because they hold US statutory reserves. Eom asked whether Leung would include captives as a US reinsurer, to which Leung replied that his comments applied to any US reinsurer that held US statutory reserves. Chou said that captives need additional consideration.

Andersen concluded by stating that the Task Force will further discuss a revised version of the AAT for Reinsurance AG at the Fall National Meeting.

Having no further business, the Life Actuarial (A) Task Force adjourned.

SharePoint/NAIC Support Staff Hub/Member Meetings/A CMTE/LATF/2024-3-Fall/LATF Calls/10 24/Oct 24 Minutes.docx

Reinsurance Asset Adequacy Testing scope items

Fred Andersen, FSA, MAAA

10/24/2024

NAIC NATIONAL ASSOCIATION OF INSURANCE COMMISSIONERS

10/24/2024

1

Status of scope topics – progress previously made

- Broad or narrow scope?

    - **Narrow, decided 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**

NAIC NATIONAL ASSOCIATION OF INSURANCE COMMISSIONERS

10/24/2024

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Status of scope topics – attempt initial progress

- Potential considerations re: not performing CFT for large, impactful reinsurance transaction
    - Summary of comments (little or no LATF discussion yet):
        - Actuarial memorandum similar to VM-30 is filed elsewhere
        - Full US stat reserves are held
        - Funds withheld and ModCo impact
- Reasons for focus on reserve adequacy in addition to collectability

"CFT is not needed since an Actuarial Memorandum similar to VM-30 is filed elsewhere"

- Examples of where alternatives are filed:
    - To assuming company's offshore regulator
    - To assuming captive's state regulator
    - To cedant

- Could be required by ceding company's state regulator
    - But perhaps in a different form than contemplated by AG ReAAT

VM-30 Actuarial Memorandum aspects include:

- Asset descriptions
- Assumption documentation
  - "Such that an actuary reviewing the actuarial memorandum could form a conclusion as to the reasonableness of the assumptions"
  - "And (form a conclusion) on whether the assumptions contribute to the conclusion that reserves make provision for 'moderate adverse conditions'"
- Methodology
  - Rationale for degree of rigor in analyzing different blocks of business.
  - Include in the rationale the level of "materiality" that was used in determining how rigorously to analyze different blocks of business.

VM-30 Actuarial Memorandum aspects , cont.:

- Criteria for determining asset adequacy
- Changes from the prior year's analysis
- Summary of results
- Conclusions

VM-30 Actuarial Memorandum aspects, AG 53 additions:

- Consideration of conditions negatively impacting cash flows from complex assets

- Recognition that higher expected gross return assets are, to some extent, associated with higher risk

- Explanation of valuation of complex assets in AAT

- Identification of Projected High Net Yield assets

- Description of and justification of model rigor

- Investment expense expectations

- Documentation of assets and related assumptions in an easy-to-read template

- Other items as described in the AG 53 Guidance Document

NAIC NATIONAL ASSOCIATION OF INSURANCE COMMISSIONERS

10/24/2024

7

What would make a "Similar" Actuarial memorandum sufficient?

- What is meant by "following US standards" or "equivalent to VM-30"?
  - Are most/all aspects from the previous three slides included?

- Scope of assuming company actuarial memorandum:
  - Company wide (same as what onshore assuming company would file with state),
  - Counterparty (ceding company)-specific, or
  - Treaty-specific?
    - Focus on specific risks and safeguards of the individual treaty

- Subject to oversight by states re: assumptions and methods?
  - NY 7 risk-free rate scenarios?
  - Reasonable reflection of risk of high-yield assets
  - Reasonable mortality, policyholder behavior, and other assumptions

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What would make a "Similar" Actuarial memorandum sufficient?

Are there cases where this information would suffice?

"Full US Stat Reserves Are Held"

• **Does that statement make it less important for CFT to be performed?**

• Questions:
  • Are there "hard assets" supporting the full amount?
  • Was initial CFT performed, with sensitivities, to determine whether US Stat reserves are sufficient and would continue to be adequate under a reasonable range of economic scenarios?
    • OR, are US Stat Reserves determined on a PBR basis?
  • Are full US stat reserves only held to support the book value, but an economic value is used to support the market value?
• **Others?**

Focus on reserve adequacy in addition to collectability

- Previously stated:

    - Rating agencies rely on state regulation of reserves

    - Focus on capital & surplus of insurers

        - C&S is overstated if reserves are inadequate

- Reserve adequacy is the foundation of financial strength analysis and ratings

    - Otherwise can't rely on C&S (and related capital ratios) as sign of financial strength

    - Where there are the very common safeguards such as funds withheld, modco, or assets held in trust, the primary argument typically given for collectability relies on an assumption of reserve adequacy

- Collectability risk may be evaluated based on the current economic environment and considering a certain mix of counterparties

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Funds withheld and ModCo impact on CFT scope

- Pros of this argument:

    - <u>All else equal</u>, represents less risk than traditional coinsurance.

- Cons of this argument:

    - Are there admitted assets at least equal to US stat reserves available to pay claims?

    - Is it measured if US stat reserves are inadequate, as is the case when VM-30 testing is performed?

    - Are any other collateral measures outside of available assets, such as comfort trusts, used to support such transactions?

- Consideration: availability of assets to support liabilities upon a situation in which the counterparty faces financial distress

- **Other considerations?**

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Draft: 11/5/24

Life Actuarial (A) Task Force
Virtual Meeting
October 10, 2024

The Life Actuarial (A) Task Force met Oct. 10, 2024. The following Task Force members participated: Cassie Brown, Chair, represented by Rachel Hemphill (TX); Scott A. White, Vice Chair, represented by Craig Chupp (VA); Mark Fowler represented by Sanjeev Chaudhuri (AL); Lori K. Wing-Heier represented by Sharon Comstock (AK); Ricardo Lara represented by Ahmad Kamil and Thomas Reedy (CA); Andrew N. Mais represented by Wanchin Chou (CT); Doug Ommen represented by Mike Yanacheak and Kevin Clark (IA); Ann Gillespie represented by Vincent Tsang (IL); Vicki Schmidt represented by Nicole Boyd (KS); Robert L. Carey represented by Marti Hooper (ME); Grace Arnold represented by Fred Andersen and Ben Slutsker (MN); Chlora Lindley-Myers represented by William Leung and John Rehagen (MO); Justin Zimerman represented by Seong-min Eom and David Wolf (NJ); Adrienne A. Harris represented by Bill Carmello and Amanda Fenwick (NY); Judith L. French represented by Pete Weber (OH); Glen Mulready represented by Andrew Schallhorn (OK); Michael Humphreys represented by Steve Boston (PA); and Jon Pike represented by Tomasz Serbinowski (UT).

1. <u>Discussed Comments Received on the Scope and Aggregation Sections of the AAT for Reinsurance Actuarial Guideline Draft</u>

Jason Kehrberg (American Academy of Actuaries—Academy), Brian Bayerle (American Council of Life Insurers—ACLI), Greg Mitchell (Cayman International Reinsurance Companies Association—CIRCA), Leung, Peter Gould (Retired Annuity Consumer), John Robinson (Retired), Tricia Matson (Risk Regulatory Consulting—RRC), Aaron Ziegler (Representing Self), and Karalee Morell (Reinsurance Association of America—RAA) each spoke to their comment letters on the scope and aggregation sections of the asset adequacy testing (AAT) for Reinsurance Actuarial Guideline (AG) draft (Attachment Two-A).

Andersen asked the Task Force whether they favored a broader scope for the draft actuarial guideline or preferred an approach more focused on the riskiest treaties. Fenwick stated that she would not like disparate treatment for treaties with similar levels of risk. Leung said that specific treaties may be more or less risky depending on the materiality to the ceding company, to which Clark agreed. Wolf noted that a smaller scope for the draft AG would not prohibit a domestic regulator from requesting additional analysis from a company not included in the scope of the actuarial guideline. Tsang said that he was worried about a level playing field for both large and small insurance organizations and would not want to discourage reinsurance agreements between small companies and reinsurers. After the discussion, Andersen requested a straw poll of Task Force members on the question of scope. Task Force members voted in favor of a more risk-focused scope, with Fenwick dissenting in favor of a broader scope.

Andersen then began discussion on the merits of defining the term "asset-intensive reinsurance" within the AAT for Reinsurance AG for use in determining scope. Hemphill supported creating a definition but noted that a given treaty could contain both asset-intensive and non-asset-intensive components. Bayerle suggested that the Appointed Actuary could use judgement of when to perform additional analysis on the component of the treaty that is asset-intensive. Andersen asked the Task Force if there was any objection to proceeding with defining asset-intensive reinsurance to determine the scope of the AAT for Reinsurance AG, to which no Task Force member objected.

Andersen introduced applicability of treaties based on effective date as the next topic for discussion. He noted that he performed an analysis that highlighted the potential need for different treaty effective dates based on

affiliated or non-affiliated status. Andersen continued that his analysis showed that the non-affiliated treaties of interest had effective dates of 2020 and after, while treaties of interest that were effective before 2020 tended more to be affiliated. Chupp asked how the RAA came up with an effective date of 2020, to which Morell replied that the RAA was trying to keep the scope narrow while capturing a large percentage of the treaties of interest to state insurance regulators. Eom suggested using the earlier effective date based on Andersen's analysis, rather than splitting effective date based off affiliated status. Chupp and Chou both noted state specific regulatory practices that should be considered when determining treaties in-scope.

Gould noted concerns with missing risky reinsurance treaties if part of the scope only went back as far as 2020. Andersen noted that his analysis showed that more risky non-affiliated reinsurance treaties were effective on or after 2020, and that the idea behind a refined scope was to focus most on the riskiest reinsurance treaties. After noting there was no serious objection to pursuing a bifurcated approach to determining applicability based on effective date and affiliated status, Andersen said that this approach would be included in a revised AG draft.

Andersen introduced the next topic for discussion, the potential for reliance on reports deemed equivalent to the VM-30, Actuarial Opinion and Memorandum Requirements reports. Andersen said that equivalence could be possible if non-VM-30 reports contained adequate modeling of risks and transparency of assumptions. Hemphill noted the practical challenges of determining what types of reports would be equivalent, to which Eom agreed. Andersen noted that perhaps an anonymized report from a company could be discussed during a future meeting to provide an example of a report that may be able to be considered equivalent. Matson and Bayerle highlighted a potential situation where one could have reporting deemed equivalent but still see a decrease in total reserves held between cedant and reinsurer due to jurisdictional differences. They said that understanding these differences would be important.

Having no further business, the Life Actuarial (A) Task Force adjourned.

SharePoint/NAIC Support Staff Hub/Member Meetings/A CMTE/LATF/2024-3-Fall/LATF Calls/10 10/Oct 10 Minutes.docx

AMERICAN ACADEMY
of ACTUARIES

October 3, 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 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.

Based on LATF's request, the LPC has focused our comments in this letter solely on the Scope and Aggregation sections. However, analyzing individual components of the draft may cause a need to revisit previous discussions before any formal finalization, given the interdependencies

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[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.

of each section within the proposed Actuarial Guideline. Of particular note is the definition of scope and the associated level of newly required analysis, as they are intertwined. For these reasons, this feedback should be considered "directional" in nature.

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 the 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 the 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 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*.

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

3. We support the proposed exemption criteria as laid out in Section 2A. However, we have the following suggestions for improvement:

   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 if 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: (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.

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."
    In instances in which such aggregation still results in policyholder protection concerns, we note that the Standard Valuation Law enables the regulator to require an alternative methodology or alternative assumptions: "The commissioner may require a company to change any assumption or method that in the opinion of the commissioner is necessary in order to comply with the requirements of the valuation manual or this Act; and the company shall adjust the reserves as required by the commissioner."

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.

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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,

Jason Kehrberg, MAAA, FSA
Chairperson, Life Practice Council

ACLI
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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.

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

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[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,

Colin Masterson

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]).

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[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

≋CIRCA

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

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≋CIRCA

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.

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≋CIRCA

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.

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.

P.O. Box 8815   Bloomington, IN 47407-8815

Life Actuarial (A) Task Force
September 19, 2024
Page 2

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 <u>the lesser of</u>: $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

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.

1

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 😊

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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 3, 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 Draft ("the Exposure"). LATF has asked that comments regarding the Scope and Aggregation sections of the Exposure be provided by October 3rd. Originally, comments on the Scope section were due by September 19th, and we submitted a comment letter on September 19th. Since both Scope and Aggregation will be discussed on the October 10th LATF call, we have included in this comment letter our previously submitted comments as well as comments on Aggregation. RRC intends to provide further comments on the full Exposure by the comment deadline.

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.

RRC Comments on Scope Section

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.

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

RRC Comments on Aggregation Section

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.

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.

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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.

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.

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

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;

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

Draft: 10/24/24

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Life Actuarial (A) Task Force
E-Vote
October 9, 2024

</div>

The Life Actuarial (A) Task Force conducted an e-vote that concluded Oct. 9, 2024. The following Task Force members participated: Cassie Brown, Chair, represented by Rachel Hemphill (TX); Scott A. White, Vice Chair, represented by Craig Chupp (VA); Lori K. Wing-Heier represented by Sharon Comstock (AK); Andrew N. Mais represented by Wanchin Chou (CT); Doug Ommen represented by Mike Yanacheak (IA); Ann Gillespie represented by Vincent Tsang (IL); Vicki Schmidt represented by Nicole Boyd (KS); Robert L. Carey represented by Marti Hooper (ME); Grace Arnold represented by Fred Andersen (MN); Chlora Lindley-Myers represented by William Leung (MO); Eric Dunning represented by Margaret Garrison (NE); D.J. Bettencourt represented by Jennifer Li (NH); Justin Zimerman represented by Seong-min Eom (NJ); Adrienne A. Harris represented by Bill Carmello (NY); Judith L. French represented by Peter Weber (OH); Michael Humphreys represented by Steve Boston (PA); and Jon Pike represented by Tomasz Serbinowski (UT).

1. <u>Adopted its 2025 Proposed Charges</u>

The Task Force conducted an e-vote to consider adoption of its 2025 proposed charges. Li made a motion, seconded by Chupp, to adopt the Task Force's 2025 proposed charges (Attachment Three-A). The motion passed unanimously.

Having no further business, the Life Actuarial (A) Task Force adjourned.

SharePoint/NAIC Support Staff Hub/Member Meetings/A CMTE/LATF/2024-3-Fall/LATF Calls/10 09/Oct 09 Minutes.docx

Draft: 9/23/24
Adopted by the Executive (EX) Committee and Plenary, ___ __, ____
Adopted by the Life Insurance and Annuities (A) Committee, ___ __, ____
Adopted by the Life Actuarial (A) Task Force, 10/9/2024

2025 Proposed Charges

LIFE ACTUARIAL (A) TASK FORCE

The mission of the Life Actuarial (A) Task Force is to identify, investigate, and develop solutions to actuarial problems in the life insurance industry.

Ongoing Support of NAIC Programs, Products, or Services

1. The **Life Actuarial (A) Task Force** will:
   A. Work to keep reserve, reporting, and other actuarial-related requirements current. This includes principle-based reserving (PBR) and other requirements in the *Valuation Manual*, actuarial guidelines, and recommendations for appropriate actuarial reporting in blanks. Respond to charges from the Life Insurance and Annuities (A) Committee and referrals from other groups or committees, as appropriate.
   B. Report progress on all work to the Life Insurance and Annuities (A) Committee and provide updates to the Financial Condition (E) Committee on matters related to life insurance company solvency. This work includes the following:
      i. Work with the American Academy of Actuaries (Academy) and the Society of Actuaries (SOA) to develop new mortality tables for valuation and minimum nonforfeiture requirements for life insurance and annuities, as appropriate.
      ii. Provide recommendations for guidance and requirements for accelerated underwriting (AU) and other emerging underwriting practices, as needed.
      iii. Work with the SOA on the annual development of the Generally Recognized Expense Table (GRET) factors.
      iv. Provide recommendations and changes to other reserve and nonforfeiture requirements to address issues as appropriate and provide actuarial assistance and commentary to other NAIC committees relative to their work on actuarial matters.
      v. Work with the selected vendor to develop and implement the new generator of economic scenarios (GOES) for use in regulatory reserve and capital calculations.
      vi. Monitor international developments regarding life and health insurance reserving, capital, and related topics. Compare and benchmark these with PBR requirements.
      vii. Coordinate with the Reinsurance (E) Task Force on actuarial items related to reinsurance.

2. The **Experience Reporting (A) Subgroup** will:
   A. Continue the development of the experience reporting requirements within the *Valuation Manual*. Provide input on the process regarding the experience reporting agent, data collection, and subsequent analysis and use of experience submitted.

3. The **Generator of Economic Scenarios (GOES) (E/A) Subgroup** of the Life Risk-Based Capital (E) Working Group and the Life Actuarial (A) Task Force will:
   A. Monitor that the economic scenario governance framework is being appropriately followed by all relevant stakeholders involved in scenario delivery.
   B. Review material GOES updates, either driven by periodic model maintenance or changes to the economic environment, and provide recommendations.

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LIFE ACTUARIAL (A) TASK FORCE (*continued*)

C. Regularly review key economic conditions and metrics to evaluate the need for off-cycle or significant GOES updates, and maintain a public timeline for GOES updates.
D. Support the implementation of the GOES for use in statutory reserve and capital calculations.
E. Develop and maintain acceptance criteria that reflect history as well as plausibly more extreme scenarios.

4. The **Life and Annuity Illustration (A) Subgroup** will:
   A. Consider changes to *Actuarial Guideline XLIX-A—The Application of the Life Illustrations Model Regulation to Policies with Index-Based Interest to Policies Sold on or After December 14, 2020* (AG 49-A), as needed. Provide recommendations for the consideration of changes to the *Life Insurance Illustrations Model Regulation* (#582) to the Task Force, as needed.
   B. Consider any guidance, actions, or recommendations that may be necessary to regulate annuity illustration practices.

5. The **Longevity Risk (E/A) Subgroup** of the Life Actuarial (A) Task Force and the Life Risk-Based Capital (E) Working Group will:
   A. Provide recommendations for recognizing longevity risk in statutory reserves and/or risk-based capital (RBC), as appropriate.

6. The **Variable Annuities Capital and Reserve (E/A) Subgroup** of the Life Risk-Based Capital (E) Working Group and the Life Actuarial (A) Task Force will:
   A. Monitor the variable annuities (VA) reserve framework and RBC calculation, and determine if revisions need to be made.
   B. Develop and recommend appropriate changes, including those to improve the accuracy and clarity of VA capital and reserve requirements and reporting.

7. The **Valuation Manual (VM)-22 (A) Subgroup** will:
   A. Recommend requirements for non-variable (fixed) annuities in the accumulation and payout phases for consideration by the Task Force, as appropriate. Continue working with the Academy on a PBR methodology for non-variable annuities.

NAIC Support Staff: Scott O'Neal/Jennifer Frasier

SharePoint/NAIC Support Staff Hub/Member Meetings/A CMTE/LATF/2024-3-Fall/2025_Charges/007_LATF.docx

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LIFE ACTUARIAL (A) TASK FORCE (*continued*)¶

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Draft: 10/25/24

Life Actuarial (A) Task Force
Virtual Meeting
September 12, 2024

The Life Actuarial (A) Task Force met Sept. 12, 2024. The following Task Force members participated: Cassie Brown, Chair, represented by Rachel Hemphill (TX); Scott A. White, Vice Chair, represented by Craig Chupp (VA); Mark Fowler represented by Sanjeev Chaudhuri (AL); Lori K. Wing-Heier represented by Sharon Comstock (AK); Ricardo Lara represented by Ahmad Kamil and Thomas Reedy (CA); Andrew N. Mais represented by Wanchin Chou (CT); Doug Ommen represented by Mike Yanacheak (IA); Holly W. Lambert represented by Scott Shover (IN); Vicki Schmidt represented by Nicole Boyd (KS); Grace Arnold represented by Fred Andersen and Ben Slutsker (MN); Chlora Lindley-Myers represented by William Leung and John Rehagen (MO); Eric Dunning represented by Margaret Garrison (NE); D.J. Bettencourt represented by Jennifer Li (NH); Justin Zimerman represented by Seong-min Eom (NJ); Adrienne A. Harris represented by Bill Carmello (NY); Judith L. French represented by Peter Weber (OH); Glen Mulready represented by Andrew Schallhorn (OK); Michael Humphreys represented by Steve Boston (PA); and Jon Pike represented by Tomasz Serbinowski (UT).

1. Heard an Update on AAT for Reinsurance on a Potential Inquiry to Inform Scope Discussions

Andersen provided background on the exposure of the asset adequacy testing (AAT) for reinsurance Actuarial Guideline, noting that distinct comment periods for comments relevant to respective sections had been specified. Regarding the comment period for the scope section, Andersen stated that the comment deadline would be pushed back to Oct. 3 to allow for an inquiry to take place with a series of insurance organizations with large treaties. Andersen said that the inquiry would look for feedback on whether AAT would be necessary for all large treaties or if a subset of large but lower risk treaties would not need testing.

2. Adopted 2024 VM-20 HMI and FMI Rates

Marianne Purushotham (Society of Actuaries—SOA) provided background on the development of the 2024 Valuation Manual (VM)-20, Requirements for Principle-Based Reserves for Life Insurance historical and future mortality improvement (HMI and FMI) rates.

Chupp made a motion, seconded by Reedy, to adopt the 2024 VM-20 HMI and FMI rates (Attachment Four-A). The motion passed unanimously.

3. Adopted its Summer National Meeting Minutes

Chupp noted three editorial issues with the Task Force's Summer National Meeting minutes packet.

Chupp made a motion, seconded by Weber, to adopt the Task Force's Summer National Meeting minutes with his suggested editorial changes (*see NAIC Proceedings – Summer 2024, Life Actuarial (A) Task Force*). The motion passed unanimously.

Having no further business, the Life Actuarial (A) Task Force adjourned.

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Update on Life Insured Mortality Improvement Recommendation

Mortality Improvement Life Working Group
of the SOA Mortality and Longevity Oversight Advisory Council

AUGUST | 2024

Presentation Disclaimer

The material and information contained in this presentation is for general information only.   It does not replace independent professional judgment and should not be used as the basis for making any business, legal or other decisions. The Society of Actuaries assumes no responsibility for the content, accuracy or completeness of the information presented.

Agenda

- Historical Mortality Improvement (HMI) 2024 Recommendation
- Future Mortality Improvement (FMI) 2024 Recommendation
- Next Steps
  - Future update on recommended approach for estimating a life insured population MI basis

HMI 2024

- HMI by attained age and gender
  - General population data - Social Security Administration (SSA)
  - No insured lives adjustment

- HMI unsmoothed scale = average of historical and future components
  - Historical component = 10 years ending in 2022
    - No adjustment made to historical data for COVID impact (moving back to pre COVID standard methodology for 2024)
    - Geometric average – only reflects end points of historical period (2012/2022)
  - Future component = geometric average of SSA Intermediate Projection
    - 20 years – year end 2024-2044

- HMI Smoothed Scale
  - Averaging applied to smooth within age groups
  - 0-20, 30-40, 45-60, 65-84, 90+

2024 HMI Unsmoothed Scale Comparison to Prior Years

Males - Compare HMI Unsmoothed Rates
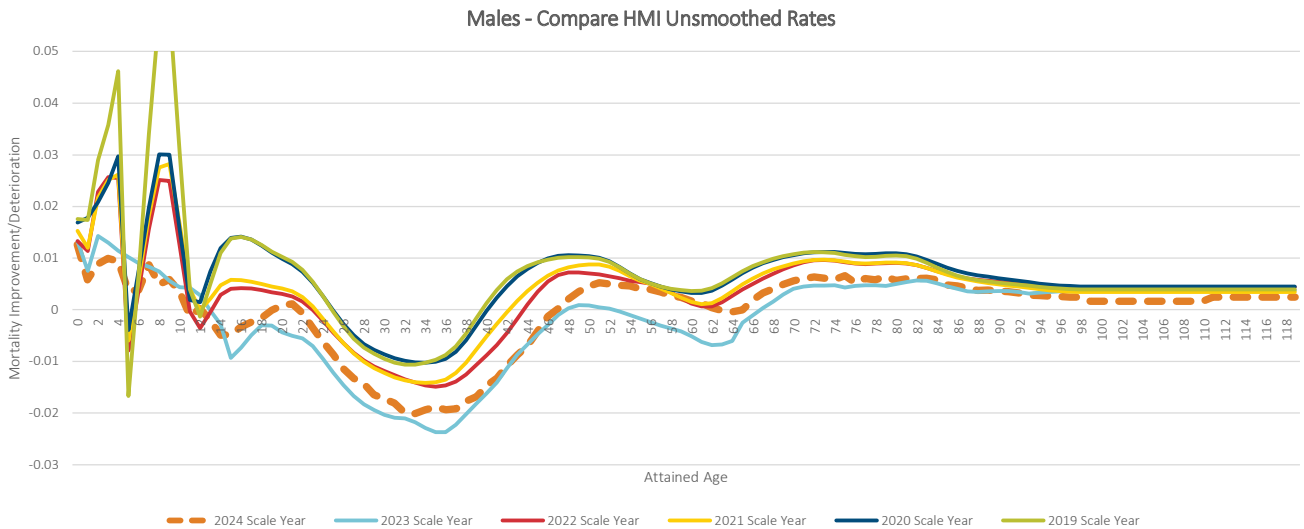
2024 HMI Unsmoothed Scale Comparison to Prior Year Published Scales

Females - Compare HMI Unsmoothed Rates

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2024 HMI Smoothed Scale

Males - HMI Smoothed Rates
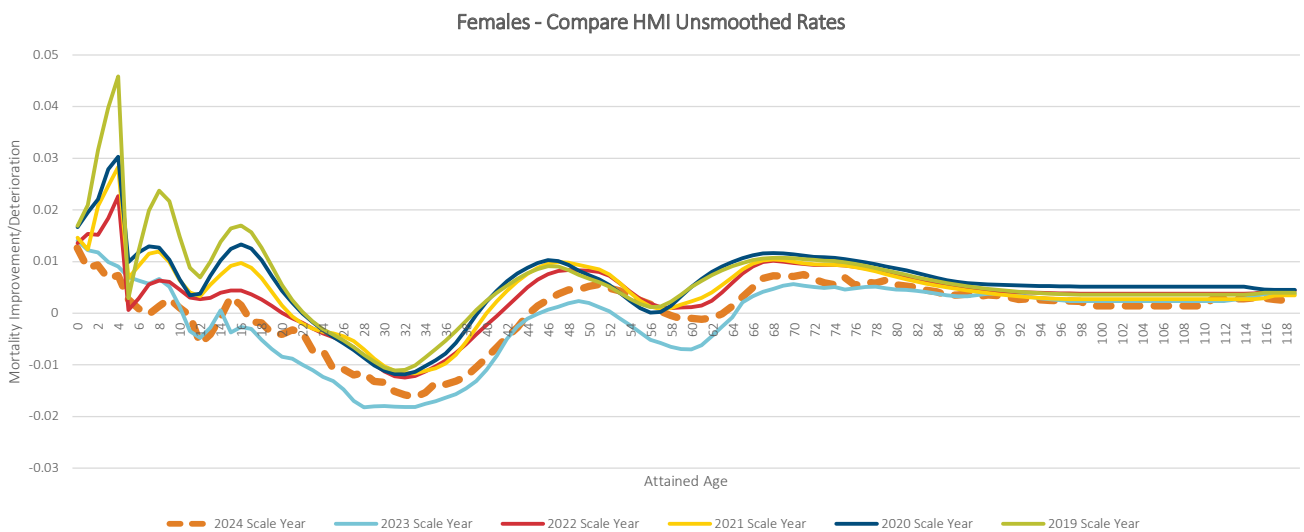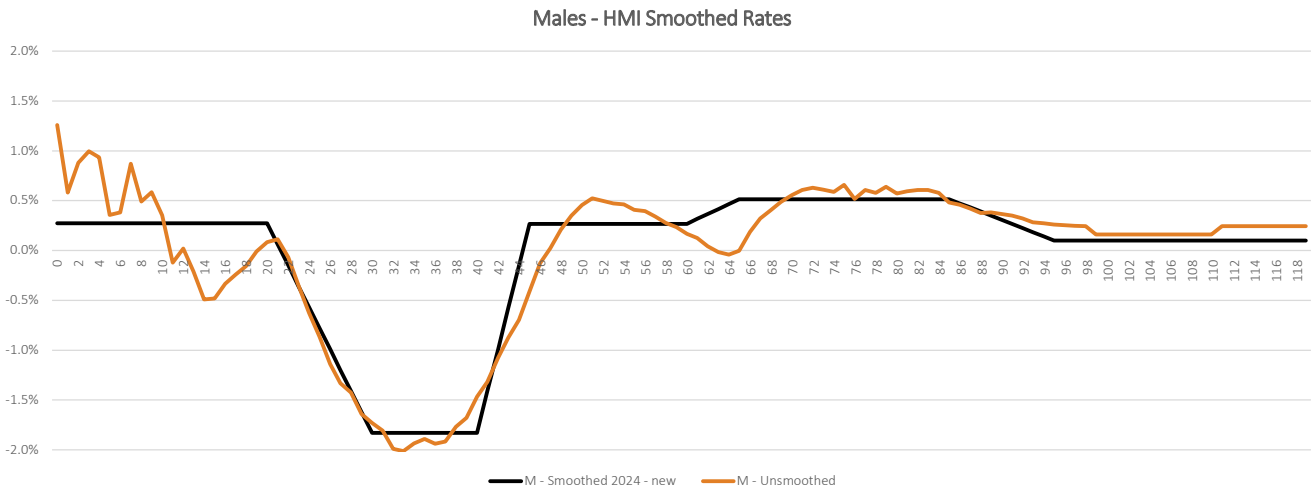
Same age groupings for females and males so there is some constraint in the averaging ranges, accident and opioid impact and dip continues, age 65 dip

