MEETING MATERIALS PACKET

LIFE ACTUARIAL (A) TASK FORCE

August 8-9, 2022

NAIC SUMMER NATIONAL MEETING

Hybrid Format
August 8-9, 2022

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Date: 7/26/22

2022 Summer National Meeting
Portland, Oregon

LIFE ACTUARIAL (A) TASK FORCE
Monday, August 8, 2022
8:00 a.m. – 4:30 p.m.
Hyatt Regency—Deschutes Ballroom—Level 1

Tuesday, August 9, 2022
8:00 – 11:00 a.m.
Hyatt Regency—Deschutes Ballroom—Level 1

ROLL CALL

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<td>Mike Boerner</td>
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<td>Allan L. McVey</td>
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NAIC Support Staff: Reggie Mazyck/ Scott O’Neal

AGENDA

Monday, August 8, 2022

8:00 – 8:05 a.m.  1. Call to Order/Roll Call/Consider Adoption of its Minutes and Subgroup Reports—Mike Boerner (TX)
8:05 – 8:15 a.m.  2. Consider Adoption of the Report of the Experience Reporting (A) Subgroup—Fred Andersen (MN)

8:15 – 8:35 a.m.  3. Consider Adoption of the Report of the Index-Linked Variable Annuity (A) Subgroup—Peter Weber (OH)

8:35 – 8:55 a.m.  4. Consider Adoption of the Report of the Valuation Manual (VM)-22 (A) Subgroup—Ben Slutsker (MN)

8:55 – 9:55 a.m.  5. Consider Adoption of the Report of the Indexed Universal Life (IUL) Illustration (A) Subgroup—Fred Andersen (MN)

9:55 – 10:15 a.m.  6. Discuss the Templates for the Asset Adequacy Testing (AAT) Actuarial Guideline—Fred Andersen (MN)

10:15 – 10:30 a.m.  Break

10:30 a.m. – 12:00 p.m.  7. Hear from the American Academy of Actuaries (Academy) on a Framework for Developing, Evaluating, and Implementing Economic Scenario Generators (ESGs)—Hal Pedersen (Academy), Tony Dardis (Academy), Jason Kehrberg (Academy)

12:00 – 1:30 p.m.  Lunch

1:30 – 2:30 p.m.  8. Discuss the ESG Field Test—Scott O’Neal (NAIC)

2:30 – 2:50 p.m.  9. Consider Exposure of the Generally Recognized Expense Tables (GRETs)—Tony Phipps (Society of Actuaries—SOA)

2:50 – 3:05 p.m.  Break

3:05 – 3:20 p.m.  10. Hear an Update on SOA Research and Education—Dall Hall (SOA)

3:20 – 4:10 p.m.  11. Hear an Update on Mortality Improvement—Dale Hall (SOA) and Marianne Purushotham (Academy Life Experience Committee and SOA Preferred Mortality Project Oversight Group)

4:10 – 4:30 p.m.  12. Hear an Update on the SOA and Life Insurance Marketing and Research Association (LIMRA) Experience Studies Partnership—Dale Hall (SOA) and Marianne Purushotham (LIMRA)

Tuesday, August 9, 2022

8:00 – 8:15 a.m.  13. Hear an Update from the Academy Life Practice Council—Ben Slutsker (Academy Life Practice Council)
8:15 – 9:15 a.m.  14. Hear from the Academy on ESG Stylized Facts for Equity (Pt.1)  
—Henry Yim (Academy), Link Richardson (Academy), and Jason Kehrberg (Academy)

9:15 – 9:30 a.m.  Break

9:30 – 10:30 a.m.  15. Hear from the Academy on ESG Stylized Facts for Equity (Pt.2)  
—Henry Yim (Academy), Link Richardson (Academy), and Jason Kehrberg (Academy)

10:30 – 10:45 a.m.  16. Hear an Update from the Academy Council on Professionalism and Education—Lisa Slotznick (Academy), Darrell Knapp (Actuarial Standards Board—ASB) and Shawna Ackerman (Actuarial Board for Counseling and Discipline—ABCD)

10:45 – 11:00 a.m.  17. Discuss Any Other Matters Brought Before the Task Force
Agenda Item 1

Consider Adoption of its Minutes
The Life Actuarial (A) Task Force met July 21, 2022. The following Task Force members participated: Cassie Brown, Chair, represented by Mike Boerner (TX); Scott A. White, Vice Chair, represented by Craig Chupp (VA); Mark Fowler represented by Jennifer Li (AL); Ricardo Lara represented by Ted Chang, Ahmad Kamil, and Thomas Reedy (CA); Michael Conway represented by Eric Unger (CO); Andrew N. Mais represented by Wanchin Chou (CT); Doug Ommen represented by Mike Yanacheak (IA); Dana Popish Severinghaus represented by Vincent Tsang (IL); Vicki Schmidt represented by Nicole Boyd (KS); Grace Arnold represented by Fred Andersen and Ben Slutsker (MN); Chlora Lindley-Myers represented by William Leung (MO); Eric Dunning represented by Derek Wallman (NE); Marlene Caride represented by Kevin Clarkson (NJ); Adrienne A. Harris represented by Bill Carmello and Michael Cebula (NY); Judith L. French represented by Peter Weber (OH); Glen Mulready represented by Andrew Schallhorn (OK); and Michael Humphreys represented by Steve Boston (PA).

1. **Heard a Presentation on the Experience Reporting Data Dictionary**

Angela McNabb (NAIC) said that questions received from companies during the experience data collection process indicated that VM-51, Experience Reporting Formats, can be vague or lend itself to multiple interpretations of how to populate certain fields. She said, given the company input, that it was prudent to provide a data dictionary (Attachment A) for companies to follow. She said the data dictionary will be posted on the industry tab. She noted that the data dictionary is not intended to supersede the authority of the *Valuation Manual*.

2. **Heard an Update on the LIBOR to SOFR Transition**

Pat Allison (NAIC) said the NAIC is working with three data providers to obtain Secured Overnight Financing Rate (SOFR) data. She said contractual matters are in the process of being resolved. She noted that the Life Insurance and Annuities (A) Committee adopted amendment proposal 2022-04, which requires the use of SOFR data in the calculation of U.S. Treasury swap spreads used in principle-based reserving (PBR) effective Jan. 1, 2023. She said the next step is handling the transition to SOFR data for the remainder of 2022. She said the transition date will be set once the contracts are in place.

3. **Heard an Update on the AAT Templates**

Mr. Andersen said a draft of the templates supporting the asset adequacy testing (AAT) guideline is being worked on. He said the draft should be ready for exposure prior to the Summer National Meeting. He said the plan is to have the Task Force adopt the templates in September, so they are available for company use for year-end.

Having no further business, the Life Actuarial (A) Task Force adjourned.
The Life Actuarial (A) Task Force met July 7, 2022. The following Task Force members participated: Cassie Brown, Chair, represented by Mike Boerner (TX); Scott A. White, Vice Chair, represented by Craig Chupp (VA); Mark Fowler represented by Jennifer Li (AL); Ricardo Lara represented by Ted Chang, Ahmad Kamil, and Thomas Reedy (CA); Michael Conway represented by Eric Unger (CO); Andrew N. Mais represented by Wanchin Chou (CT); Doug Ommen represented by Mike Yanacheak (IA); Dana Popish Severinghaus represented by Vincent Tsang (IL); Vicki Schmidt represented by Nicole Boyd (KS); Grace Arnold represented by Fred Andersen and Ben Slutsker (MN); Chlora Lindley-Myers represented by William Leung (MO); Eric Dunning represented by Derek Wallman (NE); Marlene Caride represented by Kevin Clarkson (NJ); Adrienne A. Harris represented by Bill Carmello and Michael Cebula (NY); Judith L. French represented by Peter Weber (OH); Glen Mulready represented by Andrew Schallhorn (OK); and Michael Humphreys represented by Steve Boston (PA).

1. Exposed the 2022 HMI/FMI Scale Development Recommendation

Marianne Purushotham (Society of Actuaries [SOA] Preferred Mortality Project Oversight Group [POG]) presented the 2022 Historical Mortality Improvement (HMI)/Future Mortality Improvement (FMI) Scale Development Recommendations (Attachment A). She said the recommendations include: 1) how to reflect the impacts of COVID-19 on the HMI and the FMI; 2) the FMI scale margin; and 3) the HMI and FMI smoothing methods. She said the POG worked closely with other industry groups to determine consistent principles and guidance for developing valuation mortality. She said the groups agreed that the valuation mortality should reflect the expected recurring, ongoing mortality level over the full reserve projection period. She said the POG also sought perspectives on the impact of COVID-19 from other organizations from across the globe with similar interests. She said the POG also considered principles specific to life insurance, including the understanding that there is an explicit margin built into the recommendation because insured population mortality is lower than the general population mortality used as the basis for the development of the mortality improvement recommendation.

Ms. Purushotham said the recommendation for the HMI uses the standard method carried over from previous years but assumes zero improvement in 2020 over 2019. She said the recommendation results in a 1.4% valuation mortality increase in 2021 and a 0.4% valuation mortality increase in 2022. She said the recommendation for the loaded FMI recommendation includes a 25% margin for uncertainty, to which a temporary margin for COVID-19 is added. The COVID-19 margin starts at 25% and grades to zero over five years. It was noted that the recommended approach for smoothing the HMI and FMI rate is the same as was used in previous years.

Ms. Purushotham said a model office was used to estimate the reserve impact of the HMI and FMI recommendations on universal life with secondary guarantees (ULSG) test policies. She said the model office showed the recommendations result in a 2.7% decrease in the deterministic reserve. Mr. Reedy asked why the decrease differed from the 10% decrease shown in the June 23 mortality improvement presentation. Ms. Purushotham said the baseline for the current presentation includes the 2021 HMI recommendation—2022 is the first year for an FMI recommendation—while the baseline for the June 23 mortality improvement presentation does not include the 2021 HMI. Mr. Cebula expressed concern that the recommendation results in a decrease in the deterministic reserve at a time when there is a new cause of death for which long-term effects are unknown. Ms. Purushotham said the decrease reflects the best estimate of mortality over the projection period. She said the best estimate not only reflects COVID-19 but also reflects positive effects from medical advancements.
Mr. Yanacheak made a motion, seconded by Mr. Clarkson, to expose the mortality improvement recommendations for a 21-day public comment period ending July 27. The motion passed unanimously.

Having no further business, the Life Actuarial (A) Task Force adjourned.
The Life Actuarial (A) Task Force met June 30, 2022. The following Task Force members participated: Cassie Brown, Chair, represented by Mike Boerner (TX); Scott A. White, Vice Chair, represented by Craig Chupp (VA); Jim L. Ridling represented by Jennifer Li (AL); Ricardo Lara represented by Ted Chang, Ahmad Kamil, and Thomas Reedy (CA); Michael Conway represented by Eric Unger (CO); Andrew N. Mais represented by Wanchin Chou (CT); Doug Ommen represented by Mike Yanacheak (IA); Dana Popish Severinghaus represented by Vincent Tsang (IL); Vicki Schmidt represented by Nicole Boyd (KS); Grace Arnold represented by Fred Andersen and Ben Slutsker (MN); Chlora Lindley-Myers represented by William Leung (MO); Marlene Caride represented by Seong-min Eom (NJ); Adrienne A. Harris represented by Bill Carmello and Amanda Fenwick (NY); Judith L. French represented by Peter Weber (OH); Glen Mulready represented by Andrew Schallhorn (OK); and Michael Humphreys represented by Steve Boston (PA).

1. **Adopted Amendment Proposal 2022-04**

Pat Allison (NAIC) said amendment proposal 2022-04 (Attachment A) addresses the transition from the London Interbank Offered Rate (LIBOR) to the Secured Overnight Financing Rate (SOFR) to calculate short-term and long-term swap rates that will be prescribed for principle-based reserving (PBR) valuations in 2023 and later. She noted that the NAIC staff recommendation for addressing the LIBOR to SOFR transition for the remainder of 2022 will be discussed on a later call. She said amendment proposal 2022-04 offers two options for addressing short-term and two options for long-term swap spreads. She said that in each case option A allows the swap data to come from a single nationally recognized source, and option B requires the averaging of data from at least two nationally recognized sources.

Ms. Allison said option A for current swap spreads requires the companies to obtain the current swap spreads from a nationally recognized source. She said small companies that may not have the resources to obtain the data would be able to request the data from the NAIC. Option B for current swap spreads calls for NAIC staff to obtain the swap rates and subtract the corresponding U.S. Treasury rates to obtain current swap spreads and publish the spreads on the NAIC website. She said option A for long-term swap spreads allows the NAIC to obtain data from a single source, apply the required method, and publish the rates. Option B requires averaging of long-term swap data from at least two nationally recognized sources, applying the required method, and publishing the rates.

Alan Routhenstein (American Academy of Actuaries—Academy) said the Academy comment letter (Attachment B) expresses its preference for option A. He said the Academy believes the results from using option A will not significantly differ from those obtained using option B. Ms. Allison said the Academy’s conclusion is consistent with the observations from NAIC research. She said for long-term swaps, NAIC staff recommend going with option B to ensure the supplier data that is posted on the NAIC website cannot be reverse engineered. She said NAIC staff are indifferent to whether option A or option B is used for current swap spreads.

Ms. Allison said the exposure asked for comments on whether the word “companies” in the option A language proposed for Appendix 2.F of VM-20, Requirements for Principle-Based Reserves for Life Products, should be replaced with the phrase “the appointed actuary.” Mr. Routhenstein said the Academy recommends using the phrase “the company,” which is consistently used throughout the Valuation Manual. Ms. Allison said a letter from Linda Lankowski (Risk & Regulatory Consulting LLC) supports the Academy recommendation. Mr. Carmello
expressed his preference for option B for both the current and long-term swaps. Mr. Routhenstein said the Academy is comfortable with going with option B for both.

Mr. Carmello made a motion, seconded by Ms. Eom, to adopt amendment proposal 2022-04 using option B for both the current and long-term swaps and the term “the company” in Appendix 2.F of VM-20. The motion was passed unanimously.

2. **Discussed the ACLI Alternative Equity Calibration**

Brian Bayerle (American Council of Life Insurers—ACLI) presented the alternative equity calibration (Attachment C) that the ACLI recommends be included as optional run #6 in the economic scenario generator (ESG) field test. He noted that the ACLI alternative calibration is like the Conning H2 calibration approach. Mr. Boerner asked if the calibration is ready to be converted to field test scenarios. Mr. Bayerle said the calibration has been posted to the ESG SharePoint site, reviewed by Conning, and is ready for scenario conversion. Dan Finn (Conning) said the scenarios should be available in a week. Mr. Chupp asked if setting the short rate multiplier parameter to zero, as noted on slide 3, means there is no linkage to U.S. Treasury rates. Mr. Bayerle confirmed that the zero indicates that the equity rates are independent of the U.S. Treasury rates.

Having no further business, the Life Actuarial (A) Task Force adjourned.
The Life Actuarial (A) Task Force met June 23, 2022. The following Task Force members participated: Cassie Brown, Chair, represented by Mike Boerner (TX); Scott A. White, Vice Chair, represented by Craig Chupp (VA); Mark Fowler represented by Jennifer Li (AL); Ricardo Lara represented by Ted Chang, Ahmad Kamil, and Thomas Reedy (CA); Michael Conway represented by Eric Unger (CO); Andrew N. Mais represented by Wanchin Chou (CT); Doug Ommen represented by Mike Yanacheak (IA); Dana Popish Severinghaus represented by Vincent Tsang (IL); Vicki Schmidt represented by Nicole Boyd (KS); Grace Arnold represented by Fred Andersen and Ben Slutsker (MN); Chlora Lindley-Myers represented by William Leung (MO); Eric Dunning represented by Derek Wallman (NE); Marlene Caride represented by Seong-min Eom (NJ); Adrienne A. Harris represented by Bill Carmello and Amanda Fenwick (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 Mortality Improvement**

Cynthia Edwalds (Society of Actuaries [SOA] Preferred Mortality Project Oversight Group [POG]) presented an update on the future mortality improvement scale development (Attachment A). The update focused on the approach used to address the impact of COVID-19 on the mortality improvement scale. She said four scenarios were considered for addressing COVID-19 in the 10-year historical mortality improvement (HMI) scale observation period. She said the selected scenario reused the 2019 data in place of the 2020 data to eliminate the impact of COVID-19 deaths.

Ms. Edwalds said the methodology for determining the future mortality improvement (FMI) scale calls for a 25% reduction applied to the best estimate mortality improvement assumption. She said the COVID-19 impact on FMI will be reflected by further reducing the best estimate mortality assumption by a percentage that will grade off after five years. She noted that if the best estimate mortality assumption shows mortality deterioration, the margin is to be applied in a manner that results in greater deterioration. She shared model office results comparing the reserves based on the 2015 Valuation Basic Table (VBT) without mortality improvement to reserves calculated using the recommended HMI and FMI approach, as well as other scenarios. She said the reserve calculation using the recommended approach results in a 10% decrease from the 2015 VBT reserve. She said the Task Force will discuss the margin, the smoothing technique, and the final recommendation during its July 7 meeting. Mr. Carmello said the FMI should be set to zero until there is a better understanding of the long-term COVID-19 impacts. Mr. Cebula said the impacts of COVID-19 should be fully recognized in determination of mortality improvement. Mr. Reedy agreed that instead of reusing the 2019 data, the actual data for 2020 should be used for HMI. Ms. Edwalds said including the 2020 data will result in higher mortality for 2023 than was experienced in 2015. Cynthia MacDonald (POG) noted that the recommended approach does result in mortality dis-improvement for 2023. She said that by using the 2019 data for 2020, the approach assumes neither mortality improvement nor mortality dis-improvement.

Donna Claire (American Academy of Actuaries—Academy) shared a presentation (Attachment B) listing the pros and cons of ignoring the impacts of COVID-19 on mortality improvement and delineating regulatory considerations for the Task Force to think about. She supplied a list (Attachment C) of resources that Task Force members can use to gather information on COVID-19 mortality in life insurance and the general population.
2. Discussed the ESG Acceptance Criteria

Jason Kehrberg (Academy) gave a presentation (Attachment D) following up on the June 16 exchange with the Task Force on the proposed schedule for the Academy discussions with the Task Force on developing stylized facts and acceptance criteria for evaluating stochastic sets of economic scenarios produced by the economic scenario generator (ESG).

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

SharePoint/NAIC Support Staff Hub/Member Meetings/2022 NAIC Meetings/Summer National Meeting/Committee Meetings/LIFE INS and ANNUITIES (A) COMMITTEE/Life Actuarial (A) TF/LATF Calls/6 23/June 23 Minutes.docx
The Life Actuarial (A) Task Force met June 16, 2022. The following Task Force members participated: Cassie Brown, Chair, represented by Mike Boerner (TX); Scott A. White, Vice Chair, represented by Craig Chupp (VA); Mark Fowler represented by Jennifer Li (AL); Ricardo Lara represented by Ted Chang, Ahmad Kamil, and Thomas Reedy (CA); Michael Conway represented by Eric Unger (CO); Andrew N. Mais represented by Wanchin Chou (CT); Doug Ommen represented by Mike Yanacheak (IA); Dana Popish Severinghaus represented by Vincent Tsang (IL); Vicki Schmidt represented by Nicole Boyd (KS); Grace Arnold represented by Fred Andersen and Ben Slutsker (MN); Chlora Lindley-Myers represented by William Leung (MO); Eric Dunning represented by Derek Wallman (NE); Marlene Caride represented by Seong-min Eom (NJ); Adrienne A. Harris represented by Bill Carmello and Amanda Fenwick (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 AG AAT

Mr. Andersen said verbal comments on the actuarial guideline on asset adequacy testing (AG AAT) mentioned that attempting to categorize some Schedule BA assets as equity or non-equity may not be appropriate and could affect the relevant documentation required for those assets. He opined that Section 4 of the actuarial guideline requests the minimum amount of documentation. He said state insurance regulators would want the documentation on Schedule BA assets, unless the assets have conservative return assumptions. He said the subsections of Section 5 that cover sensitivity and attribution analysis state that judgment and best efforts apply to situations where a special type of asset does not fit neatly into an equity or non-equity categorization. He said the comment letter from National Guardian Life (Attachment A) suggests excluding certain public corporate bonds from the requirements of Section 4.A.ii through Section 5 and excluding selected companies from the scope of the actuarial guideline. He said a decision was made earlier to exclude those types of assets from the requirements of Section 4.A.ii through Section 5 but include them in the requirements of Section 4.A.i. He said that in a situation where a company has corporate bonds that are assumed to earn high yields, state insurance regulators would want to have that information. He concluded that companies with those types of assets should be included in the scope of the actuarial guideline.

Mr. Andersen said the remaining decision relates to the inclusion of the word “materially” in Section 4.B.ii. He shared a list of pros and cons for including the word. Mr. Carmello voiced his support for eliminating the word. He said it is problematic when companies are liberal in their interpretation of what is material. He also noted that retaining the word takes away some but not all regulatory judgment. Ms. Eom and several others agreed. Mr. Serbinowski said the word “materially” should be retained. Brian Bayerle (American Council of Life Insurers—ACLI) said the ACLI comment letter (Attachment B) is supportive of retaining the word. He said whether the word is removed or retained, there is still room for regulatory judgment. Mr. Yanacheak said it may be more beneficial to remove the word “favorable,” as it is open to broader interpretation than the word “materially.” He asked how “favorable” is defined in the context of asset adequacy. Mr. Andersen said a possible example is a company for which the results of 975 of its 1,000 stochastic scenarios are either neutral or unfavorable and the results of the remaining 25 scenarios are favorable, but those 25 scenarios are not included in the conditional tail expectation (CTE) results. He said that in that example, the 25 scenarios should not be considered to have a favorable result on the asset adequacy reserve. The Task Force agreed by voice vote, with several members dissenting, to remove the word “materially” from Section 4.B.ii.
Mr. Andersen made a motion, seconded by Mr. Yanacheak, to adopt AG AAT (Attachment C), after removing the word “materially.” The motion passed unanimously.

2. Received an Update on the ESG Field Test

Scott O’Neal (NAIC) said two documents (Attachment D and Attachment E) were distributed to participants on the June 15 economic scenario generator (ESG) field test call. He reminded the Task Force that the field test began on June 1. He said NAIC staff continue to work with field test participants to answer questions and resolve issues. He said that except for run #6, all field test scenarios are posted on the Conning website.

3. Discussed ESG Acceptance Criteria

Jason Kehrberg (American Academy of Actuaries—Academy) gave a preview of an Academy proposal for developing stylized facts (qualitative statements about the economic variables being simulated by the ESG model) and acceptance criteria for evaluating stochastic sets of economic scenarios produced by the ESG. The preview lists dates and topics for the discussion sessions that will provide a decision framework that state insurance regulators can use to determine next steps for scenario evaluation in a manner consistent with actuarial standards of practice for using models and setting assumptions. He said the discussion sessions would be a mix of educational sessions and interactive discussions. He noted that one of the goals is to transform the loose boundary guidance developed by the ESG Field Test Drafting Group into more robust and comprehensive stylized facts and acceptance criteria that will perform well under a variety of economic conditions. The sessions will be open to Task Force and Life Risk-Based Capital (E) Working Group members, interested state insurance regulators, and interested parties.

Having no further business, the Life Actuarial (A) Task Force adjourned.
The Life Actuarial (A) Task Force met June 2, 2022. The following Task Force members participated: Cassie Brown, Chair, represented by Mike Boerner (TX); Scott A. White, Vice Chair, represented by Craig Chupp (VA); Mark Fowler represented by Jennifer Li (AL); Ricardo Lara represented by Ted Chang, Ahmad Kamil, and Thomas Reedy (CA); Michael Conway represented by Eric Unger (CO); Andrew N. Mais represented by Wanchin Chou (CT); Dana Popish Severinghaus represented by Vincent Tsang (IL); Vicki Schmidt represented by Nicole Boyd (KS); Grace Arnold represented by Ben Slutsker (MN); Chlora Lindley-Myers represented by William Leung (MO); Eric Dunning represented by Derek Wallman (NE); Marlene Caride represented by Seong-min Eom (NJ); Adrienne A. Harris represented by Bill Carmello and Amanda Fenwick (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. Discussed Comments on AG AAT

Colin Masterson (American Council of Life Insurers—ACLI) said the ACLI comment letter (Attachment A) recommends additional edits to the proposed actuarial guideline (AG) on asset adequacy testing (AAT) (Attachment B) and asks for a short re-exposure of the AG AAT. Mr. Slutsker said that the question of which asset classes to exempt from sensitivity testing, attribution analysis, and other requirements of Section 4 will be addressed first, after which there will be discussion on the remaining ACLI comments. He said that cash, U.S. Treasury bonds and agency bonds are currently the only asset classes exempted. He said the Task Force could add public corporate bonds and floaters to the list of exempted asset classes. He said another option is to include real estate, direct mortgage loans, and mortgage pass-throughs in addition to public corporate bonds and floaters as exempted asset classes. Mr. Slutsker requested a vote on the various options. The Task Force voted to add nonconvertible/noncallable public corporate bonds to the list of noncomplex assets to be exempted. In a second vote, the Task Force agreed to exclude convertible/callable public corporate bonds and floating rate instruments from the list of noncomplex assets. In a third vote, the Task Force agreed to exclude direct mortgage loans from the list of noncomplex assets. There was no objection to excluding real estate and mortgage pass-throughs from the list of complex assets.

Mr. Slutsker said the ACLI suggested striking requirement #6 on page 1 of the guideline. He recommended that instead of striking it, the requirement could be revised to clarify its intention by possibly having the company provide the rationale for updating some of the underlying assumptions related to complex assets. He said the revision will be included in the next exposure of the guideline.

Mr. Slutsker said comment letters mentioned the difficulty of meeting the Dec. 31, 2022, implementation date. He asked the Task Force to consider a May 1, 2023, implementation date, with an option for companies to request more time from their domestic regulator if needed. Mr. Leung said a May 1 implementation date will make it difficult for state insurance regulators to review the required information and suggest additional revisions to the guideline. The Task Force voted to change the implementation date to April 1 for year-end 2022 submissions, with a possibility of an extension beyond April 1 in the case of hardship.

Mr. Slutsker said the ACLI comment letter recommended excluding policy loans from the scope of the guideline. He said the guideline was intended to exclude policy loans. He suggested accepting the revision proposed by the ACLI. There was no objection from Task Force members.
Mr. Slutsker identified the definition of “net market spread” in Section 3.C, and the discussion of the tail expectation in Section 4.B.i.(d) as items to be highlighted to solicit comments on the next exposure. He also said that paragraph 5.B.iii, which refers to the “Guideline Excess Spread,” will be stricken; commentary on the attribution analysis will be requested instead.

2. **Heard an Update on HMI/FMI**

Marianne Purushotham (Society of Actuaries [SOA] Preferred Mortality Project Oversight Group [POG]) presented slides (Attachment C) showing the present state and the direction of the 2022 mortality improvement recommendation to be considered by the Task Force. She said historical mortality improvement (HMI) and the future mortality improvement (FMI) scales will be developed for 2022. The scales will address: 1) how COVID-19 impacts are reflected in the mortality improvement scales; 2) margin development for the FMI; and 3) whether a modification to the smoothing method is necessary. She noted that there are already implicit margins in both the HMI and FMI scales due to the use of general population data that is unadjusted for the insured population differences. She said four mortality HMI scenarios and two FMI are undergoing model office testing. She said the final recommendation should be ready by the first week of July.

Donna Claire (American Academy of Actuaries [Academy] Life Experience Committee) discussed some general questions (Attachment D) related to the COVID-19 impact on mortality improvement for Task Force consideration.

Having no further business, the Life Actuarial (A) Task Force adjourned.
The Life Actuarial (A) Task Force met May 26, 2022. The following Task Force members participated: Cassie Brown, Chair, represented by Mike Boerner (TX); Scott A. White, Vice Chair, represented by Craig Chupp (VA); Jim L. Ridling represented by Jennifer Li (AL); Ricardo Lara represented by Ben Bock, Ted Chang, Ahmad Kamil, and Thomas Reedy (CA); Michael Conway represented by Eric Unger (CO); Andrew N. Mais represented by Wanchin Chou (CT); Doug Ommen represented by Mike Yanacheak (IA); Dana Popish Severinghaus represented by Vincent Tsang (IL); Vicki Schmidt represented by Nicole Boyd (KS); Grace Arnold represented by Fred Andersen (MN); Eric Dunning represented by Derek Wallman (NE); Marlene Caride represented by Seong-min Eom (NJ); Adrienne A. Harris represented by Bill Carmello and Amanda Fenwick (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. Re-Exposed Amendment Proposal 2022-04

Pat Allison (NAIC) said the London Interbank Offered Rate (LIBOR) will be published through June 2023. She said the designated replacement for LIBOR is the Secured Overnight Financing Rate (SOFR). She said amendment proposal 2022-04, exposed for public comment through April 22, was drafted by the American Academy of Actuaries (Academy) to propose the Valuation Manual changes needed to effect the change from LIBOR to SOFR beginning in 2022 and carrying through to future years. Informal comments to the Academy from Rachel Hemphill (Texas Department of Insurance [DOI]) suggested removing references to years prior to 2022 and addressing the changes for 2022 with an NAIC staff memorandum instead of making a Valuation Manual change. Ms. Allison said her informal comments to the Academy recommended that the redlining be redone to show the proposed changes against existing Valuation Manual language. The formal comments (Attachment A) provided by the American Council of Life Insurers (ACLI) requested that the NAIC publish both LIBOR-based and SOFR-based spreads for 2022.

Ms. Allison discussed the NAIC staff memorandum (Attachment B) recommending a process for developing swap rates to be used for the remainder of 2022. She said the memorandum is consistent with the approach proposed in amendment proposal 2022-04 and with Section 9.F.8.d of VM-20, Requirements for Principle-Based Reserves for Life Products. She noted that the wording of Section 9.F.8.d allows for the publication of rates based on one source, which would preclude the NAIC from publishing both LIBOR-based rates and SOFR-based rates. She said the memorandum includes information that verifies that LIBOR is no longer effective. She noted that one of the two data providers used by the NAIC began providing SOFR rates instead of LIBOR in December 2021. Companies that have transactions based on LIBOR must use actuarial judgment to appropriately apply SOFR rates.

Ms. Allison said she revised amendment proposal 2022-04, authored by Alan Routhenstein (Academy), so that it is applicable only to the years 2023 and later. Mr. Carmello suggested removing the word “current” from the phrase “historical current SOFR spreads” from the revision proposed for Section 9.F.8.d.ii of VM-20

Mr. Weber made a motion, seconded by Mr. Chupp, to re-expose amendment proposal 2022-04, including the change suggested by Mr. Carmello, and expose the NAIC staff memorandum both for a 13-day public comment period ending June 7. The motion passed unanimously.
2. Re-Exposed Amendment Proposal 2020-12

Brian Bayerle (ACLI) said the ACLI comment letter (Attachment C) proposes a few changes, including restoring the reference to immaterial hedging strategies, which seems to have been inadvertently dropped from an earlier version. He said the ACLI is recommending deferring the effective date to Jan. 1, 2024, or providing a 1-year deferral of aspects of the proposal.

Mr. Reedy noted that the amendment proposal was edited to add the following phrase to Section 9.E of VM-21, Requirements for Principle-Based Reserves for Variable Annuities: “The company may also consider historical experience for similar current or past hedging programs on similar products to support the error factor determined for the projection.”

Mr. Slutsker made a motion, seconded by Mr. Chupp, to re-expose amendment 2020-12 (Attachment D) for a 7-day public comment period ending June 1. The motion passed unanimously.

3. Heard an Update on the ESG Field Test

Scott O’Neal (NAIC) said the economic scenario generator field test includes an equity model, a Treasury model, and a corporate model. He gave a brief overview of the field test instructions (Attachment E), including what is to be tested for each model, and the required and optional field test runs. Mr. Bayerle suggested several clarifying edits for Mr. O’Neal’s consideration. Link Richardson (Academy) said test #7 should be revised to use a 3.25 mean reversion parameter with the Academy Interest Rate Generator (AIRG).

4. Discussed VM-20 and C3 Phase I Alternative Discounting Methodology

Mr. O’Neal said VM-20 stochastic reserves and C-3 Phase I use a discount method based on applying a 105% factor to the 1-year U.S. Treasury rate. He said that due to the inclusion of negative interest rates in the field test, the method must be adjusted to avoid making a negative interest rate even more negative. He said the proposed solution is to have companies provide undiscounted values for scenarios and projection periods with negative interest rates. NAIC staff will later apply the proper discounting method, using a 95% discounting factor to negative rates.

5. Discussed Comments on ESG Field Test Specifications, Instructions, and Templates

Mr. Bayerle shared the ACLI comments (Attachment F), which provided a few suggestions, including having more varied scenario sets to see how the generator will move under a number of conditions.

Mark Tenney (Mathematical Finance Company) commented (Attachment G) that the original parameterization of the Conning model should be included in the field test. He said the original parameterization helps to explain the excessive risk premium in the current market.

Having no further business, the Life Actuarial (A) Task Force adjourned.
The Life Actuarial (A) Task Force met May 19, 2022. The following Task Force members participated: Cassie Brown, Chair, represented by Mike Boerner (TX); Scott A. White, Vice Chair, represented by Craig Chupp (VA); Jim L. Ridling represented by Jennifer Li (AL); Ricardo Lara represented by Ben Bock, Ted Chang, Ahmad Kamil, and Thomas Reedy (CA); Michael Conway represented by Eric Unger (CO); Andrew N. Mais represented by Wanchin Chou (CT); Doug Ommen represented by Mike Yanacheak (IA); Dana Popish Severinghaus represented by Vincent Tsang (IL); Vicki Schmidt represented by Nicole Boyd (KS); Grace Arnold represented by Fred Andersen (MN); Chlora Lindley-Myers represented by William Leung (MO); Eric Dunning represented by Derek Wallman (NE); Marlene Caride represented by Seong-min Eom (NJ); Adirene A. Harris represented by Bill Carmello and Amanda Fenwick (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. Discussed Actuarial Guideline AAT

Mr. Andersen reviewed the March 31 exposure (Attachment A) of the Actuarial Guideline on asset adequacy testing (AAT) and summarized the comments received from Transamerica (Attachment B), the American Academy of Actuaries (Academy) (Attachment C), the American Council of Life Insurers (ACLI) dated May 2 (Attachment D), the ACLI comment dated May 16 (Attachment E) focusing on sensitivity testing, and three comment letters from the Utah Department of Insurance (DOI) on behalf of companies domiciled in Utah (Attachment F), (Attachment G), and (Attachment H). He said the scope of the guideline will be expanded to ensure that companies with pension risk transfer (PRT) assets, sometimes held in non-unitized separate accounts, are included. He recommended that the Task Force not accept the Transamerica comment asking that companies not be scoped in solely because they have more than $5 billion in general account reserves. He said the guideline is structured so that companies that meet the size criteria, but have no high yielding assets, should be able to make that case to their state insurance regulator. He noted that the Academy concern related to the need to scope in medium-sized companies that currently have no high-yield assets but are projecting future high-yield investments is too challenging to address in the proposed guideline. Mr. Yanacheak said that from a risk perspective, he is more concerned about the smaller, less sophisticated companies that may attempt to mimic the asset management practices of larger companies. He said the focus of the guideline should be more on risk. Mr. Chang suggested removing the $500 million criteria from Section 2.B. Brian Bayerle (ACLI) said the scope criteria is too broad and should be tailored to identify the companies that are problematic. Leonard Mangini (Academy) suggested an approach similar to the principle-based reserving (PBR) company-wide exemption, where the company could be exempted by its domiciliary commissioner if certain criteria are met.

Mr. Andersen said commenters suggested that the determination of the investment grade net yield benchmark be changed from a book value approach to a market value approach, where assets are compared against the current market values and U.S. Treasury rates to determine whether to consider them high-yielding assets. Commenters said the book value approach is inefficient and difficult to implement. Task Force members agreed to the change. They also agreed to exclude unitized separate accounts from the scope of the AG.

Mr. Andersen said that, for all assets supporting reserves, Section 4.A.iii requires the company to show the components that are deducted from the gross yield to get to the net yield. Mr. Leung said the requirement should apply to all companies but noted that it would require a change in the scope of the guideline. Mr. Mangini said using an exemption approach could require that all companies provide the component information.
Mr. Andersen said most comments were related to sensitivity testing. He said the ACLI recommended grouping the reinvestment assets at the level they are grouped for asset adequacy testing. He said there are concerns that grouping in that manner would allow assets with high yields to be offset by assets with lower yields. He asked Task Force members to consider three options: 1) continue to disallow grouping; 2) allow some grouping at the level assets are modeled for AAT; and 3) allow grouping only within the universe of high-yield assets. The Task Force agreed to allow grouping only within the universe of high-yield assets.

Mr. Andersen said the ACLI proposed testing multiple benchmark spreads to allow state insurance regulators to gather more information and better understand the risk. He said the concept will be included in the guideline, but companies will have the option of using a single benchmark spread. He emphasized that the test is not intended to be a stress test but rather to help identify outliers. He suggested that for reinvestments, the drop and recovery test does not work well. He suggested eliminating the 10% drop from the equity sensitivity test. He proposed the rates used in the recovery test be 4% for the first 10 years and 5% thereafter. He noted that the change opens the door for more assets that are not common stocks, nor have fixed asset components, to be considered equity-like instruments.

The Task Force agreed that attribution analysis can be completed by reinvestment category, instead of asset by asset. Mr. Andersen said industry companies plan to use a best-efforts approach in the first year of compliance with the guideline, with a goal of refining the analysis over time. Mr. Bayerle suggested adding a guidance note to that effect.