2024 HMI Smoothed Scale

Females HMI Smoothed Rates
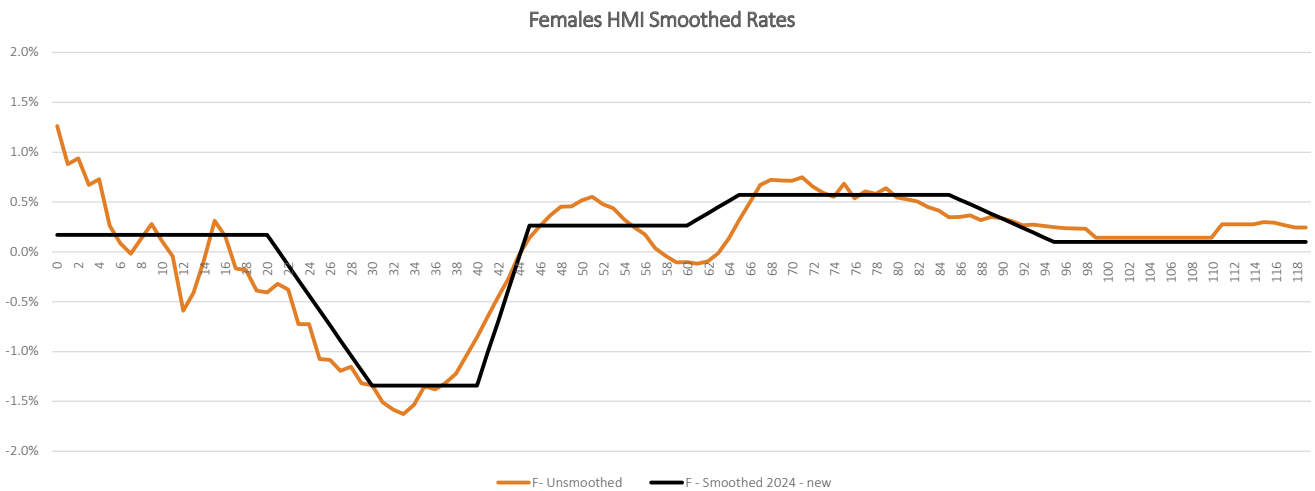
FMI 2024

- FMI by attained age and gender
- 20 years of future improvement (MI rates grade to zero at reserve projection year 20)
- For attained ages where HMI for 2024 is positive – apply standard methodology – example is age 65
- Standard Methodology
  - Grade linearly from 2024 HMI Smoothed Scale to long term mortality improvement rate (LTMIR) over the first 10 reserve projection years
    - LTMIR based on Social Security Administration projected mortality improvement between 10 and 15 years from the valuation year
  - Remain level at LTMIR for next 5 reserve projection years
  - Grade linearly to zero FMI for remaining 5 reserve projection years
  - Margin = reduction in base FMI rates of 25%

2024 FMI Scale with Margin – Age 65
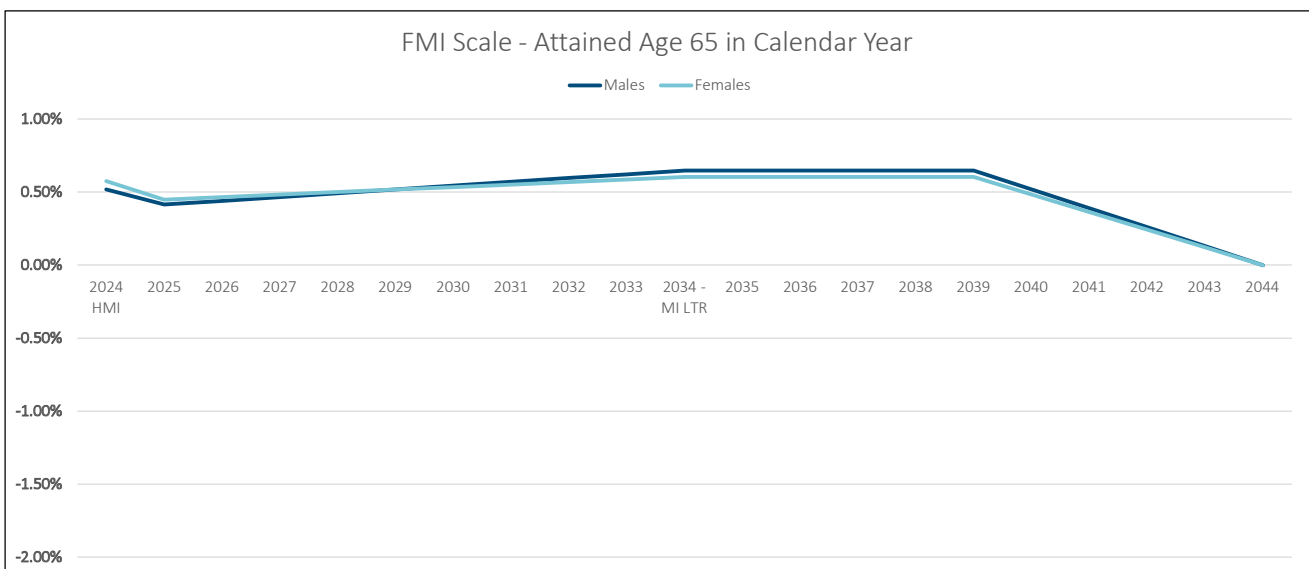
FMI 2024

- For attained ages where HMI for 2024 remains negative (ages 22- 48 for males, 18-44 for females) – apply past methodology of adjusting to positive mortality improvement at LTMIR over time – example is age 35

- For 2024, adjustment to positive mortality improvement used the following approach:
  - Reach zero improvement level at reserve projection year 2026
  - Remain at zero mortality improvement to year 2029
  - Grade to LTMIR at 2034
  - Remain level at LTMIR to 2039
  - Grade linearly to zero improvement at 2044

2024 FMI Scale with Margin – Age 35 – **REVISED 8/19/24**

FMI Scale - Attained Age 35 in Calendar Year
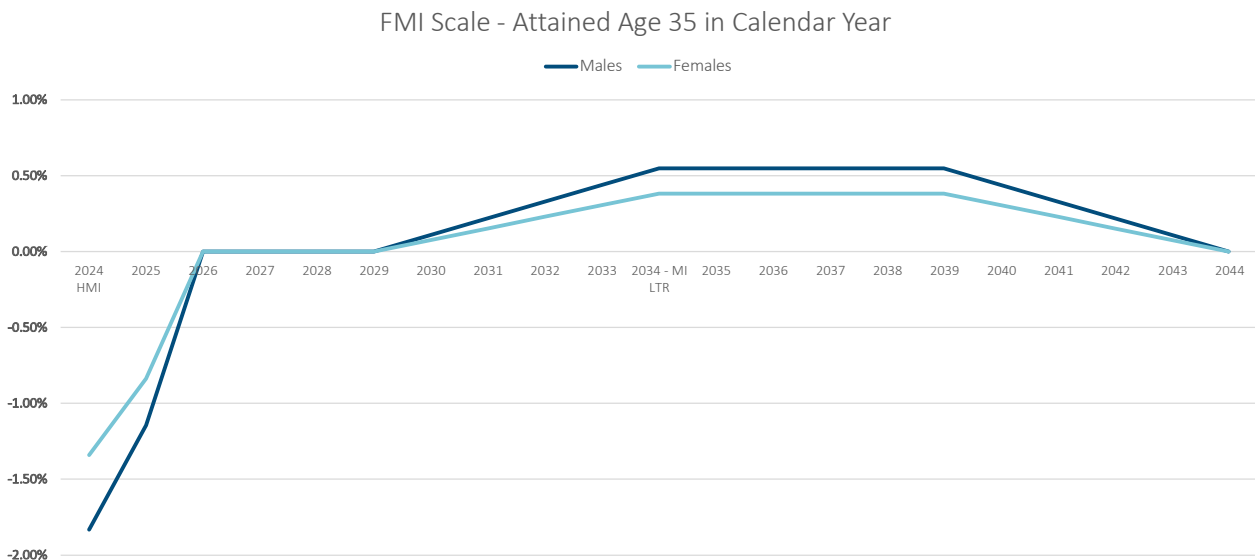
MI Recommendation – Fully Underwritten Business

- Where we started
  - Assumption that there was too much noise in the industry experience data on insured lives to be used to measure insured MI results
  - Reviewed SOA general population socioeconomic decile work
    - Is there a decile that can be used as a proxy for the life insurance population?

- Initial Considerations
  - Is there a new baseline level of MI post-pandemic?
  - Should the impact of COVID be included/excluded? If excluded, method of exclusion?
  - How much do drug/opioid and smoking status impact the insurance population?
    - Drug/opioid issue (may be more important for key concentration of insured ages)
    - Smoker/nonsmoker differential

SOA Research INSTITUTE

MI Recommendation - Fully Underwritten Business Update

- Peer review of MI Analysis Tool & Predictive Models completed

- Continue investigation of patterns in insured versus general population experience generated by MI analysis tool

SOA Research INSTITUTE

Contact Information

Marianne Purushotham, FSA, MAAA

Corporate Vice President, Research Data Services

LLGlobal/LIMRA

mpurushotham@limra.com

Draft: 9/27/24

Life Actuarial (A) Task Force
Virtual Meeting
September 5, 2024

The Life Actuarial (A) Task Force met Sept. 5, 2024. The following Task Force members participated: Cassie Brown, Chair, represented by Rachel Hemphill (TX); Scott A. White, Vice Chair, represented by Craig Chupp (VA); Mark Fowler represented by Sanjeev Chaudhuri (AL); Lori K. Wing-Heier represented by Sharon Comstock (AK); Ricardo Lara represented by Ahmad Kamil and Thomas Reedy (CA); Andrew N. Mais represented by Wanchin Chou (CT); Doug Ommen represented by Mike Yanacheak (IA); Amy L. Beard represented by Scott Shover (IN); Vicki Schmidt represented by Nicole Boyd (KS); Grace Arnold represented by Fred Andersen and Ben Slutsker (MN); Chlora Lindley-Myers represented by William Leung and John Rehagen (MO); D.J. Bettencourt represented by Seong-min Eom (NJ); Adrienne A. Harris represented by Bill Carmello (NY); Judith L. French represented by Peter Weber (OH); Glen Mulready represented by Andrew Schallhorn (OK); Michael Humphreys represented by Steve Boston (PA); and Jon Pike represented by Tomasz Serbinowski (UT).

1. Adopted the 2025 GRET Recommendation

Yanacheak made a motion, seconded by Andersen, to adopt the 2025 Generally Recognized Expense Table (GRET) recommendation (Attachment Five-A). The motion passed unanimously.

2. Adopted APF 2024-11 (Revisions to Life PBR Exemption)

Hemphill introduced amendment proposal form (APF) 2024-11, which would revise the *Valuation Manual* life principle-based reserve (PBR) exemption to account for changes made to the NAIC's annual statement blanks. Hemphill also noted a typo correction suggested by Boston in Valuation Manual (VM) Section II, 1.G.2.e, where "group life certificate" should actually be referred to as "group life contract" for consistency. Hemphill said this would not require a re-exposure of APF 2024-11, as it strictly corrected a typo. Carmello said that a further tweak might need to be made to VM Section II, 1.G.2.e and other references in the VM to individual life contracts issued under a group life contract so that it reads "group life certificates issued under a group life contract." Yanacheak agreed.

Hemphill stated that instead, both potential editorial revisions should be a takeaway, as she wanted to confer with Mary-Bahna Nolan (Willis Towers Watson), who had worked on the original language addressing group life contracts under VM-20, Requirements for Principle-Based Reserves for Life Products, to understand the reasoning for the current terminology.

Chupp made a motion, seconded by Reedy, to adopt APF 2024-11 (Attachment Five-B). The motion passed unanimously.

Having no further business, the Life Actuarial (A) Task Force adjourned.

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TO: Rachel Hemphill, Chair, Life Actuarial (A) Task Force

FROM: Pete Miller, ASA, MAAA, Experience Study Actuary, Society of Actuaries (SOA) Research Institute
Tony Phipps, Chair, SOA Research Institute Committee on Life Insurance Company Expenses

DATE: August 1, 2024

RE: 2025 Generally Recognized Expense Table (GRET) – SOA Research Institute Analysis

Dear Ms. Hemphill:

As in previous years, the Society of Actuaries Research Institute expresses its thanks to NAIC staff for their assistance and responsiveness in providing Annual Statement expense and unit data for the 2025 GRET analysis for use with individual life insurance sales illustrations. The analysis is based on expense and expense-related information reported on each company's 2022 and 2023 Annual Statements. This project has been completed to assist the Life Actuarial Task Force (LATF) in considering potential revisions to the GRET that could become effective for the calendar year 2025. This memo describes the analysis and resultant findings.

NAIC staff provided Annual Statement data for life insurance companies for calendar years 2022 and 2023. This included data from 749 companies in 2022 and 745 companies in 2023. This decrease resumes the trend of small decreases from year to year. Of the total companies, 378 were in both years and passed the outlier exclusion tests and were included as a base for the GRET factors (379 companies passed similar tests last year).

Approach Used

The methodology for calculating the recommended GRET factors based on this data is similar to that in the last several years. The methodology was last altered in 2015. The changes made then can be found in the recommendation letter sent to LATF on July 30, 2015.

To calculate updated GRET factors, the average of the factors from the two most recent years (2022 and 2023 for those companies with data available for both years) of Annual Statement data was used. For each company, an actual-to-expected (A/E) ratio was calculated. Companies with ratios that fell outside predetermined parameters were excluded. This process was completed three times to stabilize the average rates. The boundaries of the exclusions have been modified from time to time; however, there were no adjustments made this year. Unit expense seed factors (the seeds for all distribution channel categories are the same), as shown in Appendix B, were used to compute total expected expenses. Thus, these seed factors were used to implicitly allocate expenses between acquisition and maintenance expenses, as well as among the three acquisition expense factors (on a direct of ceded reinsurance basis).

Companies were categorized by their reported distribution channel (four categories were used as described in Appendix A included below). There remain a significant number of companies for which no distribution channel was provided, as no responses to the annual surveys have been received from those companies. The characteristics of these companies vary significantly, including companies not currently writing new business or whose major line of business is not individual life insurance. Any advice or assistance from LATF in future years to increase the response rate to the surveys of companies that submit Annual Statements to reduce the number of companies in the "Other" category would be most welcomed. The intention is to continue

surveying the companies in future years to enable the enhancement of this multiple distribution channel information.

Companies were excluded from the analysis if in either 2022 or 2023, (1) their A/E ratios were considered outliers, often due to low business volume, (2) the average first year and single premium per policy were more than $40,000, (3) they are known reinsurance companies or (4) their data were not included in the data supplied by the NAIC. To derive the overall GRET factors, the unweighted average of the remaining companies' A/E ratios for each respective category was calculated. The resulting factors were rounded, as shown in Table 1.

The Recommendation

The above methodology results in the proposed 2025 GRET values shown in Table 1. To facilitate comparisons, the current 2024 GRET factors are shown in Table 2. Further characteristics of the type of companies represented in each category are included in the last two columns in Table 1, including the average premium per policy issued and the average face amount ($000s) per policy issued.

To facilitate comparisons, the current 2024 GRET factors are shown in Table 2. Further characteristics of the type of companies represented in each category are included in the last two columns in Table 2, including the average premium per policy issued and the average face amount ($000s) per policy issued.

TABLE 1
PROPOSED 2025 GRET FACTORS, BASED ON AVERAGE OF 2022/2023 DATA

DESCRIPTION	Acquisition per Policy	Acquisition per Unit	Acquisition per Premium	Maintenance per Policy	Companies Included	Average Premium Per Policy Issued During Year	Average Face Amt (000) Per Policy Issued During Year
Independent	204	$1.10	51%	61	147	3,008	241
Career	227	1.20	57%	68	86	2,739	218
Direct Marketing	239	1.30	59%	72	24	465	119
Niche Marketing	131	0.70	33%	39	27	649	12
Other*	159	0.90	40%	48	94	869	81
* Includes companies that did not respond to this or prior year surveys					378		

TABLE 2
CURRENT 2024 GRET FACTORS, BASED ON AVERAGE OF 2021/2022 DATA

DESCRIPTION	Acquisition per Policy	Acquisition per Unit	Acquisition per Premium	Maintenance per Policy	Companies Included	Average Premium Per Policy Issued During Year	Average Face Amt (000) Per Policy Issued During Year
Independent	$198	$1.10	50%	$59	140	3,433	222
Career	206	1.10	52%	62	90	2,325	196
Direct Marketing	217	1.20	54%	65	23	767	122
Niche Marketing	132	0.70	33%	40	31	347	10
Other*	162	0.90	41%	49	95	917	80
* Includes companies that did not respond to this or prior year surveys					379		

2

In previous recommendations, an effort was made to reduce volatility in the GRET factors from year to year by limiting the yearly change in GRET factors to about ten percent of the prior value. The changes from the 2024 GRET were reviewed to ensure that a significant change was not made in this year's GRET recommendation.

All GRET factors the Direct Marketing distribution channel and the Acquisition per Unit factor for Career experienced changes greater than ten percent, so the factors for these lines were capped at the ten percent level (or slightly above/below 10% due to rounding of the factor) from the corresponding 2024 GRET values. This volatility occurred due to an increasing median A/E ratio for each distribution channel, which allowed for additional companies with higher A/E ratios to be included in the calculation that were previously dropped. Final GRET A/E medians increased for all distribution types with the largest changes in the Career and Direct Marketing sections.

The average premium per policy issued during the year saw a decrease of 518 from last year to this year, accompanying this is a 4,262 policy decrease in policies issued from last year to this year. This increase in A/E medians is due to the 6.4% increase in the average face amount per policy issued for all distribution types.

Usage of the GRET

This year's survey, responded to by each company's Annual Statement correspondent, included a question regarding whether the 2024 GRET table was used in its illustrations by the company. Last year, 44% of the responders indicated their company used the GRET for sales illustration purposes, which is much higher than previous years, typically around 31-35% of companies indicate their usage of GRET. This year, 34% of responding companies indicated they used the GRET in 2024 for sales illustration purposes. The range covered all distribution methods, including 20% for Independent, 63% for Career, 80% for Direct Marketing, and 17% for Niche Marketers. Based on the information received over the last several years, the variation in GRET usage appears to be in large part due to the relatively small sample size and different responders to the surveys.

We hope LATF finds this information helpful and sufficient for consideration of a potential update to the GRET. If you require further analysis or have questions, please contact Pete Miller at 847-706-3566.

Kindest personal regards,

Pete Miller, ASA, MAAA
Experience Studies Actuary
Society of Actuaries Research Institute

Tony Phipps, FSA, MAAA
Chair, SOA Research Institute Committee on
Life Insurance Company Expenses

3

Appendix A – Distribution Channels

The following is a description of distribution channels used in the development of recommended 2023 GRET values:

1. <u>Independent</u> – Business written by a company that markets its insurance policies through an independent insurance agent or insurance broker not primarily affiliated with any one insurance company. These agencies or agents are not employed by the company and operate without an exclusive distribution contract with the company. These include most PPGA arrangements.

2. <u>Career</u> – Business written by a company that markets insurance and investment products through a sales force primarily affiliated with one insurance company. These companies recruit, finance, train, and often house financial professionals who are typically referred to as career agents or multi-line exclusive agents.

3. <u>Direct Marketing</u> – Business written by a company that markets its own insurance policies direct to the consumer through methods such as direct mail, print media, broadcast media, telemarketing, retail centers and kiosks, internet, or other media. No direct field compensation is involved.

4. <u>Niche Marketers</u> – Business written by home service, pre-need, or final expense insurance companies as well as niche-market companies selling small face amount life products through a variety of distribution channels.

5. <u>Other</u> – Companies surveyed were only provided with the four options described above. Nonetheless since there were many companies for which we did not receive a response (or whose response in past years' surveys confirmed an "other" categorization (see below), values for the "other" category are given in the tables in this memo. It was also included to indicate how many life insurance companies with no response (to this survey and prior surveys) and to indicate whether their exclusion has introduced a bias into the resulting values.

4

Appendix B – Unit Expense Seeds

The expense seeds used in the 2014 and prior GRETs were differentiated between branch office and all other categories, due to the results of a relatively old study that had indicated that branch office acquisition cost expressed on a per Face Amount basis was about double that of other distribution channels. Due to the elimination of the branch office category in the 2015 GRET, non-differentiated unit expense seeds have been used in the current and immediately prior studies.

The unit expense seeds used in the 2024 GRET and the 2023 GRET recommendations were based on the average of the 2006 through 2010 Annual SOA expense studies. These studies differentiated unit expenses by type of individual life insurance policy (term and permanent coverages). As neither the GRET nor the Annual Statement data provided differentiates between these two types of coverage, the unit expense seed was derived by judgment based this information. The following shows the averages derived from the Annual SOA studies and the seeds used in this study. Beginning with the 2020 Annual Statement submission this information will become more readily available.

2006-2010 (AVERAGE) CLICE STUDIES:

	Acquisition/ Policy	Acquisition/ Face Amount (000)	Acquisition/ Premium	Maintenance/ Policy
Term				
Weighted Average	$149	$0.62	38%	$58
Unweighted Average	$237	$0.80	57%	$76
Median	$196	$0.59	38%	$64
Permanent				
Weighted Average	$167	$1.43	42%	$56
Unweighted Average	$303	$1.57	49%	$70
Median	$158	$1.30	41%	$67

CURRENT UNIT EXPENSE SEEDS:

	Acquisition/ Policy	Acquisition/ Face Amount (000)	Acquisition/ Premium	Maintenance/ Policy
All distribution channels	$200	$1.10	50%	$60

Life Actuarial (A) Task Force/ Health Actuarial (B) Task Force
Amendment Proposal Form*

1. Identify yourself, your affiliation, and a very brief description (title) of the issue.

    Identification:
    Rachel Hemphill, Texas Department of Insurance

    Title of the Issue:
    Update the Life PBR Exemption as needed due to changes made to the annual statement blanks.

2. Identify the document, including the date if the document is "released for comment," and the location in the document where the amendment is proposed:

    Valuation Manual Section II, Subsection 1.G

    January 1, 2025 NAIC Valuation Manual

3. Show what changes are needed by providing a red-line version of the original verbiage with deletions and identify the verbiage to be deleted, inserted, or changed by providing a red-line (turn on "track changes" in Word®) version of the verbiage. (You may do this through an attachment.)

    Valuation Manual Section II, Subsection 1.G

Exemption premium is determined as follows:

a. The amount reported in the prior calendar year life/health annual statement, Exhibit 1, Part 1, Column 2 ("Individual Life"), line 20.1; plus
b. The portion of the amount in the prior calendar year life/health annual statement, Exhibit 1, Part 1, Column 2 ("Individual Life"), line 20.2 assumed from unaffiliated companies; minus
c. Amounts included in either (a) or (b) that are associated with industrial policies, credit life policies, guaranteed issue insurance policies and/or preneed life insurance policies; minus
d. Amounts included in either (a) or (b) that represent transfers of reserves in force as of the effective date of a reinsurance assumed transaction; plus
e. Amounts of premium for individual life certificates issued under a group life certificate that meet the conditions defined in VM-20, Section 1.B, and that are not included in either (a) or (b).

> **Guidance Note:**
> Definitions of industrial life insurance, preneed, and guaranteed issue life insurance policy are in VM-01. The definition of credit life insurance is in Section II, Subsection 5.B.

4. State the reason for the proposed amendment? (You may do this through an attachment.)

    This APF is to coordinate with Blanks updates that have been made. Specifically, in Exhibit 1, Part 1 there is now an "individual" column rather than an "ordinary" column and the separate industrial and credit life columns were removed, by BWG 2022-14.

Deleted: 3

Deleted: Ordinary

Deleted: Insurance

Deleted: 3

Deleted: Ordinary

Deleted: Insurance

Deleted: (i)

Deleted: (ii) For statements of exemption filed for calendar year 2022 and beyond, the amount in Subsection 2.e was reported in the prior calendar year life/health annual statement, VM-20 Reserve Supplement, Part 2, if applicable.¶

EXHIBIT 1 – PART 1 – PREMIUMS AND ANNUITY CONSIDERATIONS FOR LIFE AND ACCIDENT AND HEALTH CONTRACTS

	1		Ordinary			Group			Accident and Health			11	12
		2	3	4	5	6	7	8	9	10		
	Total	Industrial Individual Life	Group Life Insurance	Individual Annuities	Credit Life (Group and Individual) Group Annuities	Life Insurance Accident & Health	Annuities Fraternal	Group Other Lines of Business	Credit (Group and Individual)	Other	Aggregate of All Other Lines of Business	Fraternal (Fraternal Benefit Societies Only)
FIRST YEAR (other than single)												
1. Uncollected												
2. Deferred and accrued												
3. Deferred, accrued and uncollected:												
3.1 Direct												
3.2 Reinsurance assumed												
3.3 Reinsurance ceded												
3.4 Net (Line 1 + Line 2)												
4. Advance												
5. Line 3.4 - Line 4												
6. Collected during year:												
6.1 Direct												
6.2 Reinsurance assumed												
6.3 Reinsurance ceded												
6.4 Net												
7. Line 5 + Line 6.4												
8. Prior year (uncollected + deferred and accrued - advance)												
9. First year premiums and considerations:												
9.1 Direct												
9.2 Reinsurance assumed												
9.3 Reinsurance ceded												
9.4 Net (Line 7 - Line 8)												
SINGLE												
10. Single premiums and considerations:												
10.1 Direct												
10.2 Reinsurance assumed												
10.3 Reinsurance ceded												
10.4 Net												
RENEWAL												
11. Uncollected												
12. Deferred and accrued												
13. Deferred, accrued and uncollected:												
13.1 Direct												
13.2 Reinsurance assumed												
13.3 Reinsurance ceded												
13.4 Net (Line 11 + Line 12)												
14. Advance												
15. Line 13.4 - Line 14												
16. Collected during year:												
16.1 Direct												
16.2 Reinsurance assumed												
16.3 Reinsurance ceded												
16.4 Net												
17. Line 15 + Line 16.4												
18. Prior year (uncollected + deferred and accrued - advance)												
19. Renewal premiums and considerations:												
19.1 Direct												
19.2 Reinsurance assumed												
19.3 Reinsurance ceded												
19.4 Net (Line 17 - Line 18)												
TOTAL												
20. Total premiums and annuity considerations:												
20.1 Direct												
20.2 Reinsurance assumed												
20.3 Reinsurance ceded												
20.4 Net (Lines 9.4 + 10.4 + 19.4)												

Dates: Received	Reviewed by Staff	Distributed	Considered
7/23/2024	A.F.		
Notes: APF 2024-11			

Draft: 9/27/24

Life Actuarial (A) Task Force
Virtual Meeting
August 29, 2024

The Life Actuarial (A) Task Force met Aug. 29, 2024. The following Task Force members participated: Cassie Brown, Chair, represented by Rachel Hemphill (TX); Scott A. White, Vice Chair, represented by Craig Chupp (VA); Mark Fowler represented by Sanjeev Chaudhuri (AL); Lori K. Wing-Heier represented by Sharon Comstock (AK); Ricardo Lara represented by Ahmad Kamil and Thomas Reedy (CA); Andrew N. Mais represented by Wanchin Chou (CT); Amy L. Beard represented by Scott Shover (IN); Vicki Schmidt represented by Nicole Boyd (KS); Robert L. Carey represented by Marti Hooper (ME); Grace Arnold represented by Fred Andersen and Ben Slutsker (MN); Chlora Lindley-Myers represented by William Leung and John Rehagen (MO); Eric Dunning represented by Margaret Garrison (NE); D.J. Bettencourt represented by Jennifer Li (NH); Adrienne A. Harris represented by Bill Carmello (NY); Judith L. French represented by Peter Weber (OH); Michael Humphreys represented by Steve Boston (PA); and Jon Pike represented by Tomasz Serbinowski (UT).

1. Exposed APF 2024-13 (IMR Clarification)

Hemphill provided background on amendment proposal form (APF) 2024-13, noting that it provides additional guidance on the treatment of negative interest maintenance reserves (IMRs).

Chupp made a motion, seconded by Weber, to expose APF 2024-13 for a 21-day public comment period ending Sept. 19. The motion passed unanimously.

2. Exposed APF 2024-14 (Surrender Charge Waivers)

Hemphill said APF 2024-14 addresses an issue raised by Task Force members who noted that they had seen increasing requests to expand the list of criteria for waiver of surrender charges on annuities. Hemphill further stated that there were questions of: 1) how material those waivers are; 2) whether there was any implication for valuations; and 3) how the surrender charge waivers were reflected in the valuation. Hemphill noted the issue was discussed among a small group of state insurance regulators who agreed to add reporting to better understand the materiality.

Chupp asked if a similar change should be made for the Valuation Manual (VM)-22, Requirements for Principle-Based Reserves for Non-Variable Annuities, draft. Hemphill said that the VM-22 (A) Subgroup will want to consider addressing the disclosure requirement in the VM-22 draft. Slutsker agreed with Hemphill and added that, where applicable, VM-22 and VM-21 should align. Hemphill noted that for VM-20, Requirements for Principle-Based Reserves for Life Products, the analogous waivers are usually addressed under the supplemental benefits and riders.

John Robinson (MN-Retired) noted the language in the APF did not specify the number of years of historical data that should be reported. He suggested a cover letter question regarding the number of years be included as part of the exposure. Hemphill noted the APF does not specify the number of years, intending for actuaries to use professional judgment, but agreed that a cover letter question could be included to request comments on the minimum number of years.

Andersen made a motion, seconded by Reedy, to expose APF 2024-14 with the cover letter question suggested by Robinson for a 21-day comment period ending Sept. 19. The motion passed unanimously.

Having no further business, the Life Actuarial (A) Task Force adjourned.

SharePoint/NAIC Support Staff Hub/Member Meetings/A CMTE/LATF/2024-3-Fall/LATF Calls/08 29/Aug 29 Minutes.docx

November 15, 2024

From: Fred Andersen, Chair
            Indexed Universal Life (IUL) Illustration (A) Subgroup

To: Rachel Hemphill, Chair
            The Life Actuarial (A) Task Force

Subject: <u>The Report of the Indexed Universal Life (IUL) Illustration (A) Subgroup (IUL Illustration SG) to
               the Life Actuarial (A) Task Force</u>

The IUL Illustration SG has not met since the adoption of group's main work product, revisions to
Actuarial Guideline 49A, by the Life Actuarial (A) Task Force on December 11, 2022. The revisions to
Actuarial Guideline 49A were subsequently adopted by the NAIC's Executive (EX) Committee and
Plenary at the Spring National Meeting on March 25. Regulators are reviewing the impact of the
Guideline revisions on the market. 2025 charges for the Subgroup are being considered by the NAIC's
Executive (EX) Committee and Plenary that would rename the Subgroup to be the "Life and Annuity
Illustration (A) Subgroup" and expand its role into annuity illustrations.

November 15, 2024

From: Pete Weber, Chair
The Variable Annuities Capital and Reserve (E/A) Subgroup

To: Rachel Hemphill, Chair
The Life Actuarial (A) Task Force

Subject: <u>The Report of the Variable Annuities Capital and Reserve (E/A) Subgroup (VACR SG) to the Life Actuarial (A) Task Force</u>

The VACR SG met October 18, 2024, to discuss potential changes to the Annual Statement Variable Annuity Supplement. Potential changes are being considered in response to the work being done at the Valuation Manual (VM)-22 (A) Subgroup. The VM-22 SG has developed an annual statement supplement for reporting non-variable annuities which provides information for non-variable annuity product reserves and VM-22 reserve components broken out into various product categories.

The chair described the current annual statement Variable Supplement and walked through a document that offered ideas for how that supplement could be made more useful if a similar structure to what the VM-22 SG was proposing was implemented. Following robust discussion, the chair incorporated many of the comments made on the call into a revised document and that version was exposed for 90 days, until January 21, 2025.

The VACR SG also discussed a plan for aligning the requirements in VM-21 to those in VM-22 where appropriate. There will likely be many improvements that can be made to VM-21 based on the work being done on VM-22. Any improvements are not intended to be substantial changes, but rather improved accuracy and clarity of wording in VM-21. Based on comments from the VM-22 SG vice chair, it was decided that there was still the potential for many changes to the draft VM-22 requirements, and it would be better to wait until it was more complete. The VACR SG will revisit the question in the first quarter of 2025.

Draft: 11/1/24

Variable Annuities Capital and Reserve (E/A) Subgroup
Virtual Meeting
October 18, 2024

The Variable Annuities Capital and Reserve (E/A) Subgroup of the Life Risk-Based Capital (E) Working Group and the Life Actuarial (A) Task Force met Oct. 18, 2024. The following Subgroup members participated: Pete Weber, Chair (OH); Thomas Reedy and Elaine Lam (CA); Fred Andersen (MN); William Leung (MO); Seong-min Eom (NJ); Bill Carmello and Michael Cebula (NY); and Rachel Hemphill (TX).

1. Discussed Potential Additions to the Variable Annuities Supplement in the Annual Statement

Weber started the meeting by walking through the *Valuation Manual* (VM)-22, Requirements for Principle-Based Reserves for Non-Variable Annuities, supplement draft. He pointed out that the prior year and current year reserves are broken out by different product types, and components of the reserve calculation are shown on the supplement draft. Weber recapped the two-part variable annuities (VA) supplement in the annual statement. He asked whether regulators want to see any changes to the current VA supplement, which can provide more useful information as they monitor the business.

Weber shared his initial thoughts on the potential additions to the VA supplement. First, he proposed to categorize the variable annuity guaranteed living benefit (VAGLB) products into five phases, including accumulation or withdrawal. Second, he showed a list of 10 product types that are related to the variable annuities and defined in VM-01, and none involved the guaranteed minimum death benefit (GMDB). Third, Weber posed a question on whether there is a need to reflect optimally efficient withdrawers that are possibly over or under. He questioned if the VA products in various combinations of VAGLB and GMDB should be shown either in one single row as the VM-22 supplement draft does or in two columns like the current VA supplement does. Fourth, Weber commented that a couple of very specific product types that are listed in the VM-21 standard projection amount (SPA) assumption section were not defined in the VM-01. He mentioned tax-qualified and non-qualified products and said the delineation drives SPA assumption. He also pointed out that the simple 403(b) contracts were not defined either. Lastly, Weber suggested considering the reporting format for the GMDB contracts that are valued under the alternative method, as well as the index-linked variable annuities. Weber said his goal is to expose his initial thoughts and gather comments.

Carmello said the five proposed product categorizations can be combined and merged into the existing 10 product types in VM-01. Reedy said this proposal is good because the granular categorization will sync up with the granularity of the policyholder behavior that is described in the VM-31 report. However, it should not be too granular. Weber responded that there is a balance between granularity and usefulness.

Brian Bayerle (American Council of Life Insurers—ACLI) said he liked what Carmello suggested especially with Reedy's feedback. He suggested the categorization should align as closely as possible with the company's existing reporting. Additionally, he said the feedback in response to the exposure should consider what data should be collected in terms of additional columns on the VA supplement.

Timothy Ritter (Jackson National Life Insurance Company) followed up on what Bayerle said and expressed his concern with the challenge when components of the VM-21 reserve calculation need to be split up between the proposed product categories. He said the final aggregated reserve is allocated back to the contract level, but the guidance for allocation to all the different components of the reserve calculation would not necessarily exist.

Weber said he would have a chair exposure of a document within the next few days, which is based on his initial thoughts and also reflect the comments made so far. No Subgroup members opposed. Eom asked whether Weber wants to split the indexed-linked variable annuities to be more consistent with the VM-22 supplement draft. Weber said he needs to add it as a product category in the exposure.

2. Discussed a Plan for Aligning VM-21 and VM-22

Weber said he received an email from the chair of the American Academy of Actuaries (Academy) VA capital and reserve subcommittee asking whether there is any plan for the alignment between VM-21 and VM-22. He said the results of the field test and model office testing for VM-22 are coming up in the first quarter of 2025 and made a comment on potential wasted efforts as a result of starting the alignment too soon. Weber asked for thoughts from the Subgroup members on the timing and potential plan for reviewing VM-21 based on what the VM-22 (A) Subgroup has put together.

Lam, who is Vice Chair of the VM-22 (A) Subgroup, provided updates on VM-22. She expects there will be many changes to the VM-22 requirements based on the field test results. The VM-22 (A) Subgroup has started the work of identifying things that should be aligned between VM-21 and VM-22, as well as those things that should not be aligned. She suggested the Subgroup wait until the VM-22 requirements are more settled and finalized to start the alignment.

Bayerle asked whether changes could be made to VM-22 right after its implementation due to the alignment. Weber thought, in most cases, VM-21 would be changed to align with VM-22, which is one direction only. Lam said she agreed with Weber. She said the alignment would be largely around language. Weber said he does not envision major changes to VM-21 resulting from the alignment project.

Having no further business, the Variable Annuities Capital and Reserve (E/A) Subgroup adjourned.

SharePoint/NAIC Support Staff Hub/Member Meetings/A CMTE/LATF/2024-3 Fall/VACR SG Calls/10 18/VACR 10-18-2024 Minutes.docx

November 15, 2024

From: Fred Andersen, Chair
The Experience Reporting (A) Subgroup

To: Rachel Hemphill, Chair
The Life Actuarial (A) Task Force

Subject: The Report of the Experience Reporting (A) Subgroup to the Life Actuarial (A) Task Force

The Experience Reporting (A) Subgroup has not met since the Summer National Meeting. Upcoming projects include monitoring the plans for collecting life insurance mortality and policyholder behavior data using the NAIC as the statistical agent, starting to develop mandatory reporting of group annuity – pension risk transfer data, and continuing to work on evaluating actuarial aspects of accelerated underwriting.

An amendment proposal form (APF) was exposed regarding the mandatory reporting of group annuity – pension risk transfer business. The NAIC has identified additional individuals to work with the Experience Reporting (A) Subgroup to review and enhance this APF. The Subgroup plans to meet to begin this process in early December.

A working group has been formed to draft an APF to collect additional life data regarding simplified and accelerated underwriting. Work on this APF is currently ongoing.

November 15, 2024

From: Seong-min Eom, Chair
The Longevity Risk (E/A) Subgroup

To: Rachel Hemphill, Chair
The Life Actuarial (A) Task Force

Subject: The Report of the Longevity Risk (E/A) Subgroup to the Life Actuarial (A) Task Force

The Longevity Risk (E/A) Subgroup has not met since the 2024 Summer National Meeting. The subgroup will resume the meetings once the currently exposed VM-22 PBR methodology is finalized and adopted to develop and recommend longevity risk factor(s) for the product(s) that were excluded from the application of the current longevity risk factors.

November 15, 2024

From: Ben Slutsker, Chairperson
          Elaine Lam, Vice Chairperson
          The VM-22 (A) Subgroup

To: Rachel Hemphill, Chair
          The Life Actuarial (A) Task Force

Subject: The Report of the VM-22 (A) Subgroup to the Life Actuarial (A) Task Force

The NAIC VM-22 (A) Subgroup has met multiple times since the NAIC Summer National Meeting. The group has addressed comments made in response to the latest exposure of the Additional Standard Projection Amount section of the VM-22 draft. In addition, various corrections and clarifications were made in response to questions that arose from participants during the VM-22 field test.

The VM-22 field test itself took place over July through September and all responses have now been collected by the NAIC and American Academy of Actuaries (Academy). Ernst & Young (E&Y) is also analyzing results and generating model office output. The Academy and E&Y will present more details on their progress after the conclusion of this VM-22 (A) Subgroup report to the Life Actuarial (A) Task Force (LATF).

There are now proposed drafts for VM-22 requirements, the Additional Standard Projection Amount, a new VM-V section, VM-31 disclosures, the VM-22 Supplement Blank, and various other edits to VM Section II, VM-01, and VM-G to accommodate a potential VM-22 principles-based reserving (PBR) adoption. All of these documents have been exposed, with subsequent changes made to address comments received during the exposure period.

That said, there are a few large items that remain for the Subgroup to address prior to finalizing its recommendation to LATF:

- Reinvestment Mix Guardrail: either (1) 50%/50% AA/A, (2) 5%/15%/80% UST/AA/A, or (3) 5%/15%/40%/40% UST/AA/A/BBB
- Stochastic Exclusion Ratio Test (SERT): setting the threshold percentage and mortality shocks
- Additional Standard Projection Amount assumptions: withdrawals and surrenders
- Longevity Reinsurance: k-factor method, ACLI proposal, or 2% of annual benefit floor
- Purpose of Additional Standard Projection Amount: (1) reserving floor or (2) disclosure-only

The Subgroup will continue to hold calls through December and the first half of 2025 to address these items, as well as provide a final chance to revisit key elements of the framework. VM-22 PBR is still on track for completion in mid-2025, with potential adoption in time for a 1/1/2026 effective date, and a three-year optional implementation period ending in 1/1/2029, after which requirements would become mandatory for non-variable annuity contracts on a prospective basis.

Draft: 11/07/24

Valuation Manual (VM)-22 (A) Subgroup
Virtual Meeting
November 6, 2024

The VM-22 (A) Subgroup of the Life Actuarial (A) Task Force met Nov. 6, 2024. The following Subgroup members participated: Ben Slutsker, Chair (MN); Elaine Lam, Vice Chair (CA); Lei Rao-Knight (CT); Vincent Tsang (IL); Nicole Boyd (KS); William Leung (MO); Seong-min Eom (NJ); Bill Carmello (NY); Rachel Hemphill and Iris Huang (TX) and Craig Chupp (VA).

1. Adopted Preneed Annuity Exclusion Edits to the VM-22 Draft

Slutsker provided an overview of the proposed edits to VM-22, Principle-Based Reserves for Non-Variable Annuities by Homesteaders Life Company (Attachment Thirteen-A). Scott Michels (National Guardian Life Insurance Company—NGL) discussed NGL's support for the exposed language to exclude preneed annuity from VM-22 (Attachment Thirteen-B). Carmello said he supported excluding preneed annuities. Colin Masterson (American Council of Life Insurers—ACLI) said the ACLI supported the proposal.

Leung made the motion, seconded by Chupp, to adopt the recommended edits to exclude preneed annuities from VM-22 principle-based reserving requirements in the VM-22 draft. The motion passed.

2. Exposed Longevity Reinsurance Reserve Flooring Methodologies

Masterson (ACLI) provided an overview of the longevity reinsurance treaty (LRT) illustration, an example of the different approaches and responses to the comments (Attachment Thirteen-C). Masterson stated the ACLI supports an approach for LRT that would floor reserves at the treaty level and not reflect the k-factor. Masterson noted that the k-factor approach may accomplish state insurance regulators' goal to have positive reserves emerge sooner than anticipated with the ACLI proposal. However, if mortality assumptions change over time, the k-factor will create the undesired effect of significant jumps in reserves and profits. Masterson said the representative cell and assumptions in the illustration show zero reserves for several years under the ACLI proposal depending on the average age for the treaty, treaty structure, and product demographics, and positive reserves may emerge earlier.

Eom presented an alternative to the ACLI proposal that floors treaties at a positive number rather than zero (Attachment Thirteen-D). Eom said for LRT the simple PBR approach (the present value of future benefit minus the present value of future premiums) can have negative results in early durations for a long time. Eom explained that the k-factor PBR reserves will fall short of the gross premium PBR reserves in later durations. Eom said the goal of this alternative treaty-floor proposal was to raise the reserves above zero in early durations without falling short of the gross premium PBR reserves in later durations. Eom recommended setting the reserve floor to 2% of the longevity reinsurance benefits payable within the next 12 months because a zero floor results in zero reserves for too long in early durations.

Eom made a motion, seconded by Lam, to expose the non-zero treaty-floor alternative longevity reinsurance reserve flooring proposal and the comparison of the different methodologies for a 32-day public comment period ending Dec. 9th. The Subgroup agreed to expose the positive floor methodology.

Having no further business, the VM-22 (A) Subgroup adjourned.

SharePoint/NAIC Support Staff Hub/Member Meetings/A CMTE/LATF/2024-3-Fall/VM-22 Calls/11 06/Nov6 VM22Minutes.docx

Attachment Thirteen-A
Life Actuarial (A) Task Force
11/15-16/24
Thomas A. Doruska
Senior Vice President, Chief Actuary
Office: 515-440-7779
Toll Free: 800-477-3633 Ext. 7779
email: tdoruska@homesteadslife.com

Homesteaders
Life Company

P.O. Box 1756 • Des Moines, IA 50306-1756
800-477-3633

August 21, 2024

Benjamin Slutsker, Chair
Valuation Manual (VM)-22 (A) Subgroup
1100 Walnut Street, Suite 1000
Kansas City, MO 64106

Submitted via email to Benjamin Slutsker: Benjamin.slutsker@state.mn.us

RE: Preneed Annuities within VM-22

Dear Chair Slutsker:

Thank you for your engagement in the 2nd quarter of this year and for the opportunity to comment on preneed annuities within VM-22.

As we discussed, reserve requirements for life insurance policies exempt preneed life contracts from principle-based valuation (VM-20). The VM-22 draft provides requirements for Principle-Based Reserves for Non-Variable Annuities. Annuities are sold in the preneed market. This letter requests consideration of exempting preneed annuity contracts from principle-based valuation (VM-22), in line with that done for preneed life contracts.

To facilitate such an exemption, retaining the current reserve requirements for preneed annuities, the draft VM-22 could be updated as listed below.

Item D in Subsection 2: Annuity Products would include the following underlined text:

Minimum reserve requirements for non-variable annuity contracts issued on 1/1/2025 and later are those requirements as found in VM-22, with the exception of <u>Preneed Annuities</u>, Guaranteed Investment Contracts, Synthetic Guaranteed Investment Contracts, and other Stable Value Contracts which shall follow the requirements found in VM-A, VM-C, and VM-V. The minimum reserve requirements of VM-22 are considered PBR requirements for purposes of the Valuation Manual, and therefore are applicable to VM-G.

Additionally, VM-01: Definitions for Term in Requirements would include:

<u>The term "Preneed Annuity" means any non-variable deferred annuity policy or certificate that is issued in combination with, in support of, an assignment to or as a</u>

guarantee for a prearrangement for good and services to be provided at the time of and immediately following the death of the insured. Goods and services may include, but are not limited to, embalming, cremation, body preparation, viewing or visitation, coffin or urn, memorial stone, and transportation of the deceased. The status of the policy or contract as preneed insurance is determined at the time of issue in accordance with the policy form filing. (Note: Preceding definition taken from the Preneed Life Insurance Minimum Standards for Determining Reserve Liabilities and Nonforfeiture Values Model Regulation [#817].) The definition of preneed shall be subject to that definition of preneed in a particular state of issue if such definition is different in that state.

The wording within this definition follows that listed within the Valuation Manual for preneed life insurance.

Thank you again for your consideration of this enhancement to bring consistency with preneed life, recognizing the nature of preneed insurance in the context of principles-based valuation.

My contact information is listed within this letter should you have questions about this submission.

Sincerely,

Thomas A. Doruska

Cc   Elaine Lam via email: Elaine.Lam@insurance.ca.gov

To whom it may concern:

National Guardian Life, a writer of Preneed Life and Annuity contracts, agrees with the proposal submitted by Thomas Doruska at Homesteaders Life Company. Both Preneed Life and Preneed Annuity contracts are issued in combination with, in support of, an assignment to or as a guarantee for a prearrangement for goods and services to be provided at the time of and immediately following the death of the insured. Because of this fact, these contracts do not typically experience dynamic policyholder behavior, and as such, we continue to support the exclusion of these contracts from Principles Based Reserving. We feel strongly that Preneed Life and Preneed Annuities should both have the exemption, as the same facts apply to both types of contracts.

Best Regards,

Scott Michels, FSA, MAAA
National Guardian Life Insurance Company (NGL)
(608) 209-5862 (cell)
sjmichels@nglic.com

Brian Bayerle
Chief Life Actuary
202-624-2169
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Colin Masterson
Policy Analyst
202-624-2463
ColinMasterson@acli.com

October 8, 2024

Ben Slutsker
Chair, NAIC Valuation Manual (VM)-22 (A) Subgroup (Subgroup)
Elaine Lam
Vice Chair, NAIC Valuation Manual (VM)-22 (A) Subgroup (Subgroup)

　　　Re: VM-22 Longevity Risk Transfer (LRT) Exposure

Dear Chair Slutsker and Vice Chair Lam:

The American Council of Life Insurers (ACLI) appreciates the opportunity to provide feedback on the Subgroup's June 2024 exposure of their LRT proposal. ACLI would also like to take this time to express our immense gratitude towards NAIC staff, regulators, and other interested parties such as the American Academy of Actuaries and EY for their continued efforts as we move closer towards drafting a new VM chapter for fixed/non-variable annuities. Conceptually, we agree with the inclusion of LRT as a consideration within the updated VM-22 because it comprises similar insurance risks as annuity business; however, we have concerns regarding the proposed "K-Factor" approach and think it would be preferable to pivot to another methodology.

ACLI continues to support an approach for LRT that would floor reserves at the treaty-level and would not reflect a K-Factor. The ACLI proposal adequately reflects uncertainty within the margin for the prudent estimate mortality assumption, rather than developing a new reserving method not aligned with PBR. For LRT, premiums and expected benefits are based on the best estimate at inception (e.g., set equal), and the assuming company receives additional fees. In other words, premiums are scheduled and follow expected mortality (i.e., does not vary with experience). Over time, any deviations to mortality trend risk would be identified and reflected in the prudent estimate mortality assumption used to determine the benefit stream. The application of additional margins or haircuts (such as K-factors) to premiums would be unnecessary to meet statutory reporting objectives. Flooring reserves at the treaty-level would address regulator concerns regarding negative reserves and subsidizing within the Longevity Reinsurance Category.

At a recent meeting of the Subgroup, we heard regulators contemplate whether positive reserves should emerge sooner than what is anticipated with the ACLI proposal. Regulators also expressed interest in understanding LRT reserves from both the ceding company and assuming company perspective. ACLI has prepared an illustration of the mechanics of the K-Factor and ACLI proposal under different mortality scenarios as a way of providing regulators with more information on which to form their decisions. We note the following observations in this illustration:

- If experience emerges as expected, then the K-factor may accomplish the regulator's goal of smoothing profits. However, we note that if mortality assumptions change over time the K-factor creates significant jumps in reserves and profit. We do not believe this is the desired outcome for regulators or industry. The user can adjust the mortality shock and year of mortality shock in the input table to observe this dynamic.
- For LRT between two U.S. companies, we would generally expect the ceding company to receive a negative reserve credit under PBR. The ceding company reserve would reflect all reinsurance cash flows using prudent estimate assumptions, and the reserve would likely increase due to the fees paid. In the illustration for the ACLI proposal, since reserves reflect the administrative expense and are floored at zero for the assuming company, the total reserves early in the projection between both companies would likely be larger than the reserves previously held by the ceding company after the LRT transaction. This relationship of reserves for the ceding company and assuming company can be found in columns BC through BD on the 'Projections' tab.
- For the representative cell and assumptions, the illustration does not show reserves for several years under the ACLI proposal. Depending on the average age for the treaty, treaty structure, and product demographics, reserves may emerge earlier. The user can observe these variations by changing the inputs (date of birth, mortality table, fee %, mortality margin, etc.). For example, if the user changes the date of birth to an earlier date (i.e., 12/1/1950), positive reserves emerge earlier under the ACLI proposal.

We hope that our examples lay the groundwork for a thorough discussion to address the inclusion of LRT in the Valuation Manual.

Thank you once again for the consideration of our comments and if you have any questions related to this letter or the accompanying spreadsheet, please do not hesitate to reach out to ACLI staff.

Sincerely,

Colin Masterson

cc: Amy Fitzpatrick, NAIC

VM-22 Reserving

A New PBR Reserve Flooring Proposal

Why this approach is being proposed?

The PBR reserves for Longevity Reinsurance business are negative in the early years, which was considered undesirable. The LATF VM-22 working group analyzed multiple approaches to address this concern. These are discussed below:

1. Flooring the PBR reserves at zero (at contract or at aggregate book of business level).
   - The resulting PBR reserves incorporating the flooring at zero were still considered too low in the early durations staying at zero for too long per each contract– 10 years (depending on the business mix) or staying at zero or at a very low level when flooring in aggregate.

2. Using the K-factor methodology instead of PBR (with the K-factor calculated at case or at aggregate book of business level).
   - This can produce non-zero reserves in the early durations.
   - However, due to the artificial premium reshuffling (with the application of k-factor estimated at the issue), the K-factor based reserves will fall short of the gross premium PBR reserves in the later durations, which is not considered desirable.
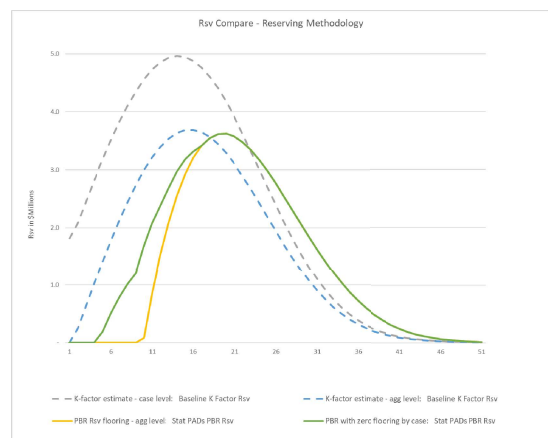
Rsv Compare - Reserving Methodology

— K-factor estimate - case level: Baseline K Factor Rsv   — — K-factor estimate - agg level: Baseline K Factor Rsv
— PBR Rsv flooring - agg level: Stat PADs PBR Rsv   — PBR with zero flooring by case: Stat PADs PBR Rsv

Business mix:
- 50% each for new business and 5-year inforce
- 50% each of 100% retirees with older blue-collar contract and younger white-collar contract

The proposed alternative builds on the zero flooring at contract level adjustment proposal, by raising the floor above zero for PBR reserves.

The new flooring basis for PBR reserves

The goal of this new proposal is to raise the floor for PBR reserves above zero in the early durations, without creating reserve deficiencies in the later durations.

- The proposal is to express the floor for PBR reserves as a percentage of Longevity Reinsurance benefits payable within the next 12 months from the date of valuation.
  - Currently proposing flooring at 2% of the Longevity Reinsurance benefits payable within the next 12 months from the valuation date

- The proposed 2% floor could be described as the amount required to pre-fund approximately one week worth of the upcoming Longevity Reinsurance benefits payable (1/52 is 1.92% that is rounded up to 2%).

- The benefit amount is proposed as the basis for the floor rather than a more traditional premium basis due to the nature of the Longevity Reinsurance business.
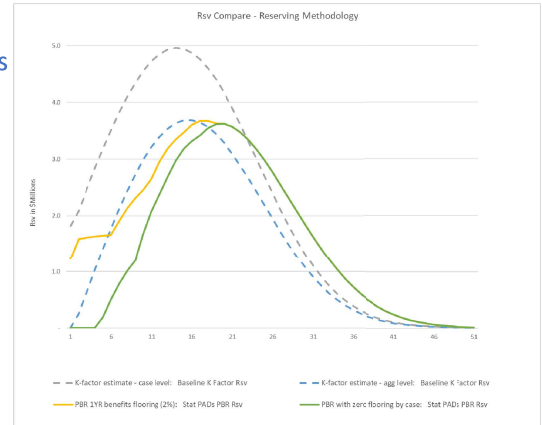
Business mix:
- 50% each for new business and 5-year inforce
- 50% each of 100% retirees with older blue-collar contract and younger white-collar contract

The proposed new floor solves the issue of the PBR reserves being too low for too long in the early durations, without creating reserve deficiencies in the later durations.
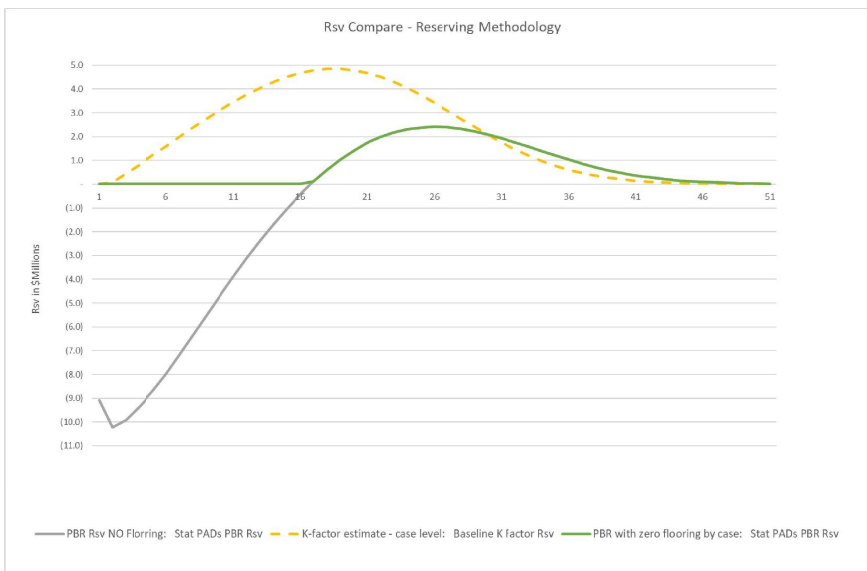
Sample Reserve Comparisons

Business mix:
- 100% new business
- 100% younger white-collar contract

Sample Reserve Comparisons

Rsv Compare - Reserving Methodology

Business mix:
- 100% new business
- 100% younger white-collar contract

Sample Reserve Comparisons

Rsv Compare - Reserving Methodology
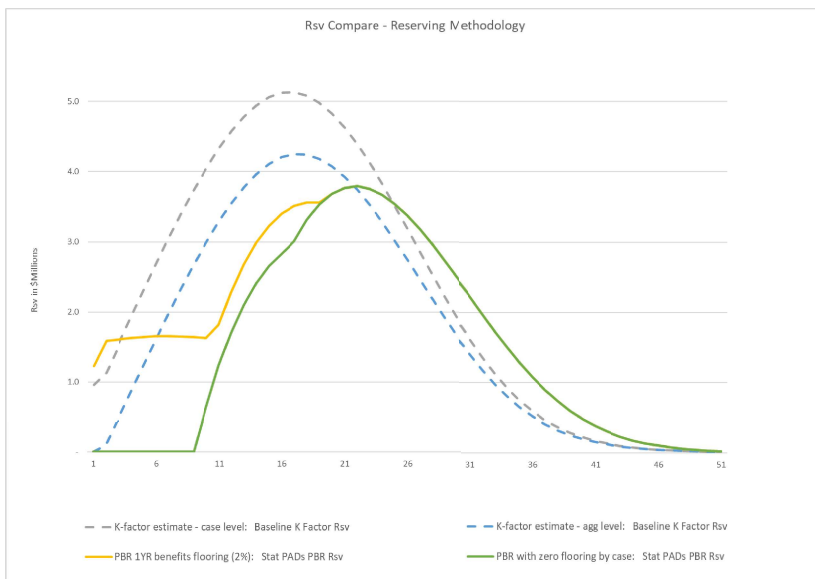
Business mix:
- 100% new business
- 50% each of 100% retirees with older blue-collar contract and younger white-collar contract

Draft: 11/6/24

Valuation Manual (VM)-22 (A) Subgroup
Virtual Meeting
October 23, 2024

The VM-22 (A) Subgroup of the Life Actuarial (A) Task Force met Oct. 23, 2024. The following Subgroup members participated: Ben Slutsker, Chair (MN); Elaine Lam, Vice Chair (CA); Lei Rao-Knight (CT); Mike Yanacheak (IA); Nicole Boyd (KS); William Leung (MO); Bill Carmello (NY); Rachel Hemphill and Iris Huang (TX); Tomasz Serbinowski (UT) and Craig Chupp (VA).

1. Discussed VM-22 SPA Draft Comments

    A. Unbuffered Amount Calculation for DR

Slutsker noted a question that has repeatedly surfaced: if a deterministic reserve (DR) is elected through the deterministic certification option, is it required to have a standard projection amount (SPA)? If so, what should be done with the buffer. Slutsker said the intention is that the SPA is required, and there should be clarification made in the draft to address how to calculate the buffer since there are no CTE70 and CTE65 calculations for a single scenario. Slutsker said the proposed edits to Section 6.B.4.a-b are to explicitly state that a single scenario reserve will be used for the DR. Chupp noted similar changes would also be needed in Section 6.A.1 and the main VM22, Requirements for Principle-Based Reserves for Non-Variable Annuities, draft. The Subgroup agreed to the clarifying edits to use require an SPA calculation for the DR.

Slutsker described two options in Section 6.B.4.c. for the buffer calculation. Option 1 is to have the buffer amount set using a single scenario that is calibrated to the CTE65 and has several advantages: 1) there is consistency with a currently drafted footnote in the proposed VM-22 Reserves Supplement; 2) there is more consistency with the stochastic reserve (SR) calculation; and 3) there is some flexibility in which valuation date to select the scenario that calibrates. Option 2 is to have no buffer for the DR which has the advantage of simplicity from a review and implementation basis. However, the disadvantages are inconsistency with the SPA for the SR and likely a higher resulting reserve.

David Reynolds (Legal and General) asked if the Subgroup had made the decision to use the ASPA as a component of the reserve or will it serve more as a disclosure item. Slutsker said for VM-21, Requirements for Principle-Based Reserves for Variable Annuities, it is part of the reserve and serves as a guardrail. However, Slutsker said that determination had not been made for VM-22. Under either direction, the calculation itself would be the same but there would be different impacts to the final reserve. This is planned to be discussed in early 2025. Slutsker recommended option 1 going forward and to include option 2 as part of the drafting note and include it in the next exposure to get comments. The Subgroup agreed to ask for clarifying comments on the next exposure and will use option 1 as the default with option 2 as an alternative in a drafting note.

    B. Location of Mortality Requirements in SPA Section

Slutsker introduced the comment that noted there is mortality guidance for pension risk transfers (PRTs), single premium immediate annuities, longevity risk transfers and structured settlements in the guaranteed actuarial present value (GAPV) section. However, he said these products may not actually have a GAPV. The Subgroup agreed to move the mortality requirements from the GAPV section to Section 8 where the broader mortality requirements reside.

C. Future Mortality Improvement in GAPV Calculation

Slutsker noted the issue arose from the field test regarding how far the improvement can be applied. Slutsker said the date in Section 6.C.3.e was confirmed to be 2022 (not 2021) by the Society of Actuaries (SOA) and the intent is that the GAPV would restrict the mortality movement beyond Dec. 31, 2022. Slutsker noted part of the reason it was put into VM-22 was for consistency with the fixed date in VM-21. Brian Bayerle (American Council of Life Insurers—ACLI) said leaving it as is for consistency to be arrived later would be fine. However, he said he is also OK with removing the static date. Carmello said he supported doing what the Subgroup deems appropriate considering the lack of rationale for it and consider updates to VM-21 later. Bruce Friedland (American Academy of Actuaries—Academy) suggested finding out more about the rationale and if that date needs to be moved in the future and when. The Subgroup agreed to remove the limitation in Section 6.C.3.e on mortality improvement to simply reference Section 6.C.8 and add a drafting note to receive comments.

D. Clarification of Valuation Date for Discounting

Carmello suggested that the definition of valuation date in Section 6.C.3.f should be the date the financial report is being developed. The Subgroup agreed to move forward with the edit.

E. ANB vs ALB

Slutsker noted the SOA was consulted during the field test and they identified that the assumptions as based on age nearest birthday (ANB) and both the factors and tables would need to be adjusted to convert to age last birthday (ALB). The Subgroup agreed to include a guidance note to clarify the draft based on the SOA feedback.