Mr. Andersen said the guideline will be edited to include the revisions agreed to by the Task Force. The revised guideline was re-exposed on May 20 for a public comment period ending May 31.

2. Discussed the Field Test Runs

Scott O’Neal (NAIC) gave a brief overview of the field test specifications (Attachment I) before reviewing the field test instructions (Attachment J). He delineated the runs that are required and the runs that are optional. Mr. Boerner noted that Baseline run #2 will use the Dec. 31, 2019, U.S. Treasury yield curve increased by 200 basis points (bps) across all maturities. Mr. O’Neal said that run #5 has been changed from an optional run to a required run. He said the field test participants will be asked to indicate which optional runs they plan to execute. Jason Kehrberg (Academy) said that to understand the impact of holding the mean reversion parameter (MRP) constant from one date to another, test #5 must be run on two dates. He said running on two dates will also provide insights on the equity/Treasury linkage. William Wilton (SBCGlobal) asked if adding 200 bps to the Dec. 31, 2019, yield curve for run #2a and run #2b requires companies to reprice their asset portfolio for that date. Mr. O’Neal said companies already have the capabilities for testing sensitivities. He said that process could be used for run #2a and run #2b. Link Richardson (Academy) said the use of Sept. 30 models was previously discussed but does not appear among field test runs. He said going from the 6.55 MRP for C-3 Phase I to the current scenario as an interim step before shifting to the Conning scenarios was also previously discussed but is omitted from the field test run. Mr. O’Neal said the field test scenarios allow companies to use Sept. 30 data if applicable. He said the shifting of the MRP was deferred to the VM-22 field test. Mr. Boerner said the discussions of the shifting MRP and the potential for an additional run #5 with a different date will be taken back to the field test drafting group. No Task Force member objected to the proposed field test runs, with the required runs listed first in priority order, followed by the optional runs in priority order.

Having no further business, the Life Actuarial (A) Task Force adjourned.
The Life Actuarial (A) Task Force met May 12, 2022. The following Task Force members participated: Cassie Brown, Chair, represented by Mike Boerner (TX); Scott A. White, Vice Chair, represented by Craig Chupp (VA); Jim L. Ridling represented by Jennifer Li (AL); Ricardo Lara represented by Ben Bock, Ted Chang, Ahmad Kamil, and Thomas Reedy (CA); Michael Conway represented by Eric Unger (CO); Andrew N. Mais represented by Wanchin Chou (CT); Doug Ommen represented by Mike Yanacheak (IA); Dana Popish Severinghaus represented by Vincent Tsang (IL); Vicki Schmidt represented by Nicole Boyd (KS); Grace Arnold represented by Fred Andersen (MN); Chlora Lindley-Myers represented by William Leung (MO); Eric Dunning represented by Derek Wallman (NE); Marlene Caride represented by Seong-min Eom (NJ); Adrienne A. Harris represented by Bill Carmello and Amanda Fenwick (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 the LIBOR to SOFR Transition**

Pat Allison (NAIC) provided an overview of the current process for calculating the swap spreads prescribed in the *Valuation Manual*. She said the swap spreads are the average of London Interbank Offered Rates (LIBOR) generated from two data sources; i.e., J.P. Morgan and Bank of America. She said LIBOR will be published through June 2023. The replacement for LIBOR is the Secured Overnight Financing Rate (SOFR). She said the NAIC was recently informed by one of the data sources that it has been basing the swap spread data sent to the NAIC on the SOFR since Dec. 31, 2021. Consequently, since that time, swaps published for all tenors, except the three-month and six-month, have been inadvertently based on an average of LIBOR-based rates and SOFR-based rates, which is contrary to the intent of the *Valuation Manual*.

Ms. Allison proposed that NAIC staff inform all parties, via email and posting a statement on the NAIC website, of the inclusion of the SOFR in the published swap spreads. She said NAIC staff will pursue discussions with the data sources to ask if they can provide both LIBOR and SOFR-based swap rates. She said getting both sets of rates will allow the NAIC to separately publish rates based on both rates for as long as the LIBOR swap spreads are available. Mr. Carmello asked if companies would be required to use one or the other. Ms. Allison said that issue needs to be discussed with the Task Force, but the current thinking is that companies would have the discretion to use the rates that best represent the portfolio supporting their reserves. Task Force members posed no objections to the plan for communicating to companies.

2. **Discussed ESG Field Test Specifications, Instructions, and Templates**

Scott O’Neal (NAIC) said the public comment period for the field test specifications, field test instructions, and field test template ended May 10. He said no formal comments were received, but the American Academy of Actuaries (Academy) and the American Council of Life Insurers (ACLI) provided feedback during a recent Economic Scenario Generator (ESG) Field Test Planning Group meeting. He said based on the feedback, each of the field test documents was revised as shown by the redlined attachments. Mr. Carmello said run #5 in Section II.A of the field test instructions should be a mandatory run. Mr. Boerner said the document will be re-exposed.

The Task Force exposed the field test specifications (Attachment A), field test instructions (with run #5 mandatory) (Attachment B), and field test template (Attachment C) for a public comment period ending May 17.
3. **Discussed the Academy ESG Field Test C-3 Phase I Template**

Link Richardson (Academy) said the Academy C-3 Spreadsheet cover letter describes the C-3 Phase 1 spreadsheet. He said the spreadsheet is an extension of the one used in the 2015 C-3 Phase 1 field test. He said the updated version allows for the running of 1,000 scenarios instead of 200 scenarios, which was allowed by the 2015 version and accommodates conditional tail expectation (CTE)-70 and CTE-98. He said the Academy is providing the spreadsheet to the NAIC for use in the ESG field test.

The Task Force exposed the Academy ESG field test C-3 Phase 1 cover letter (Attachment D) and template (Attachment E) for a public comment period ending May 17.

4. **Discussed the Equity Model Parameters**

Mr. O'Neal reviewed the table of gross wealth factors (Attachment F), comparing the results of the Conning and ACLI calibrations to the results of the Academy Interest Rate Generator (AIRG). He said the NAIC staff recommended calibration is shown in column (H2). He said sensitivities will also be run for the Conning equity baseline calibration in column (A) and the ACLI alternative calibration in column (J).

Brian Bayerle (ACLI) discussed the ACLI proposed alternative equity calibration. He said the distribution of gross wealth factors across multiple projection horizons has been a traditional criterion for equity valuations in the U.S. and Canada. He said given the nature of life and annuity liabilities, looking at single year returns is not as useful or relevant as looking at gross wealth factors. He referred to a slide in the ACLI presentation (Attachment G) that compares the results from the Conning baseline calibration to the results of the AIRG calibration. He pointed out that there are significant differences in both the right and left tails of the distribution. He said the Conning baseline calibration significantly increases reserves and the total asset requirement (TAR). He posited that the differences are due mostly to unintended side effects in the Conning model, as opposed to underlying model changes. He said there do not seem to be any intentional changes proposed by state insurance regulators, such as the “low for long” requirement, that are causing the differences. He added that Conning has other options at its disposal for adjusting the model. He suggested that Conning make more of its documentation publicly available.

Mr. Bayerle said it will be important for the Task Force to have a substantive discussion on the Standard & Poor’s (S&P’s) equity scenario properties and behavior to develop comprehensive targets and acceptance criteria. He said the ACLI alternative equity calibration produces results that are intuitive and interpretable and reflects historical attributes better than the Conning H2 calibration. He advocated for the inclusion of the ACLI calibration in the field test.

5. **Adopted Amendment Proposal 2022-05**

Angela McNabb (NAIC) said amendment proposal 2022-05 adds plan codes, corrects language, and implements a code for death claims due to COVID-19. She said the COVID-19 code was added in response to a request from the Society of Actuaries (SOA). Mr. Bayerle said the ACLI supports most of the changes but suggests that the amendment should clarify whether the COVID-19 code would be used only when COVID-19 is the primary cause of death or if it is meant for use when COVID-19 is a contributing cause of death. He noted that due to the medical judgment involved, obtaining accurate cause of death information can be difficult. He said COVID-19 deaths may be undercounted if companies do not require death certificates for smaller policies. Cindy MacDonald (SOA) said the SOA understands that the data collected on COVID-19 deaths may not be perfect, but it will help with the analysis of data from sources other than the NAIC that is currently being worked. Ms. Allison said rather than putting the specifics of identifying COVID-19 deaths in the amendment proposal, the specifics will be provided in
the data dictionary NAIC staff are developing. Ms. McNabb said the intent will also be conveyed through the company training planned for June.

Mr. Chupp made a motion, seconded by Mr. Leung, to adopt amendment proposal 2022-05 (Attachment H). The motion passed unanimously.

6. Discussed Mortality Improvement

Marianne Purushotham (SOA Preferred Mortality Project Oversight Group) said the 2022 mortality improvement recommendation (Attachment I) comprises a historical mortality improvement recommendation and a future mortality improvement recommendation. She said the study is based on general population mortality. She said applying socioeconomic class data to the general population mortality will help get closer to an estimate for insured population mortality. She said it is recognized that starting with population mortality provides an additional margin. She said the SOA Preferred Mortality Project Oversight Group is looking at margins and direct adjustments as ways to incorporate the impact of COVID-19. She said a series of model office scenarios are being run to get an estimate of the impact of COVID-19 on future mortality. She said information will be shared with the Task Force to help as it considers approval of the historical and future mortality proposals.

Having no further business, the Life Actuarial (A) Task Force adjourned.
The Life Actuarial (A) Task Force met May 5, 2022. The following Task Force members participated: Cassie Brown, Chair, represented by Mike Boerner (TX); Scott A. White, Vice Chair, represented by Craig Chupp (VA); Jim L. Ridling represented by Jennifer Li (AL); Ricardo Lara represented by Ben Bock, Ted Chang, Ahmad Kamil, and Thomas Reedy (CA); Michael Conway represented by Eric Unger (CO); Andrew N. Mais represented by Wanchin Chou (CT); Doug Ommen represented by Mike Yanacheak (IA); Dana Popish Severinghaus represented by Vincent Tsang (IL); Vicki Schmidt represented by Nicole Boyd (KS); Grace Arnold represented by Fred Andersen (MN); Chlora Lindley-Myers represented by William Leung (MO); Eric Dunning represented by Derek Wallman (NE); Marlene Caride represented by Seong-min Eom (NJ); Adrienne A. Harris represented by Bill Carmello and Amanda Fenwick (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. Exposed Amendment Proposal 2022-05

Angela McNabb (NAIC) said amendment proposal 2022-05 proposes the following modifications to VM-51, Experience Reporting Formats: 1) adding distinct plan codes for dividend additions; 2) adding a termination code to specify deaths due to COVID-19; 3) changing the “State of Domicile” field to “Owner’s State of Residence” to eliminate confusion; and 4) revising the questionnaire in Appendix 1 to correctly identify some values currently listed as dates to be filled in. She said companies will be asked to voluntarily use the proposed codes for the 2022 data submission. She added that if adopted for the 2023 Valuation Manual, the proposed amendment will make the codes mandatory for the 2023 data submission. Mr. Chupp asked whether there may be confusion if COVID-19 is a secondary cause of death. Ms. McNabb said a data dictionary is being developed to serve as guidance for companies. She said it will indicate that there should be no distinction based on whether COVID-19 is a primary or secondary cause of death. Ms. Fenwick said not all New York domiciled companies are capturing COVID-19 as a cause of death.

Mr. Leung made a motion, seconded by Mr. Weber, to deem amendment proposal 2022-05 non-substantive. The motion passed unanimously.

Mr. Weber made a motion, seconded by Mr. Leung, to expose amendment proposal 2022-05 (Attachment A) for a seven-day public comment period. The motion passed unanimously.

2. Exposed ESG Field Test Files

Scott O’Neal (NAIC) gave a presentation (Attachment B) on company participation in the economic scenario generator (ESG) field test scheduled for June. He showed the number of participants for each of the 13 products being tested. He said while product level detail for some products will not be shown due to low levels of participation, he is happy with the number of companies choosing to participate. Mr. Weber asked what products make up the “Other Annuities” category. Mr. O’Neal said some companies indicated that they put registered index-linked annuities (RILAs) in the “Other Annuities” category, and some companies included RILAs in the “Indexed Annuities” category.

Pat Allison (NAIC) discussed the field test instructions document (Attachment C). She said comments received from the American Council of Life Insurers (ACLI) (Attachment D) and William Wilton (unaffiliated) (Attachment E)
on the exposure of the specifications document were incorporated into the field test instructions document. She noted that Appendix B of the document will be a qualitative survey. She said the general examination authority of the Texas Department of Insurance (TDI) will be used to request the information. She said using the TDI authority will ensure that the confidentiality of the information is maintained. The information will be shared with NAIC staff, who will compile and aggregate the information. Ms. Allison provided an overview of each section of the field test instructions document.

Brian Bayerle (ACLI) suggested adding a run of an equity scenario produced by the American Academy of Actuaries (Academy) Interest Rate Generator (AIRG) in addition to the Conning equity model to assist in developing more attribution information. Ms. Allison said the suggestion could be discussed in the Field Test Planning Group meeting. Mr. Bayerle also suggested adding a survey question related to company availability for a second field test in February 2023.

The ESG field test instructions document and the field test template (Attachment F) were exposed for a public comment period ending May 10.

3. Discussed Calibration of the Conning Equity Model

Mr. O’Neal said the ESG Planning Group has compared gross wealth factors produced using the Conning equity model with those produced using the AIRG equity model. He noted that the Conning model produced more conservative results. He said a series of sensitivities have been run to isolate key differences in the models and foster a better understanding of the disparities in the models’ results. He said adjustments were made to the Conning model to generate results that are closer to the AIRG results. Those adjustments included lowering the volatility parameter, increasing the expected returns parameter, aligning the median returns, aligning the serial correlations, and removing the jump process.

Mr. Boerner referred to an earlier ACLI discussion of having an alternative equity model that could be used instead of the Conning model. He said there is not enough time to work on an alternative model. He said he would prefer to see the field test results of the Conning model. Mr. Bayerle said the ACLI is proposing alternative equity calibrations, not an alternative equity model. He said the ACLI is asking that the Conning model be run using the ACLI alternative calibrations instead of the Conning calibrations. He said the goal is to produce a more reasonable field test. Mr. Boerner said the Task Force will continue to discuss the issue during its next call.

Having no further business, the Life Actuarial (A) Task Force adjourned.
1. Exposed the Field Test Specification Document

Colin Masterson (American Council of Life Insurers—ACLI) said the ACLI is withdrawing its request to have its economic scenario generator (ESG) included as part of the June field test. He said the ACLI supports NAIC efforts to replace the American Academy of Actuaries (Academy) ESG. He said the ACLI comment letter (Attachment A) lists its concerns with the GEMS equity model and recommends modifications to the GEMS calibration for implementation in the field test. Pat Allison (NAIC) said a field test planning group meets weekly. She said the ACLI request for a different calibration of the equity model to get a more reasonable distribution of equity scenarios will be discussed during the planning group’s next meeting. She said Conning has made changes that improve the equity returns. Those changes and the impacts they have on growth wealth factors will be released today for Academy and ACLI feedback. Ms. Allison said the ACLI recommendation to use a single set of interest scenarios could reduce the workload of companies participating in the field test.

Jason Kehrberg (Academy) expressed the Academy’s support of the field test, evidenced by its participation on the field test planning group. He said the Academy’s alternate calibration and its shadow rate floor are slated for inclusion in the first round of the field test. He said further discussion of the GEMS equity/Treasury link is necessary. He said he expects the field test to provide a better understanding of the effects of the link on procyclical volatility. Mr. Kehrberg said the Academy supports consideration of its alternative/simplified corporate model but understands that it may not be included in the June field test. He suggested that additional reference models would be useful. He said the Academy is working on robust stylized facts and related acceptance criteria. Ms. Allison said the alternative/simplified corporate model will more than likely not be included in the June field test.

Elizabeth Braswell (Lincoln Financial Group—Lincoln) said the Lincoln comment letter (Attachment B) conveys its support for the development of a new ESG that incorporates long periods of low interest rates and higher rates.
She expressed concern with the number of negative interest rates produced by the unfloored GEMS model. She noted that the floor mitigates the negative rates but said she remains concerned that the majority of rates are affected by the floor and that the frequency and severity of negative rates still appear elevated after the floor is applied. She pointed out that using flooring in the model potentially introduces other distortions. Ms. Braswell said the equity model appears to change the calibration criteria and moves away from the previous return and growth wealth factor targets. She questioned the justification for the equity model changes. She said the long-term gross equities’ growth rate should be disconnected from the interest rate targets. Ms. Allison said the Lincoln comment letter stated that the Conning model was designed to serve the property/casualty (P/C) insurance industry. She said that the request for proposal (RFP) process required companies to provide the number of life insurance and annuity companies using their ESG and to provide at least three references. She said Conning has a large number of life and annuity companies using their ESG for risk management and asset allocation long-term projections.

Steven Tizzoni (Equitable) said Equitable supports using the Conning model. He said the Equitable comment letter (Attachment C) notes that the ACLI rate model has favorable properties, satisfies the Task Force view of “low for long,” and is more similar to the existing ESG and suggests it could be included in a second field test, if one becomes necessary. He said the comments recommend that the absolute number of “low for long” scenarios should increase when rates are dropping and decrease when rates are rising. He conveyed Equitable’s support for the Conning equity/Treasury linkage.

Mark Tenny (Unaffiliated) gave a presentation (Attachment D) on negative interest rates. He said academicians and economists believe negative interest rates are not sufficiently represented in insurance company portfolios.

Jack Cheyne (Moody’s Analytics) said the Moody’s Analytics comment letter (Attachment E) commends the Task Force for developing and using acceptance criteria in the model validation process. He encouraged the Task Force to refrain from making post processing or ad hoc adjustments to the model to meet the acceptance criteria. He said such adjustments can disrupt the fundamental properties of the model and affect the consistency of the scenario outputs.

Scott O’Neal (NAIC) discussed a new request for field test participation (Attachment F) and an associated pre-field test survey (Attachment G). He said the initial field test participation request was distributed last year. He said the new request allows companies that agreed to participate last year an opportunity to indicate that they are still interested in participating. He said the pre-field test survey helped to obtain more information that can be used to enhance the design of the field test and its components. He noted that the pre-field test survey is not limited to participating companies; non-participating companies can also assist by indicating their willingness to provide qualitative information. Responses to the field test participation request are due by April 28.

Mr. O’Neal discussed the field test specification document (Attachment H). He said the document provides a high-level definition of the ESG field test. He said the expected start date of the field test is June 1. He said that the ESG calibration for the field test is being refined and that field test tools are being finalized. He noted that the proposed statutory reserve framework for non-variable annuities is not in scope for the June field test.

The field test specification document was exposed for a 14-day public comment period ending April 29.

Having no further business, the Life Actuarial (A) Task Force and Life Risk-Based Capital (E) Working Group adjourned.
August 8, 2022

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

To: Mike Boerner, Chair
The Life Actuarial (A) Task Force

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

The VACR SG has not met recently. In the Spring, the Chair made a request to the Society of Actuaries to expand the work they are currently carrying out for the VM-22 Standard Projection Amount Mortality Drafting Group to include variable annuities. That work is ongoing.

Another item to note is regarding the LATF 2022 charge regarding the VM-21 Standard Projection Amount:

“Evaluate and provide recommendations regarding the VM-21/AG 43 Standard Projection Amount, which may include continuing as a required floor or providing as disclosure. This evaluation is to be completed prior to year-end 2023.”

LATF may wish to consider extending the completion date of this charge given that the question has not been considered since the new VA framework was adopted in 2018. Other LATF projects, particularly the development and implementation of a new Economic Scenario Generator, may impact the direction LATF takes to address this charge.
Agenda Item 2
Consider Adoption of the Report of the Experience Reporting (A) Subgroup
(No Materials)
Agenda Item 3

Consider Adoption of the Index-Linked Variable Annuity (A) Subgroup Report
Exposed Actuarial Guideline Provides Guidance for Interpreting ILVAs as “Variable”

- Model 805 – Standard Nonforfeiture Law for Deferred Annuities
  “This Act shall not apply to any ... variable annuity ...”

- Model 250 – Variable Annuity Model Regulation
  “Variable annuity” ... means a policy or contract that provides for annuity benefits that vary according to the investment experience of a separate account or accounts ...

A variable annuity is excluded from nonforfeiture protections because the contract benefits vary with the performance of a separate account – both upside and downside. The daily market value of the assets supporting the contract are available to the contract holder.
Purpose of the Actuarial Guideline

- Annuity contract designs that claim exemption as “variable” need to reflect the investment experience of the assets supporting the contract
- Variable Annuity contracts are exempted from nonforfeiture requirements because they experience both the downside risk and upside reward inherent in such contracts
- Goal is to avoid designs where when the index goes down over the interim, the contract holder is stuck with the losses and when the index goes up, they do not receive the upside reward
- The actuarial guideline provides guidance for how ILVA products can be considered variable and avoid that situation

Structure of the Guideline

Principles
1. Interim Values defined in the contract provide equity between the contract holder and the insurance company
2. Interim Values are consistent with the value of the Hypothetical Portfolio over the Index Strategy Term.

Equity in the Guideline is between the contract’s interim value and the value of a “Hypothetical Portfolio” of supporting assets.
The Index-Linked Variable Annuity (A) Subgroup of the Life Actuarial (A) Task Force met July 13, 2022. The following Subgroup members participated: Peter Weber, Chair (OH); Tomasz Serbinowski, Vice Chair (UT); Sarvjit Samra (CA); Vincent Tsang (IL); Derek Wallman (NE); Kevin Clarkson (NJ); Bill Carmello (NY); Rachel Hemphill and Mengting Kim (TX); Craig Chupp (VA); and David Hippen (WA).

1. Discussed the Comments on the Proposed ILVA Actuarial Guideline

Mr. Weber said the third draft of the proposed actuarial guideline (Attachment One) was exposed on June 7 with a public comment period that ended July 5. He said the comments received from industry can be categorized as those that are seeking clarification or modification of the treatment of market value adjustments (MVAs) and those that are not concerned with the MVA. He said the CUNA Mutual comment letter (Attachment Two) supports the exposed MVA changes and seeks clarification on the treatment of MVAs. He said the Insurance Retirement Institute (IRI) comment letter (Attachment Three) supports the American Council of Life Insurers (ACLI) comment letter (Attachment Four) and the accompanying ACLI redline version of the proposed guideline (Attachment Five). He said the American Academy of Actuaries (Academy) comment letter (Attachment Six) was accompanied by a redline version of the proposed guideline (Attachment Seven) that incorporates the Academy’s recommendations. Beth Keith (Academy) discussed the non-MVA related Academy comments. Mr. Weber said he agrees with the non-MVA changes, except for the reference to “other models” in the Scope section. He said that wording is too broad and could unintentionally exempt products from the guideline. Mr. Serbinowski said he is not comfortable with the Academy suggestion to change the actuarial certification to reference the hypothetical portfolio instead of the derivative asset proxy. He said he prefers adding references to elements of the fixed asset proxy separately if they are needed.

Mr. Serbinowski said the fundamental issues related to MVAs stem from the term of the bond to which the MVA is applied. He said if the MVA is applied at the fixed asset level, where the asset is tied to an index strategy, the term of the MVA should match the term of the index strategy. He said applying the MVA at the product level could lead to the MVA being tied to one of several product features, such as the surrender charge period. David Hanzlik (CUNA Mutual) said the CUNA Mutual comment letter asks for the language of the proposed actuarial guideline to be revised to accommodate product level MVAs. Steve Wolfrath (Ameriprise Financial) suggested that the Subgroup consider using a blend that allows the MVA to be applied at either the asset level or the product level. He said the industry is asking to be able to reflect the rate movements in the assets it has purchased to support the policy. He said it is important that industry and state insurance regulators are philosophically aligned on that issue. Mr. Clarkson said there seems to be a consensus that the MVA applies only to fixed assets. He said the issue needs to be clarified in the guideline. Mr. Carmello said whatever is developed should be consistent with the Modified Guaranteed Annuity Model Regulation (#255). He said the New York regulation bases the term of the MVA on the length of the premium. He said each premium for a flexible premium product is treated as a single premium with a separate duration. He said a blend of the premium durations is used to determine the term of the MVA.

Mr. Serbinowski proposed redefining the fixed asset proxy so the duration of the asset is commensurate with what the actual assets the company might be holding. He said in the new definition, the initial value of the asset would be equal to the strategy base minus the option value, and the asset value at the end of the term would be equal to the strategy base. Mr. Carmello said he does not support any proposal where the term of the MVA is not
equal to the length of the cap or participation rate guarantee. Mr. Wolfrath said Mr. Serbinowski's proposal will work philosophically but may be difficult to implement.

Having no further business, the Index-Linked Variable Annuity (A) Subgroup adjourned.

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Index-Linked Variable Annuity (A) Subgroup
Virtual Meeting
May 18, 2022

The Index-Linked Variable Annuity (A) Subgroup of the Life Actuarial (A) Task Force met May 18, 2022. The following Subgroup members participated: Peter Weber, Chair (OH); Tomasz Serbinowski, Vice Chair (UT); Sarvjit Samra (CA); Vincent Tsang (IL); Derek Wallman (NE); Kevin Clarkson (NJ); Bill Carmello and Michael Cebula (NY); Mike Boerner and Maribel Castillo (TX); Craig Chupp (VA); and David Hippen (WA).

1. **Discussed the Proposed ILVA Actuarial Guideline**

Mr. Weber said he has learned there are many complex issues associated with index-linked variable annuities (ILVAs) to address. He said the concept that variable products should provide values that are consistent with the supporting assets makes sense. He said applying the concept on a practical level has introduced several variables that have proven to be a challenge. He asked Subgroup members if it might be better to draft guidance to states instead of bright-line, prescriptive requirements. Mr. Hippen said there is merit to the approach. He questioned whether the Interstate Insurance Production Regulation Commission (Compact) would have issues with the standard conflicting with the filing standards set by individual states. Mr. Weber said he would expect that the more innovative product designs would not meet the Compact requirements and would be limited to filing only with the states. Mr. Carmello said while uniformity is important, it is possible that using a principle-based approach for ILVA in the interim may be the best solution. Mr. Tsang said the proposed actuarial guideline should be able to provide a uniform minimum standard. Mr. Clarkson said a minimum standard is necessary to help state insurance regulators identify outliers. Mr. Serbinowski said the Utah Department of Insurance (DOI) has allowed the marketing of several ILVA contracts. He said over the last two years, as the products have been more closely scrutinized, companies have revised their product designs so that the current designs are closer to the product standard proposed in method 1 of the ACLI’s original proposal. Mr. Serbinowski and Mr. Hippen agreed that the last exposure of the actuarial guideline (see the May 17 Subgroup minutes) was acceptable. Mr. Weber said if the Subgroup continues with the development of the actuarial guideline, several of the comments submitted by the ACLI could be incorporated prior to re-exposure. He said the new draft will be more conceptual with some of the prescriptive language, such as the hard limit on unwinding costs, being removed. He noted that clarification of the certification could be added to the draft. Katie Campbell (Compact) said the guideline could be used as the basis for a Compact standard.

Having no further business, the Index-Linked Variable Annuity (A) Subgroup adjourned.

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The Index-Linked Variable Annuity (A) Subgroup of the Life Actuarial (A) Task Force met May 17, 2022. The following Subgroup members participated: Peter Weber, Chair (OH); Tomasz Serbinowski, Vice Chair (UT); Sarvjit Samra (CA); Vincent Tsang (IL); Derek Wallman (NE); Kevin Clarkson (NJ); Bill Carmello (NY); Mike Boerner and Maribel Castillo (TX); Craig Chupp (VA); and David Hippen (WA).

1. **Heard a Presentation on Interim Nonforfeiture Values**

Mr. Weber said the current exposure of the index-linked variable annuity (ILVA) actuarial guideline (Attachment One) allows for any approach that produces interim values that are materially consistent with the hypothetical portfolio approach. Brian Bayerle (American Council of Life Insurers—ACLI) said the joint ACLI/Committee of Annuity Insurers (CAI) comment letter (Attachment Two) states that the interim value framework must be consistent with the core design principles used to create the ILVA product and account for the market realities. He said the comments focus on four areas of concern: 1) the fixed income asset proxy; 2) unwinding the derivative asset proxy; 3) the definition of materially consistent; and 4) the clarification of ILVA nonforfeiture benefit compliance with Section 7 of the *Variable Annuity Model Regulation* (#250). Ryan Berends (Athene) said for the fixed income proxy, it is critical that the guideline address market value adjustments (MVAs) related to interest rate risks. He said the MVAs were mentioned in the initial exposure of the guideline but were subsequently dropped. Jonathan Clymer (Prudential) said the industry is concerned with the use of a prescriptive rate of 10 basis points (bps) for the cost of unwinding the derivative asset proxy because a single value will not capture the actual range of results and is inappropriate for longer term and more complex strategies. Mr. Berends said the ACLI/CAI comment letter provides an example of “materially consistent.” He suggested that a test for material consistency be applied only at the time of policy filing.

Mr. Tsang said the MVA is usually related to the cash surrender value. He said he would prefer having the MVA defined in the contract rather than in the actuarial guideline. Mr. Weber said the MVA is defined in ILVA contracts. Mr. Berends said the MVA should be spelled out in the actuarial guideline to avoid the question of whether the MVA is allowable for the ILVA policy. Mr. Tsang suggested referencing the MVA in both the contract and the actuarial guideline, with the actuarial guideline saying the MVA is as defined in the contract. He also said the unwinding cost should be included in the surrender charge. Mr. Weber suggested detailing the unwinding cost in the actuarial certification.

Mr. Tsang said the drafting note defining material consistency suggests a 5% level of tolerance for the difference between the hypothetical portfolio and the expected value of contractually defined interim values. He said 1% would be a more appropriate tolerance. Stephen Turer (Equitable) said a 1% tolerance is thin compared to the risk the companies are taking. Mr. Carmello said he agrees that a 1% tolerance is appropriate. Mr. Tsang asked the companies to provide data showing that a 1% tolerance is not sufficient.

Sarah Wood (Insured retirement Institute—IRI) said the IRI comment letter (Attachment Three) supports the position of the ACLI. Mr. Weber said a lot of the CompEdge comments (Attachment Four) are not aligned with the Subgroup’s charge and would be better placed with some other group within the NAIC.
Beth Keith (American Academy of Actuaries—Academy) said the Academy comments (Attachment Five) are high level and suggest that more product descriptions are necessary. She asked if the material consistency tolerance should be symmetrical, addressing both the upside and the downside. Mr. Weber said it is designed to cover both.

Having no further business, the Index-Linked Variable Annuity (A) Subgroup adjourned.

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Agenda Item 4

Consider Adoption of the Valuation Manual (VM)-22 (A) Subgroup Report
August 8, 2022

From: Ben Slutsker, Chair
The VM-22 (A) Subgroup

To: Mike Boerner, Chair
The Life Actuarial (A) Task Force

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

The VM-22 (A) Subgroup has been meeting roughly every other week since the beginning of April. The focus of calls thus far have been addressing comments from multiple interested parties and regulators on the July 2021-exposed draft of VM-22 principles-based requirements.

The Subgroup’s process of reviewing feedback on the VM-22 exposure has been to divide up the comments into four tiers. The first tier contains the highest priority issues, and each subsequent tier is incrementally less substantive. Thus far, the Subgroup has worked through all tier 1 and tier 2 comments, and is in the midst of discussing tier 3 comments. Upon the resolution of remaining tier 3 comments, the VM-22 document will be re-exposed with modifications to reflect the agreed upon changes, as well as edits to address tier 4 comments. Among the items the Subgroup has addressed, notable ones include:

- **Aggregation** – Follow “Option 1” for payout and accumulation reserving category language (i.e., defining the payout reserving category consistent with the current scope of VM-22), which will then be used to restrict stochastic reserve aggregation between payout and accumulation annuities

- **Small Company Exemption** – Develop a small company exemption, akin to the Life PBR Exemption that exists for VM-20

- **Exclusion Test** – Allow SPIAs below a certain durational threshold to automatically pass the exclusion test, prohibit pension risk transfers from the certification method exclusion test, limit aggregation for contracts with significantly different risk profiles, and restrict future premiums from denominator of the ratio test

- **Mortality** – Permit only prescribed tables to be used for pension risk transfer and longevity reinsurance mortality upon limited or no experience (i.e., restrict company-selected third party tables from being used)

- **Longevity Reinsurance** – The Subgroup has exposed a proposal to treat longevity reinsurance as a third reserving category, along with language that would limit loading on recurring gross premiums from being reflected in the stochastic reserve

After the VM-22 language is re-exposed, the Subgroup will transition to addressing the development of the standard projection amount. The Subgroup has decided to recommend a standard projection
amount to the Life Actuarial Task Force but has not decided on whether to recommend such as a disclosure-only item or as a minimum floor. There are currently two NAIC drafting groups: one led by Seong-min Eom (NJ) working on development of mortality assumptions and another led by Vincent Tsang (IL) working on policyholder behavior assumptions. Representatives from the SOA, Academy, and industry participate on these drafting group calls and the SOA Individual Annuity Experience Committee is assisting with assumption development. The goal will be to target a draft of the Standard Projection Amount to discuss during Subgroup calls in the Fall.

The Subgroup is also targeting a VM-22 field test to begin in Spring 2023, which will be led jointly by the Academy, ACLI, and NAIC. This timing may result in an effective date of 1/1/2025 (with a three year transition period for implementation), but the timeline will be revisited as progress in the Subgroup continues to develop.
The VM-22 (A) Subgroup of the Life Actuarial (A) Task Force met July 19, 2022. The following Subgroup members participated: Ben Slutsker, Chair (MN); Ahmad Kamil, Elaine Lam, and Thomas Reedy (CA); Lei Rao-Knight (CT); Mike Yanacheak (IA); Nicole Boyd (KS); William Leung (MO); Bill Carmello and Amanda Fenwick (NY); Mike Boerner, Rachel Hemphill, and Yujie Huang (TX); and Craig Chupp (VA).

1. Reviewed the VM-22 Project Timeline

Mr. Slutsker reviewed the VM-22 project timeline (Attachment 1). He said the target effective date is January 2025.

2. Discussed Tier Three Comments in the VM-22 Draft

Mr. Slutsker said the Subgroup will continue to review tier three comments on the proposed VM-22 framework (Attachment 2). Ms. Hemphill agreed to defer discussion of the Texas Department of Insurance (TDI) comment on the appropriateness of risk-based capital (RBC) factors, as it is more related to RBC requirements than reserve requirements.

The TDI commented that the use of the term “VM-22 PBR requirements” needs to be clarified. Mr. Slutsker said that the confusion stems from adding the proposed principle-based reserving (PBR) requirements for non-variable annuities to the existing VM-22, Statutory Maximum Valuation Interest Rates for Income Annuities. He said the TDI comment questions whether the proposed PBR requirements should be a new chapter “VM-23.” Mr. Chupp suggested that a Subgroup name change may be necessary if the PBR requirements become “VM-23.” He said it may be easier to change the existing VM-22 to VM-23. Mr. Bayerle said that making the change may be awkward because it may cause a product that passes an exclusion test to jump between chapters. Ms. Lam asked if adding to VM-22 an appendix that specifically houses the rates might avoid the need for a new chapter. Mr. Bayerle asked if adding an appendix to the Valuation Manual that houses interest rates for other chapters, including VM-20, Requirements for Principle-Based Reserves for Life Products, might be the best solution. Mr. Slutsker said that the idea sounds viable, but more research is needed.

In response to an American Council of Life Insurers (ACLI) comment requesting more guidance on pre-reinsurance reserves in Section 3, Mr. Slutsker pointed to additional guidance provided in Section 5. Mr. Bayerle agreed to look at Section 5 to see if its guidance answers the ACLI concerns.

Mr. Slutsker agreed with the TDI comment that in Section 3.D.2, the term “scenario reserve” should be replaced with “deterministic reserve” (DR). Mr. Bayerle said that changing the term to DR addresses his concern about the use of the term “deterministic certification option.”

The Subgroup agreed to: 1) change the title of Section 3.E from “Exclusion Test” to “Stochastic Exclusion Test”; 2) delete the guidance note in Section 3.E.1; 3) add Section 3.H for consistency with VM-21, Requirements for Principle-Based Reserves for Variable Annuities; and 4) add a drafting note suggesting that the Life Actuarial (A) Task Force review the consistency of the language requiring periodic review of the prudent estimate assumption to ensure it is consistent across chapters and whether the word “periodically” should be replaced with “every three years.”
Mr. Slutsker said a comment suggested using stochastic mortality in the stochastic reserve calculation for longevity reinsurance. Sheldon Summers (Claire Thinking) said the language in Section 8.C.2 of VM-20 that when a prudent estimate does not appropriately capture the risk, the risk factor should be stochastically modeled to determine the impact. He said that language should be included in Section 4 of the proposed VM-22 framework.

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

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The VM-22 (A) Subgroup of the Life Actuarial (A) Task Force met July 13, 2022. The following Subgroup members participated: Ben Slutsker, Chair (MN); Ahmad Kamil, Elaine Lam, and Thomas Reedy (CA); Lei Rao-Knight (CT); Vincent Tsang (IL); Nicole Boyd (KS); William Leung (MO); Seong-min Eom (NJ); Bill Carmello and Amanda Fenwick (NY); Rachel Hemphill and Yujie Huang (TX); Tomasz Serbinowski (UT); and Craig Chupp (VA).

1. Reviewed the Updated VM-22 Subgroup Documents

Mr. Slutsker said the drafting discussion log (Attachment 1) has been updated to include the decisions from the Subgroup’s June 29 meeting.