F. Structured Settlement Mortality Table Clarification

Slutsker noted there were questions if the definition of duration in Table 6.4 meant since issue or from the valuation date. The Subgroup agreed to change the term "duration" to "contract year" to align with the SOA confirmed interpretation that duration meant contract year.

G. Mortality Flooring for Group Annuities, International and Longevity Reinsurance Contracts

Bayerle said the issue is that the mortality flooring requirement at the company's prudent estimate is inconsistent with VM-21 and the intent of the SPA to catch assumption outliers. Bayerle noted there may be instances where an individual assumption could be greater or less than a company's prudent estimate assumptions and should be consistent with the other assumptions within the SPA. Bayerle said performing this comparison negates the ability to decide whether the prudent best estimate might be an outlier in this case. The Subgroup agreed to remove the comparison to the company's prudent best estimate and just use the 1994 Group Annuity Mortality (GAM) with Projection Scale AA since the comparison is already done in aggregate, and the more granular level comparison is not done elsewhere in the framework.

2. Discussed Comments Received on the VM-22 Draft

Slutsker outlined several areas of clarification that arose from the field test. Slutsker introduced one that noted the need for VM II. Section 2.C to better define the date for settlement options to be subject to VM-22 because the date could be: 1) the issue date of the settlement option; or 2) the issue date of the contract from which the settlement originated. Carmello recommended the issue date of the settlement option as currently written unless a company receives approval from its domestic regulator to do it another way. Slutsker agreed with Carmello that

the date of the settlement option makes sense but should be consistent with the current VM-22, Statutory Maximum Valuation Interest Rates for Income Annuities. The Subgroup agreed to move forward to be consistent with VM-22, Statutory Maximum Valuation Interest Rates for Income Annuities language.

Slutsker noted another clarification needed regarding the scope of funding agreements in VM-22. Slutsker said that if the funding agreements should be in the list of contracts out of scope in VM II. Section 2.D then a definition should be added to VM-01, Definitions for Terms in Requirements. Slutsker noted that the definition added to the draft was based on the definition in the annuity model regulation. Carmello suggested removing the specification of a group of contracts from the definition because that is already a group product. Katie Rook (Equitable) agreed with this change. The Subgroup agreed to exclude funding agreements from the scope of VM-22 and to make the edit to the definition to remove "group of."

Slutsker discussed why, under VM-22, the benefits that stem from variable annuity contracts, like guaranteed minimum income benefit (GMIB) annuitizations, are included in the accumulation reserving category while all other payout contracts like structured securities fall into the payout category even though the risk profiles are similar. Slutsker said the Subgroup discussed this on a prior call and the preliminary vote was to put a deferred annuity with an exhausted fund value in the accumulation category. Slutsker noted one option discussed was to put a deferred annuity in the payout annuity reserving category because it essentially becomes a payout annuity once the fund value is exhausted, but then it would be in a different category that cannot be aggregated with contracts that do not have the fund value exhausted even though they are the same contract types.

Slutsker said the other option discussed was to keep the deferred annuity with an exhausted fund value in the accumulation reserving category and keep it with the same contracts and do not switch categories. Bayerle said one of the reasons for keeping contracts in the same reserving category is due to the exclusion tests. Bayerle explained that it might be difficult for some companies to calculate the stochastic excusion ratio test (SERT) and set reserves if the reserving category switches as a result of fund exhaustion. Slutsker suggested that since this item was a close vote, it should have a drafting note to revisit later and point it out when the recommendation is made to the Life Actuarial (A) Task Force. Carmello suggested including other items that were close votes when the recommendation is made to the Task Force. The Subgroup agreed to move forward with this drafting note.

Slutsker introduced another comment regarding Section 4.D.1.a language asking the Subgroup to clarify that the starting asset amount should include an allocated pre-tax interest maintenance reserve (PIMR) as implied in the first paragraph of the section but is not mentioned as a component later in the same section. Hemphill and Carmello agreed the edit made sense. Hemphill noted that the Task Force made recent edits around PIMR and negative values and she questioned whether the PIMR discussion in the VM-22 draft was patterned off of VM-20 or VM-21. Hemphill said VM-20 needed an edit because the treatment needed to follow VM-30, Actuarial Opinion and Memorandum Requirements language. Slutsker said the Subgroup will follow up to ensure consistency with the recent changes to the *Valuation Manual* regarding PIMR.

Having no further business, the VM-22 (A) Subgroup adjourned.

SharePoint/NAIC Support Staff Hub/Member Meetings/A CMTE/LATF/2024-3-Fall/VM-22 Calls/10 23/Oct23 VM22Minutes.docx

Draft: 11/5/24

Valuation Manual (VM)-22 (A) Subgroup
Virtual Meeting
October 9, 2024

The VM-22 (A) Subgroup met Oct. 9, 2024. The following Subgroup members participated: Ben Slutsker, Chair (MN); Elaine Lam, Vice Chair (CA); Lei Rao-Knight (CT); Mike Yanacheak (IA); William Leung (MO); Seong-min Eom (NJ); Bill Carmello (NY); Rachel Hemphill and Iris Huang (TX); Tomasz Serbinowski (UT) and Craig Chupp (VA).

1. Discussed a Preneed Annuity Comment Letter

Tom Doruska (Homesteaders Life Company) presented proposed changes to the VM-22, Requirements for Principle-Based Reserves for Non-Variable Annuities, draft to remove preneed annuities from scope. He said that preneed annuities are simple fixed deferred annuities used to pay for goods and services related to a policyholder's death. Doruska noted these are typically small contracts under $10,000 in benefits without guaranteed living benefits (GLBs) and no guaranteed interest rate aside from nonforfeiture benefits. He noted that a distinction between preneed life insurance and preneed annuities is that preneed life insurance has specific preneed mortality tables and valuation formulas, while preneed annuities do not.

Serbinowski suggested the Subgroup consider whether to carve out simple products like this that have no guarantees even if the products are used outside of the preneed market to avoid defining preneed annuity. Doruska stated that the policyholder behavior for preneed annuity differs from other simple fixed deferred annuities because if a policyholder terminates their policy or accesses a partial surrender, those actions will disrupt their funeral plan.

Leung asked if the preneed annuity valuation method would default to the current Commissioner Annuity Reserve Valuation Method (CARVM). Doruska said the intent of the proposed language is to default to the current CARVM rules for these products. Carmello questioned whether contracts exempted from VM-22 should be allowed to use the principle-based reserving (PBR) rules even if they do not have to. Bruce Friedland (American Academy of Actuaries—Academy) said he thought blocks that would otherwise be exempt could go through PBR if a company is willing to go through all the requirements. Hemphill said that for life insurance, there is a distinction between products that are subject to the exemption tests and those that are not subject to VM-20, Requirements for Principle-Based Reserves for Life Products. Hemphill added that the Subgroup should be mindful that the optionality to do PBR or not for VM-22 may put a burden on companies regarding governance and VM-31, PBR Actuarial Report Requirements for Business Subject to a Principle-Based Valuation, documentation.

Slutsker said that the PBR framework was constructed on the premise that companies must go through the exclusion tests for a block of business or a product type to gain access to PBR. Therefore, if there is no exclusion test for a product, then there is no reporting. Carmello said it made sense to exempt this product outright rather than having some optionality of doing PBR and suggested that companies in the preneed space should comment on their concerns with the proposal. Leung made a motion, seconded by Yanacheak, to expose the preneed annuity comment letter for a 21-day public comment period ending Oct. 30. The motion passed.

2. Discussed SPA Exposure Comments

The Subgroup agreed to review each comment incorporated into the draft and accept the edits where there are no objections. Otherwise, it will discuss and request more information to revisit at a subsequent meeting.

Brian Bayerle (American Council of Life Insurers—ACLI) noted there should be consistency across VM-21, Requirements for Principle-Based Reserves for Variable Annuities, and VM-22 regarding the inflation and base expense assumptions. He suggested the future inflation assumption in the current draft of 2% be updated to 2.5%. The Subgroup agreed to update Section 6.C.2.a and Section 6.C.2.c future inflation assumption to 2.5% to be consistent with both VM-21 and the historical inflation assumption of 2.5%.

Bayerle said the base maintenance expense assumption for the fixed indexed annuities in Table 6.1 are prescribed to be $100. He noted that while this is the same as for variable annuities (VA), the fee for fixed annuity contract would generally be expected to be significantly lower than the VA contract even though both have GLBs. Carmello suggested these assumptions should be based on the studies available, and it may be different from VA, but that that number may change over time. Yanacheak agreed with Carmello.

Slutsker noted that the assumptions in the VM-22 standard projection amount (SPA) draft came from a WTW presentation from the Subgroup's meeting on Nov. 30, 2022. Slutsker asked the ACLI to propose an expense assumption for the fixed indexed annuities. Bayerle agreed to take the request back to ACLI membership. The Subgroup will revisit this assumption during a future meeting.

Bayerle said the ACLI is looking for a clarification of "All other contracts" in Table 6.1 Base Maintenance Expense assumptions since many individuals may be covered on one policy for institutional products. Carmello said the intent was participants, not one contract or group, and suggested making an edit to clarify. The Subgroup agreed to put in a placeholder of "All other individual contracts or participants in a group contract" and add a drafting note until the assumption can be further addressed. Bayerle agreed to have ACLI membership review the assumption of $75 per participant in a group contract for appropriateness or propose an alternative. The Subgroup will revisit this assumption during a future meeting.

Slutsker said there had been some confusion regarding the application of the percent of account value expense assumption outlined in Section 6.C.2.b to products without account values. Carmello agreed with the ACLI proposal to proxy the account value as the present value of the benefit using the 10-year U.S. Treasury (UST10Y) at the valuation date to discount. The Subgroup agreed to move forward with this approach.

Slutsker said between the field test discussions and the ACLI comments, there is clarification needed for Section 6.C.3 regarding whether guaranteed minimum death benefits (GMDB) are included in the guaranteed actuarial present values (GAPV) definition because under VM-21, the GMDB is not included. Bayerle agreed to have ACLI membership work on proposed language to clarify this. The Subgroup will revisit this assumption during a future meeting.

Slutsker noted that the discussions during the field test and the ACLI comments identified clarifications needed for the calculation of integrated benefits in Section 6.C.3. The ACLI commented that for the future projection period, the survival factor appears to apply only to the living benefit and not the death benefit.

Angela McShane (EY) said the intent of the calculation is to discount both the death and living benefits each period. She also said the formula needs to be updated. Chris Conrad (American Academy of Actuaries—Academy) agreed. Linda Lankowski (RGA) said the correct notation depends on how the variables are defined in the formula. The Subgroup agreed to revisit this after appropriately defined notation is proposed.

Having no further business, the VM-22 (A) Subgroup adjourned.

VM-22 Field Test Update and Model Office Results

NAIC Life Actuarial Task Force
November 15, 2024

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

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:

Field test specifications released for public comment

Model office build complete and preliminary results shared

Results from field test aggregated and analyzed

VM-22 regulation finalized by LATF

4Q23	1Q24	2Q24	3Q24	4Q24	1Q25	2Q25	3Q25	4Q25	1Q26

VM-22 field test specifications finalized

Participants conduct field testing (July-Sep.)

VM-22 regulation revised based on field test results

VM-22 effective date January 1, 2026

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.

Reserves and Weighted Average NAER

VM-22 SR — CARVM — NAER — 3.3% Breakeven
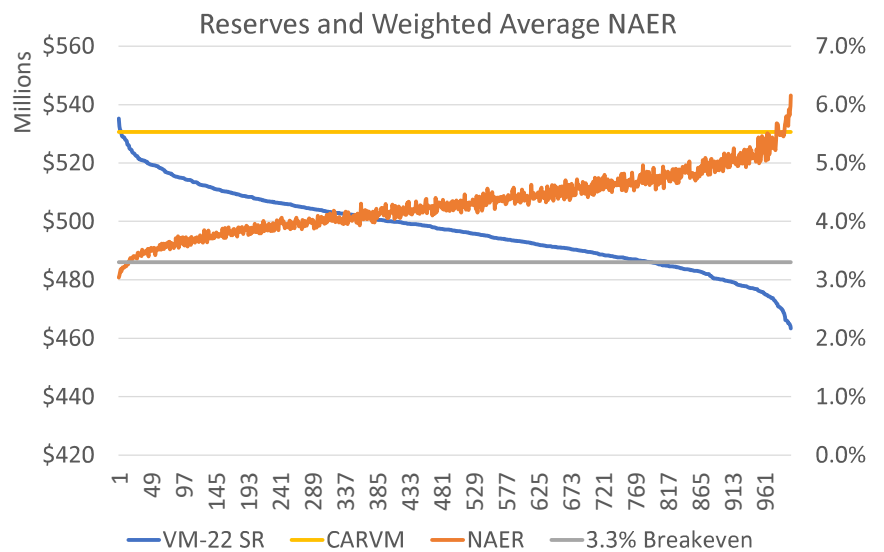
PRT Results by Sub-block

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

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Accumulation Annuities
Reserving Category: FDA and FIA

AMERICAN ACADEMY of ACTUARIES

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%

Stochastic Reserve vs Average Spread
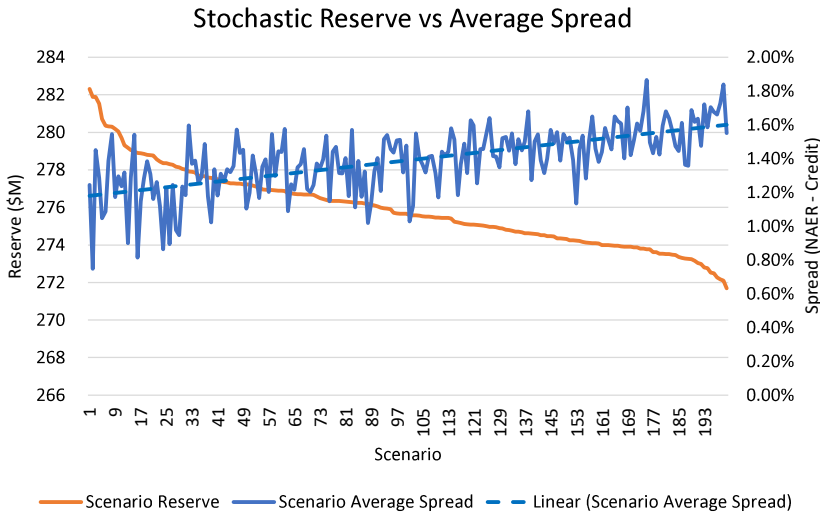
- For each of the 200 stochastic scenarios, the graph shows the VM-22 Stochastic Reserve (orange line) and average spread (blue line), where the average spread is calculated as the **weighted average NAER minus weighted average implied crediting rate**.

- 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.

Spread and 7-Year Treasury by Projection Year
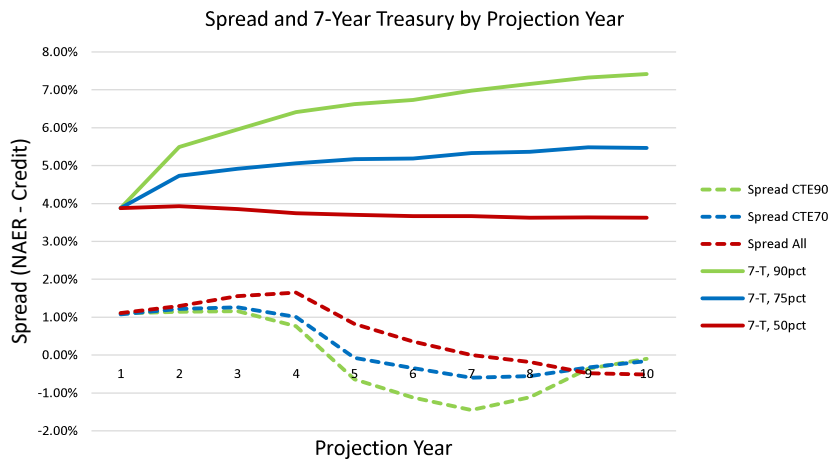
- The relationship shows higher CTEs are comprised of scenarios that observe worse (more negative) spreads, but also higher interest rates.

- 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.

Impacts from CARVM

Run	Value
Run 1	0.0%
Run 2	0.2%
Run 3	-0.7%
Run 4	19.2%
Run 5	0.4%
Run 6	-5.5%
Run 7	-8.6%
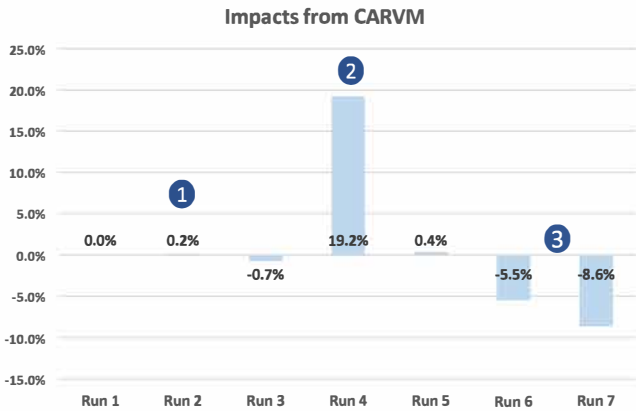
Commentary

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.

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Stochastic Exclusion Ratio Test (SERT)

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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	
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*	• 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
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

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NAIC NATIONAL ASSOCIATION OF INSURANCE COMMISSIONERS

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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2024 NATIONAL MEETING FALL / DENVER

NAIC

NATIONAL MEETING FALL / DENVER

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

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Slide 3

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.

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Slide 4

GOES (E/A) Subgroup: Key Discussion Topics

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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.**

GOES Model Governance Framework

GOES Model	Scenario Delivery	Ongoing Maintenance	Ancillary Tools
Validation and Statistics	Documentation	Training Materials	Support

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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.**

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Dynamic GFF UST Flooring Alternatives — 2024 National Meeting Fall / Denver. Source: American Council of Life Insurers

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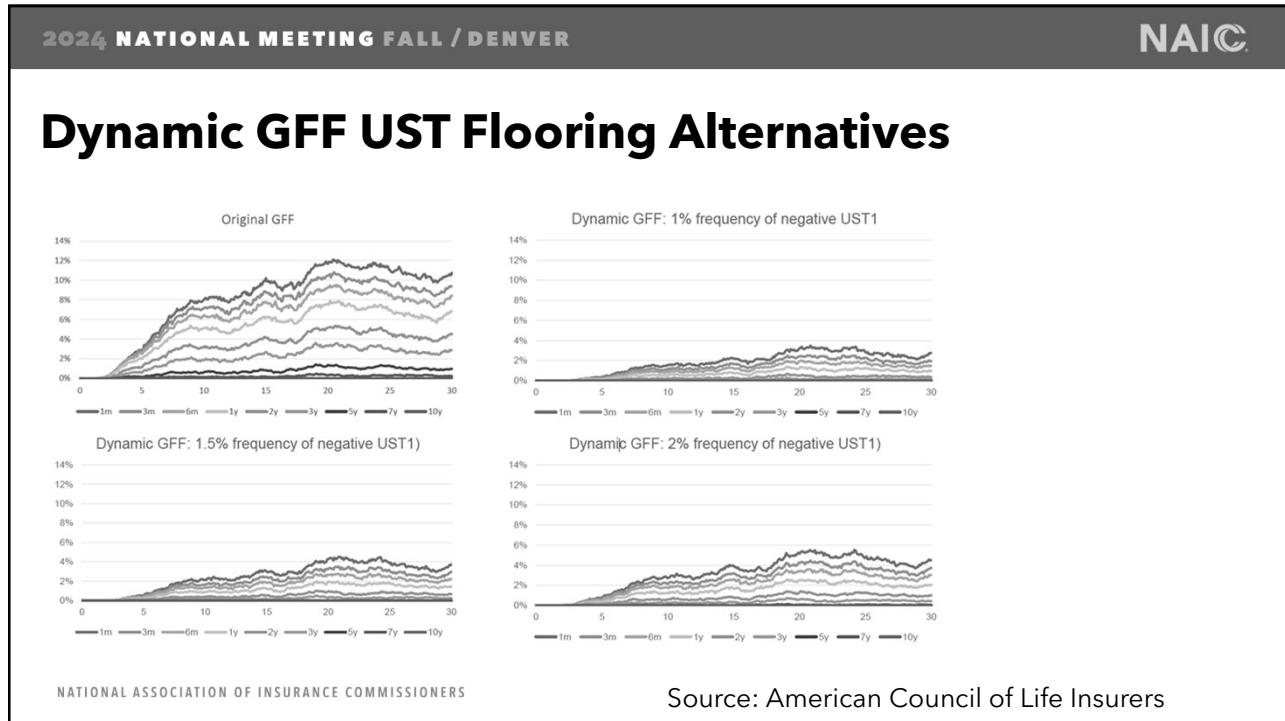
Equity Calibration

- 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.**

Percentiles	Targets						Simulated						Ratio					
	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

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Slide 9

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

Legend: GOES — AIRG

Categories: Baseline, GOES 12/23, Low Rate Shock, Up Rate Shock, Normal Curve, Alt. Initial Yield Curve Fit

■ ULSG, Baseline Fail Removed ■ Term, Baseline Fail Removed

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

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Slide 10

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.**

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2024 NATIONAL MEETING FALL / DENVER

NAIC

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.

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

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11

Draft: 11/05/24

Generator of Economic Scenarios (GOES) (E/A) Subgroup
Virtual Meeting
October 16, 2024

The GOES (E/A) Subgroup of Life Risk-Based Capital (E) Working Group and Life Actuarial (A) Task Force met Oct. 16, 2024. The following Subgroup members participated: Mike Yanacheak, Chair (IA); Pete Weber, Vice Chair (OH): Ted Chang (CA); Scott Shover (IN); Ben Slutsker (MN); William Leung (MO); Bill Carmello (NY); Rachel Hemphill (TX); and Craig Chupp (VA).

1. Discussed SERT Scenario Feedback
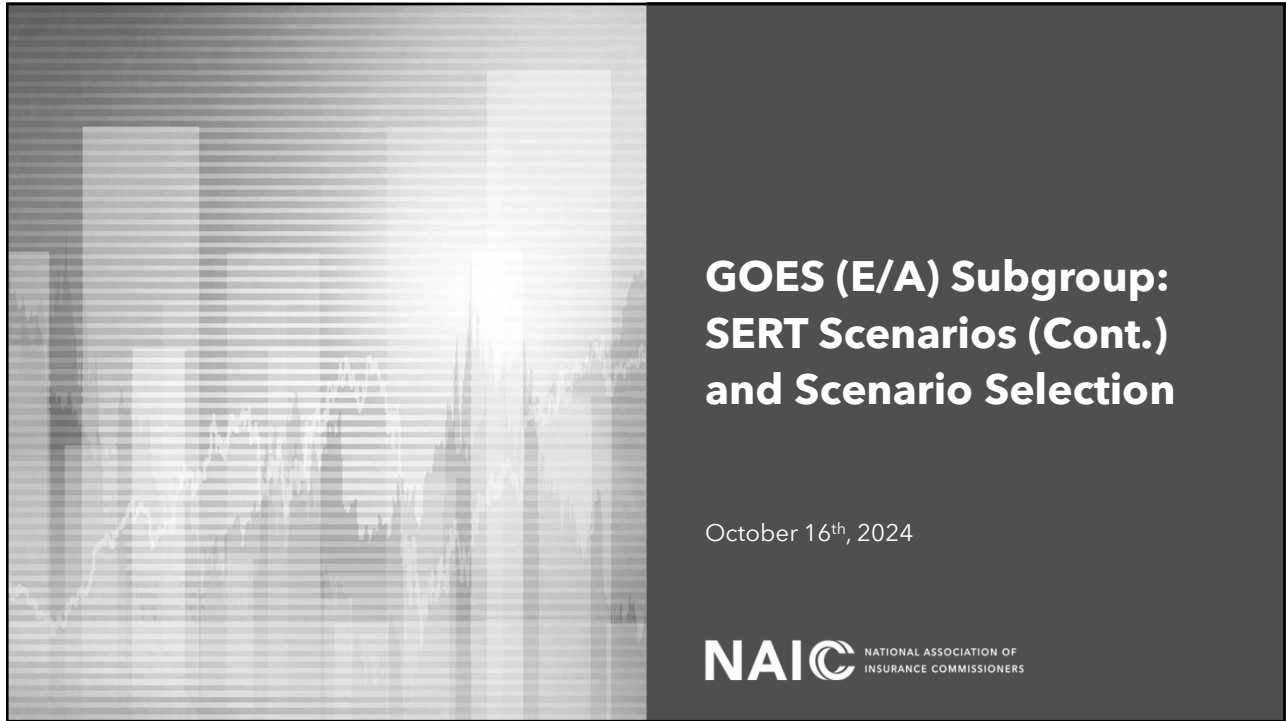
Scott O'Neal (NAIC) presented feedback from Field Test II participants on stochastic exclusion ratio test (SERT) Scenarios (Attachment Eighteen-A). Weber said that the Subgroup had the option of simply adjusting the SERT passing threshold or altering the SERT scenarios, but he was unsure of unintended consequences that could arise from adjusting the threshold. Hemphill proposed changing the threshold as the expedient next step, followed by working to improve the SERT scenarios at a later date. She suggested options like certification methods for incorrect failures and supporting documentation for unexpected passes. Slutsker said that he was not concerned about false failures due to the current VM-20, Requirements for Principle-Based Reserves for Life Insurance, certification method's three-year lookback flexibility to non-flexible premium products. He proposed reducing volatility for nonmaterial secondary guarantees under 20 years by allowing the certification method for those products to use a lookback period of three-years rather than the currently prescribed. Connie Tang (Retired) inquired about data supporting which scenarios caused failures. O'Neal noted some data from the 2024 field test was available. However he said it was inconsistent between runs and participants and required further research. Colin Masterson (American Council of Life Insurers—ACLI) asked if the ACLI could distribute the material for more feedback, and Yanacheak agreed. Yanacheak responded that this item could be included in an exposure to formally receive feedback on.

O'Neal continued the presentation with a discussion of the feedback on the deterministic reserve (DR) scenario. Tang noted that feedback on the conservatism of the DR scenario was more related to the calibration of the underlying stochastic scenarios, which Steve Strommen (Blufftop LLC) supported. Strommen added that the current calibration included a "low for long" criterion that was significantly more severe than any observed behavior, leading to intentionally harsher low scenarios. O'Neal, noting that the 20-year UST DR scenario was less extreme than the one-year UST DR scenario, asked whether companies were more concerned with the longer maturity DR scenarios or the shorter maturity DR Scenarios. Tang said it could vary depending on a company's products and investment strategies. Yanacheak asked O'Neal to provide more data and charts on the different maturity Treasury DR scenarios, to which O'Neal responded could be provided in the exposure.

2. Discussed Scenario Selection

O'Neal introduced the Excel-based scenario selection tool used in the 2024 field test, developed by Conning. O'Neal asked the Subgroup if the tool meets regulatory and industry needs. Carmello inquired if companies would get the same scenarios with identical parameters and inputs, and O'Neal affirmed this. Hemphill noted the *Valuation Manual* required a robust demonstration that any scenario reduction techniques do not materially lower or bias the reserve. Chang supported adding language to the *Valuation Manual* requiring companies to provide reasoning or seek approval if they change their scenario selection methodology between valuations. Having no further business, the GOES (A) Subgroup adjourned.

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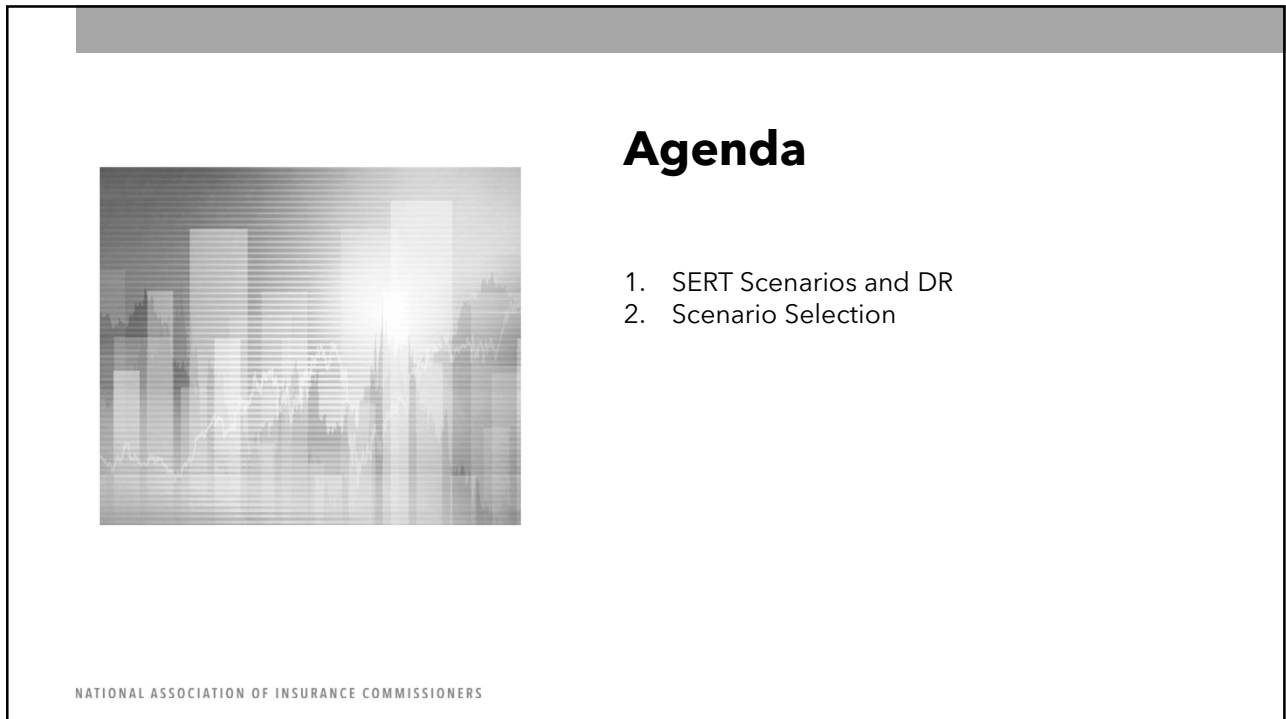
GOES (E/A) Subgroup: SERT Scenarios (Cont.) and Scenario Selection

October 16th, 2024

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Agenda

1. SERT Scenarios and DR
2. Scenario Selection

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Field Test Participant Feedback: SERT Scenarios and DR

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3

SERT Scenarios

Participant Feedback:

- Recalibrate the SERT scenarios to be less extreme; Consider increasing the SERT passing threshold above 6% to address conservatism in the SERT scenarios.
- [One participant's Term model segment passed the SERT, but company calculated an SR that was in excess of both their DR and NPR for the baseline and field test scenarios. This was a new SR model for them.]
- Calibration of deterministic scenario for valuation is beyond moderately adverse.