2. Reviewed Tier Three Comments in the Proposed VM-22 Framework

Mr. Slutsker reviewed the tier three comments on the proposed VM-22 framework (Attachment 2). He said the American Council of Life Insurers (ACLI) comment on principle #3 suggested deleting the sentence that begins “Generally assumptions are ...” because it does not provide guidance. He said he is inclined to retain the wording because it also appears in VM-21, Requirements for Principle-Based Reserves for Variable Annuities. The ACLI also suggested deleting the sentence beginning “Therefore the use of assumptions ...” in principle #5. Mr. Carmello and Ms. Hemphill recommended retaining the wording for principle #3; Ms. Hemphill and Mr. Reedy recommended retaining the wording in principle #5. The Subgroup agreed to retain both sets of wording.

The California Department of Insurance (DOI) recommended adding “and Risks not Reflected” to the title of Section 1.C to be consistent with VM-21 and to appropriately describe the content of the subsections under the title. The Subgroup agreed to the title change but chose to delete Section 1.C.3 because a portion is unnecessary, and the remainder is redundant. Mr. Chupp noted that a similar change to VM-21 should be considered.

The California DOI recommended removing references to “separate account fund performance” in Section 1.C.2.a and other places because non-variable annuities are not known to have separate accounts. Rhonda Ahrens (Thrivent) asked if modified guaranteed annuities are considered variable or non-variable products. She said she is not aware of any requirement that would prohibit a non-variable product from having a separate account fund. Ms. Lam said the comment was intended to align this section with other sections where references to separate account funds were deleted. Mr. Leung said that if index-linked variable annuities will be covered by VM-22, the references to separate account funds will have to be retained. Mr. Slutsker said that the reference to separate account funds will be retained, but a guidance note soliciting feedback on the matter will be added.

The Texas Department of Insurance (TDI) recommended changing the wording in Section 1.C.4.a to its original wording, “run on the bank,” to be consistent with the wording in VM-21.

The ACLI commented that Section 1.C.4.b.iv is extraneous and should be deleted. The Subgroup said that without a clear reason why the language should be removed, the language will be retained to maintain consistency with VM-21.

The Subgroup agreed that the term “fixed annuity” should be replaced by the term “non-variable annuities” throughout the proposed VM-22 framework.

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The Subgroup discussed whether registered indexed-linked annuities (RILAs) should be subject to the requirements of VM-22 or VM-21. There was not a clear preference among Subgroup members. The Academy said RILAs should be addressed in VM-21. Mr. Leung said it should be clarified that non-registered indexed-linked annuities, such as fixed indexed annuities, are addressed in the proposed VM-22 framework. The Subgroup agreed to use the term index-linked variable annuities (ILVAs), instead of RILAs, to be consistent with the name of the Index-Linked Variable Annuity (A) Subgroup.

Ms. Lam agreed to retract the California DOI comment asking to retain the definition of cash value because it is defined in VM-01, Definitions. She assented to the deletion of the definition of guaranteed minimum death benefit (GMDB) from the proposed VM-22 framework if the GMDB definition in VM-21 is moved to VM-01.

Having no further business, the VM-22 (A) Subgroup adjourned.
The VM-22 (A) Subgroup of the Life Actuarial (A) Task Force met June 29, 2022. The following Subgroup members participated: Ben Slutsker, Chair (MN); Ahmad Kamil, Elaine Lam, and Thomas Reedy (CA); Lei Rao-Knight (CT); Mike Yanacheak (IA); Nicole Boyd (KS); William Leung (MO); Seong-min Eom (NJ); Bill Carmello and Amanda Fenwick (NY); Mike Boerner and Yujie Huang (TX); and Craig Chupp (VA).

1. Reviewed the Updated VM-22 Subgroup Documents

Mr. Slutsker said the drafting discussion log (Attachment 1) has been updated to include the tier three comments. He presented an updated version of the proposed VM-22 framework (Attachment 2), which reflects the tier one and tier two comments that have been addressed.

2. Discussed the Allocation of Excess Reserves

Mr. Slutsker said that two options have been proposed for the allocation of the excess of reserves over cash values. He said the first option allocates the excess in the same manner as VM-21, Requirements for Principle-Based Reserves for Variable Annuities, which uses the measure of the risk of the product relative to its cash surrender value. He said the second option uses the excess of the present value of the projected liability cash flows to allocate the excess reserves. Brian Bayerle (American Council of Life Insurers—ACLI) said the ACLI wants to ensure that the method chosen is consistent with other requirements. He said they are testing the options and will share the outcome of the testing once it is completed. He said they are particularly concerned with non-life contingent contracts. Chris Conrad (American Academy of Actuaries—Academy) said both options will be considered as part of the VM-22 field test. Mr. Slutsker said the allocation method decision will be deferred until after the field test.

3. Discussed Working Reserve for Contracts with no Cash Surrender Value

Mr. Slutsker said there is a question of whether to set a working reserve floor for contracts that have no cash surrender value. Al Zlogar (Academy) said it is unlikely that a model segment would combine contracts with cash surrender values and contracts with no cash surrender values because of the aggregation rules, which require the separation of the payout and accumulation categories. He said the Academy will work on a definition for a working reserve or working cash surrender value.

4. Discussed Reserve Categorization Upon Depletion of Fund Value

Mr. Slutsker asked how the proposed VM-22 framework should categorize accumulation contracts after their fund values have been depleted. Mr. Zlogar said that the Academy prefers a principle-based approach, which allows the company management of the investments supporting the liabilities to determine the categorization of the contract for reserving purposes. He said that in most cases, the assets are transferred to the payout reserving category. He noted that generally accepted accounting principles (GAAP) require that the reserves move from market risk benefit reserves to liability for future policy benefit reserves. He said one would expect the asset categorization to follow the categorization of the GAAP reserves. Mr. Slutsker asked how companies with no single premium immediate annuities or deferred income annuities would address their deferred annuities when the funds are depleted and the contract begins paying out guaranteed living benefits. John Miller (Academy) said the working reserve concept could come into play in that situation. Mr. Slutsker asked if forcing the contracts with
depleted fund values into the payout reserving category would alleviate the need to address the working reserve issue. Mr. Zlogar said that it is unclear whether that will be the case. Mr. Slutsker said that for the initial exposure, the contracts with depleted funds will be required to move to the payout reserving category. He said comments can be submitted at that time. Cindy Barnard (Pacific Life) said that treatment is inconsistent with VM-21. Mr. Slutsker said a drafting note will be added to solicit feedback on the consistency with VM-21.

5. Review Tier Three Comments in the VM-22 draft

Mr. Bayerle said that in Section I of the proposed VM-22 framework, the guidance note that references C-3 Phase II should be retained to acknowledge that a link to risk-based capital (RBC) will continue to exist. He said the appropriate wording can be added later. Mr. Slutsker suggested working offline with Mr. Bayerle to develop proposed wording.

Mr. Slutsker said the California Department of Insurance (DOI) commented that the VM-22 principles should align with VM-21. He said when the VM-22 framework proposal is completed, a document that outlines the differences from VM-21 will be produced. He said differences can be discussed at that time.

Mr. Bayerle said principle #2 is contradicted in later sections of the proposed VM-22 framework. He suggested revising the principle to reflect recent changes. Mr. Slutsker said the issue can be addressed when considering the language for the RBC guidance note.

Mr. Slutsker said that the TDI suggested reinstating the guidance note that gives examples where full aggregation may not be possible under principle #2. There were no objections to reinstating the guidance note.

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

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The VM-22 (A) Subgroup of the Life Actuarial (A) Task Force met June 14, 2022. The following Subgroup members participated: Ben Slutsker, Chair (MN); Ahmad Kamil, Elaine Lam, and Thomas Reedy (CA); Lei Rao-Knight (CT); Mike Yanacheak (IA); Nicole Boyd (KS); William Leung (MO); Seong-min Eom (NJ); Bill Carmello and Amanda Fenwick (NY); Mike Boerner and Yujie Huang (TX); and Craig Chupp (VA).

1. **Exposed the Longevity Reinsurance Proposal**

Ms. Eom shared the draft of the proposal for addressing longevity risk (Attachment 1) in the proposed VM-22 framework as discussed during the Subgroup’s June 1 meeting. She proposed that longevity reinsurance be excluded from the payout annuity reserving category and be listed as a separate reserving category. She said the proposal recommends using net premiums instead of gross premiums for the calculation of longevity reinsurance accumulated deficiencies. The proposal recommends reducing the gross premiums by a k-factor to determine the net premium. She expressed openness to suggestions on how the k-factor is determined or alternative calculations that do not use a k-factor.

Mr. Carmello made a motion, seconded by Mr. Boerner, to expose the longevity reinsurance proposal for a 60-day public comment period ending Aug. 14. The motion passed unanimously.

2. **Discussed the Stochastic Exclusion Ratio Test**

Mr. Slutsker said that during the Subgroup’s June 1 meeting, the Academy agreed to review the proposal for using the VM-20, Requirements for Principle-Based Reserves for Life Products, approach for determining the numerator and denominator of the stochastic exclusion ratio test (SERT). Chris Conrad (American Academy of Actuaries—Academy) said the Academy has reviewed the proposal and agrees with the approach.

3. **Discussed Tier Two Comments on the Proposed VM-22 Framework**

Mr. Slutsker said the Texas Department of Insurance (TDI) proposes using the reinsurance language from VM-20 in Section 5 of the proposed VM-22 framework. Mr. Conrad said that while the Academy believes that the language is not necessary in a principle-based approach, it is comfortable with using the language in Section 5.

Mr. Slutsker said the TDI and the California Department of Insurance (DOI) proposes adding VM-21, Requirements for Principle-Based Reserves for Variable Annuities, language for fair value disclosures to the conditional tail expectations 70 (CTE-70) best efforts. Mr. Reedy said the language was added to be consistent with VM-21. Connie Tang (Prudential) said some clarifying notes may be needed because the methodology for some index credit products does not have “best efforts” versus “adjusted.” Al Zlogar (Academy) said that if the hedging program is only for index crediting, the proposed language is not needed. Mr. Slutsker said the language is in a section addressing non-indexed hedging strategies supporting guarantees. He said comments on whether it should be extended to all hedges can be submitted during the exposure period.

Mr. Slutsker said the proposed VM-22 framework lists the 1994 group annuity reserving table (1994 GAR) as the table a company should use if it has little pension risk transfer (PRT) mortality experience. He said the ACLI asked
if the mortality assumption can be based on third-party data rather than an industry table. He said the question is also pertinent to the credibility section of the proposal. Ms. Eom asked how state insurance regulators might get comfortable with the data from a third party. Mr. Bayerle said the ACLI will give that some thought. Mr. Carmello said the Subgroup should require a prescribed table. The Subgroup voted not to allow the use of third-party data.

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

https://Support Staff Hub/Member Meetings/2022 NAIC Meetings/Spring National Meeting/Committee Meetings/LIFE INS and ANNUITIES (A) COMMITTEE/Life Actuarial (A) TF/Summer LATF Calls/VM-22 Subgroup/06 14/6_14 VM-22 Minutes.docx
The VM-22 (A) Subgroup of the Life Actuarial (A) Task Force met June 1, 2022. The following Subgroup members participated: Ben Slutsker, Chair (MN); Ahmad Kamil, Elaine Lam, and Thomas Reedy (CA); Lei Rao-Knight (CT); Vincent Tsang (IL); Nicole Boyd (KS); William Leung (MO); Seong-min Eom (NJ); Bill Carmello and Amanda Fenwick (NY); Mike Boerner and Yujie Huang (TX); Tomasz Serbinowski (UT); and Craig Chupp (VA).

1. Discussed the VM-22 Draft Comment Tracker

Mr. Slutsker said a drafting discussion log (Attachment 1) has been created to track Subgroup progress on comments received on the proposed VM-22 framework (Attachment 2).

2. Discussed Tier Two Comments on the Proposed VM-22 Framework

Mr. Slutsker reviewed the list of VM-22 framework discussion topics (Attachment 3). He said the American Council of Life Insurers (ACLI) questioned whether single premium immediate annuities (SPIAs) should be allowed the option to use the Commissioners Annuity Reserve Valuation Method (CARVM) without having to pass an exclusion test to avoid having to do principle-based reserving (PBR). Brian Bayerle said that in general, SPIAs will pass the exclusion test and do not carry any significant risk not captured by CARVM. Ms. Eom agreed with allowing the option to automatically exclude SPIAs but suggested that the exclusion would only apply to vanilla SPIAs. Mr. Chupp asked if the rates currently in VM-22, Statutory Maximum Valuation Interest Rates for Income Annuities, would be applicable. Mr. Tsang agreed with using the pre-PBR methodology but said the exclusion should only apply prospectively. Mr. Carmello said that once the company selects the option, it should not be able to reverse it. He said he would prefer that instead of providing an option, the Subgroup should decide whether to exempt SPIAs from PBR. Mr. Bayerle said that the ACLI would like SPIAs that pass the exclusion test to retain the option to do PBR. Chris Conrad (American Academy of Actuaries—Academy) said the Academy believes that SPIAs should be subjected to exclusion testing. He said SPIAS with terms greater than 20 years would potentially fail the exclusion test because they have greater reinvestment risk. He said the Academy intends to include SPIA exclusion testing in the VM-22 field study to determine if 20 years is the right cutoff. Mr. Chupp recommended basing the eligibility for exclusion testing on an average duration threshold instead of the length of the term. Subgroup members voted unanimously to allow SPIAs to automatically pass the exclusion test. The Subgroup then unanimously voted to limit the automatic pass to SPIAs with liability durations less than a certain threshold to be determined by the Subgroup. Mr. Slutsker said he will work with Mr. Chupp, Ms. Eom, and Mr. Carmello to determine if additional criteria are needed. Mr. Conrad agreed that the Academy would work to determine the appropriate durations for the threshold, as well as analyze how the automatic pass might affect the deterministic reserve.

Mr. Bayerle said the ACLI supports using the certification method for pension risk transfer (PRT) business. Ms. Eom said she is considering proposing additional language to reflect the influence of mortality on PRT contracts. Mr. Conrad said the Academy excluded PRT business from the certification method due to the potentially long durations of PRT business. Subgroup members voted to retain the language that prohibits PRT business to use the certification method.

Mr. Slutsker said the Texas Department of Insurance (TDI) suggested that the product grouping for exclusion testing should be similar to the grouping for PBR modeling. He said that the aggregation of blocks of business with
significantly different risk profiles would not be allowed. He said the ACLI favors allowing products to be grouped in alignment with the payout and accumulation categories determined for non-variable annuities. Mr. Bayerle said that aggregating on a higher level will force more products into stochastic modeling. Subgroup members agreed with the approach suggested by the TDI.

Mr. Slutsker said the TDI recommended having products pass, not merely disclose, the 16 scenarios from the exclusion ratio test to be eligible for the deterministic reserve. The Subgroup voted, with Mr. Chupp abstaining, to require that products pass the 16 scenarios to be eligible for the deterministic reserve.

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

https://Support Staff Hub/Member Meetings/2022 NAIC Meetings/Spring National Meeting/Committee Meetings/LIFE INS and ANNUITIES (A) COMMITTEE/Life Actuarial (A) TF/Summer LATF Calls/VM-22 Subgroup/06 01/6_01 VM-22 Minutes.docx
The VM-22 (A) Subgroup of the Life Actuarial (A) Task Force met May 11, 2022. The following Subgroup members participated: Ben Slutsker, Chair (MN); Ahmad Kamil, Elaine Lam, and Thomas Reedy (CA); Lei Rao-Knight (CT); Vincent Tsang (IL); Nicole Boyd (KS); William Leung (MO); Seong-min Eom (NJ); Bill Carmello and Amanda Fenwick (NY); Yujie Huang (TX); Tomasz Serbinowski (UT); and Craig Chupp (VA).

1. Discussed Tier Two Comments on the Proposed VM-22 Framework

Mr. Slutsker reviewed the list of discussion topics (Attachment 1). Mr. Tsang said the proposed VM-22 framework should be consistent with VM-21, Requirements for Principle-Based Reserves for Variable Annuities. He said VM-21 has a 5% minimum error on the hedging program breakage expense, so VM-22 should also set 5% as its minimum error even though the hedging for the fixed annuity is not as complex as the hedging for the variable annuity. He said that due to the availability of policyholder options, a minimum error equal to zero is almost impossible to justify. He said he would consider a minimum error other than 5% if the industry can present the supporting data. Brian Bayerle (American Council of Life Insurers—ACLI) said the VM-22 minimum error is applicable only to static hedges. He said the ACLI could provide an example of static hedges on vanilla payout annuities for which a zero minimum error is appropriate. He suggested separating static hedges from dynamic hedges to maintain alignment with VM-21. John Miller (American Academy of Actuaries—Academy) said the Academy supports the bifurcation of static and dynamic hedges. He said the Academy believes that the minimum error for static hedges should be close to zero. He suggested adding the minimum error to the issues considered during the VM-22 field test. The Subgroup agreed to have back testing of the minimum error over multiple years of issues with assorted product designs either provided by industry prior to the field test or included as part of the field test.

Brent Dooley (Academy) gave an overview of the Academy longevity reinsurance presentation (Attachment 2). He noted that much of the longevity reinsurance business covers annuitants who live in other countries. He said the product is primarily purchased by pension plans attempting to reduce longevity risk exposure and insurance companies writing pension risk transfer (PRT) annuities. He explained that of the five categories of longevity reinsurance listed in the presentation, only indexed based longevity swaps are excluded from the scope of the proposed VM-22 framework. Mark Hutchinson (Academy) said longevity reinsurance does not fit neatly into the current statutory accounting and valuation guidance. However, he suggested that longevity reinsurance be considered to fall under the exclusion of “certain non-proportional reinsurance” as stated in the *Life and Health Reinsurance Agreements Model Regulation* (#791). Mr. Slutsker noted that there are aspects of the Academy presentation that should be shared with the Life Risk-Based Capital (E) Working Group and the Statutory Accounting Principles (E) Working Group. Mr. Bayerle said that the ACLI comment letter (Attachment 3) asked why the definition of longevity reinsurance in the draft VM-22 framework excludes agreements that *Statement of Statutory Accounting Principles (SSAP) No. 61R—Life, Deposit-Type and Accident and Health Insurance* indicates should not be treated as reinsurance. Mr. Dooley said that longevity reinsurance was intentionally excluded. He said a note could be added to the draft to clarify the reasoning.

Ms. Eom said the New Jersey Department of Banking and Insurance (NJ DOBI) comment letter (Attachment 4) was written with longevity reinsurance considered as a stand-alone product that is to be treated differently from traditional ceded or assumed reinsurance. She proposed a limitation that would prohibit a standard projection amount (SPA) reserve for an individual contract from being negative. She said that the stochastic reserve (SR) for
a product line would be allowed to have a negative reserve for an individual line of business, but the negative reserve would not be allowed to offset reserves for other lines of business when determining the aggregate VM-22 reserve. She agreed to draft language supporting the proposal. She noted that principle #2 of the proposed VM-22 framework already prohibits aggregation of different product lines.