Scenario 12 (DR Scenario), 20YR UST, 12/31/23

GOES —— AIRG

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

GOES —— AIRG

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2024 Field Test Participant SERT Results

- For the 12/31/23 GOES FT1 scenarios compared to the Baseline (AIRG) SERT scenarios:
  - The average SERT ratio increased across all VM-20 reserving categories, and
  - Each reserving category saw one participant's model segment that had passed with the Baseline fail with the GOES SERT scenarios.
- The average SERT ratio across each reserving category was significantly impacted by increases to the model segment that failed with the Baseline
- FT3 ("Up Rate Shock") saw the most model segments fail, particularly in the term model segment.
- No additional "All Other" model segments failed the field test SERT scenarios

Average Participant SERT Ratio by Reserving Category

Number of Passing Participant Model Segments/Total Participant Model Segments

VM-20 Reserving Category	Baseline	FT1 12/31/23	FT2 Low Rate Shock	FT3 Up Rate Shock	FT4 Normal Yield Curve	FT6 Alt. Initial Yield Curve Fit
ULSG	6/7	5/7	6/7	4/7	5/7	4/6
Term	10/11	8/10	7/8	3/7	5/7	5/7
All Other	4/5	4/5	4/5	4/5	4/5	

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2024 Field Test Participant SERT Results, continued

- For the Term and ULSG reserving categories, when the model segment that is failing in the baseline is removed:
  - the average SERT ratios go down significantly.
  - the average SERT ratio is never above the passing threshold.
- There were not enough participants to show for the "All Other" VM-20 Reserving Category
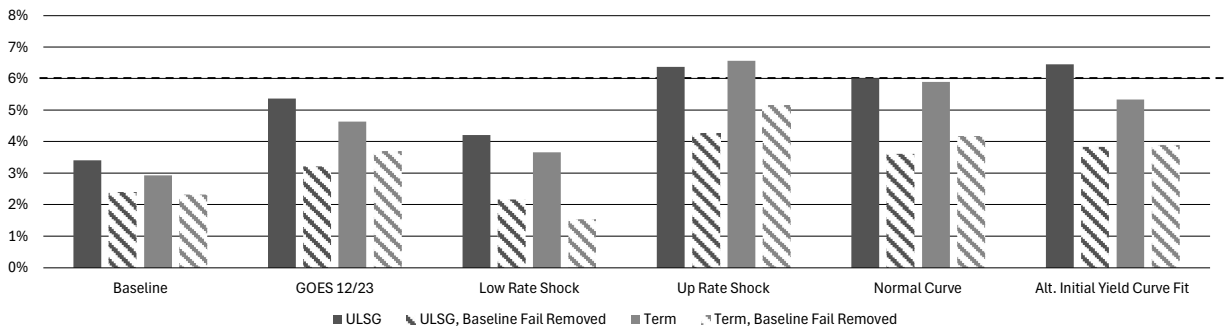
6

2024 Field Test Participant SERT Results, continued

- 87% of the field test participants' model segments passed the SERT in their baseline YE23 run with a 6% threshold. This number dropped to 77% for the FT1 YE23 scenarios. Increasing the threshold to 7% brings the participant passing rate back up to a similar level.
- 58% of the FT3 (Up Rate Shock) field test participant model segments passed the SERT at the 6% threshold, increasing to up to ~80% if the threshold is increased to 7.5%. Note, we do not have comparative data on the frequencies of participants that would pass using the FT3 starting yield curve and AIRG SERT scenarios.
- **Question:** Should an adjustment be made to the threshold for passing the SERT scenarios, or some other modification?

**Frequency of Passing SERT by Field Test Run
All VM-20 Reserving Categories**

Frequency of Passers at Different Thresholds

■6% ■6.50% ■7% ■7.50%
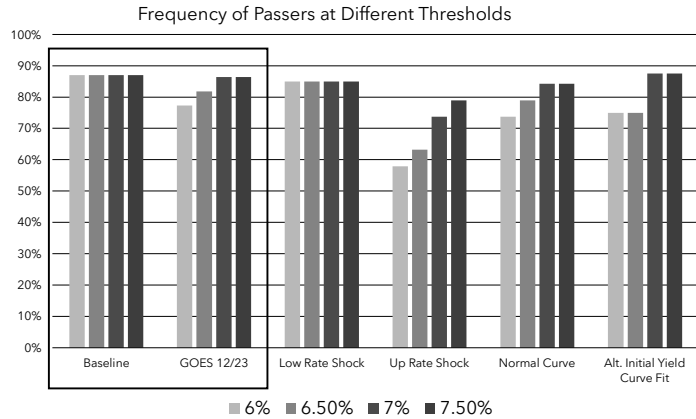
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DR Scenario

Scenario 12 – Deterministic scenario for valuation
There are uniform downward shocks each month for 20 years, sufficient to get down to the one standard deviation point (84%) on the distribution of 20-year shocks. After 20 years, shocks are zero.
Questions:
1. Should the same formula for the DR scenario be used in the GOES scenarios?
2. What information would be needed to make a decision (e.g. model office testing of different options)?

Scenario 12 (DR Scenario), 20YR UST, 12/31/23
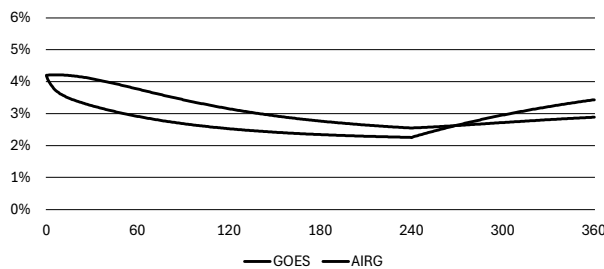
—GOES —AIRG

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

—GOES —AIRG

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Scenario Selection
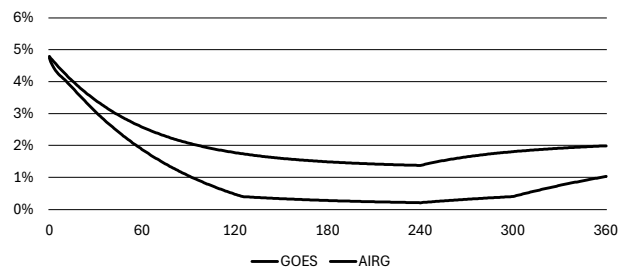
NAIC NATIONAL ASSOCIATION OF INSURANCE COMMISSIONERS
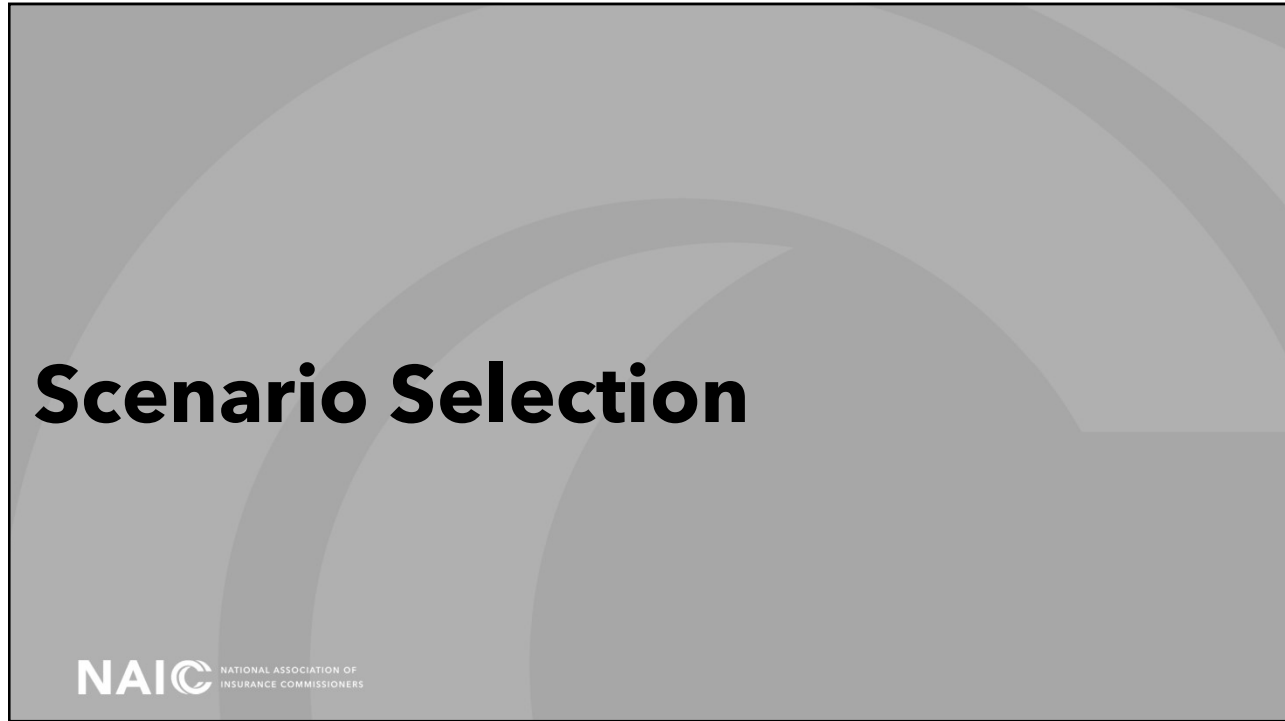
9

Scenario Selection - Background

- One of the components of the Academy Interest Rate Generator which needs to be replaced is the Scenario Picker Tool. This tool creates subsets (i.e., 50, 200, 500, and 1000 scenarios) from the full set of 10,000 scenarios, which can be used to reflect the full distribution.
- Currently, if a scenario subset is used in reserve calculations, VM-20 prescribes use of the scenario picker tool but VM-21 does not. Applicable VM language is shown below.
- VM-31 contains requirements for companies to demonstrate their compliance with applicable VM-20 and VM-21 language.

VM-20 Section 7.G.2:
c. Use of fewer scenarios rather than a higher number of scenarios is permissible as a model efficiency technique provided that:
  i.   The smaller set of scenarios is generated using the scenario picker tool provided within the prescribed scenario generator, and
  ii. The use of the technique is consistent with Section 2.G.
d. The number of scenarios required to comply with Section 2.G will depend on the specific nature of the company's assets and liabilities and may change from time to time. Compliance with Section 2.G would ordinarily be tested by comparing scenario reserves of a simpler model or a representative subset of policies, run using the reduced scenario set, with the scenario reserves of the same subset or simpler model run using the larger scenario set.

VM-21 Section 8.F:
1. For straight Monte Carlo simulation (with equally probable "paths" of fund returns), the number of scenarios should typically equal or exceed 1,000. **The appropriate number will depend on how the scenarios will be used and the materiality of the results. The company should use a number of scenarios that will provide an acceptable level of precision.**
2. Fewer than 1,000 scenarios may be used provided that the company has determined through prior testing (perhaps on a subset of the portfolio) that the CTE values so obtained materially reproduce the results from running a larger scenario set.
3. Variance reduction and other sampling techniques are intended to improve the accuracy of an estimate more efficiently than simply increasing the number of simulations. Such methods can be used provided the company can demonstrate that they do not lead to a material understatement of results. Many of the techniques are specifically designed for estimating means, not tail measures, and could in fact reduce accuracy (and efficiency) relative to straight Monte Carlo simulation.
4. The above requirements and warnings are not meant to preclude or discourage the use of valid and appropriate sampling methods, such as Quasi Random Monte Carlo (QRMC), importance sampling or other techniques designed to improve the efficiency of the simulations (relative to pseudo-random Monte Carlo methods).

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Scenario Selection

Excel-based Scenario Selection Tool Used in 2024 Field Test:
- For the 2024 GOES Field Test, an excel based scenario selection tool was utilized by participants to determine their scenario subsets from the 10k set.
- The tool is able to select scenario subsets based off of the 20-year UST significance measure or equity GWFs from the Large Cap fund. Both values are calculated from the relevant scenario set by Conning and included as a separate input for use in the tool.
- As currently configured, the tool allows the user to select any number of scenarios up to 1,000.
- The user can also specify whether spot rates, coupon yields, or both should be output.

Question: Does this tool meet the needs of regulators and the industry?

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Draft: 11/6/24

Generator of Economic Scenarios (GOES) (A) Subgroup
Virtual Meeting
October 9, 2024

The GOES (A) Subgroup of Life Actuarial (A) Task Force met Oct. 9, 2024. The following Subgroup members participated: Mike Yanacheak, Chair (IA); Pete Weber, Vice Chair (OH); Ted Chang (CA); Wanchin Chou (CT); Ben Slutsker (MN); Seong-min Eom (NJ); Bill Carmello (NY); and Rachel Hemphill (TX).

1. Discussed Initial Yield Curve Fit and SERT Scenario Field Test Participant Feedback

Scott O'Neal (NAIC) walked through a presentation (Attachment Nineteen-A) on feedback from the 2024 GOES field test participants on initial yield curve fitting and stochastic exclusion ratio test (SERT) scenarios. After O'Neal's discussion of the initial yield curve fitting, Brian Bayerle (American Council of Life Insurers—ACLI) presented an alternative methodology. Bayerle said that Conning's current approach prioritizes the short end of the curve when fitting the Treasury model against the initial yield curve. Bayerle emphasized the importance of avoiding overstating or understating modeled rates to prevent non-economic volatility in reserves and capital. Yanacheak inquired about any industry concerns with the ACLI's approach, and Bayerle responded that the ACLI has not encountered any opposition to the alternative proposal. Yanacheak then asked about the large fitting errors in the shorter maturities and their potential impact on reserves and capital. Bayerle responded that due to the faster mean reversion of the shorter end of the curve, rates are expected to realign within a year and, therefore, should have a small impact.

Dan Finn (Conning) presented on the Initial Treasury Fit Approach and alternative calibrations in the GEMS model (Attachment Nineteen-B). Iouri Karpov (Prudential) noted that his concern was with how the fitting errors played out in the projected scenarios and not necessarily the fitting errors at the start of the projection. Karpov also noted that Conning's approach put too much weight on fitting shorter maturities, which he felt was not appropriate given life insurers' typical investments in longer maturity assets. Weber commented that targeting longer tenors is logical given insurers' longer investment portfolios, a view that Randall McCumber (Lincoln Financial Group) supported. Chang noted that the performance of the two fitting methodologies would be dependent on the starting yield curve. Yanacheak noted that this topic would need additional discussion during a future Subgroup meeting.

O'Neal concluded the presentation of feedback from GOES 2024 field test participants on SERT scenarios, highlighting passing ratios across products subject to VM-20, Requirements for Principle-Based Reserves for Life Products. O'Neal said that participants suggested that the SERT scenarios, and in particular the deterministic reserve (DR) scenario, were too adverse.

Having no further business, the GOES (A) Subgroup adjourned.

SharePoint/NAIC Support Staff Hub/Member Meetings/A CMTE/LATF/2024-3-Fall/GOES SG Calls/Oct 9/October 9 Minutes.docx

GOES (E/A) Subgroup: Initial Yield Curve Fit and SERT Field Test Participant Feedback

October 9th, 2024

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Agenda

Discussion of Field Test Participant Feedback on:

1. Initial Yield Curve Fitting

2. SERT Scenarios

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Field Test Participant Feedback: Initial Yield Curve Fitting

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Initial Yield Curve Fitting Methodology

Participant Feedback:
- Preference for alternative baseline.
- Adopt initial yield curve method used in the alternative baseline as the standard approach with exact method for error term runoff.
- Use ACLI's initial curve fitting methodology.

Field Test Participant Feedback: SERT Scenarios

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SERT Scenarios

Participant Feedback:

- Recalibrate the SERT scenarios to be less extreme; Consider increasing the SERT passing threshold above 6% to address conservatism in the SERT scenarios.
- [One participant's Term model segment passed the SERT, but company calculated an SR that was in excess of both their DR and NPR for the baseline and field test scenarios. This was a new SR model for them.]
- Calibration of deterministic scenario for valuation is beyond moderately adverse.

Scenario 12 (DR Scenario), 20YR UST, 12/31/23
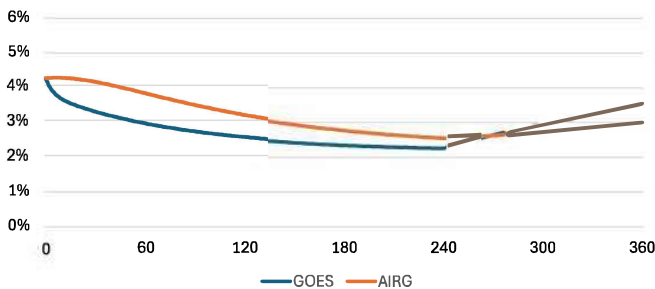
Scenario 12 (DR Scenario), 1YR UST, 12/31/23

2024 Field Test Participant SERT Results

- For the 12/31/23 GOES FT1 scenarios compared to the Baseline (AIRG) SERT scenarios:
  - The average SERT ratio increased across all VM-20 reserving categories, and
  - Each reserving category saw one participant's model segment that had passed with the Baseline fail with the GOES SERT scenarios.
- The average SERT ratio across each reserving category was significantly impacted by increases to the model segment that failed with the Baseline
- FT3 ("Up Rate Shock") saw the most model segments fail, particularly in the term model segment.
- No additional "All Other" model segments failed the field test SERT scenarios

Average Participant SERT Ratio by Reserving Category

Number of Passing Participant Model Segments/Total Participant Model Segments

VM-20 Reserving Category	Baseline	FT1 12/31/23	FT2 Low Rate Shock	FT3 Up Rate Shock	FT4 Normal Yield Curve	FT6 Alt. Initial Yield Curve Fit
ULSG	6/7	5/7	6/7	4/7	5/7	4/6
Term	8/9	8/9	7/8	3/7	5/7	5/7
All Other	4/5	4/5	4/5	4/5	4/5	

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2024 Field Test Participant SERT Results, continued

- For the Term and ULSG reserving categories, when the model segment that is failing in the baseline is removed:
  - the average SERT ratios go down significantly.
  - the average SERT ratio is never above the passing threshold.
- There were not enough participants to show for the "All Other" VM-20 Reserving Category
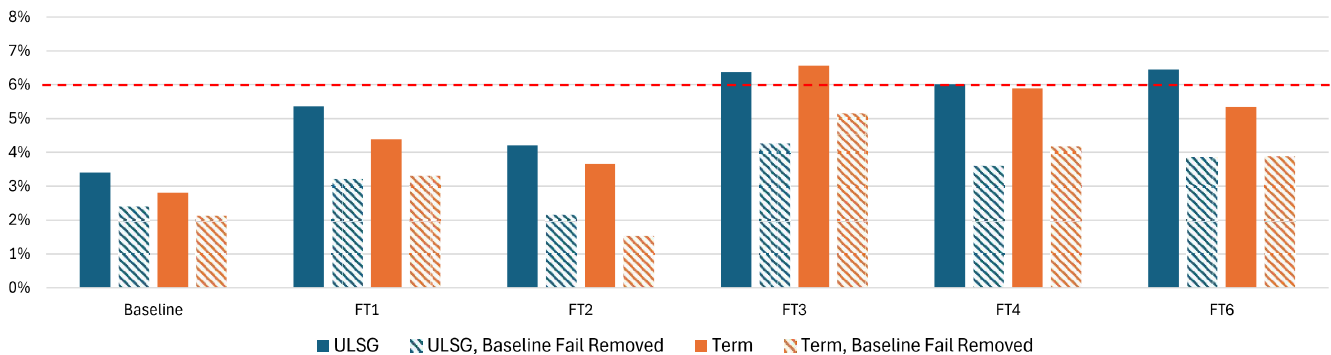
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2024 Field Test Runs

Field Test Run	Scenario Sets	Inforce Assets and Liabilities	Comparison Scenario Set
Baseline Already exists; no new runs needed.	Scenario set(s) the company used for 12/31/23 statutory reporting of reserves and RBC**	As of 12/31/23**	N/A
Field Test 1	Conning scenarios as of 12/31/23**	As of 12/31/23**	Baseline
Field Test 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.*	Field Test 1
Field Test 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.		Field Test 1
Field Test 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.		Field Test 1
Field Test 5 – Down Equity Shock (VM-21/C3P2 and VUL business only)	Conning scenarios as of 12/31/23 (same as Field Test 1)	As of 12/31/23, but modified for a 25% drop in equity markets.*	Field Test 1
OPTIONAL Field Test 6 – Alternative Initial Yield Curve Fit	Conning scenarios as of 12/31/23 with alternative initial yield curve fitting methodology that emphasizes longer maturities.	As of 12/31/23	Field Test 1

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2024 Field Test Runs (continued)

| Field Test Run	Scenario Sets	Inforce Assets and Liabilities	Comparison Scenario Set
OPTIONAL Field Test 7 – High Credit Spread	Conning scenarios as of with 12/31/23 starting interest rate conditions and starting corporate bond spread environment as of 12/31/2008	As of 12/31/23, but modified as necessary for a different starting corporate bond spread environment*	Field Test 1
OPTIONAL Field Test 8 – Low Credit Spread	Conning scenarios as of with 12/31/23 starting interest rate conditions and starting corporate bond spread environment as of 12/31/2021	As of 12/31/23, but modified as necessary for a different starting corporate bond spread environment*	Field Test 1
OPTIONAL Field Test 9 – Extreme Up Rate with Inversion	Conning scenarios with a starting UST yield curve as of 3/31/80 but with 12/31/23 starting credit spreads.	As of 12/31/23, but modified as necessary for a different starting UST yield curve.*	Field Test 1
OPTIONAL Field Test 10 – Low Equity/Low Interest	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 for a 25% drop in equity markets.*	Field Test 1
OPTIONAL Field Test 11 – Low Equity/High Interest	Conning scenarios with a starting UST yield curve as of 10/31/89 but with 12/31/23 starting credit spreads.	As of 12/31/23, but modified for a 25% drop in equity markets.*	Field Test 1
OPTIONAL Field Test 12 – Up Equity Shock	Conning scenarios as of 12/31/23**	As of 12/31/23, but modified for a 25% increase in equity markets.*	Field Test 1

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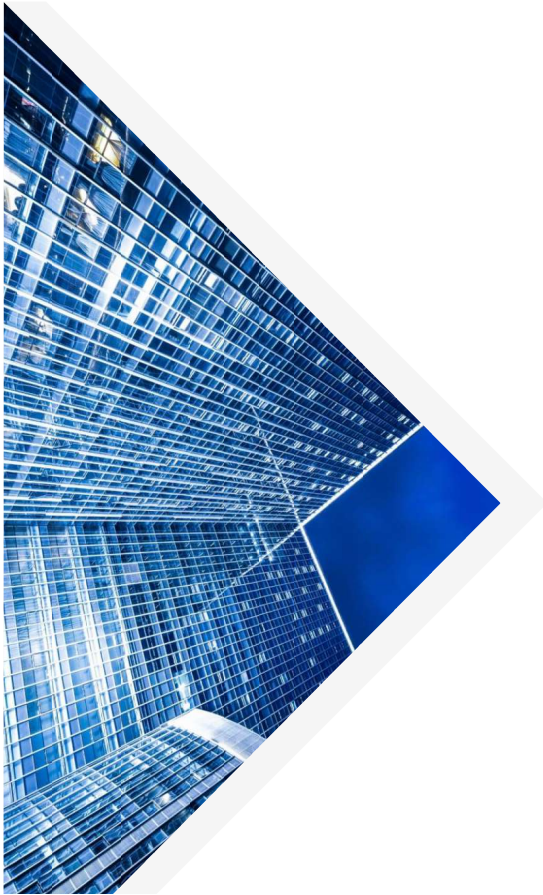
Initial Treasury Fit Discussion

Academy Economic Scenarios Work Group
Weekly Meeting

May 10, 2024

Initial Treasury Fit Approach

Standard GEMS® approach

- Select 3 Pivot Tenors: 3-Month and 2 others that adjust each month
- Other 2 are selected to minimize gap between Fitted and Actual Spot Curves

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Adjustments for First Field Test

Concern was raised about 1-Month Yield

- Extrapolated from 3-Month
- Could cause unexpected movements in Equity Returns
- So, Conning switched fixed Pivot from 3-Month to 1-Month

Fitting process applies to unfloored spot rates

- Take actual Spot Rates
- Calculate rate needed to produce this result after flooring
  - E.g., in Dec 2021 runs, 6 bps Yield for 3-Month Treasury gets converted to -1.3%
- Fit these "unfloored" Spot Rates
- Tends to over emphasize short rates in these situations
- So, Conning switched to using Par Yields

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Impact on December 2023 Fitting

Unusual initial curve

- Inverted out to 10-Year
- Sharply increases to 20-Year
- Drops back down for 30-Year

Initial Yield
Dec 2023

— Actual
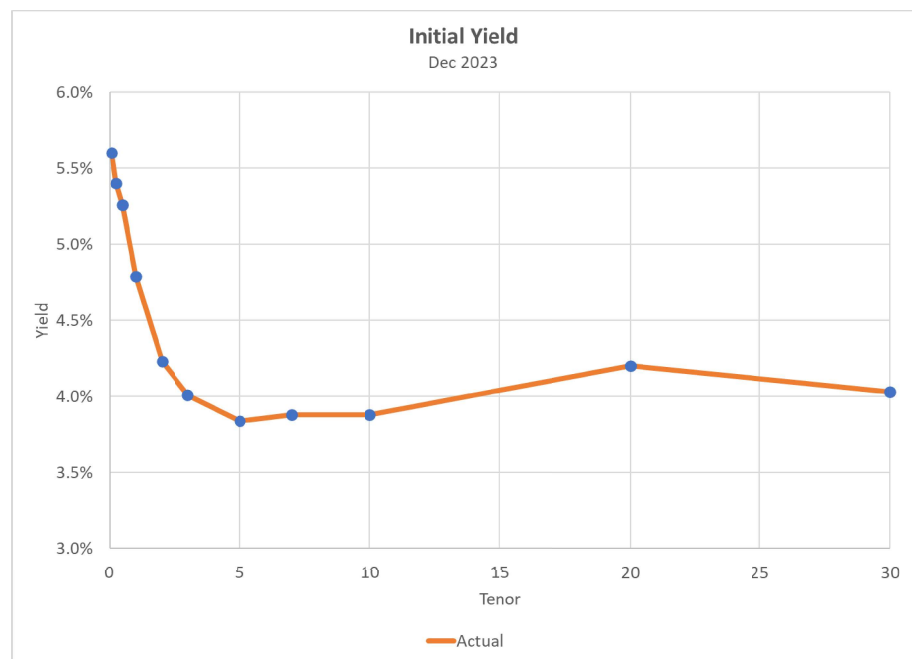
Prepared by Conning, Inc. Source: U.S. Department of the Treasury (2024)

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Impact on December 2023 Fitting

Unusual initial curve

- Inverted out to 10-Year
- Sharply increases to 20-Year
- Drops back down for 30-Year

GEMS® revised approach

- Selects 1- and 10-Year Pivots
- Balances being above in mid range with being below on long end
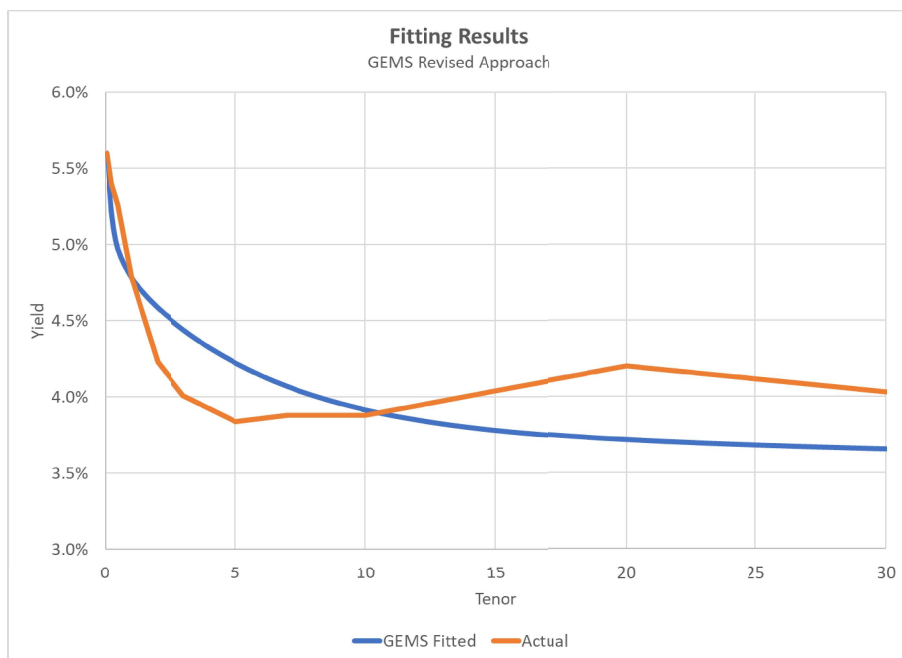
Prepared by Conning, Inc. Sources: U.S. Department of the Treasury (2024), GEMS® Economic Scenario Generator scenarios.,

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Impact on December 2023 Fitting – State Variables

Unusual initial curve

- Leads to unusual initial values
- Mix of above and below target values
- Relatively large mismatch between Fitted and Actual

State	Initial	Long Term	Reversion Speed
#1	5.82%	4.52%	4.50
#2	10.03%	5.26%	7.87
#3	2.70%	6.05%	13.13

Prepared by Conning, Inc. Source: GEMS® Economic Scenario Generator scenarios.

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Impact on December 2023 Fitting – State Variables
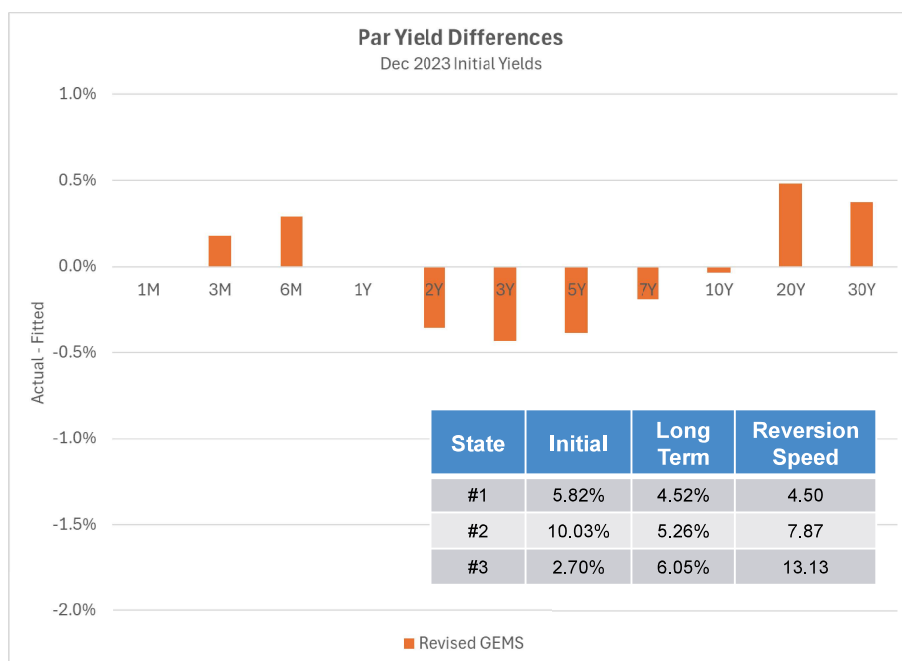
Unusual initial curve

- Leads to unusual initial values
  - Mix of above and below target values
  - Relatively large mismatch between Fitted and Actual
- Creates potential for non-linear movements in averages
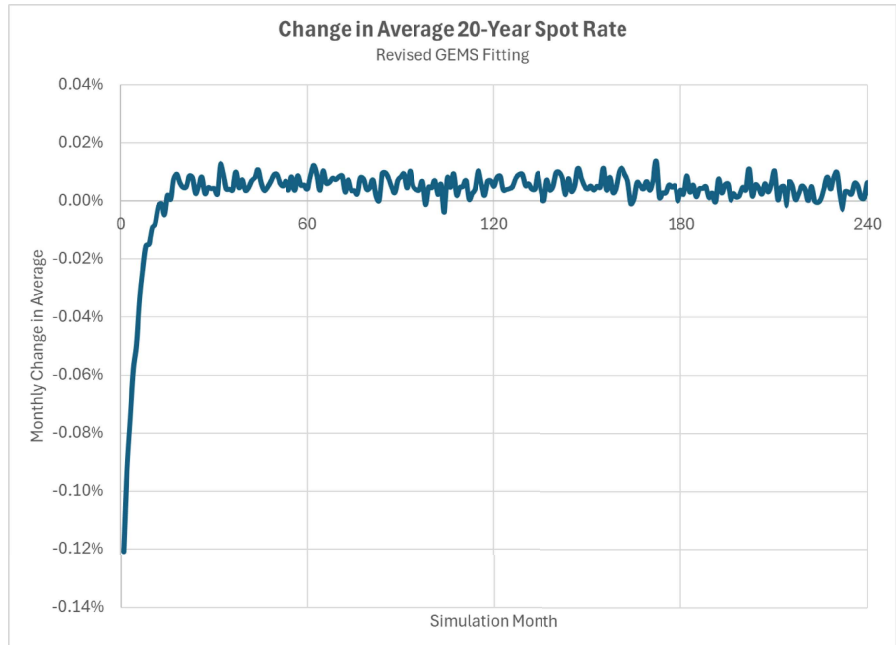
Change in Average 20-Year Spot Rate
Revised GEMS Fitting

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Impact on December 2023 Fitting – Alternative Methods

Compared three other methods

- Original Conning approach
- Least Squares Fitting
- Proposal from Iouri Karpov

Observations

- Removal of 1-Month from fitting creates mismatch for all
- Tradeoffs for the rest of the curve include a better fit or the long end and a worse fit for the short end
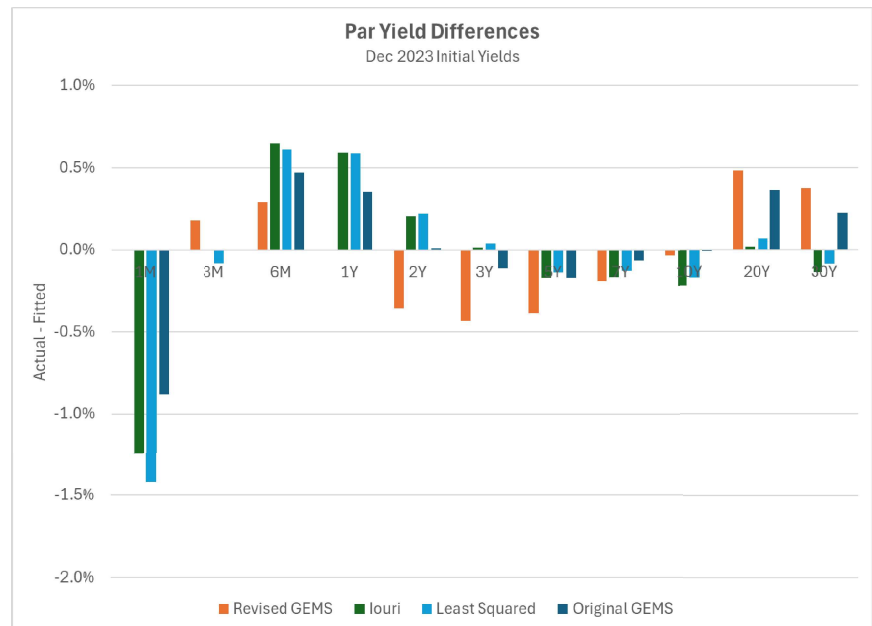
Par Yield Differences
Dec 2023 Initial Yields

Legend: ■ Revised GEMS ■ Iouri ■ Least Squared ■ Original GEMS

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Impact on December 2023 Fitting – Average Yields

Different fits create different behaviors

- Iouri Karpov's calibration has a better initial fit on 20-Year reduced swings in averages

Change in Average 20-Year Spot Rate
Revised GEMS vs Iouri Karpov's Fitting

Prepared by Conning, Inc. Source: GEMS® Economic Scenario Generator scenarios.

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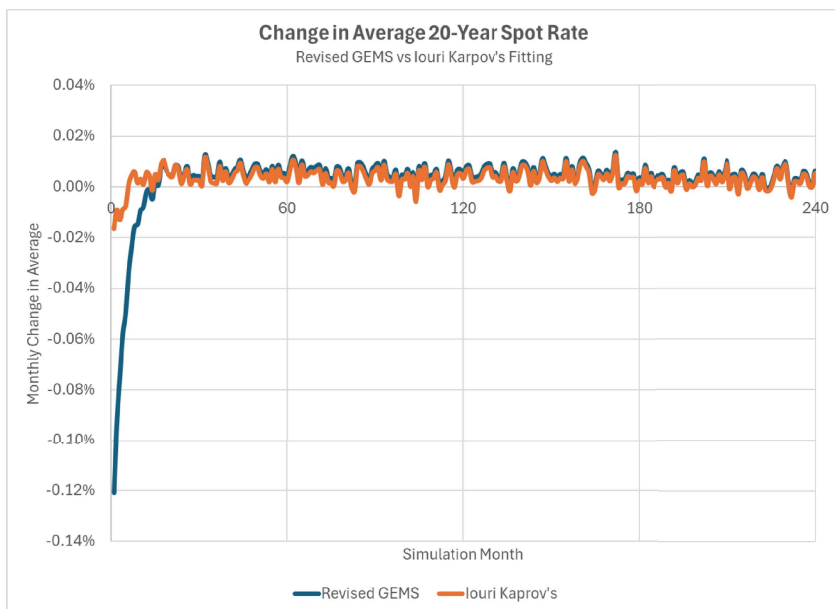
Impact on December 2023 Fitting – Average Yields

Different fits create different behaviors

- Iouri Karpov's calibration has a better initial fit on 20-Year reduced swings in averages

- The tradeoff is huge swings for the short end of the curve
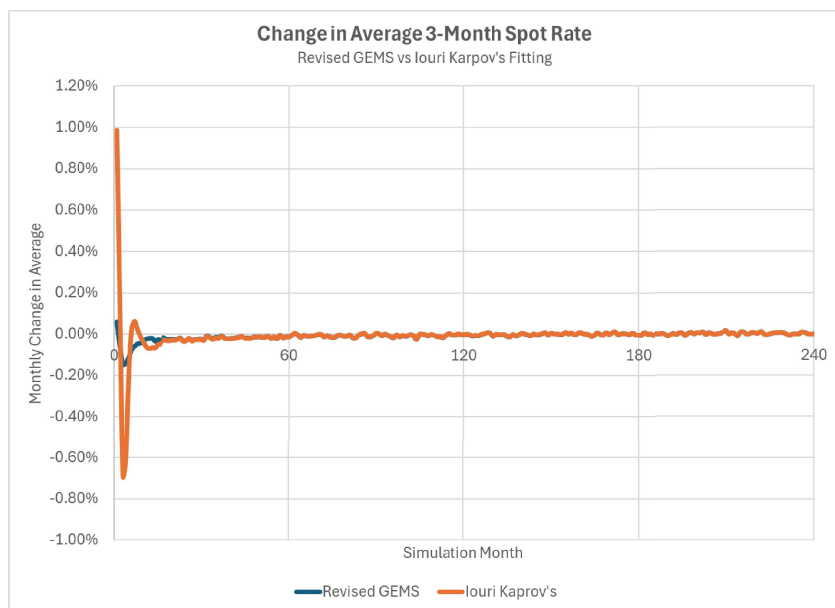
Change in Average 3-Month Spot Rate
Revised GEMS vs Iouri Karpov's Fitting

Prepared by Conning, Inc. Source: GEMS® Economic Scenario Generator scenarios.

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Disclosures

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Draft: 11/6/24

Generator of Economic Scenarios (GOES) (E/A) Subgroup
Virtual Meeting
October 2, 2024

The GOES (A) Subgroup of the Life Risk-Based Capital (E) Working Group and Life Actuarial (A) Task Force met Oct. 2, 2024. The following Subgroup members participated: Mike Yanacheak, Chair (IA); Pete Weber, Vice Chair (OH); Ted Chang (CA); Wanchin Chou (CT); Philip Barlow (DC); Scott Shover (IN); Ben Slutsker (MN); William Leung (MO); Seong-min Eom (NJ); Bill Carmello (NY); and Rachel Hemphill (TX).

1. Discussed Field Test Participant Feedback on the UST, Equity, and Corporate Models

Scott O'Neal (NAIC) walked through a presentation (Attachment Twenty-A) highlighting feedback on the U.S. Department of the Treasury (Treasury Department), equity, and corporate models from field test participants. After discussion of feedback from participants on the level of negative interest rates present in the Treasury Department scenarios, Brian Bayerle (American Council of Life Insurers—ACLI) delivered a presentation on the ACLI's proposed dynamic generalized fractional floor (GFF). Yanacheak inquired whether the ACLI had identified any unintended consequences, to which Bayerle responded that they had not observed any.

Dan Finn (Conning) noted that while the proposal would reduce the frequency of negative rates, he anticipated a minimal impact on reserves due to the small magnitude of shifts to the rates. Hal Pedersen (American Academy of Actuaries—Academy) raised a concern about potential distortions in returns, particularly among different tenors of bond returns in a low-interest environment. He warned that this could render certain asset classes unattractive and create disincentives to invest in short-term tenors. Carmello asked if it would be possible to make the approach arbitrage-free. Pedersen replied that there is no straightforward solution to remove these distortions. Pedersen noted that while adopting a shadow rate model could be a potential approach, it would require significant effort from Conning.

Iouri Karpov (Prudential) commented that the ACLI's proposed approach closely resembles the current method and would impact only a small subset of rates below 40 basis points (bps). Karpov added that the potential unintended consequences would likely be no greater than those under the current structure, given the similarity of the proposed floor to the original GFF. Weber echoed Karpov's sentiment, noting that the observed phenomenon is already present in the current model. Weber, Eom, and Carmello voiced support for the dynamic GFF alternative approach in curbing the prevalence of negative rates. However, for the long term, they said there is a need to revisit and think about revising the current Treasury model to address the incentive or lack of to invest in certain asset classes.

After O'Neal walked through feedback on the equity model, Carmello stated that he felt that the equity calibration was appropriately conservative and recommended no changes. Hemphill noted that the Subgroup did not prioritize the portion of the gross wealth factor (GWF) acceptance criteria for the minimum and maximum due to the wide range of results seen in maximums and minimums across the reference models that were used in the development of the criteria. Bayerle (ACLI) then presented an alternative equity model calibration recommended by the ACLI that had closer alignment to the lower percentiles of the equity GWF acceptance criteria. Bayerle (ACLI) then presented an alternative equity model calibration that had closer alignment to the lower percentiles of the equity GWF acceptance criteria. Hemphill asked that Conning perform a review of the ACLI's alternative equity calibration for discussion during a later Subgroup meeting.

O'Neal concluded the presentation on corporate model feedback, addressing concerns about the lack of active strategies compared to the passively managed bond funds in the Conning model. Yanacheak encouraged other companies with similar concerns to voice them through the Subgroup, ACLI, or the Academy. Pederson urged state insurance regulators to consider what the appropriate corporate model should be moving forward—whether to maintain the current model or simplify it for easier documentation. Connie Tang (Retired) acknowledged that while the GEMS corporate model may be robust, further understanding is necessary to fully evaluate its effectiveness.

Having no further business, the GOES (A) Subgroup adjourned.

SharePoint/NAIC Support Staff Hub/Member Meetings/A CMTE/LATF/2024-3-Fall/GOES SG Calls/Oct 2/October 2 Minutes.docx

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GOES (E/A) Subgroup: Feedback from Field Test Participants

Model Calibration and UST Flooring

October 2nd, 2024

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Agenda

1. Model and Calibration Feedback:
   a) US Treasury
   b) Equity
   c) Corporate

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US Treasury Model Field
Test Participant Feedback

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UST Scenario Feedback – Negative Rates

Participant Feedback:

- GEMS has a much higher occurrence of negative rates in the 90-day treasury than historical rates (1981 to present) or the prior scenario generator
- Adjust interest rate model to ensure rates are not excessive especially at the tails
- Conning scenario sets seem to be overly conservative in the tails compared to the prepackaged C3P1 RBC scenario set
- Recalibrate interest rate model to reduce frequency of negative and high interest rates

1 YR UST Negative Rate Percentiles – 10K Scenarios, 12/31/23

Negative UST Frequencies by Maturity – 10K Scenarios, 12/31/23

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UST Scenario Feedback – UST Flooring

Participant Feedback:

- Generalized Fractional Floor (GFF) has shortcomings due to its blunt approach such as distorted yield curve shapes, unrealistic term premiums and lack of arbitrage-free scenario sets. We suggest exploring the Shadow Floor from the first field test or potential changes to the GFF.
- A dynamic Generalized Fractional Floor (GFF) is a better option to control the distribution of negative rates.
  - Recently developed enhancements to the GFF effectively control the frequency and severity of extreme low/negative short-term rates and better target the associated Academy's criteria.
    - Extends existing GFF definition by dynamically adjusting GFF factors to target the desired rate level at a given tail severity (e.g. target 0% UST1 at 1% tail in steady state).
    - Applies post scenario generation and requires minimal model updates.

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UST Scenario Feedback – Other

Participant Feedback:

- **Interest Rate Volatility:**
  - Volatility is higher in GEMS than the prior scenario but is slightly lower than historical (1981-present)
  - We ask the NAIC to consider if the resulting measured interest rate volatility is reasonable vs. observable history for a moderately adverse CTE 70 Best Efforts reserve and CTE 98. Perhaps could use historical volatility plus a margin for CTE Best efforts instead of directly sourcing from the GOES generator which is elevated to meet interest rate scenario acceptance criteria.
- **Yield Curve Inversions:**
  - Inverted yield curves in GEMS occur 16-24% of the time [depending on starting conditions] compared to 9% in the prior scenario and 10% in history
  - …higher/more inverted rates reduced base contract fee revenues from lower bond fund returns in early years compared to [scenarios participant used in their baseline].

Inversion Statistics, 12/31/23

Key: | 1m > 2y | 3m > 10y | 2y > 10y | 10y > 30y | 1y > 20y |

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Equity Model Field Test Participant Feedback

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E1.T Large Capitalization Equity Gross Wealth Factors

	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

The Large Capitalization (S&P 500) equity fund gross wealth factors (GWFs) are largely aligned with the targets across the bulk of the percentile GWF distribution over the projected durations. The first percentile does show some differences, with lower returns over time in the latest equity calibration compared to the targets.

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Equity Model Feedback

Participant Feedback:

- Recalibrate equity scenarios to more closely match American Academy of Actuaries gross wealth factor calibration targets in the tail.
- The GOES equity path shows greater volatility compared to the AIRG.
- Extremely low tail equity calibration should be revisited.
- Adjust equity calibration to bring tail GWFs more in line with updated AAA criteria (ACLI proposal).
- Use Run 6 equity calibration from the field test one as basis and make further adjustments to the parameters to better align with the Academy's criteria.
- GOES uses a Stochastic Volatility with Jumps which produces fatter tails.
- [The lack of an Equity-Treasury linkage is] punitive to companies that fair value hedge guarantees only

GOES Equity Gross Wealth Factors (GWFs)

SP500	1 Yr	5 Yr	10 Yr	20 Yr	30 Yr
Min	0.49	0.21	0.14	0.08	0.17
1.0%	0.70	0.55	0.53	0.63	0.93
2.5%	0.77	0.68	0.71	0.96	1.39
5.0%	0.82	0.79	0.88	1.29	2.02
10.0%	0.88	0.92	1.11	1.74	2.93
25.0%	0.99	1.18	1.55	2.80	5.17
50.0%	1.10	1.49	2.17	4.48	9.28
75.0%	1.20	1.83	2.92	6.96	15.89
90.0%	1.30	2.17	3.76	9.97	25.08
95.0%	1.36	2.39	4.38	12.31	32.53
97.5%	1.41	2.60	4.98	14.51	40.74
99.0%	1.47	2.83	5.69	17.54	50.60
Max	1.82	4.29	9.32	38.28	120.07

AIRG Equity GWFs

SP500	1 Yr	5 Yr	10 Yr	20 Yr	30 Yr
Min	0.41	0.32	0.26	0.35	0.38
1.0%	0.70	0.62	0.66	0.83	1.22
2.5%	0.76	0.72	0.77	1.10	1.69
5.0%	0.82	0.81	0.92	1.41	2.25
10.0%	0.89	0.93	1.12	1.83	3.09
25.0%	0.98	1.16	1.51	2.74	5.11
50.0%	1.09	1.45	2.09	4.27	8.84
75.0%	1.19	1.81	2.88	6.80	15.35
90.0%	1.30	2.22	3.81	10.15	24.98
95.0%	1.37	2.48	4.44	12.92	34.25
97.5%	1.44	2.72	5.17	15.65	45.88
99.0%	1.52	3.06	6.18	20.49	60.45
Max	1.92	4.77	11.86	66.94	235.95

GOES/AIRG Equity GWF Ratio

SP500	1 Yr	5 Yr	10 Yr	20 Yr	30 Yr
Min	120%	68%	54%	22%	44%
1.0%	100%	88%	81%	76%	76%
2.5%	101%	94%	92%	87%	82%
5.0%	100%	98%	95%	91%	90%
10.0%	100%	99%	99%	95%	95%
25.0%	100%	102%	103%	102%	101%
50.0%	101%	103%	104%	105%	105%
75.0%	101%	101%	102%	102%	104%
90.0%	100%	98%	99%	98%	100%
95.0%	99%	97%	99%	95%	95%
97.5%	98%	96%	96%	93%	89%
99.0%	97%	92%	92%	86%	84%
Max	95%	90%	79%	57%	51%

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Corporate Model Field Test Participant Feedback

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Corporate Model Feedback

Participant Feedback:

- GOES Corporate bond fund excess return reflects both:
  - low risk-adjusted excess return relative to other asset classes and various historical periods of observed performance
  - much higher volatilities vs. observed Barclays Agg Corporate Bond index historical volatilities.
- We believe the elevated volatility of the Corporate bond fund is due to both the elevated interest rate volatility noted previously as well as potentially additional volatility from modeling downgrade-driven spread widening and forced sales in the GOES Corporate Model methodology
- We understand GOES Bond Fund Modelling is based on modeling Passive bond fund strategies (e.g. Indices) which dampens the return profile. This may result in GOES understating the net spread earned on Active Bond Funds.
  - In periods of high stress, Passive or Index Bond Funds have strict credit quality targets to adhere to which can force buys and sells at inopportune times. Consider the following:
    - In a highly volatile market, if bonds are downgraded, then Passive Bond Fund managers must sell these downgraded bonds to conform to their AAA/AA target (for example)
    - This distressed sale will generate losses as fund managers must incur the mark-to-market loss from the downgrade
    - Active fund managers are not forced to sell in such environments and instead can strategically purchase more bonds at higher yields, while holding downgraded bonds to maturity

Draft: 10/28/24

Generator of Economic Scenarios (GOES) (E/A) Subgroup
Virtual Meeting
September 25, 2024

The GOES (E/A) Subgroup of the Life Risk-Based Capital (E) Working Group and the Life Actuarial (A) Task Force met Sept. 25, 2024. The following Subgroup members participated: Mike Yanacheak, Chair (IA); Peter Weber, Vice Chair (OH); Ted Chang (CA); Wanchin Chou (CT); Ben Slutsker (MN); William Leung (MO); Seong-min Eom (NJ); Bill Carmello (NY); Rachel Hemphill (TX); and Craig Chupp (VA).

1. Discussed Upcoming Meetings and its 2026 Project Plan

Yanacheak provided an overview of the Subgroup's planned meeting topics leading up to the Fall National Meeting. He also gave an overview of the project plan for implementation in 2026. Connie Tang (Retired) asked if any deliverables were targeted for completion ahead of the Fall National Meeting. Yanacheak responded that he was more focused on hitting a quality standard rather than a specific deadline for various components of the project but that the Subgroup would work diligently to meet its objectives in a timely fashion.

2. Exposed the GOES Model Governance Framework

Yanacheak highlighted the importance of setting a strong model governance framework that defined clear roles for state insurance regulators, the NAIC, Conning, the insurance industry, and other interested parties. Pat Allison (NAIC) then walked through the draft model governance framework.

Chou asked if the draft document would be exposed. Yanacheak responded that he intended to do a chair exposure of the draft model governance framework. After additional discussion, Yanacheak noted that he would expose the document for a 40-day public comment period ending Nov. 4.

Having no further business, the GOES (E/A) Subgroup adjourned.

SharePoint/NAIC Support Staff Hub/Member Meetings/A CMTE/LATF/2024-3-Fall/GOES SG Calls/09 25/Sept 25 Minutes.docx

ACLI
Financial Security for Life

ACLI Equity Calibration Proposal

November 15, 2024

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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.

2

2

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)

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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.

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//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%

Distribution of Monthly Logreturns
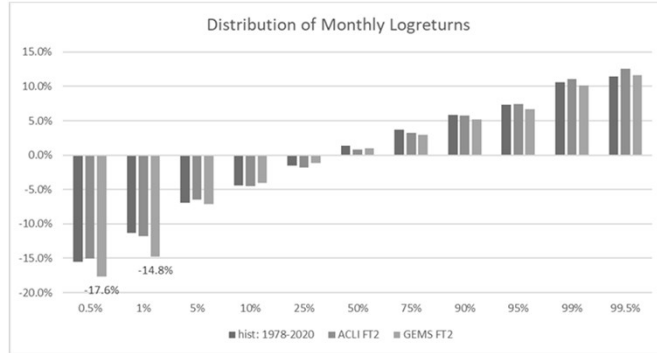
- Modeled monthly logreturns based on 10k scenarios and 50yrs of projection.

- 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)					FT2 Baseline Scenarios					historical 78-2020				
	large	mid	small	aggressive		large	mid	small	aggressive		large	mid	small	aggressive
min	-62.1%	-69.7%	-76.0%	-81.1%	min	-69.1%	-53.5%	-70.1%	-63.7%	min	-24.2%	-30.6%	-33.8%	-31.8%
0.5%	-15.0%	-21.6%	-23.4%	-23.0%	0.5%	-17.6%	-16.7%	-19.9%	-21.6%	0.5%	-15.5%	-24.0%	-24.0%	-25.2%
1%	-11.8%	-15.4%	-16.9%	-18.2%	1%	-14.8%	-14.1%	-16.9%	-18.4%	1%	-11.4%	-16.8%	-20.1%	-18.9%
5%	-6.5%	-7.5%	-8.3%	-9.3%	5%	-7.1%	-7.3%	-8.7%	-10.6%	5%	-7.0%	-7.5%	-8.2%	-9.7%
10%	-4.5%	-5.2%	-5.8%	-6.3%	10%	-4.1%	-4.8%	-5.1%	-6.9%	10%	-4.4%	-4.8%	-5.8%	-6.6%
25%	-1.8%	-2.1%	-2.3%	-2.3%	25%	-1.1%	-1.8%	-1.5%	-2.5%	25%	-1.5%	-1.7%	-2.1%	-2.2%
50%	0.8%	0.9%	1.0%	1.0%	50%	1.0%	1.0%	1.2%	1.3%	50%	1.4%	1.5%	1.7%	1.8%
75%	3.2%	3.8%	4.1%	4.1%	75%	3.0%	3.5%	3.6%	4.7%	75%	3.7%	4.2%	4.5%	4.5%
90%	5.7%	6.6%	7.3%	7.7%	90%	5.2%	5.9%	6.0%	7.7%	90%	5.8%	6.6%	7.3%	7.6%
95%	7.4%	8.5%	9.4%	10.2%	95%	6.7%	7.4%	7.6%	9.7%	95%	7.3%	8.2%	8.5%	10.3%
99%	11.0%	12.5%	13.8%	15.9%	99%	10.2%	10.6%	11.0%	13.6%	99%	10.6%	12.9%	13.3%	13.6%
99.5%	12.5%	14.2%	15.6%	18.3%	99.5%	11.6%	12.0%	12.3%	15.2%	99.5%	11.4%	13.7%	14.4%	15.3%
max	33.6%	39.6%	44.6%	56.7%	max	32.1%	33.7%	30.7%	35.2%	max	12.6%	15.6%	18.1%	19.9%

ACLI Monthly Logreturn (10k scenarios, 50yrs)					GEMS FT2 Monthly Logreturn (10k scenario, 50yrs)					Historical Monthly Logreturn (1978-2020)				
	large	mid	small	aggressive		large	mid	small	aggressive		large	mid	small	nasdaq
mean (annual)	7.3%	8.1%	8.6%	9.1%	mean (annual)	7.2%	7.5%	7.6%	8.3%	mean (annual)	11.2%	11.9%	11.6%	10.8%
st.dev (annual)	15.3%	18.3%	20.0%	21.6%	st.dev (annual)	15.2%	16.1%	17.7%	21.6%	st.dev (annual)	15.2%	18.2%	19.9%	21.5%
skew	-0.60	-0.96	-0.90	-0.68	skew	-1.25	-0.81	-1.25	-0.81	skew	-0.88	-1.18	-1.18	-0.94
kurtosis	6.48	8.06	7.69	7.17	kurtosis	8.29	5.79	7.32	5.14	kurtosis	6.00	7.84	7.51	6.04
Sharpe Ratio*	28.1%	28.1%	28.1%	28.2%	Sharpe Ratio*	27.9%	28.2%	25.9%	24.8%	Sharpe Ratio*	34.1%	32.4%	27.9%	22.1%
* assumes Rf = 3%					* assumes Rf = 3%					* 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	0.164	-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.

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//ACLI

GWF Comparison vs. AAA Criteria: ACLI and FT2 Baseline

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

AAA Criteria (Avg. GWF)

	1 Yr	5 Yr	10 Yr	20 Yr	30 Yr	50 Yr
Min	0.46	0.25	0.22	0.25	0.29	0.46
0.5%						
1.0%	0.70	0.58	0.60	0.79	1.15	2.82
5.0%	0.82	0.80	0.91	1.36	2.20	6.38
10.0%	0.88	0.93	1.12	1.81	3.08	9.78
25.0%	0.99	1.18	1.54	2.81	5.26	19.23
50.0%	1.09	1.48	2.15	4.47	9.23	39.98
75.0%	1.19	1.82	2.89	6.93	15.88	80.22
90.0%	1.28	2.15	3.71	10.09	25.20	147.92
95.0%	1.34	2.37	4.30	12.33	33.19	210.72
99.0%	1.45	2.82	5.64	18.18	53.74	397.23
99.5%						
Max	1.76	4.20	8.98	42.03	140.72	1,676.94

ACLI / AAA Criteria

	1 Yr	5 Yr	10 Yr	20 Yr	30 Yr	50 Yr
Min	1.07	0.70	0.72	0.73	0.72	1.19
0.5%						
1.0%	1.00	0.99	0.97	0.96	1.00	0.97
5.0%	1.00	0.99	0.98	1.00	1.01	0.97
10.0%	1.00	1.00	0.99	1.01	0.99	0.97
25.0%	1.00	1.00	1.00	1.00	0.97	0.98
50.0%	1.00	1.00	1.00	0.99	1.00	0.99
75.0%	1.00	1.00	1.00	1.00	0.99	0.99
90.0%	1.00	1.00	1.00	0.99	1.00	1.01
95.0%	1.00	1.01	1.00	1.01	1.01	1.00
99.0%	1.01	1.03	1.00	1.05	0.98	1.05
99.5%						
Max	1.04	1.12	1.21	1.03	1.20	0.90

GEMS 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

AAA Criteria (Avg. GWF)

	1 Yr	5 Yr	10 Yr	20 Yr	30 Yr	50 Yr
Min	0.46	0.25	0.22	0.25	0.29	0.46
0.5%						
1.0%	0.70	0.58	0.60	0.79	1.15	2.82
5.0%	0.82	0.80	0.91	1.36	2.20	6.38
10.0%	0.88	0.93	1.12	1.81	3.08	9.78
25.0%	0.99	1.18	1.54	2.81	5.26	19.23
50.0%	1.09	1.48	2.15	4.47	9.23	39.98
75.0%	1.19	1.82	2.89	6.93	15.88	80.22
90.0%	1.28	2.15	3.71	10.09	25.20	147.92
95.0%	1.34	2.37	4.30	12.33	33.19	210.72
99.0%	1.45	2.82	5.64	18.18	53.74	397.23
99.5%						
Max	1.76	4.20	8.98	42.03	140.72	1,676.94

ACLI / AAA Criteria

	1 Yr	5 Yr	10 Yr	20 Yr	30 Yr	50 Yr
Min	1.08	0.87	0.64	0.29	0.57	0.57
0.5%						
1.0%	1.00	0.95	0.88	0.79	0.81	0.73
5.0%	1.00	1.00	0.96	0.95	0.92	0.86
10.0%	1.00	0.99	0.99	0.96	0.95	0.90
25.0%	1.00	1.01	1.01	1.00	0.98	0.96
50.0%	1.01	1.01	1.01	1.00	1.01	0.99
75.0%	1.01	1.01	1.01	1.00	1.00	1.00
90.0%	1.00	1.01	1.01	0.99	1.00	1.00
95.0%	1.01	1.01	1.02	1.00	0.98	0.99
99.0%	1.01	1.00	1.01	0.96	0.94	1.04
99.5%						
Max	1.03	1.02	1.04	0.91	0.85	1.37

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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

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

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

Revised ACLI — 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 — 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 — 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

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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

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

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	1.12	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

Revised ACLI — 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 — 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 — Aggressive

	1 Yr	5 Yr	10 Yr	20 Yr	30 Yr	50 Yr
Min	0.88	0.29	0.31	0.81	0.81	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

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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

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

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

Revised ACLI — 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 — 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 — 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

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%	0.99	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

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

Revised ACLI — 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 — 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 — 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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Equity Calibration Comparsion

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Two Alternative Calibrations

Modified GEMS Calibration
   a)   Based on standard GEMS calibration approach
   b)   Adjusted for NAIC's mean and standard deviation targets
   c)   Basis for Field Test #2 runs

ACLI's Proposed Calibration
   a)   Based on Run #6 from Field Test #1
   b)   Adjusted to address some of Conning's previous concerns

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Previous Concern: Tail Correlation