Mr. Slutsker said the Texas Department of Insurance (TDI) commented that the VM-31, PBR Actuarial Report Requirements for Business Subject to a Principle-Based Valuation, disclosures should be made more granular, to separately cover fixed indexed annuities (FIAs), fixed deferred annuities (FDAs), single premium immediate annuities (SPIAs), deferred income annuities (DIAs), PRT, guaranteed living benefits (GLBs), and non-GLBs. Ms. Eom said longevity reinsurance should also be included. She said that if longevity reinsurance is included with PRT, a note to that effect should be included in VM-22. Mr. Chupp said that he would prefer to have the VM-22 level of granularity match the granularity required for VM-20, Requirements for Principle-Based Reserves for Life Products. He noted that with a higher level of granularity, there is a risk that new products may not fit into an existing category. Mr. Carmello and several other Subgroup members said that it is important to get as much product information as possible.

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

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The VM-22 (A) Subgroup of the Life Actuarial (A) Task Force met April 27, 2022. The following Subgroup members participated: Ben Slutsker, Chair (MN); Ahmad Kamil, Elaine Lam, and Thomas Reedy (CA); Lei Rao-Knight (CT); Vincent Tsang (IL); Nicole Boyd (KS); William Leung (MO); Seong-min Eom (NJ); Bill Carmello and Amanda Fenwick (NY); Yujie Huang (TX); Tomasz Serbinowski (UT); and Craig Chupp (VA).

1. Discussed Tier One Comments on the Proposed VM-22 Framework

Chris Conrad (American Academy of Actuaries—Academy) said the Academy comment letter (Attachment One) references a spreadsheet (Attachment Two) that compares VM-22, Statutory Maximum Valuation Interest Rates for Income Annuities, net spreads to net spreads from VM-20, Requirements for Principle-Based Reserves for Life Products, and VM-21, Requirements for Principle-Based Reserves for Variable Annuities, in a high spread environment (3/31/2020) and a low spread environment (3/31/2021). He said the comparison shows that the yields are not dramatically different. He said the takeaway is that there is a lot of conservatism in the baseline defaults that have been subtracted to get the net spreads. He noted that the VM-22 credit quality distribution adds conservatism by not considering private placements, commercial mortgages, structured securities, and below-investment-grade bonds in the rate determination. He said the Academy recommends using the VM-22 credit quality distribution as the investment guardrail. Mr. Carmello said he favors the VM-20 approach and does not support using the VM-22 credit quality distribution. Ms. Eom said she would like to wait to see field test results showing how reserve calculations using the VM-22 credit quality are affected by the current economic environment. Several Subgroup members concurred with Ms. Eom. Mr. Tsang said the Subgroup should determine the credit quality distribution prior to initiating the field test. Brian Bayerle (American Council of Life Insurers—ACLI) said the ACLI favors a credit quality distribution that better reflects companies’ existing portfolios.

Mr. Slutsker reviewed the comments submitted by the Texas Department of Insurance (TDI), the California Office of Principle-Based Reserving (OPBR), and the ACLI on the proposed VM-22 revisions document (Attachment Three). He said the TDI is recommending that the credit quality distribution be set consistently for VM-20, VM-21, and VM-22 at 20% AA-rated bonds and 80% A-rated bonds. Steve Tizzoni (Equitable) said the Equitable comment letter (Attachment Four) supports the current VM-22 credit quality distribution, which he believes is representative of an A or A- credit quality. He agreed that the approach proposed by the TDI would also be reasonable. Mr. Bayerle asked whether Subgroup members prefer having the same credit quality distribution for VM-20, VM-21, and VM-22 or continuing with separate credit quality distributions for each chapter. Ms. Lam said the California OPBR prefers having separate distributions for each chapter. Mr. Carmello said an argument could be made for having separate credit quality distributions for each product. Mr. Leung expressed the desire to have credit quality distributions differ by product reserving category. Mr. Bayerle said that separating by individual product or product reserving category would increase the complexity for companies. Mr. Leung asked if the Academy might be able to perform model office runs to generate the results for the different credit quality distributions. Mr. Conrad said the Academy, the ACLI, and the NAIC are jointly working to engage a consultant to lead the field test. He said the consultant’s task will include model office development. He added that it will be a while before any work results from that effort. Mr. Slutsker asked if it might be possible to use the Academy’s existing VM-21 model office to do preliminary testing. Mr. Conrad agreed to check. Mr. Slutsker noted that the majority of Subgroup members favor waiting until field test results are available before deciding on the credit quality distribution approach.
2. **Discussed Tier Two Comments on Proposed VM-22 Framework**

Mr. Bayerle said the ACLI believes that *Valuation Manual* chapters should share a consistent set of principles. He suggested that there should be a separate chapter in which core principles reside. Several Subgroup members agreed that there should be consistency across chapters. Mr. Boerner said the ACLI could develop a proposal for consistency across the chapters and submit it to the Life Actuarial (A) Task Force. He then said the Subgroup should be allowed to complete its work on the VM-22 proposal before attempting the consolidation of principles into a single chapter.

Mr. Slutsker discussed the TDI recommendation to add a general assumptions section to VM-22 to match similar sections in VM-20 and VM-21. Subgroup members agreed to adding a general assumptions section.

Mr. Slutsker said a TDI comment questioned whether a company should be allowed to retrospectively apply the proposed VM-22 requirements back to the beginning of the transition period. Mr. Leung said he is aware that some companies retrospectively applied VM-20 during its transition period. Ms. Lam said that VM-20 is silent on the question of retrospective application. She said that the California OPBR would want the company to get the approval of its domiciliary commissioner before retrospective application is allowed. The Subgroup agreed that the VM-22 proposal will be silent on retrospective application, with the expectation that any such request must receive domiciliary commissioner approval.

Ms. Lam said that the California OPBR wishes to reconsider its comment requesting early adoption of the proposed requirement. She said the comment considered that VM-21 allowed early adoption but given the Subgroup determination that the application of the proposed VM-22 requirements will be prospective only, early adoption is no longer warranted.

Mr. Slutsker said an ACLI comment asked about the determination of the minimum error on the new index credit hedging program breakage expense. Mr. Bayerle said the minimum error should be tied to the demonstration of the effectiveness of the hedge instrument, with a range as low as zero. Mr. Slutsker said one option is to include the issue in the field test. Mr. Tsang asked if the ACLI could provide data to support the zero minimum error level. Mr. Bayerle said the ACLI will work with companies to provide the support.

Mr. Bayerle said the ACLI proposes the optionality for some products to be exempted from the requirements of the proposed VM-22 requirements without having to pass an exclusion test. He identified the single premium immediate annuity as a product that should qualify for such an exemption.

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

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Valuation Manual (VM)-22 (A) Subgroup
Virtual Meeting
April 13, 2022

The VM-22 (A) Subgroup of the Life Actuarial (A) Task Force met April 13, 2022. The following Subgroup members participated: Ben Slutsker, Chair (MN); Ahmad Kamil, Elaine Lam, and Thomas Reedy (CA); Lei Rao-Knight (CT); Mike Yanacheak (IA); Vincent Tsang (IL); Nicole Boyd (KS); William Leung (MO); Seong-min Eom (NJ); Bill Carmello and Amanda Fenwick (NY); Rachel Hemphill (TX); Tomasz Serbinowski (UT); and Craig Chupp (VA).

1. Heard an Update on Revisions to VM-22

Mr. Slutsker discussed a spreadsheet (Attachment One) developed to categorize the 378 comments on the American Academy of Actuaries’ (Academy’s) proposed revisions (Attachment Two) to VM-22, Statutory Maximum Valuation Interest Rates for Income Annuities. He said the comments are categorized into four tiers based on significance: 1) Key Decision Points; 2) High Substance Edits; 3) Moderate Substance Edits; and 4) Noncontroversial or Low Substance Edits, with the preponderance of comments falling into the latter tier.

Mr. Slutsker said the implementation date of the VM-22 revisions is scheduled for January 2024 but hinges upon the completion of a VM-22 field test. He noted that the date of the VM-22 field test is dependent on the completion of the economic scenario generator (ESG) field test to be conducted by the Life Actuarial (A) Task Force. He said deferring the VM-22 field test to 2023 could push the VM-22 implementation date to January 2025.

Ms. Lam said the California Department of Insurance (CDI) Office of Principle-Based Reserving (OPBR) comments (Attachment Three) on the revisions to VM-22 highlighted formatting and definitions that are inconsistent with what is used in VM-20, Requirements for Principle-Based Reserves for Life Products. She also suggested listing the products that are in scope ahead of the products that are not in scope.

Paul S. Graham (American Council of Life Insurers—ACLI) said the ACLI comment letter (Attachment Four) advocates for a principle-based approach to determining whether an annuity product is covered by VM-22 or VM-21, Requirements for Principle-Based Reserves for Variable Annuities. Chris Conrad (Academy) said the Academy favors an exclusion approach, which would identify annuity products that are in scope for VM-21 and have all other annuities fall under VM-22. Mr. Graham said the ACLI would be comfortable with that approach. Mr. Leung suggested using the Indexed-Linked Variable Annuity (ILVA) as a test case when developing the principles. Mr. Graham agreed that the ACLI could develop draft language it could share with the Academy before presenting it to the Task Force. He suggested that once the principle-based language is deemed acceptable for VM-22, it should also be considered for use in VM-21.

Mr. Slutsker discussed the two options that the Subgroup considered in July 2021 for determining reserving categories for aggregating annuity contracts. He said the first option lists the specific products in the Payout Annuity Reserving category, and the second option uses the principle-based approach of broadly defining both the Payout Annuity Reserving category and the Accumulation Annuity Reserving category. Mr. Conrad said the Academy supports principle-based aggregation that is consistent with the company’s risk management strategy and reflects any potential risk offsets. He said the same aggregation principles should be applied to exclusion testing, CTE-70 calculation grouping, and comparing final reserve components. Ms. Hemphill said while the Texas Department of Insurance (TDI) supports full aggregation, it would support the decision of the Subgroup if it chose something more conservative. She caveated that the TDI would want the Subgroup’s position to be clearly defined. Mr. Carmello said the New York State Department of Financial Services (NYSDFS) prefers Option 1 but
would like to see “Other” listed as the tenth product type of the list provided in Option 1. Steve Tizzoni (Equitable) said Equitable supports full aggregation as a core of the way risks are measured and managed. He said of the two available options, Equitable favors Option 2. Ms. Lam said the OPBR would be in favor of Option 2 if it also requires the company to disclose the thought behind each product categorization. Ms. Rao-Knight said she also prefers full aggregation but would support Option 2 with disclosures. Mr. Leung said he prefers Option 1, as it would provide clarity without requiring disclosures. Cindy Barnard (Pacific Life) said if a company has products with both disintermediation risk and longevity risk, the risks may fluctuate, making it difficult to disclose which is the greater risk at any given time. Mr. Slutsker called for a straw vote. Option 1 received seven votes, while Option 2 received four votes. Mr. Slutsker said Option 1 will serve as placeholder as VM-22 development continues.

Mr. Slutsker began discussion on the potential for including an exemption, like the VM-20 Life Principle-Based Reserving (PBR) exemption, in VM-22. Mr. Graham expressed the ACLI’s support of an exemption that may be applied to small blocks of business. He suggested that the exemption may be based on a comparison of reserves held in the previous year. Mr. Slutsker said exemption comments were also submitted by Erie Family Life (Attachment Five). Ms. Hemphill, Mr. Leung, and Mr. Chupp agreed that an exemption of some type should exist. Mr. Tsang also agreed, but he added that the exemption should be accompanied by asset adequacy testing (AAT). Ms. Hemphill said requiring AAT concepts is more akin to an exclusion than an exemption criterion. Ms. Lam said the CDI OPBR suggested that the exemption should consider the nature of the block of business, in the same way the VM-20 exemption prohibits material universal life policies with secondary guarantees (ULSG) from exemption. Mr. Graham said he is concerned that the companies desiring exemption due to a lack of resources would also have challenges allocating the resources to AAT. The ACLI agreed to develop an initial draft of VM-22 exemption language in 45 days. John Robinson (unaffiliated) said historically, there has been concern that payout annuities are under reserved. He suggested that Subgroup members keep that issue in mind when deciding whether and how to allow exemptions.

Having no further business, the VM-22 (A) Subgroup adjourned.
Agenda Item 5
Consider Adoption of the Indexed Universal Life (IUL) Illustration (A) Subgroup
The Indexed Universal Life (IUL) Illustration (A) Subgroup met July 18, 2022. The following Subgroup members participated: Fred Andersen, Chair (MN); Ted Chang (CA); Manny Hidalgo (CT); Mike Yanacheak (IA); Vincent Tsang (IL); Derek Wallman (NE); Bill Carmello (NY); Peter Weber (OH); Maribel Castillo, Darlene Plyler, and Heike Ulrich (TX); Shelley Wiseman (UT); and Craig Chupp (VA).

1. **Exposed Options for Revising AG 49-A**

Mr. Andersen said the Subgroup last met on Feb. 24. He suggested that three meetings will be necessary to decide how to address the issues that have arisen since the 2020 adoption of AG 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). He said there will be a two-step approach to addressing the issues. The first step will be to publicly expose a set of options on which all parties will be asked to comment before the close of business July 26. He said those comments will be considered during the Life Actuarial (A) Task Force meeting at the Summer National Meeting. He said the second step will be to continue discussion during a Subgroup meeting after the Summer National Meeting.

He said review of the compliance of indexed universal life (IUL) illustrations with AG 49-A requirements showed that the guideline has been effective in addressing multipliers and buy-up accounts, the product features that were the prior concern. He said the new issue of concern is that companies are illustrating the combination of uncapped volatility-controlled funds and a fixed bonus more favorably than illustrations based on a traditional capped Standard and Poor’s 500 index (S&P 500).

Mr. Andersen said the options for the Subgroup to consider implementing to address the concern are:

- Attempt a quick fix on the current concern (some companies illustrating uncapped volatility-controlled policies better than capped S&P 500 policies) with a brief revision to AG 49-A. It can be discussed with the Life Insurance and Annuities (A) Committee whether there are plans to address any broader issues with life illustrations.
- Make no changes to AG 49-A (and allow current practices).
- Attempt to revise AG 49-A more extensively to address the current concern and any other identified potential concerns.
- Apply a hard cap on various IUL illustration metrics.

Birny Birnbaum (Center for Economic Justice—CEJ) said that the last two options have been tried previously with no success. He said companies have been able to easily game AG 49-A. He asked why Mr. Andersen expects a different outcome if one of those options is chosen. Mr. Andersen said he included those options because he wanted to give a full slate of workable options. He said there are pros and cons to each of the four options, including those mentioned by Mr. Birnbaum, that will likely be considered.

There was no objection from Subgroup members to exposing the options for addressing the AG 49-A concerns for an eight-day public comment period ending July 26.
Having no further business, the Indexed Universal Life (IUL) Illustration (A) Subgroup adjourned.

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July 18, 2022

The Indexed Universal Life (IUL) (A) Subgroup Exposure

The Indexed Universal Life (IUL) (A) Subgroup is exposing the options below for public comment.

Please provide comments by Tuesday, July 26 regarding these potential options to address the AG 49-A issues:

(a) attempt a quick fix on the current concern (some companies illustrating uncapped volatility-controlled policies better than capped S&P 500 policies) with a brief revision to AG 49-A; it can be discussed with A committee whether there are plans to address any broader issues with life illustrations;

(b) make no changes to AG 49-A (allow current practices);

(c) attempt to revise AG 49A more extensively to address the current concern and any other identified potential concerns; or

(d) apply a hard cap on various IUL illustration metrics.

There will also be a subsequent opportunity to provide written comments for a period after the August NAIC national meeting.

Please send comments to Reggie Mazyck (RMazyck@NAIC.ORG) by close of business July 26.
July 26, 2022

Mr. Fred Andersen  
Chair, IUL Illustration (A) Subgroup  
National Association of Insurance Commissioners (NAIC)

Re: The Indexed Universal Life (IUL) Illustration (A) Subgroup Exposure (July 18, 2022)

Dear Mr. Andersen,

The American Academy of Actuaries\(^1\) Life Illustrations Work Group (the “Work Group”) is pleased to provide comments to the IUL Illustration (A) Subgroup on the IUL Exposure from the July 18, 2022, meeting of the Subgroup.

As our Work Group discussed the options in the exposure, we realized we don’t have a clear understanding of the regulators’ views on certain matters. We have identified some questions that we encourage the regulators to answer early in the process to help frame the discussion:

1. **What, if anything, is the problem that the IUL Subgroup is seeking to resolve?**  
   Articulating the problem will help regulators and interested parties identify the appropriate option.  
   a. If the regulators are comfortable with current IUL illustration practices, then the option to do nothing may be appropriate.  
   b. If the problem is limited to volatility-controlled indices, then a “quick fix” may be appropriate.  
   c. If the problem is that Actuarial Guideline (AG) 49-A does not readily accommodate evolving product design, then a more principle-based approach to AG 49-A may be appropriate.  
   d. If the problem cannot be addressed within AG 49-A, then a broader effort may be appropriate.

2. **Does the “quick fix” option necessitate discussion with the Life Insurance and Annuities (A) Committee as to whether there are plans to address any broader issues with life illustrations, or are there really two options embedded within option (a)?**

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\(^1\) The American Academy of Actuaries is a 19,500-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.
3. What is meant by a “hard cap”? How would it be determined? How would it apply to the product features? Why would a hard cap be appropriate?

4. Which options support consumer understanding of the product features?

5. What information is needed to help the IUL Subgroup develop and evaluate any of the options?

Should the IUL Subgroup decide to apply a “quick fix” to AG 49-A, we suggest referring to the Work Group’s letter dated February 3, 2022, for potential approaches.

The Work Group appreciates the efforts of the Life Actuarial (A) Task Force LATF and IUL Illustration Subgroup to review AG 49-A. If you have any questions or would like to dialogue on the above topics, please contact Amanda Barry-Moilanen, life policy analyst, at barrymoilanen@actuary.org.

Sincerely,

Alicia Carter, MA AA, FSA
Chairperson, Life Illustrations Work Group
American Academy of Actuaries
July 26, 2022

Mr. Fred Andersen  
Chair, NAIC Indexed Universal Life (IUL) Illustration (A) Subgroup  

Re: IUL SG Exposure Jul 18

Mr. Andersen,

Allianz appreciates the opportunity to provide comments on the exposure from the IUL Illustration Subgroup. Our comment letter from February provides relevant information to the discussion on Volatility Control Indexes (VCIs), the additional consumer benefits they can provide, and illustrations practices. As such, Allianz is resubmitting the original letter. Since February, the equity markets, bond markets, and therefore VCIs have generally performed poorly, but that does not materially change the content of the letter. These challenging market conditions highlight the protection inherent in IUL, while also demonstrating the additional value VCIs provide when combined with fixed bonuses.

Thank you for the opportunity to provide these comments.