Correlation by Quintile
S&P 500 vs Russell 2000
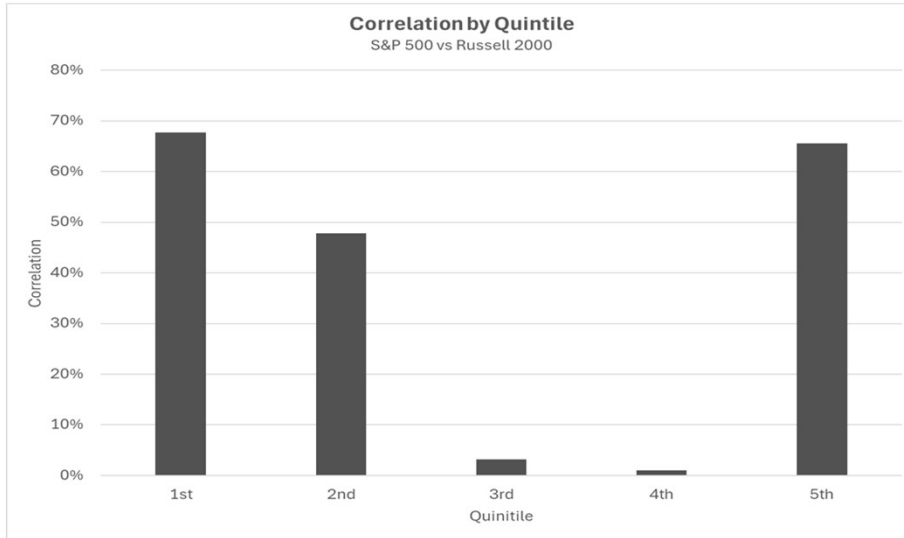
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Previous Concern: Tail Correlation

Focus on Impact of Jumps

Jumps by Quintile
Conning S&P 500 Calibration
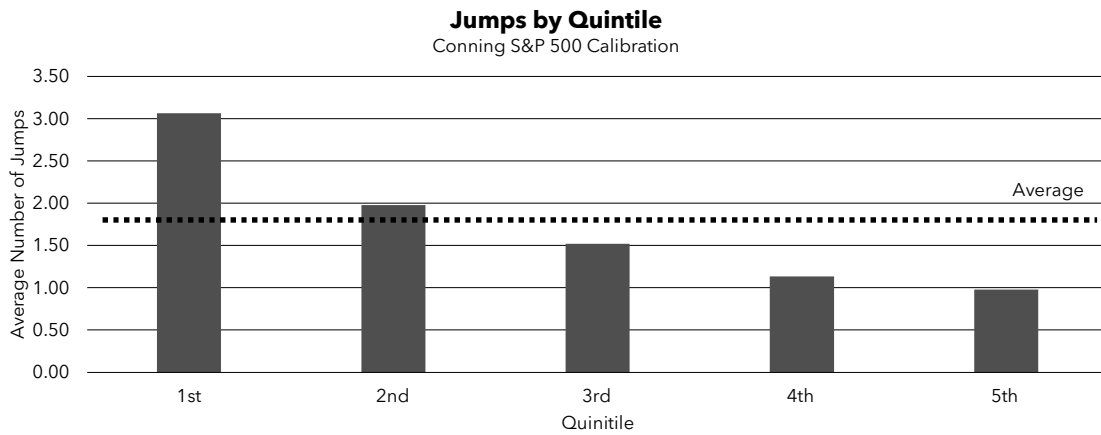
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Previous Concern: Tail Correlation

Way to achieve this in GEMS

    a) Correlation between Variances

Calibration	Mid Cap	Small Cap	US Aggressive Equity
Conning	0.8920	0.8530	0.9360
ACLI	0.8172	0.7667	0.7889

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Previous Concern: Tail Correlation

Way to achieve this in GEMS

    a) Correlation between Variances
    b) Correlations between Jump Losses
    c) Similar Jump Frequencies

- Frequency is linked to Variance: Expected Frequency = Jump Intensity * Current Variance
- Variance reverts to α / β
- So, want Long-Term Frequency (= Jump Intensity * α / β) to be similar

Calibration	Large Cap	Mid Cap	Small Cap	US Aggressive Equity
Conning	1.7419	1.8656	1.8288	3.3580
ACLI	0.1019	0.1270	0.1273	0.1449

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Alternative Calibrations: Large Cap Parameter Comparison

Parameters	Conning	ACLI
Fixed Return	0.0825	0.0723
Risk Premium Coefficient	0.0926	0.5744
Alpha	0.0058	0.0196
Beta	0.4627	0.9519
Sigma	0.0747	0.1254
Jump Intensity	139.5882	4.9442
Jump Mean	-0.0525	-0.1500
Jump Sigma	0.0575	0.0584

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Alternative Calibrations: First Month Returns
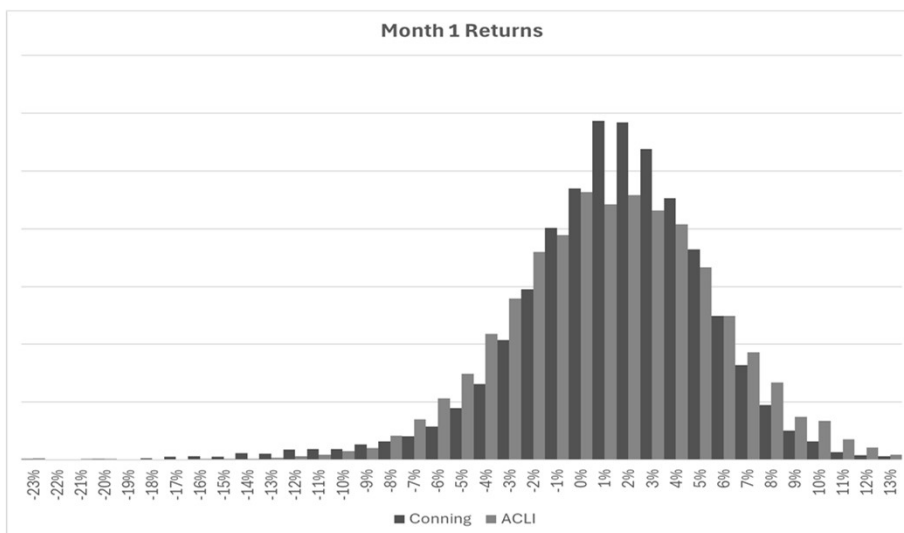
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Alternative Calibrations: First Year Returns

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Alternative Calibrations: Changes over Time

Evolution only Impacted by Variance
- Core volatility is completely independent

Impact of Variance
- Is it variable?
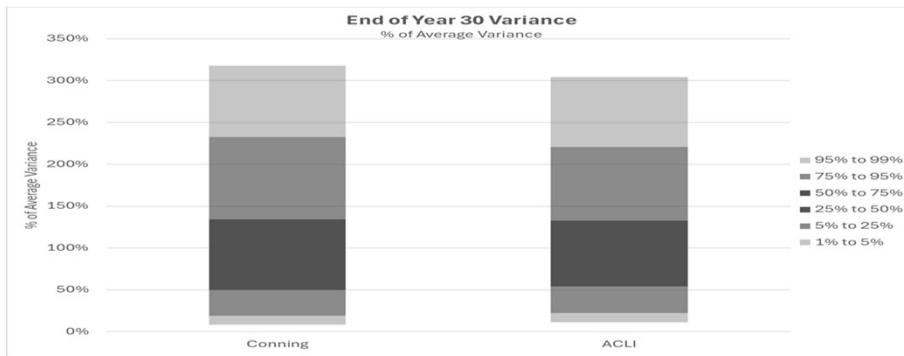
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Alternative Calibrations: Changes over Time

Evolution only Impacted by Variance
- Core volatility is completely independent
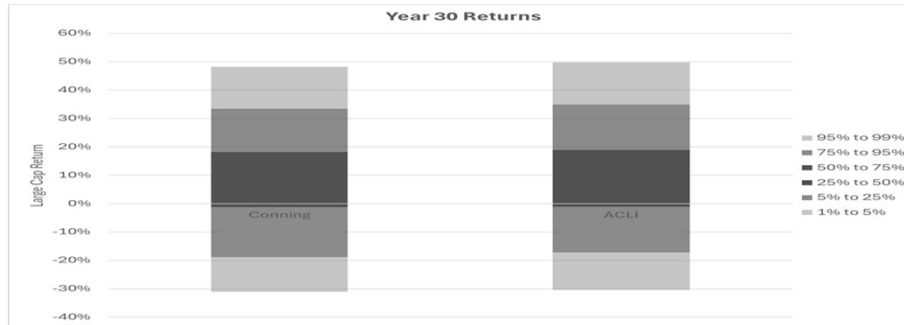
Impact of Variance
- Is it variable?
- Does that variability impact return?

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Alternative Calibrations: Changes over Time

Evolution only Impacted by Variance
- Core volatility is completely independent

Impact of Variance
- Is it variable?
- Does that variability impact return?
- How does it impact serial correlation?

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Alternative Calibrations: Impact on Serial Correlation

Impact is Complicated

- Like Jumps, Variance increases with bad returns

Variance by Quintile
Conning S&P 500 Calibration

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Alternative Calibrations: Impact on Serial Correlation

Impact is Complicated

- Like Jumps, Variance increases with bad returns
- Large Risk Premium Coefficient makes Average Return very susceptible to changes in Variance

Year 1 Average Returns
High and Low Initial Vol
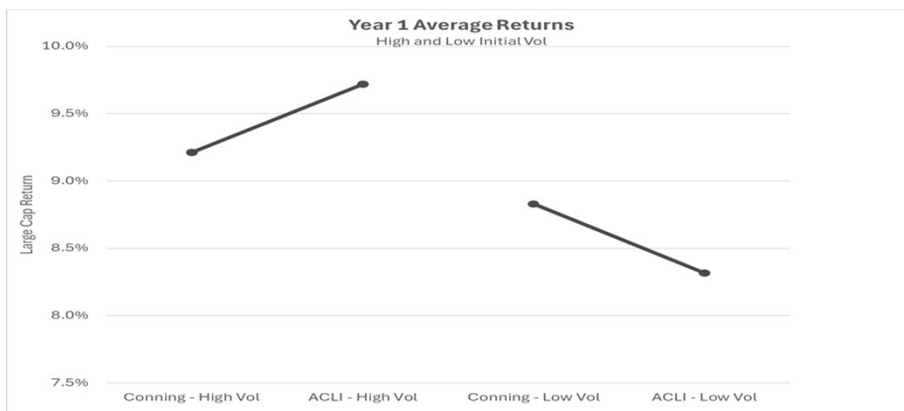
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Alternative Calibrations: Impact on Serial Correlation

Impact is Complicated

- Like Jumps, Variance increases with bad returns
- Large Risk Premium Coefficient makes Average Return very susceptible to changes in Variance
- Changes the sign of Serial Correlation
  - Conning's Year 1 vs Year 2 is +2%
  - ACLI's is -3%

Rolling 10-Year Serial Correlation

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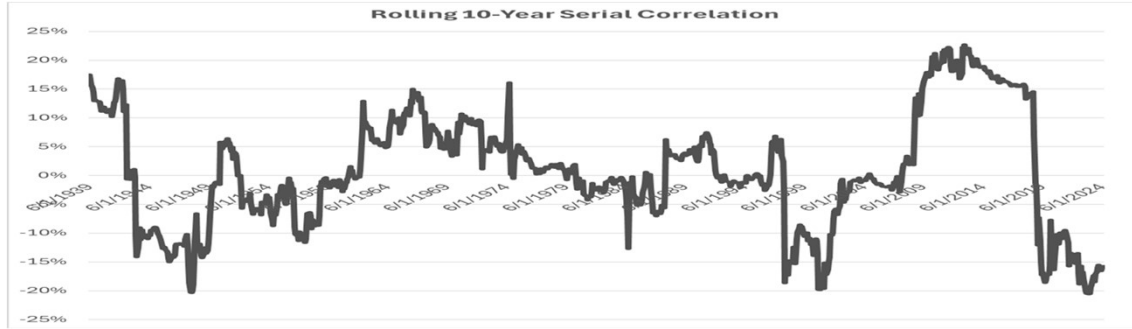
ACLI
Financial Security for Life

ACLI Dynamic Generalized Fractional Floor (GFF) Proposal

November 15, 2024

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ACLI

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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ACLI

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):

Dynamic GFF vs. Regular GFF Floored Rate

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///ACLI

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

Initial Treasury Curve: Baseline and Low Rates

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///ACLI

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

GFF (FT2 Baseline)

Dynamic GFF (FT2 Baseline)

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)

GFF (FT2 Low Rates)

Dynamic GFF (FT2 Low Rates)

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

GFF Mapping

- 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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Initial UST Treasury Curves: FT2 Baseline and Low Rates

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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%

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Appendix

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Current Generalized Fractional Floor (GFF)

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

- Where:

  s is the natively modeled shadow, or unfloored, rate

  $rate(s)$ is the floored rate as a function of the shadow rate s and the GFF parameters κ and m

  κ is the threshold parameter – shadow rates below this threshold are subject to the fractional flooring

  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

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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

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///ACLI

Recipe for Setting Dynamic GFF Parameters

1. Start with the core GFF parameters, $\kappa = .004$ and $\bar{m} = .2$
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 $\bar{m}$ 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.

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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.
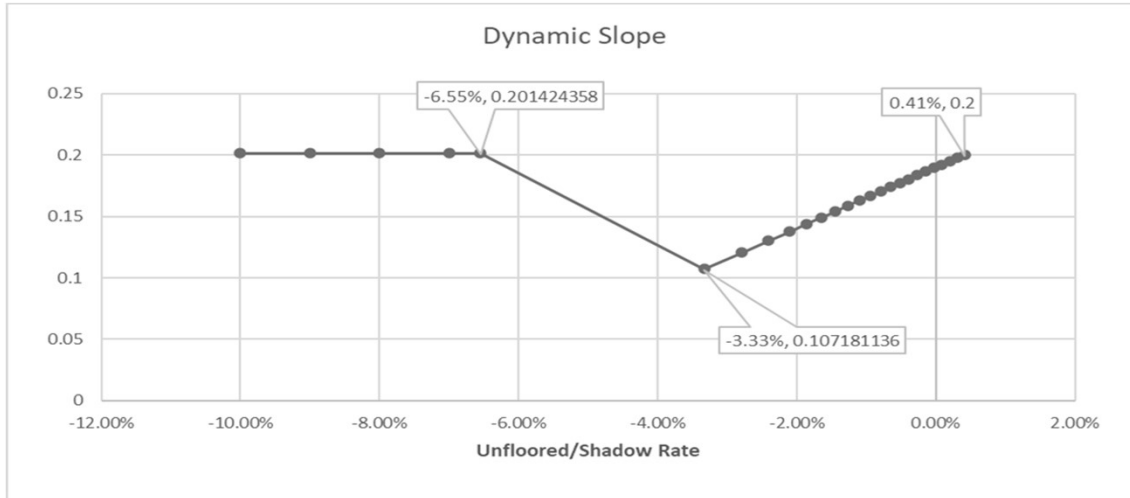
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Update on Life Insured Mortality Improvement Recommendation

Mortality Improvement Life Working Group
of the SOA Mortality and Longevity Oversight Advisory Council

NOVEMBER| 2024

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Presentation Disclaimer

The material and information contained in this presentation is for general information only. It does not replace independent professional judgment and should not be used as the basis for making any business, legal or other decisions. The Society of Actuaries assumes no responsibility for the content, accuracy or completeness of the information presented.

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Agenda

- Discuss Life Mortality Improvement (MI) Initial Recommendation for Fully Underwritten Business

- MI recommendation for Limited Underwriting Business
  - Considering applicability of planned new VM 51 underwriting data elements for limited underwriting study (underway)

SOA Research INSTITUTE

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MI Recommendation – Fully Underwritten Business

Where we started …..
  - Difficult to measure true life insured MI due to "noise" in the industry experience data for insured lives
    - Changes in underwriting definitions, changes in risk class structure, changes in market/distribution focus over time
  - Reviewed SOA general population socioeconomic decile work
    - Is there a decile that that can be used as a proxy for the life insurance population?
  - Predictive modeling approach considered

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MI Recommendation – Fully Underwritten Business
Overview of Work (2024)

- Predictive modeling work
  - To identify and quantify the primary factors impacting mortality improvement results in the insured population data

- MI analysis tool developed

  Excel-based tool that allows for normalization of data for factors identified in predictive modeling work
  - Allows for better understanding of true biometric mortality improvement levels
  - Allows for comparison to general population deciles

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MI Recommendation – Fully Underwritten Business
Predictive Modeling

- Goal: Determine the primary factors impacting insured mortality improvement
- Data: 2011-2017 fully insured mortality data provided by SOA
- Separate models developed by product
  1. Term business – excluding post level term
  2. Post level term business only
  3. Permanent products
- Results: confirmed subgroup's hypothesis that the primary industry-related factors impacting MI for insured population include:
  - Face amount distribution
  - Risk class
  - Plan of insurance
  - Issue year era
  - Duration

The same primary factors were identified across products, but there are differences by product in order of factor importance.

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MI Recommendation – Fully Underwritten Business
MI Analysis Tool

- Data Sources
  - General population data from socioeconomic decile study
  - Insured data from SOA based on the NAIC/NYDFS data calls (2009-2019 period)
    - Includes all fully underwritten business issued standard (no substandard)

- Methodology
  - Insured mortality experience is normalized across years for factors having greatest effect
  - Currently can only normalize for one factor at a time
  - Informed by predictive modeling work

- Results
  - Normalized insured data was compared to population data
  - Normalized insured data appears reasonably consistent with population trends

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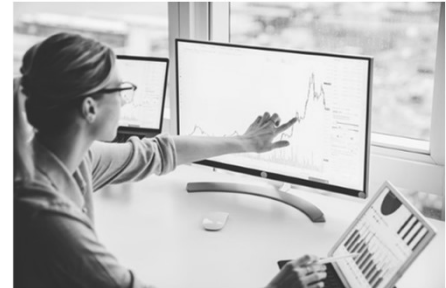
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Preliminary Life MI Recommendation

	Options Considered	Initial Recommendation
Basis for Measuring Improvement	1. Fully underwritten insured mortality experience (after normalization) 2. General population decile chosen to represent insured 3. Combination of both	**Combination of both** – normalized insured data to measure MI for primary insured ages (25-80), different approach for oldest and youngest ages
Subset of Insured Historical Data for Measuring MI	1. Experience Period Subset (full period available 2009-2019) 2. Unismoke, smoker distinct, or all data 3. Post level term 4. Conversion business 5. Survivorship business	1. 2011-2019 2. Smoker distinct only 3. Excluded post level term 4. Conversion included (no means to exclude) 5. Survivorship excluded
Methodology	1. MI calculation basis (face amt/policy count) 2. Factors for variations in scale (gender, attained age, smoker status, risk class, select vs ultimate) 3. Smoothing approach 4. COVID adjustments if needed 5. Impact of opioid and mental health crises 6. Risk margin approach	1. Policy count 2. Gender and attained age only 3. TBD 4. COVID adjustments TBD 5. Included in both insured and general population data 6. Risk margin considerations TBD

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MI Recommendation – Fully Underwritten Business Mortality Improvement Rates
Policy Count Basis – 2011-2019
Normalized for Face Amount, Ages 20 and older
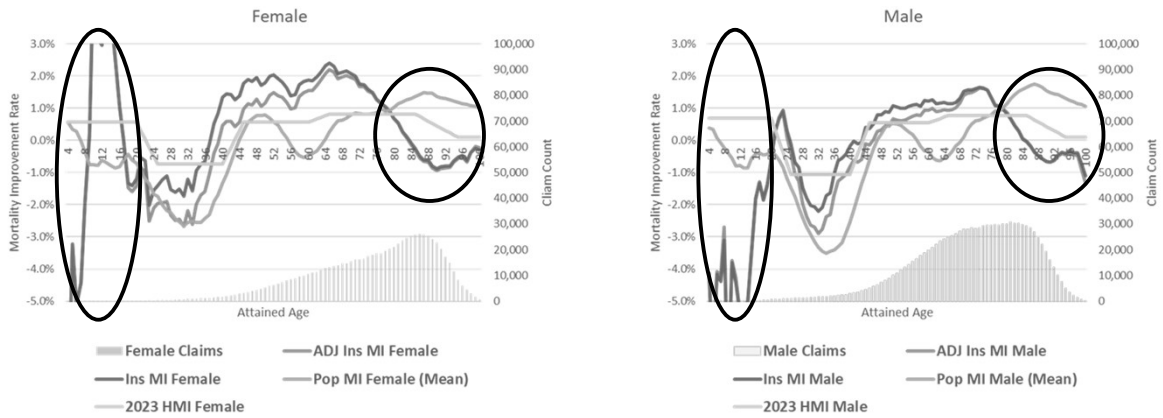
Term and Permanent Combined
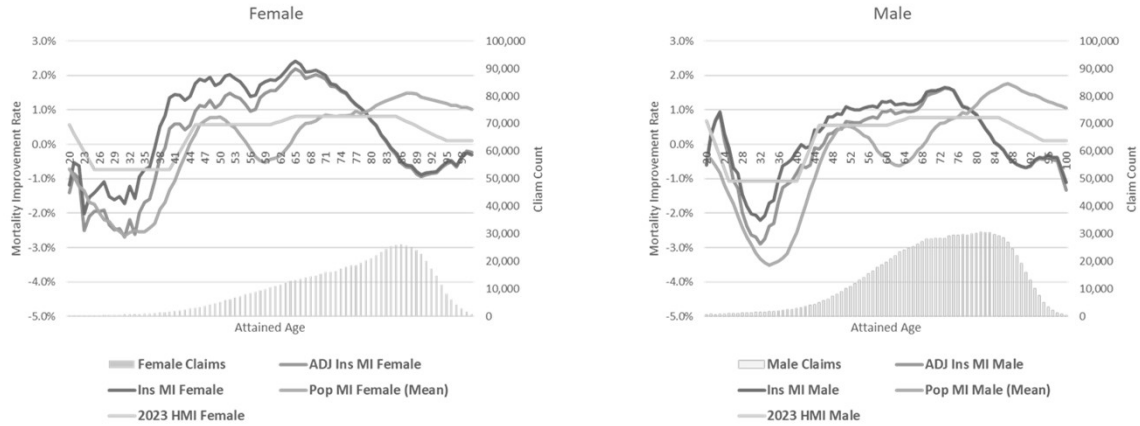
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MI Recommendation – Fully Underwritten Business Mortality Improvement Rates
Policy Count Basis – 2011-2019
Normalized for Face Amount, All Ages
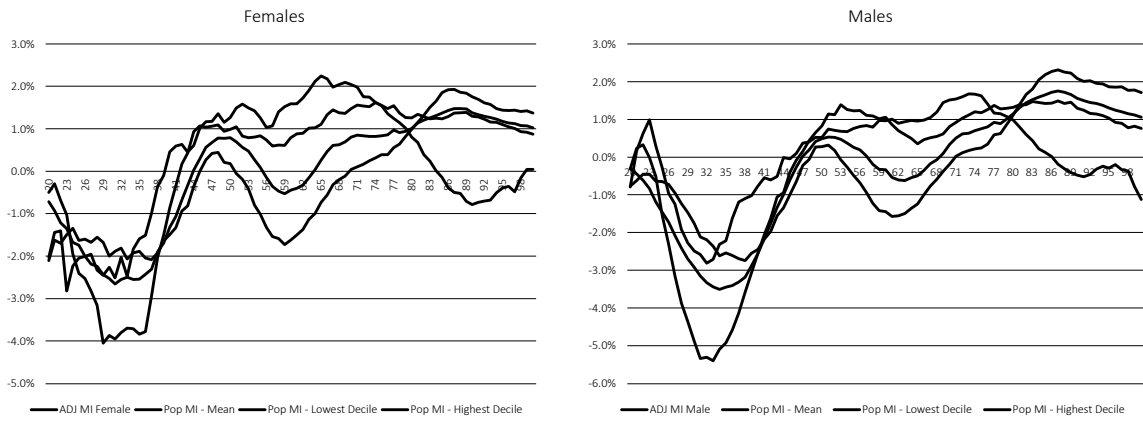
Term and Permanent Combined

Need combination of insured and general population data at youngest and oldest ages.

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MI Recommendation – Fully Underwritten Business Mortality Improvement Rates
Policy Count Basis – 2011-2019
Normalized for Face Amount, Ages 20 and older
Term and Permanent Combined

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MI Recommendation – Fully Underwritten Business Mortality Improvement Rates
Policy Count Basis
Normalized for Face Amount, Ages 20 and older
Term vs Perm - Male
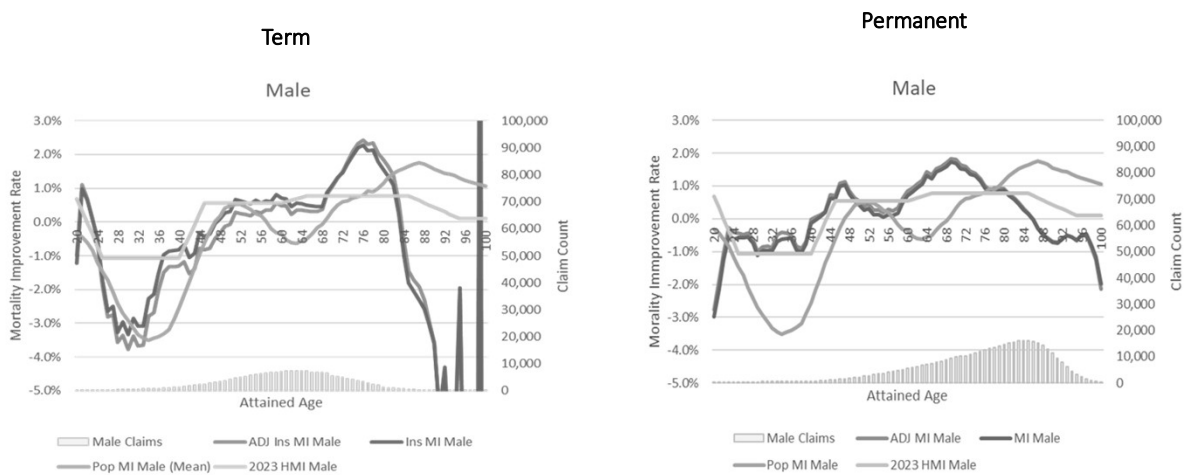
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MI Recommendation – Fully Underwritten Business Mortality Improvement Rates
Policy Count Basis
Normalized for Face Amount, Ages 20 and older
Term vs Perm - Female
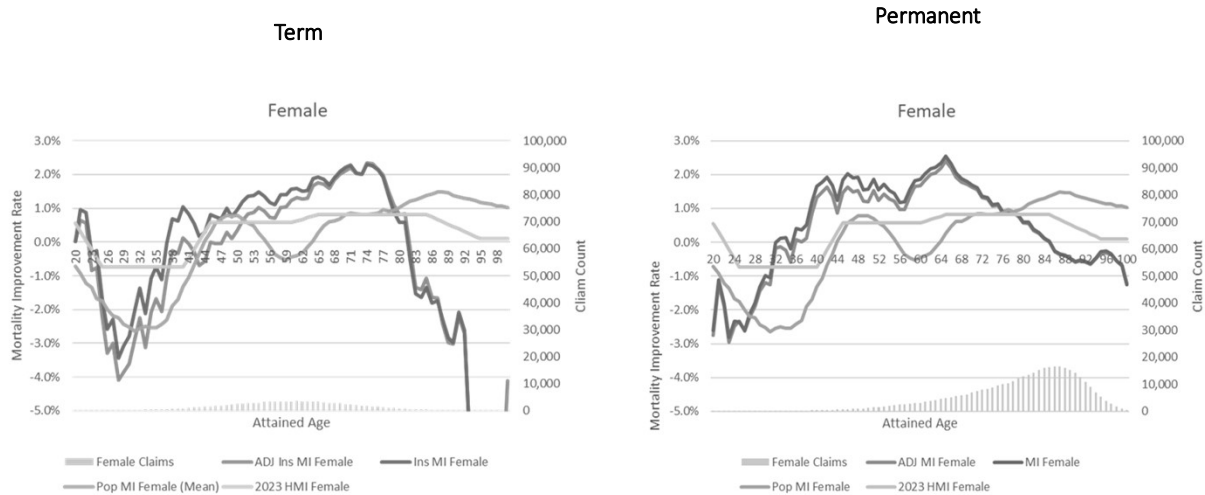
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MI Recommendation - Fully Underwritten Business
Next Steps

- Consider practical issues involved with using insured mortality data directly (lags in data, regular updates will be needed)
  - Ex. use of population data by age between updates of actual data
- Additional considerations to be addressed – COVID, margins, other
- Work with NAIC staff on impact testing using model office

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Contact Information

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Corporate Vice President, Research Data Services

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Life Actuarial (A) Task Force/ Health Actuarial (B) Task Force
Amendment Proposal Form*

1.   Identify yourself, your affiliation, and a very brief description (title) of the issue.

Identification:
Rachel Hemphill, Texas Department of Insurance

Title of the Issue:
Add reporting on waiver of surrender charges.

2.   Identify the document, including the date if the document is "released for comment," and the location in the document where the amendment is proposed:

VM-31 Section 3.F.3.f, January 1, 2025 NAIC Valuation Manual

3.   Show what changes are needed by providing a red-line version of the original verbiage with deletions and identify the verbiage to be deleted, inserted, or changed by providing a red-line (turn on "track changes" in Word®) version of the verbiage. (You may do this through an attachment.)

f. Lapses and Full Surrenders – Description and listing of lapse or full surrender rates, including:
  i.   For contracts with VAGLBs, two comparisons of actual to expected lapses where "expected" equals (1) anticipated experience assumptions used in the development of the SR; and (2) the assumptions used in the development of the additional standard projection amount, and the "actual" is separated by logical blocks of business, duration (e.g., during and after surrender charge period), ITM (consistent with dynamic assumptions), and age (to the extent that age affects the election of benefits lapse). These data shall be separated by experience incurred in the past year, the past three years, and all years.
  ii.   If experience for contracts without VAGLBs is used in setting lapse assumptions for contracts with in-the-money or at-the-money VAGLBs, then a detailed explanation of the appropriateness of the assumption and a demonstration of the relevance of the experience to the business.
  iii. A listing of all conditions under which surrender charges may be waived (e.g., financial hardship, home displacement, etc.), historical data showing how frequently surrender charges are waived, and a description of how such features are reflected in the valuation.

4.   State the reason for the proposed amendment? (You may do this through an attachment.)

During a Compact Product Standards Committee meeting, it was noted that there have been requests from industry to expand the list of criteria for waiver of surrender charges on annuities (financial hardship, home displacement, etc.). Reporting is being added to assess the materiality of these waivers and any potential valuation implications.

Dates: Received	Reviewed by Staff	Distributed	Considered
08/15/2024	KK		
Notes: APF 2024 - 14. LATF exposed 8/29/24 for 21 days with cover letter asking for comments on whether it would be preferable to specify a specific number of years that are required for historical data reporting, in addition to any other comments on the exposure.			

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Updates on Actuarial Guideline 53

Fred Andersen, FSA, MAAA
11/15/2024

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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.

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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.