Regards,

Austin Bichler, FSA, MAAA  
AVP Actuary & Illustration Actuary  
Allianz Life Insurance Company of North America
Mr. Fred Andersen  
Chair, NAIC Indexed Universal Life (IUL) Illustration (A) Subgroup  

Re: IUL Exposure  

Mr. Andersen,  

Allianz appreciates the opportunity to provide comments on the matters discussed in the LATF IUL Exposure from December, 2021. Allianz offers a variety of allocations with various crediting methods and indexes to consumers. When the cost of hedging any given allocation changes, it is possible to have better historical performance than the S&P500 at a lower cost. In these cases, a company can decide what they would like to do with this excess hedge budget and what the consumer may find most valuable, whether it be higher caps/rates, fixed bonuses, lower charges, or other unique features. The decision on where to provide additional value occurs across all allocations, whether or not they are a Volatility Control Index (VCI). When there are situations where hedging costs are lower and the allocation provides historical outperformance compared to the S&P500, we think it is valuable to the consumer to reflect the additional affordable benefits that are offered within the current restrictions of AG 49-A. Because VCIs are specifically highlighted in the LATF letter and Allianz has offered VCIs for over 8 years, we wanted to provide our perspective on the consumer value of VCIs.

**Allianz History**

Allianz began offering allocations tied to VCIs on its Fixed Index Annuity (FIA) and IUL products in 2013 and 2014 respectively. The benefits of offering an index with a volatility control mechanism include diversification, stability in rate renewal, stability in and strong credit performance, and unique benefits only available with VCIs. Because of these benefits, allocations tied to VCIs offer and have delivered unique value to our policyholders and they are an important part of our index line-up.

VCIs are indexes that have some type of mechanism to control volatility. This mechanism can range from a defined formulaic approach, to active management, to something in between. The VCIs that Allianz offers on our IUL products use a defined formula that rebalances between an equity component and fixed income/cash components on a daily basis. The purpose of this daily rebalancing is to hit a specific volatility target, thus controlling the volatility of the index. Generally speaking, equities are more volatile than fixed income, so the indexes will allocate more heavily to equity in times of low volatility and more heavily to fixed income in times of high volatility.

**Benefits of Volatility Controlled Indexes**

**Diversification**  
The combination of equity and fixed income can provide a diversification benefit and the VCIs we offer have both equity and fixed income components, leading to more diversification than a standard equity only index. VCI performance can benefit when either equity or fixed income does well, or if one of the components does not perform well, the other component can offset that low performance and allow the policyholder to still get a credit. This allows the policyholder to experience positive results in many different market environments, not only when the equity market is strong.

Diversification through fixed income can bring risks, and a common question raised about VCIs is will their high allocation to fixed income lead to underperformance in rising interest rate environments and is their good historical performance due to decreasing interest rates over the last 20 years. It is true that fixed income allocations will likely underperform when interest rates rise, but because of the diversification VCIs offer, the overall impact on long term performance of the VCI will vary based on all components of the index, including the
equity component. The chart below compares the relationship of interest rates with the performance of the first VCI we offered, the Bloomberg US Dynamic Balance Index over the last 20 years.

![Bloomberg US Dynamic Balance vs. 5-yr Treasury](chart.png)

**Note:** The Bloomberg US Dynamic Balance Index has been active since 2013, index performance before that is based on the underlying components of the index and the prescribed formula used to balance between the components.

While the general trend in rates has been down over the last 20 years, there have been several periods of sustained rate increases or rate spikes, like 2003-2006, 2009, 2017-2018, or 2021. The performance of the Bloomberg US Dynamic Balance Index during those periods is mixed, some really good, some moderate, and some flat. This is because market volatility and the performance of the equity component are material considerations of the VCI performance. In fact, over the last 10 years, interest rates have risen slightly and the performance of the index has been strong, mainly due to lower volatility and strong equity performance.

Because of the diversification offered by VCIs, the performance of the index is also able to weather equity market downturns, like the ones in 2002, 2008/2009, 2018, and 2020. The graph above shows that the VCI did not suffer large losses during those periods. This was due to the volatility control mechanism allocating away from equities when volatility spiked during the market downturns, further enhancing the benefits of diversification of the VCI.

**Stable Rate Renewal**

Volatility is a key driver of hedging costs and market volatility can fluctuate greatly from year-to-year. For a capped S&P500 allocation, changes in market volatility will lead to changes in hedging costs and therefore changes in the offered cap. This can lead to large changes in caps on a year-to-year basis and large changes in the historical lookback used for setting maximum illustrated rates in AG49. By contrast, VCIs target a stable volatility, leading to more stable option costs and therefore more stable affordable participation rates. On a year-to-year basis, the policyholder is less likely to experience large changes in participation rates and large changes in the AG49 lookback. This provides the policyholder a more stable and predictable experience over the life of their contract and creates historical lookbacks that rely less on current market conditions and are more representative of what would have actually been experienced over the historical period.
Stable and Strong Credit Performance

The VCIs we offer target a low and controlled volatility, so the index will increase and decrease more slowly than a higher volatility index, like an equity index. More stable index values lead to more stable credits, which is a benefit for IUL policyholders where product fees are present and timing of high or low credits can impact long term policy performance. Stable credits also better align with IUL illustrations, which do not show the variability of index performance.

The higher stability in credits a VCI can achieve is illustrated below by comparing the distribution of historical performance over the last 20 years between the Bloomberg US Dynamic Balance Index allocation and our capped S&P500 allocation. The analysis uses currently offered caps and participation rates and it can be seen that the distribution of the Bloomberg US Dynamic Balance Index credits are more evenly distributed than the S&P500 credits, which are more barbell shaped and have more instances where the policyholder does not receive a credit.

Note: The Bloomberg US Dynamic Balance Index has been active since 2013, index performance before that is based on the underlying components of the index and the prescribed formula used to balance between the components.

What can also be seen in the analysis above is that Bloomberg US Dynamic Balance Index allocation offers more potential upside than the capped S&P500 allocation. This strong historical performance is seen in the differences in historical lookbacks between the VCI allocations we offer and the capped S&P500, with the VCI allocations outperforming the S&P500 allocation by 2-3% on average.

Allianz started offering allocations tied to the Bloomberg US Dynamic Balance Index on our IUL policies in 2014, so in addition to strong historical lookback performance, we have 7 full years of credits that have been realized by our policyholders. Over that time, our allocation to this VCI has averaged 1.25% higher credits per year than the S&P500 allocation and both of the allocations have performed above the AG49 maximum allowed illustrated credit.

<table>
<thead>
<tr>
<th>Average Realized Credits 2015-2022</th>
<th>AG49 Maximum Illustration Limit</th>
</tr>
</thead>
<tbody>
<tr>
<td>6.77%</td>
<td>8.02%</td>
</tr>
</tbody>
</table>

Note: The analysis above assumes a 1/1/2015 contract issue date, with the version of our IUL product available at that time.
Unique Benefits Available to VCIs
The composition of the VCIs we offer allow us to offer unique benefits to our policyholders. Hedging for the VCIs we offer currently cost less than options for S&P500. We are able to take the hedging savings and offer a variety of benefits for the policyholder to choose from, including higher participation rates, a multiplier bonus, or a fixed bonus, all with a unique lock feature on top of these other benefits.

Our lock feature allows a policyholder to “lock-in” their index performance at any point during their crediting period instead of waiting until their policy anniversary, giving the policyholder a level of control over their policy that they cannot get with any other index. We have seen tremendous interest in this benefit since we introduced it in 2019 and we are only able to offer it because of the stable option costs for VCIs.

Summary
Allianz has offered allocations tied to VCIs since 2013. Our policyholders that have allocated to these indexes have benefited from diversification, stability in renewal rates, stability in and strong credit performance, and features like Index Lock. These policyholders have realized credits that exceed our S&P500 allocations and have been the recipients of additional benefits because of the lower and more stable option costs associated with the VCIs. The VCIs we offer and the additional benefits tied to them make up an important part of our product offering and give our policyholders valuable choice in their allocations. In order to have a fully informed and educated consumer when selecting their allocation choice, we feel that the additional benefits and value VCIs provide should be reflected while still adhering to the current AG 49-A illustration restrictions.

Thank you for the opportunity to provide these comments.

Regards,

Austin Bichler, FSA, MAAA
AVP Actuary & Illustration Actuary
Allianz Life Insurance Company of North America
Dear Mr. Andersen,

We very much appreciate the opportunity to submit the following comments in response to the Indexed Universal Life (IUL) (A) Subgroup Exposure dated July 18th, 2022.

- In February Equitable had provided comments in response to the December 9th, 2021 IUL Exposure, which consisted of (1) a reminder of Equitable’s 2020 proposal and (2) an indication of how the 2020 proposal would relate to illustrations of uncapped volatility-controlled policies. We stated our belief that reconsideration of Equitable’s 2020 proposal would be appropriate if regulators decided that substantive changes to AG 49-A were needed.

We similarly believe that reconsideration of Equitable’s 2020 proposal would be appropriate if regulators decide to pursue option (c) of the latest Exposure, for the same reasons that were stated in our attached February submission. (In viewing the attached Word document, please note that there are two PDFs embedded into the third page containing a more detailed explanation of Equitable’s 2020 proposal.)

- We also believe that option (a) of the latest Exposure should be bifurcated into two separate options,
  - an attempted quick fix to AG 49-A to address the current concern relating to illustrations of uncapped volatility-controlled policies, versus
  - a discussion with A Committee as to whether there are plans to address any broader issues with life illustrations.

- Finally, we feel that we would need to gain a better understanding of option (d) in order to provide any evaluation of it (for example, what illustration metrics would be subjected to a hard cap, how would such a hard cap be applied, and how would this affect the accuracy of depictions of how IUL policies work?).

Thanks again for the opportunity to share our thoughts with you and the other members of the IUL Illustration (A) Subgroup on these issues.

Brian R. Lessing
Senior Director and Actuary
July 26, 2022

Response to IUL Exposure 2-4-2022.doc
Fred,

Thank you for the opportunity comment on the four potential options for handling the identified issue with Indexed Universal Life illustrations.

We believe that the current state of Indexed UL illustrations warrants a quick and comprehensive response from the Subgroup. As the letter from the Coalition of Concerned Insurance Professionals pointed out in February (attached), Indexed UL illustrations using non-BIA strategies with fixed interest bonuses can generate illustrated income in excess of 60% higher than BIA strategies. This is, in our view, entirely inconsistent with the intent of regulators in crafting AG 49-A.

The gamesmanship currently occurring in illustrations is similar in effect and pervasiveness to the buy-up caps and multipliers that proliferated after AG 49 and resulted in AG 49-A. However, it is important to note that this time the methodology is fundamentally different. Rather than increasing the option budget in order to augment illustrated performance (which is what buy-up caps and multipliers did), life insurers are now using essentially the opposite strategy by:

1. Using indices with lookback-based illustrated option profits far in excess of the BIA;
2. Reducing the actual option budget so that the lookback rate for the non-BIA account matches the BIA;
3. Deploying the savings in a fixed interest bonus that is added to the illustrated rate and loan arbitrage.

The net effect is non-BIA account options that illustrate significantly better than the BIA but, in the real world, will very likely perform worse. Often, life insurers set these strategies as the default allocation in their illustration software in order to maximize their competitive positioning. This is not what was intended by AG 49-A – nor is it beneficial for consumers or even defensible under the arguments put forth previously by industry.

As a result, Option B is simply not an option. Amongst life insurers, the issue at hand is crystal clear; everyone is well aware of exactly what is going on. The majority of top Indexed UL sellers are already using precisely this strategy in their products, and to great effect. In our view, this latest variant of Indexed UL illustration gamesmanship is more aggressive and puts clients in a worse position than the previous attempts. This must be addressed. To not do so would be inconsistent with previous Subgroup inquiries.

Options A, C and D imply tradeoffs that don’t actually exist. A simple solution (Option A) need not be targeted only to the current issue. A proactive solution (Option C) need not require extensive modifications to the guideline. A “hard cap” (Option D) need not exist in isolation.

The best potential solutions would satisfy all three Options – simple and proactive, with “hard caps” to avoid edge cases and ambiguity. Fortunately, these solutions exist and have been presented previously to the Subgroup by several parties (including various life insurers) over the past eight years.

Considering that the complex, reactive and ambiguous solutions promoted by industry have resulted only in more illustration warfare and repeated regulatory inquiries, it’s time to dust off the alternative proposals and give them serious consideration.

Bobby Samuelsen
Executive Editor
The Life Product Review

Sheryl J. Moore
President & CEO
Moore Market Intelligence
July 25, 2022

Mr. Mike Boerner  
Chair, NAIC Life Actuarial Task Force (LATF)

Mr. Fred Andersen  
Chair, NAIC Indexed Universal Life (IUL) Illustration (A) Subgroup (IUL Subgroup)

Dear Fred,

Securian Financial respectfully submits these comments in response to the NAIC IUL Illustrations (A) Subcommittee request for comments on AG49-A.

To reiterate the main points of Securian’s comment letter in February

- AG49-A was successful for products that charge for multipliers and/or buy-up accounts as they are illustrating substantially similar to those products without the additional charges.
- There is nothing inherently wrong with fixed account value bonuses, proprietary indices, or the combination of them.
- Securian Financial has deep concerns that the amount of leverage being illustrated on non-BIA Indexed accounts is not consistent with the intent of AG49/AG49-A or what LATF would expect of these type of illustrations.

Securian Financial believes that option (a) of the July request for comment is the most desirable of the choices presented. There are several straightforward ways to change AG49-A to make it clearer/enforce that the BIA guardrails apply to all illustrated indexes. We would like the language below to be added to AG49-A as a starting point for the conversation on how the subgroup could approach option (a) in the July requests for comments.

**Recommended Changes**

We would like to recommend changes to AG49-A 4C by adding condition (iii) to limit the maximum amount of leverage illustrated to that of the BIA:

C. For any other Index Account that is not the Benchmark Index Account in 3 (D), the Annual Rate of Indexed Credits illustrated as a percentage of the account value in the Index Account prior to the deduction of any charges used to fund a Supplemental Hedge Budget shall not exceed the minimum of (i), (ii) and (iii):

i. The Annual Rate of Indexed Credits for the Benchmark Index Account calculated in 4 (B) plus the Supplemental Hedge Budget for the Index Account.

ii. The Annual Rate of Indexed Credits reflecting the fundamental characteristics of the Index Account and the appropriate relationship to the expected risk and return of the Benchmark Index Account. The illustration actuary shall use actuarial judgment to determine this value using lookback methodology consistent with 4 (A) and 4 (B) (i) where appropriate.
iii. The lesser of (a) and (b) multiplied by the Annual Rate of Index Credits for the Benchmark Index Account, calculated in 4B, divided by (b); plus, the supplemental hedge budget:
   a) The Hedge Budget of the Indexed Account
   b) Hedge Budget of the Benchmark Indexed Account.

The spreadsheet attached uses the same parameters as was used in 2020 but with two more examples to show how the proposed change would impact several index designs and the added rows for the new 4(c)iii and the resulting options profit being illustrated. Focus your attention on Column E and note that without 4(c)(iii), the illustrated leverage (option profit) as seen on Row 29 would be 155%.

Respectfully,

Seth Detert, Securian Financial

Securian Financial is the marketing name for Securian Financial Group, Inc. and its affiliates. Insurance products are issued by its affiliated insurance companies. Securities and investment advisory services offered through Securian Financial Services, Inc., registered investment advisor, member FINRA/SIPC.
January 27, 2021

Mr. Mike Boerner
Chair, NAIC Life Actuarial Task Force (LATF)

Mr. Fred Andersen
Chair, NAIC Indexed Universal Life (IUL) Illustration (A) Subgroup (IUL Subgroup)

Dear Fred,

Securian Financial respectfully presents these comments in response to the NAIC IUL Illustrations (A) Subcommittee request for comments on the findings from the Q3 Post AG49-A IUL survey.

Securian believes the Post AG49-A IUL survey demonstrates that AG49-A accomplished one of the main goals set forth by the Subcommittee:

- That products with charged for multipliers and/or buy-up accounts illustrate substantially similar to those products without the additional charges.

However, with new developments in the industry AG49-A appears to have fallen short of the second stated goal:

- That within an illustration there is consistent treatment of policy features such as multipliers, index bonuses, participating loan crediting, and non-benchmark indices across the industry.

Specifically, after AG49-A, as noted by the request for comment letter, we are seeing an increase in the utilization of volatility-controlled indices in conjunction with fixed bonuses. Carriers are utilizing this combination to drive meaningfully higher illustrated results.

In direct contrast to the intent of AG49-A, carriers are illustrating much more aggressively with these volatility-controlled indices relative to their own S&P 500 BIA accounts.

Securian does not believe there is anything inherently wrong with fixed account value based bonuses. Fixed account value bonuses are not specific to IUL and they have been part of the individual life products for decades. In addition, fixed bonuses were discussed rather extensively during the drafting of AG-49A and from those discussions LATF determined it was appropriate to illustrate them, in hopes of furthering consumer understanding on the differences between products.

Volatility-controlled indices have also been in the insurance industry for years. They have been prevalent in Fixed Index Annuities for a decade (or more) and there have been a small amount of them available for on IUL contracts for the last 5 to 10 years. We are seeing an increase in the availability and utilization of volatility-controlled index in the industry and Securian supports that direction. Volatility-controlled indexes provide options for our clients that can reasonably provide more stable index returns over a long period of time.

However, Securian does think that the current practice of how volatility-controlled indexes are being illustrated in the industry does not meet the intention of AG49 or AG49-A and should be addressed in

Attachment Five
Life Actuarial (A) Task Force
8/8–9/22
the very near future. Specifically, the 145% limit should be applied to all accounts, not just the BIA account. Let me explain further.

Within AG-49 the determination of the maximum illustrated rate for the BIA account is limited to 145% of the Annual Net Investment Earnings Rate used to support the index. We think this guardrail should also be applied to non-BIA accounts. What we are seeing in the industry can be illustrated by a simple example:

- Let’s consider a carrier that has a 4% Annual Net Investment Earnings Rate and they spend that amount on the BIA account. This translates to a maximum illustrated rate of 4% * 1.45% = 5.8%.
- The carrier also has a volatility-controlled index that costs 3% to hedge which allows the carrier to offer a 1% fixed bonus on that indexed account to get a total 4% cost.
- The volatility-controlled index’s 30 year look back rate is at or above the maximum BIA rate of 5.8% in this example. Most carriers are then illustrating the volatility-controlled index at 5.8%.
- By illustrating the volatility-controlled index at 5.8% they are illustrating a hedge payoff of (5.8%/3%) = 1.93% which is excess of the 1.45% guardrail of the BIA.
- The increased illustrated hedging payoff in excess of the 145% BIA guardrail is what Securian believes is the main driver higher illustrated values for volatility-controlled indices.
- If volatility-controlled indices were limited in illustrating a maximum of 1.45% hedge payoff you would get a max illustrated rate in this example of 3%*1.45% = 4.35%.
- Using the example above with an adjustment to AG49-A to limit the hedge payoff to 145% of the volatility-controlled index you would get a total crediting rate of 4.35% plus the 1% fixed bonuses for a total crediting rate of 5.35% versus what is being currently being illustrated in the industry of 5.8% plus a 1% fixed bonus for a total crediting rate of 6.8%.