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11/15/2024

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Agenda

1. Summary of Reviews

2. Discussion on model rigor

3. Potential Next Steps and Reminders

11/15/2024

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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
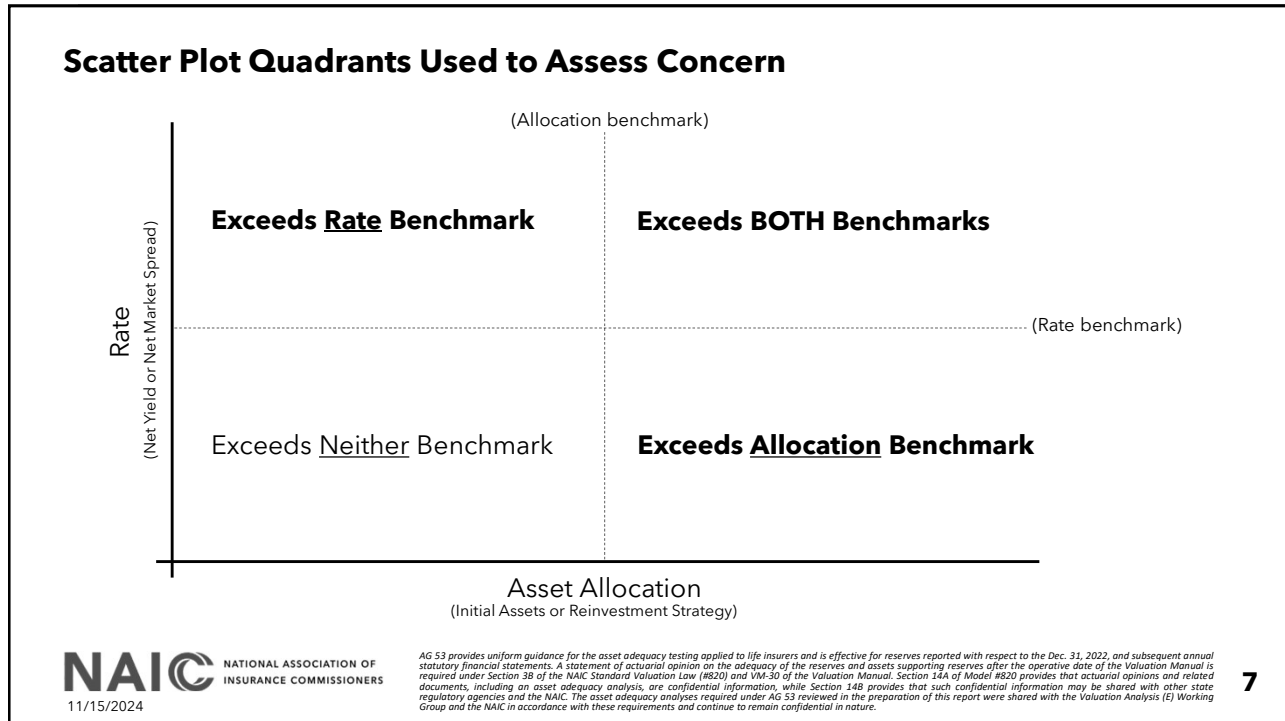
11/15/2024

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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

11/15/2024

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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

11/15/2024

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Scatter Plot Quadrants Used to Assess Concern

(Allocation benchmark)

Rate
(Net Yield or Net Market Spread)

Exceeds <u>Rate</u> Benchmark   **Exceeds BOTH Benchmarks**

(Rate benchmark)

Exceeds <u>Neither</u> Benchmark   **Exceeds <u>Allocation</u> Benchmark**

Asset Allocation
(Initial Assets or Reinvestment Strategy)

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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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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.

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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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Reinsurance Asset Adequacy Testing

Fred Andersen, FSA, MAAA
11/15/2024

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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

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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

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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**

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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?**

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Aggregation

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

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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

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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"

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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

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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

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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

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Case studies – cash-flow testing

- Both cases:

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

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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

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Additional comments and next steps

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Individual Life Insurance Mortality Experience Report

- https://www.soa.org/resources/research-reports/2024/ilec-mort-2012-19/
- Actual versus Expected mortality experience for observation period 2012-2019
- Expected mortality 2015 Valuation Basic Table (2015 VBT) using the base Relative Risk table (RR 100)
- Data validation effort in conjunction with NAIC

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Experience Studies Update

Experience Studies **PRO**

SOA Research INSTITUTE + LIMRA Navigate With Confidence

- Upcoming Study Releases
- Transition to Industry Subscription Model for 2025
- Target Studies for 2025

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Additional Life Research

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Experience Studies

Project Name	Objective	Link/Expected Completion Date
2024 Life Mortality Improvement	Develop AG38 mortality improvement assumptions for YE 2024	https://www.soa.org/resources/research-reports/2024/ind-live-mort-ag38/
2015-22 Fixed Rate Deferred Surrender Study - Report	Complete a study of fixed rate deferred annuity surrender rates.	https://www.soa.org/resources/experience-studies/2024/15-22-frds/
ILEC Mortality Experience Report Update for 2012 - 2019	Draft a report updating the ILEC mortality experience reporting for 2019	https://www.soa.org/resources/research-reports/2024/ilec-mort-2012-19/
Economic Scenario Generator - 2024 Update	Update the AAA Economic Scenario Generator Annually.	https://www.soa.org/resources/tables-calcs-tools/research-scenario/
2015-21 Universal Life Premium Persistency Study - Report	Analyze the premium persistency for universal life products - Data collection and validation phase	https://www.soa.org/resources/experience-studies/2024/15-21-ulpp-ulls/
Group Life COVID-19 Mortality Survey Update - 2Q24 Report	Complete an update on a mortality study assessing the impact of COVID-19 on Group Life Insurance.	https://www.soa.org/resources/experience-studies/2024/group-life-covid19-mort-survey/
GRET for 2025 - Create Factors	Develop the Generally Recognized Expense Table (GRET) for 2025	https://www.soa.org/resources/research-reports/2024/2025-gret-recommendation/
2000-2022 U.S. Historical Population Mortality Rates	Publish unsmoothed SSA-Style historical mortality rates for 2000-2021	https://www.soa.org/resources/research-reports/2024/us-historical-mortality/
2009-2015 Individual Life Experience Committee Lapse and Mortality Study	Study mortality and lapse experience in the database of 2009-2015 individual life experience data and release a report with the findings.	12/5/2024
2015-2022 Whole Life/Term Lapse and Surrender - Report	Complete a study of Whole Life/Term Lapse and Surrender	12/5/2024
Predictive Analytics Framework	The theme is around the sharing and warehousing of PA tools and information, similar to a data science environment.	10/25/2024
US Population Mortality Observations: Updated with 2022 Experience	Explore observations from the release of the 2022 U.S. population mortality data.	11/21/2024
2021-22 Fixed Indexed Annuity Study - Report	Examine lapse and the utilization of guaranteed living withdrawal benefit options on fixed index annuity policies under a Joint SOA/LIMRA project and release Tableau visualizations with the observations from the study.	11/7/2024
2013-2021 Group Life Experience Study	Complete a study of 2013-2021 group term life mortality experience.	11/21/2024
Term Conversion Incidence and Post-Conversion Mortality and Lapse Experience - Report	Conduct a mortality and lapse experience study on the converted life insurance policies.	12/1/2025

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Practice Research

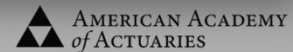| Project Name	Objective	Link/Expected Completion Date
Mortality and Race	Summarize available literature on mortality and race and discuss actuarial aspects.	https://www.soa.org/resources/research-reports/2024/mortality-and-race-and-ethnicity-us/
Maternal Mortality	Study maternal mortality in US and compare to other countries	https://www.soa.org/resources/research-reports/2024/maternal-mort-lit-review/
Comparison of 2015 VBT to Socioeconomic decile mortality	Examine life insurance VBT vs NCHS mortality by socioeconomic category.	POG is incorporating this into MIM-2021 Tools for 2024 update release.
Using Behavioral Science to Improve Consumers' Comprehension and Appreciation of Life Insurance Products - RGA	Test and improve the life insurance communication using BE	https://www.soa.org/resources/research-reports/2024/behavioral-science-rga/
Redesigning the Life Insurance Underwriting Journey with Behavioral Economics - Scor	Test BE wording for underwriting questions to improve honesty in answers and address under-disclosure of medical conditions	https://www.soa.org/resources/research-reports/2024/redesign-life-ins-underwriting/
Statistical Approaches for Imputing Race and Ethnicity	Outline the various approaches for statistically imputing race and ethnicity in the U.S. along with their strengths and weaknesses to help familiarize actuaries with these techniques.	https://www.soa.org/resources/research-reports/2024/stat-methods-imputing-race-ethnicity/
Review of Offshore Life and Annuity Jurisdictions Reinsurance Landscapes	Examine the offshore reinsurance landscapes	1/15/2025
ALM Practices	Conducts a survey of current ALM practices focused on various life insurance company products with attention paid to issues such as general account vs. separate account product distinctions.	1/15/2025
Fairness Metrics for Life Insurance	Identify and discuss a variety of quantitative metrics that could be used to evaluate fairness of life insurance products under different definitions of fairness.	2/28/2025
Mortality and Morbidity Impact of COVID-19 Beyond the Acute Phase	Study and quantify the excess death and excess morbidity impacts of the COVID-19 pandemic beyond the acute phase	11/21/2024
Expert Opinion on Impact of COVID-19 on Future Mortality - Survey 3	Survey panel of experts on short and mid term thoughts on future population and insured mortality	11/21/2024
U.S. Drug Abuse Epidemic: Past Present and Future	Create a resource that examines the evolution uf the U.S. drug epidemic and outlook of the impact on future mortality.	6/1/2025
Understanding Complex Assets	Examines the use of complex assets in the life and annuity industry compared to traditional public corporate bonds.	4/1/2025

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Life Practice Council Update

Life Actuarial (A) Task Force Meeting
November 16, 2024

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About the Academy
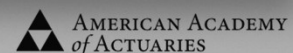
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The American Academy of Actuaries is a 20,000-member professional association whose mission is to serve the public and the U.S. actuarial profession. For more than 50 years, the Academy has assisted public policymakers on all levels by providing leadership, 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

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Recent Engagement

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Life Risk-Based Capital (E) Working Group

- Correlation in Capital Frameworks
- C-3 RBC Testing

Risk-Based Capital Investment Risk and Evaluation (E) Working Group

- CLO Comparable Attributes Project

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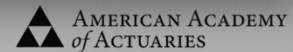
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Recent Life Practice Council Activity

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Publications

- Life Underwriting and Risk Classification Subcommittee Comments to SCORI on Underwriting Survey
- Life Underwriting and Risk Classification Subcommittee Comments to Colorado on Proposed ACLI Regulation
- LPC Comments to LATF on Reinsurance Exposure Scope & Aggregation
- LPC Comments to LATF on Reinsurance Exposure

Academy Annual Meeting:

- Plenary Session with Commissioner Mais and NAIC CEO Gary Anderson; breakout life sessions on financial security (annuities and LTC) and solvency regulation (with Commissioner Houdek)

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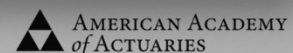
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Recent and Upcoming Academy Activity · 5

Webinars:

- Ethical Dilemmas Facing Health Actuaries: Insights and Case Studies
- VM-31 As Seen by Regulators (Dec 13)
- Other topics in December include capital markets (retirement focused), the annual professionalism session: Tales from the Dark Side, and surplus considerations for public pension plans

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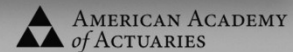
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Recent and Upcoming Academy Activity · 6

Publications

- Life: Life Perspectives, Summer/Fall 2024
- Health: The State of Long-Term Care
- Casualty: Insurance Fraud: Impacts on Premiums, Claim Costs, and the Public
- Retirement: Collective Defined Contribution Plans, Immigration and Social Security, Public Pension Plans: Evaluating Buyout Programs
- Risk Management: Big Data Terminology

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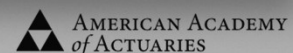
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Coming Soon
Life and Health Valuation Law Manual

What's Inside?
- Current topics section outlining key valuation developments and specific state guidance;
- Current NAIC model laws and regulations that effect reserve calculations;
- A discussion of generally distributed interpretations; and
- Current actuarial guidelines from the NAIC *Financial Examiners Handbook*.

Life and Health
Valuation Law Manual

Law
Manual

A COMPILATION OF REQUIREMENTS concerning
the NAIC model Standard Valuation Law and the
model Actuarial Opinion and Memorandum Regulation

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7

Coming Soon
Property/Casualty Loss Reserve Law Manual

What's Inside?
- SAO requirements and the laws and regulations establishing those requirements;
- Annual statement instructions for the SAO for property/casualty, title loss, and loss expense reserves; and
- Other pertinent annual statement instructions.

Property/Casualty Loss
Reserve Law Manual

Law
Manual

A COMPILATION OF REQUIREMENTS Concerning
Property/Casualty Loss and Loss Expense Reserves for Use in
Preparing Statements of Actuarial Opinions

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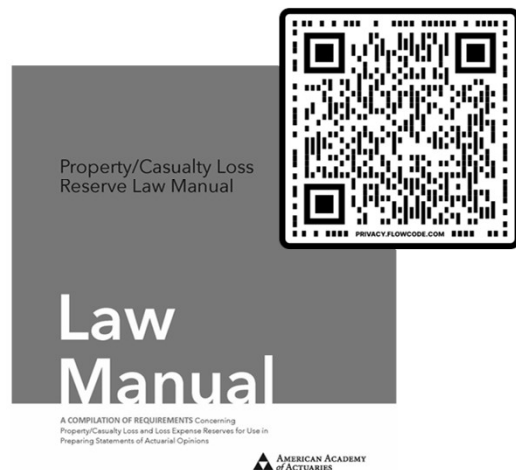
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Plan ahead for these 2025 events

Investment Symposium
Spring 2025
New York, NY
Registration opening soon.

Life and Health Qualifications Seminar
Fall 2025
Arlington, Va.

www.actuary.org/calendar

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Other Resources   10

Follow the Academy on LinkedIn

Check out the Academy's Policy Issues Clearinghouse, Actuarially Sound
blog, and Academy Voices podcast

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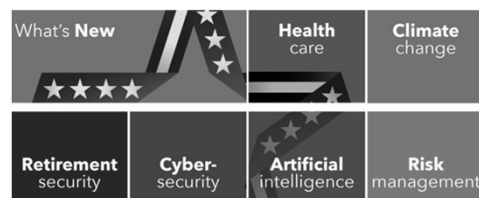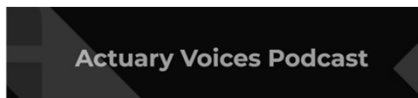
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Thank you

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Questions?

For more information, contact:
Amanda Barry-Moilanen, barrymoilanen@actuary.org

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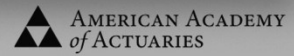
American Academy of Actuaries Update on Life Actuary Knowledge Statement Request

Darrell Knapp

Tricia Matson

Linda Lankowski

November 16, 2024

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About the Academy

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Agenda

- Background
- Public Comment Response
- Next steps

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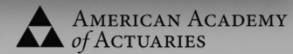
Background

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.

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Public Comment Response

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- 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).

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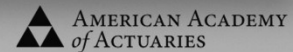
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Reminder—Important Considerations

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- 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.

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Qualified Actuary Knowledge Statements

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- 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.

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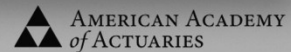
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Next Steps

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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.

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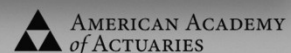
Questions?

For more information, please contact
Geralyn Trujillo, trujillo@actuary.org

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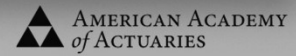
Charitable Gift Annuities

ACGA
american council on gift annuities

Phil Purcell, CFRE, MPA/J.D.
President

Dave Ely, CFA
VP, Rates & Regulations

Shane Leib, FSA, MAAA
Actuary & Ex-Officio Director
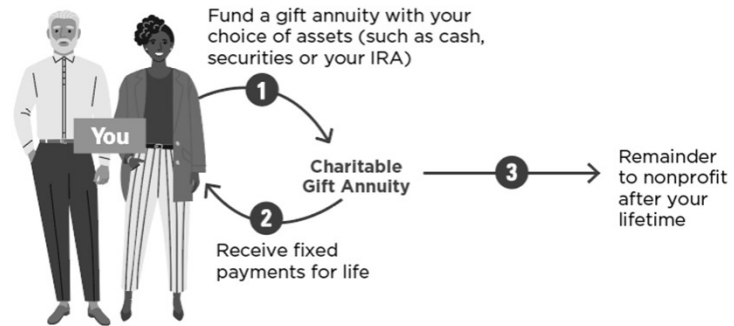
November 18, 2024

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The ACGA and their role

Charities formed the Committee on Gift Annuities in 1927 (now called the American Council on Gift Annuities)				
Purpose				
Advocate: Promote good gifts for nonprofits and their donors	**Recommend payout rates**: Suggest maximum rates for charitable gift annuities	**Monitor regulations**: Interface with regulators and keep charities updated on state regulations	**Conduct research**: Conduct studies to help charities plan and analyze their gift annuity programs	**Educate**: Provide training and education to charities

2

What is a Charitable Gift Annuity?

Fund a gift annuity with your choice of assets (such as cash, securities or your IRA)

You

1

Charitable Gift Annuity

2

Receive fixed payments for life

3

Remainder to nonprofit after your lifetime

3

What is a Charitable Gift Annuity?

A charitable gift annuity (CGA) is a contract between a donor and a charity that provides:

- **Payments for life**: Payments can begin immediately or be deferred to a future date.
- **Tax benefits**: Donors can receive a partial tax deduction for their donation.
- **Annuity term**: The annuity ends when the donor dies, and the charity uses the remaining funds for its mission.

4

Charitable Gift Annuities are issued frequently

Charitable gift annuities are the leading planned gift vehicle today	95% of gift activity	80% of dollar activity

5

Risks in Common with Traditional Payout Annuities

Longevity Risk	Interest Rate Risk	Asset/Liability Mismatch
Investment Risk	Inflation	Concentration Risk

6

Safeguards in Common with Traditional Annuities

Minimum Ages and Amounts

Reserve Pools

Prudent Investing

Reinsurance

7

Unique Challenges of Charitable Gift Annuities

Gifts may be restricted which reduces the ability to aggregate individual risks

Potentially heightened concentration risk for small pools.

Inconsistent gift activity can concentrate inflation, interest rate, and market risks.

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Unique Safeguards

General assets of charities are also available to support annuity payments if original donated funds exhausted

Payout rates are typically designed so that 50% of original payment is a charitable contribution at death (residuum)

Annuitants may elect to forego future payments as an additional charitable contribution.

ACGA provides expertise and guidance to members

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How the ACGA supports charities

SUGGESTING PAYOUT RATES

STUDYING CGA MORTALITY EXPERIENCE

PERFORMING INDUSTRY SURVEYS/RESEARCH

REVIEWING OUR METHODOLOGIES REGULARLY

PROVIDING EDUCATIONAL OPPORTUNITIES VIA WEBCAST AND REGULAR CONFERENCES

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$ Suggesting Payout Rates

Since **1927**

Recognized by charities, donors, state insurance departments, and the Internal Revenue Service as being **actuarially sound**

Responsive to the **best interests of all parties** involved

Updated at least **semi-annually**

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Details of payout rates

Typically, 60-70% of commercial payout annuity rates
- Driven by residuum and conservatism

Mortality Assumptions
- 45-55 blend of the 2012 IAR male and female mortality
- A change from 50-50

Expense Assumptions
- 100bp of MV of assets netted against investment return

Investment Return Assumption
- Mixture of treasury bonds (10y), treasury bills (90d), and equity
- Conservative equity return assumptions

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Mortality Study

2020 mortality study was largest ever

Over 50,000 active contracts which accounted for 31,703 unique lives

Five-year experience period 2015-2019

Data contributed by 31 organizations

Partnered with an external actuarial consulting firm

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Regular Methodology Review

- Engage actuaries and consultants to provide additional insights
- A general reassessment of the assumptions underlying the rates
  - Experience of charities issuing gift annuities
  - Current interest rates, the investment market environment
  - Mortality of annuitants
  - Expenses incurred in administering a gift annuity program
- Review of the payout rates relative to commercial SPIAs
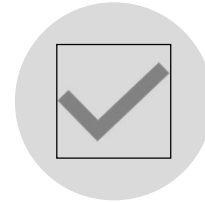
14

Education of members
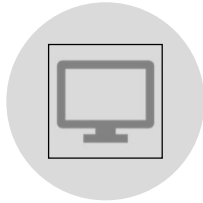
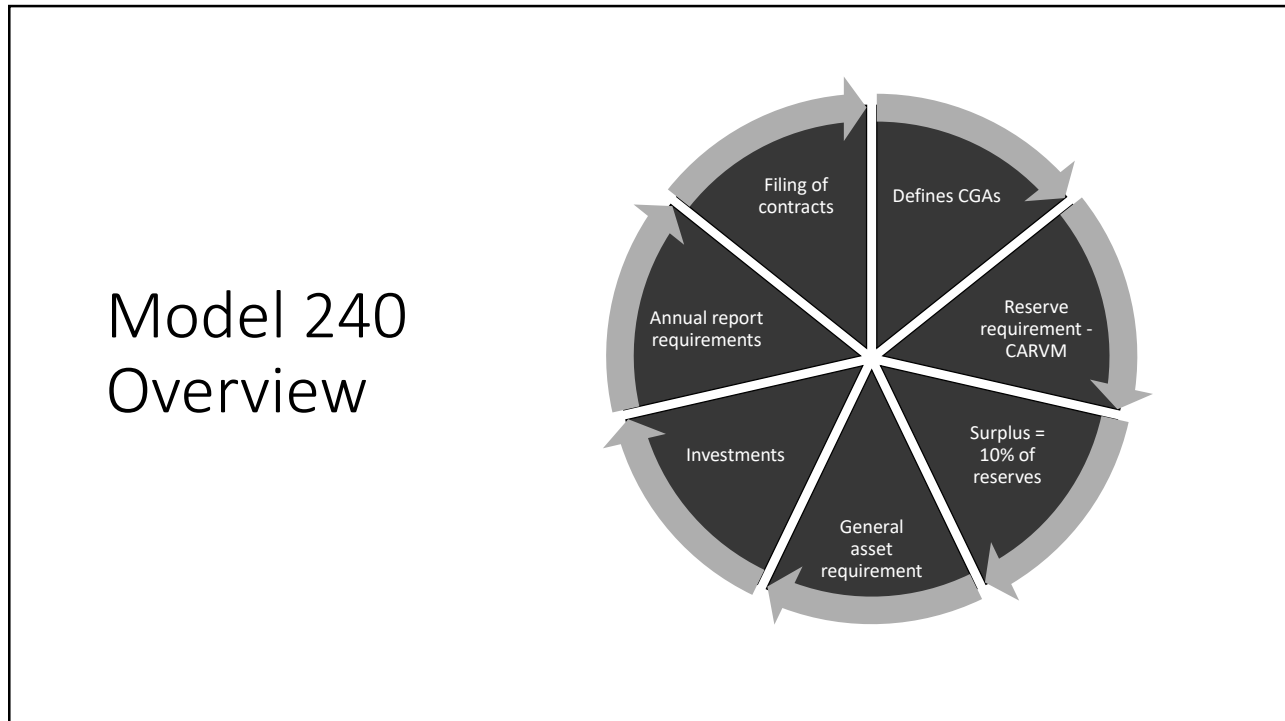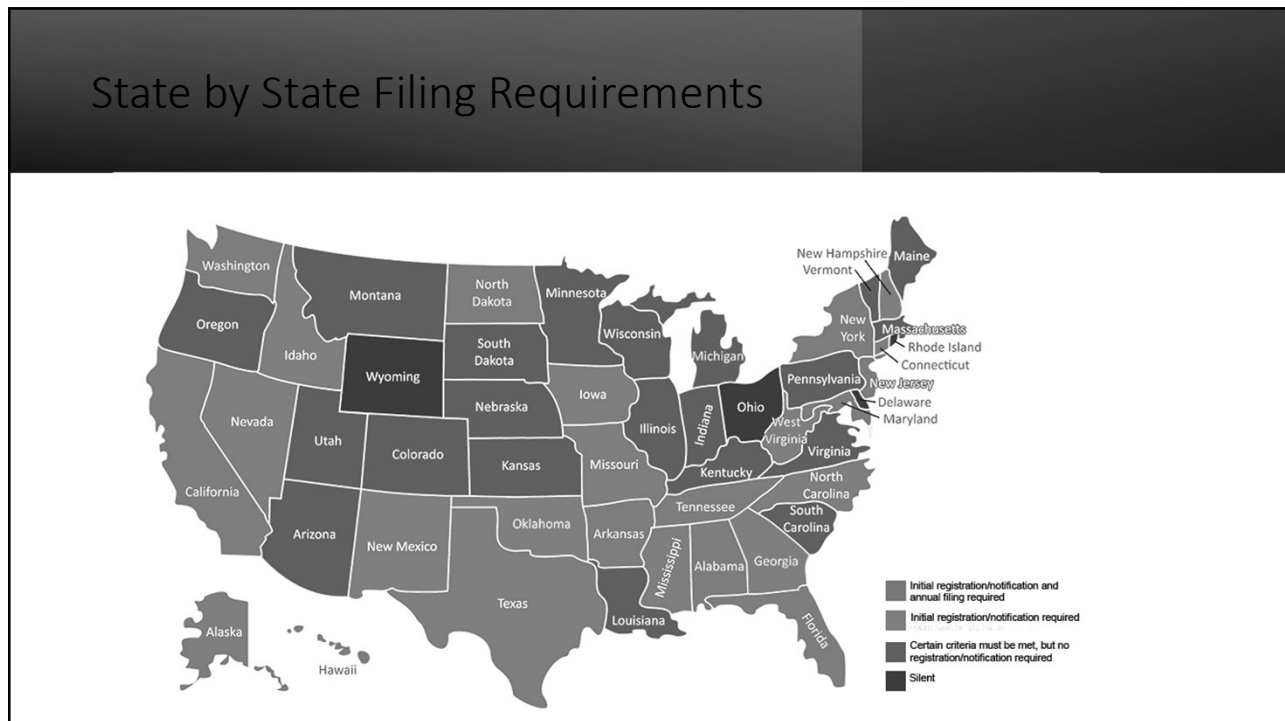| REGULAR WEBINARS | BI-ANNUAL CONFERENCES | DISSEMINATION OF BEST PRACTICES |

15

Regulatory Requirements

What does my state require for charities issuing Charitable Gift Annuities?

16

Model 240 Overview

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State by State Filing Requirements

18

1. State law requires segregated reserve, annual reporting, and/or detailed application (11):

State	Years in operation	Board resolution	Disclosure in agreement	Reserve required	Investment limitations	Other registrations
AL[1]	—	—	yes	yes	—	—
AR	5	yes	—	yes[2]	yes[3]	—
CA	10	yes	yes	yes[4]	yes[4]	—
FL	5	—	yes	yes[5]	yes	—
HI[6]	10 in HI	—	yes	yes	—[7]	—
MD	10 in MD	—	yes[8]	yes	—[7]	—
NJ	10	yes	—	yes	—[7]	yes[9]
NY	10	yes	—	yes	—[7]	—
ND	—	—	—	yes	—	—
TN	—	—	yes[8]	yes[10]	—[7]	—
WA[11]	3	—	—	yes	—[7]	yes[12]

NOTES:

[1] Regulated by Securities Dept. rather than Insurance
[2] May elect to segregate AR annuitants
[3] Prudent investor standard allowed
[4] CA annuitants only
[5] May elect to segregate FL annuitants
[6] Law requires $200,000 of assets in Hawaii
[7] Prudent investor standard
[8] If signed, or in separate signed document
[9] Registration with NJ Div. of Revenue and NJ Dept. of Law and Public Safety
[10] TN-only fund allowed but no longer mandated
[11] Organization must have $500,000 in unrestricted net assets
[12] Registration with WA Secretary of State

Source: PG Calc

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2. State law provides for exemption - Notification required (14):

State	Years in operation	Board resolution	Disclosure in agreement	Reserve required	Available assets	Other registrations
AK	3	—	yes	—	$300k	—
CT	3	—	yes	—	$300k	—
GA[13]	3	—	yes	—	$300k	—
ID	3	—	yes	—	$100k	—
IA	3	—	yes	—	$300k	—
MS	3	—	yes	—	$300k	yes[14]
MO	3	—	yes	—	$100k	—
NV	3	—	yes	—	$300k	—
NH[15, 16]	3	—	yes	yes	$300k	yes[17]
NM	3	—	yes	—	$300k[18]	—
NC	3	—	yes	—	$100k	—
OK[13]	3	—	yes	—	$100k	—
TX	3	—	yes	—	$100k	—
WV	3	—	yes	—	$300k	—

NOTES:

[13] Annual reporting: submission of audited financial statement
[14] Registration with MS Secretary of State (as charitable organization)
[15] Annual reporting: re-notification
[16] Annuity rates must not exceed ACGA suggested rates
[17] General registration with NH Dept. of Justice in some instances
[18] Either in unrestricted assets or reserve fund

Source: PG Calc

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3. State law provides for exemption - No notification required (22):

State	Years in operation	Board resolution	Disclosure in agreement	Reserve required	Available assets	Other registrations
AZ	3	—	—[19]	—	$300k	—
CO	3	—	yes	—	—	—
DE	—	—	—	—	—	—
IL	20[20]	—	—	—	$2 mil.[20]	—
IN	—	—	—	—	—	—
KS	—	—	—	—	—	—
KY	—	—	—	—	—	yes[21]
LA	—	—	—	—	—	—
ME	5	—	—	—	—	yes[22]
MA	—	—	—	—	—	—
MI	—	—	—	—	—	—
MN	—	—	—	—	—	—
MT	3[20]	—	—	yes[20]	$100K[20,23]	—
NE	3	—	—	—	—	—
OR	5	—	—[24]	yes	$300k	—
PA	3	—	yes	—	$100k[25]	yes[26]
SC	5	—	—	—	—	—
SD	10	—	yes	—	$500k	yes[27]
UT	—	—	—	—	—	—
VA	3	—	yes	—	$100k	—
VT	3	—	yes	—	$300k	—
WI	3	—	yes[28]	—	—	—

NOTES:

[19] Detailed disclosure statement to donor prior to gift
[20] Waived if annuities reinsured
[21] Charity must file copy of Form 990 with KY Attorney General
[22] Registration with ME Secretary of State (qualified as foreign corporation)
[23] $100k in unrestricted assets or $300k net worth
[24] Content-specific written disclosure, in agreement or other document
[25] Plus one-half principal value of then outstanding annuities
[26] Certain charities must register with PA Dept. of State (general solicitation law)
[27] Registration with SD Secretary of State (qualified as foreign corporation)
[28] Language modified when law changed 4/18/14

Source: PG Calc

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4. State law does not specifically address gift annuities (4):

DC, OH [29], RI, WY

NOTES:

[29] OH previously provided for an exemption from securities law under now rescinded administrative rule. OH Court of Appeals case decided in 2002 held gift annuities not subject to insurance regulation (OH Supreme Court declined to hear appeal).

- Source: PG Calc

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Recent Activity

Partnering with New York Department of Financial Services

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