Securian believes there are several ways to change AG49-A to make it clearer/enforce that the 145% guardrail applies to all illustrated indexes. If desired by LATF we are ready to work with our industry peers to put forth draft language to address what we see is the crux of the concern presented by LATF from the findings of the post AG49-A survey.

Respectfully,

Seth Detert, Securian Financial

Securian Financial is the marketing name for Securian Financial Group, Inc. and its affiliates. Insurance products are issued by its affiliated insurance companies. Securities and investment advisory services offered through Securian Financial Services, Inc., registered investment advisor, member FINRA/SIPC.
<table>
<thead>
<tr>
<th>Example</th>
<th>Lower cap</th>
<th>1% Floor</th>
<th>1% Floor &amp; Included Bonus</th>
</tr>
</thead>
<tbody>
<tr>
<td>Example 6</td>
<td>4.50%</td>
<td>4.50%</td>
<td>4.50%</td>
</tr>
<tr>
<td>Example 7</td>
<td>4.50%</td>
<td>4.50%</td>
<td>4.50%</td>
</tr>
<tr>
<td>Example 8</td>
<td>4.50%</td>
<td>4.50%</td>
<td>4.50%</td>
</tr>
<tr>
<td>Example 9</td>
<td>4.50%</td>
<td>4.50%</td>
<td>4.50%</td>
</tr>
</tbody>
</table>

**Supplemental Hedge Budget**

- Example 6: 0.00%
- Example 7: 0.00%
- Example 8: 0.50%
- Example 9: 2.25%

**Managed Vol HB>NIER**

- Example 6: 6.20%
- Example 7: 5.51%
- Example 8: 5.15%
- Example 9: 5.15%

**Managed Vol HB<NIER**

- Example 6: 6.20%
- Example 7: 5.51%
- Example 8: 5.15%
- Example 9: 5.15%

**Example HB>NIER**

- Example 6: 4.50%
- Example 7: 4.50%
- Example 8: 4.50%
- Example 9: 4.50%

**Example HB<NIER**

- Example 6: 4.50%
- Example 7: 4.50%
- Example 8: 4.50%
- Example 9: 4.50%

**Total Indexed Credits**

- Example 6: 6.20%
- Example 7: 5.51%
- Example 8: 5.15%
- Example 9: 5.15%

**Historical Credited Rate for Benchmark Index Account (A)**

- Example 6: 6.20%
- Example 7: 5.51%
- Example 8: 5.15%
- Example 9: 5.15%

**Supplemental Hedge Budget (Option Profit)**

- Example 6: 0.00%
- Example 7: 0.00%
- Example 8: 0.50%
- Example 9: 2.25%

**Maximizing the illustrated leverage (option profit) of the indexed account to that of the BIA**

- Example 6: 5.51%
- Example 7: 6.70%
- Example 8: 8.45%
- Example 9: 10.28%

**Maximum Illustrated Credit**

- Example 6: 5.71%
- Example 7: 6.48%
- Example 8: 6.22%
- Example 9: 6.00%

**Non-BIA: Min (4(C)(i), 4(C)(ii), 4(C)(iii))**

- Example 6: 6.20%
- Example 7: 6.20%
- Example 8: 6.20%
- Example 9: 6.20%

**Example HB<NIER**

- Example 6: 6.20%
- Example 7: 5.51%
- Example 8: 5.15%
- Example 9: 5.15%

**Example HB>NIER**

- Example 6: 6.20%
- Example 7: 5.51%
- Example 8: 5.15%
- Example 9: 5.15%

**Maximum Illustrated Credit less Supplemental Hedge Budget**

- Example 6: 6.20%
- Example 7: 5.51%
- Example 8: 5.15%
- Example 9: 5.15%
July 26, 2022

Mr. Mike Boerner  
Chair, NAIC Life Actuarial Task Force (LATF)

Mr. Fred Andersen  
Chair, NAIC Indexed Universal Life (IUL) Illustration (A) Subgroup (IUL Subgroup)

via email to RMazyck@naic.org

Re.: IUL Exposure

Dear Messrs. Boerner and Andersen:

The Transamerica Companies (“Transamerica”) appreciate the opportunity to provide comments on the exposed options for the work of the IUL Subgroup and potentially other NAIC committees. Transamerica is a leading provider of IUL and had the top-selling individual IUL product across all channels in 2021, according to Wink, Inc.¹

From our standpoint, AG49-A has successfully remediated concerns with illustrations of multipliers and certain other IUL product design features. More recently, we understand that questions have emerged around illustrations for products with uncapped volatility-controlled indices and fixed bonuses. Although we regard these features as having somewhat less impact on illustrations than multipliers, we can support an update to AG49-A to address these features. It should be noted that Transamerica does not currently sell a product with an uncapped volatility-controlled index and a fixed bonus.

Of the four options in the exposure, Transamerica supports option (a), the “quick fix” approach. For example, consideration could be given to requiring each index account to separately pass both the self-support and lapse support tests as prescribed under Model #582. We can also support A Committee consideration of a longer-term, multi-year effort to overhaul illustrations for all fixed life insurance products, presumably involving the re-opening of the model. We believe such an effort should address illustrations holistically across products rather than taking a piecemeal approach.

We appreciate the work of LATF and the IUL Subgroup in addressing concerns related to IUL illustrations.

Sincerely,

Andrew DeMarco  
Head of Life Solutions  
Transamerica

¹ Wink, Inc. Releases Fourth Quarter, 2021 Life Sales Results - Wink (winkintel.com):  
www.winkintel.com/2022/03/wink_4q21/
July 26, 2022

Mr. Fred Andersen  
Chair, NAIC Indexed Universal Life (IUL) Illustration (A) Subgroup

Western & Southern Financial Group, Inc. ("Western & Southern") appreciates the opportunity to comment on the Indexed Universal Life (IUL) (A) Subgroup ("IUL Subgroup") exposure of options to address AG 49-A.

Western & Southern does not have concerns with IUL products incorporating volatility-controlled indexes, nor does it have concerns with IUL products including fixed interest rate bonuses. However, Western & Southern believes the current approach of pairing a volatility-controlled index with a fixed interest rate bonus and having that combination illustrate better than capped S&P 500 benchmark indexed account (BIA) policies falls outside the intent of AG49-A.

Thus, Western & Southern supports option A to “attempt a quick fix on the current concern (some companies illustrating uncapped volatility-controlled policies better than capped S&P 500 policies) with a brief revision to AG 49-A.” Western & Southern notes that the American Academy of Actuaries Life Illustrations Work Group presented two viable options to address the issue within its February 3, 2022 comment letter. Western & Southern supports additional consideration of those two options and the expeditious implementation of whichever one (or a newly identified alternative) that the IUL Subgroup deems to be most effective in addressing the current issue. If the IUL Subgroup decides to take additional time to analyze options C or D, Western & Southern encourages it also to move forward with option A concurrently to ensure a level playing field and the protection of consumers.

Western & Southern appreciates the IUL Subgroup's continued review of AG49-A; thank you for the opportunity to comment.

Respectfully,

Ryan Richey, FSA, MAAA  
Vice President, Product Actuarial
Agenda Item 6
Discuss Templates for the Asset Adequacy Testing (AAT) Actuarial Guideline
**Actuarial Guideline AAT Templates - Instructions**

**Overview**
These templates are intended to serve as a standardized format for submitting sensitivity testing, attribution, and disclosure requests for Actuarial Guideline AAT, consistent with Section 6 described within the Actuarial Guideline. The objective of such templates is to provide results associated with the actuarial guideline in an easy-to-digest manner, with the intention of educating regulators on the yield or spread (as applicable) assumptions reflected for each asset class for asset adequacy testing purposes. Companies are encouraged to read the below instructions and use their best efforts and judgement in completing the exercise. In addition, companies may provide commentary to further explain certain data items or for regulators to consider as it relates to improving the exercise for future reporting years. Companies must submit the templates by April 1 following the applicable valuation date for the asset adequacy testing submission.

**Asset Summary Tab**

**Scope:** Applies to all general account and non-unitized separate account assets supporting liabilities in Exhibits 5, 6, 7, and 8 of the Annual Statement reflected in asset adequacy analysis for the company. Refer to Section 2 of the Actuarial Guideline for more details.

**Granularity:** Provide one template for all portfolios and applicable business in aggregate; shall also submit separate templates for each line of business or portfolio to the extent separate templates are submitted for the other tabs.

**Amount field:** Provide the amount consistent with the valuation basis held for statutory accounting (i.e., book value for corporate bonds, market value for equities, etc.). The amounts should tie to the statement amount of assets used in asset adequacy analysis (not necessarily the actual statutory balance sheet).

**P.H.N.Y. Amount field:** Provide the amount of assets within each category that meets the definition of "Projected High Net Yield Assets" in Section 3F of the Actuarial Guideline.

**Affiliate Amount field:** Provide the amount of assets within each category that is originated by affiliated legal entities or other entities within same insurance group.

**Reinvestment Allocation field:** Provide the reinvestment strategy assumption for new asset purchases in asset adequacy analysis.

- If reinvestment strategy assumptions vary by different lines of business or portfolios, then the company may provide separate templates for each. However, an aggregate template is still also required, in which the aggregate reinvestment allocation assumption shall be determined by weighting the assumptions across different segments based on the "Amount" column.
- If reinvestment strategy assumptions vary by scenario, then use the assumption for the level scenario and describe in commentary how the assumption may differ for different asset adequacy analysis scenarios.
• If reinvestment strategy assumptions vary by duration, then the company should only show the long-term reinvestment strategy assumption used in asset adequacy analysis. If there is no clear long-term reallocation assumption, then the company can use a simplification to provide one value and describe in the commentary section.

**Asset Spreads - Initial Assets and Asset Spreads - Reinvestments Tabs**

**Scope:** Applies to all general account and non-unitized separate account assets supporting liabilities in Exhibits 5, 6, 7, and 8 of the Annual Statement reflected in asset adequacy analysis for the company, with the exception of treasuries and agencies.

**Granularity:** Company may either submit a template for each segment (i.e., portfolios and lines of business) or submit one aggregate template for the full company asset adequacy analysis (in which case, please describe the approach for how data was aggregated across different portfolios and lines of business in the commentary section).

**Gross Yield field:** Provide the gross yield consistent with the valuation basis held for statutory accounting in asset adequacy analysis (i.e., book value for corporate bonds, market value for equities, etc.).

**Default Assumption field:** Provide the default assumption used in asset adequacy analysis, inclusive of any margins or provisions for adverse deviation reflected.

**Investment Expense Assumption field:** Provide the investment expense assumption used in asset adequacy analysis, inclusive of any margins or provisions for adverse deviation reflected.

**Other field:** Provide the any additional components necessary to arrive at the net spread, whether positive or negative, and describe these components in the "other" field provided in the template.

**Max Gross Yield field:** Provide the greatest gross yield reflected for any given asset modeled in asset adequacy analysis. If the company holds an immaterial amount of that asset, then the company has the option to provide a gross yield such that no more than 0.5% of the assets held in the portfolio exceed this gross yield. For reinvestments, the company is to provide this for the level scenario and either provide a long-term projected yield or use judgement with commentary provided.

**Max Net Yield field:** Provide the greatest net yield reflected for any given asset modeled in asset adequacy analysis. If the company holds an immaterial amount of that asset, then the company has the option to provide a net yield such that no more than 0.5% of the assets held in the portfolio exceed this net yield. For reinvestments, the company is to provide this for the level scenario and either provide a long-term projected yield or use judgement with commentary provided.
**Affiliate vs. Non-Affiliate field:** Provide entries in the template separately for affiliate vs. non-affiliate. Affiliate refers to assets originated by affiliated legal entities or other entities within same insurance group. Non-affiliated refers to all other assets not categorized as affiliate.

**Yield assumptions that vary by duration:** If yield assumptions vary by duration in the level scenario, then the actuary should only include long-term assumptions in the "Asset Spreads - Reinvestments" tab. If there is not one clear long-term assumption, then the judgement shall be used with accompanying commentary in the template.

**Sensitivity Test Tab**

**Scope:** Applies to all general account and non-unitized separate account assets supporting liabilities in Exhibits 5, 6, 7, and 8 of the Annual Statement reflected in asset adequacy analysis for the company, with the exception of assets listed in Section 3Fiii of the Actuarial Guideline (and the two left column fields are not to be completed for Equity-Like Instruments).

**Granularity:** Company may either submit a template for each segment (i.e., portfolios and lines business) or submit one aggregate template used for the full company asset adequacy analysis (in which case, please describe the approach for how data was aggregated across different portfolios and lines of business in the commentary section).

**Percentage of Assets with Reduced Spread field:** Calculate the percent of assets that required adjustments to the investment yield to comply with the in Section 5A of the Actuarial Guideline. This percentage shall be calculated based on the asset amount. Since the sensitivity test only applies to reinvestments, the company may choose to calculate this percentage at the tenth projected year in the level scenario in asset adequacy analysis, or can use an alternative approach if described in the commentary section.

**Spread Reduction field:** Provide the aggregate amount of spread or investment rate that was reduced to fit the requirements of the sensitivity test in Section 5A of the Actuarial Guideline. To provide this number in aggregate across assets within each asset type, weight by the asset amount. Since the sensitivity test only applies to reinvestments, the company may choose to calculate this reduction amount at the tenth projected year in the level scenario for asset adequacy analysis, or can use an alternative approach if described in the commentary section.

**Cash Flow Testing sidebox:** Provide the results of asset adequacy analysis using the present value of market value of surplus metric in the level scenario for completing the sensitivity test in Section 5A of the Actuarial Guideline. Use a step-by-step impact test where change for Section 5ai(a) is completed first, then Section 5aii(b) is completed next, and then the total impact is the sum of the two results. If the company uses any simplifications or an alternative process to determine the impact, please provide commentary.
"Other Derivative Instruments" row: Unlike the "Derivative Instruments linked to Equity-Like Instruments", the "Other Derivative Instruments" row requests entries for the fields labeled "Percentage of Assets with Reduced Spread" and "Spread Reduction". This is because while "Derivative Instruments linked to Equity-Like Instruments" may be considered Equity-Like Instruments, this may not be the case for derivatives linked to underlying assets other than equities or similar instruments. Therefore, the intention is that such assets would be subject to the Investment Grade Net Spread Benchmark and those two fields would be applicable.

**Attribution - Initial Assets and Attribution - Reinvestments Tabs**

**Scope**: Applies to all general account and non-unitized separate account assets supporting liabilities in Exhibits 5, 6, 7, and 8 of the Annual Statement reflected in asset adequacy analysis for the company, with the exception of assets listed in Section 3Fiii of the Actuarial Guideline and Equity-Like Instruments.

**Granularity**: Company may either submit a template for each segment (i.e., portfolios and lines business) or submit one aggregate template used for the full company asset adequacy analysis (in which case, please describe the approach for how data was aggregated across different portfolios and lines of business in the commentary section).

**Net Market Spread field**: Provide the Net Market Spread, as defined in Section 3 of the Actuarial Guideline, for each asset type.

**IG Net Spread Benchmark field**: Provide the Investment Grade Net Spread Benchmark, as defined in Section 3 of the Actuarial Guideline, for each asset type.

**Guideline Excess Spread field**: Provide the Guideline Excess Spread, as defined in Section 3 of the Actuarial Guideline, for each asset type.

**Credit Risk field**: Provide the component of the Guideline Excess Spread that is attributable to credit risk, as described in Section 5B of the Actuarial Guideline.

**Illiquidity Risk field**: Provide the component of the Guideline Excess Spread that is attributable to illiquidity risk, as described in Section 5B of the Actuarial Guideline.

**Other Risk Component fields**: Fill out the additional headers and add more risk component fields that comprise the Guideline Excess Spread as needed.
"Other Derivative Instruments" row: Unlike the "Derivative Instruments linked to Equity-Like Instruments", the "Other Derivative Instruments" row requests entries for the attribution fields. This is because while "Derivative Instruments linked to Equity-Like Instruments" may be considered Equity-Like Instruments, this may not necessarily be the case for derivatives linked to underlying assets other than equities or similar instruments. Therefore, the intention is that such assets would be subject to attribution analysis requirements.
## Asset Summary for Asset Adequacy Testing

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<th>Asset Type</th>
<th>Amount¹ ($M)</th>
<th>%</th>
<th>P.H.N.Y. Amount ($M)</th>
<th>%</th>
<th>Affiliate² Amount ($M)</th>
<th>%</th>
<th>Reinvestment Strategy (%)</th>
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<tr>
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</tbody>
</table>

(1) Amount provided should be consistent with the valuation basis held for statutory accounting [i.e., book value for corporate bonds, market value for equities, etc.]

(2) "Affiliate Amount" means the amount of assets within each category that is originated by affiliated legal entities or other entities within same insurance group

### (3) Description of assets within "Other - Not Covered Above" Category

### Additional Commentary
## Section 4a: Net Yield Component Summary for Asset Adequacy Testing - Initial Assets

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<tr>
<th>Asset Type</th>
<th>Gross Yield¹</th>
<th>Default Assumption</th>
<th>Investment Expenses</th>
<th>Other³</th>
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<th>Max Gross Yield</th>
<th>Max Net Yield</th>
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(1) Yields provided should be consistent with the valuation basis held for statutory accounting (i.e., book value for corporate bonds, market value for equities, etc.)
(2) Affiliate refers to assets originated by affiliated legal entities or other entities within same insurance group

### (3) Description of net Yield component within "Other" Category

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<th>Description of net Yield component within &quot;Other&quot; Category</th>
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### Additional Commentary

---

85
## Section 4a: Net Yield Component Summary for Asset Adequacy Testing - Reinvestments

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<tr>
<th>Asset Type</th>
<th>Gross Yield¹</th>
<th>Default Assumption</th>
<th>Investment Expenses</th>
<th>Other³</th>
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<th>Max Gross Yield</th>
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</table>

(1) Yields provided should be consistent with the valuation basis held for statutory accounting (i.e., book value for corporate bonds, market value for equities, etc.)
(2) Affiliate refers to assets originated by affiliated legal entities or other entities within same insurance group

### (3) Description of net Yield component within "Other" Category

#### Additional Commentary
## Section 5a: Sensitivity Test assuming Investment Grade Net Spread Benchmark

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<th>Asset Type</th>
<th>Percentage of Assets with Reduced Spread¹</th>
<th>Spread Reduction²</th>
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<td>Public Corporate Bonds</td>
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<tr>
<td>Convertible Bonds</td>
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<tr>
<td>Municipal Bonds</td>
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<tr>
<td>Other Private Bonds</td>
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<td>Non-Agency Residential Mortgage Backed Securities</td>
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<tr>
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<td><strong>Total</strong></td>
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¹ "Percentage of Assets with Reduced Spread" is the percentage of asset amount for which the net spread must be reduced to comply with the cap at the Investment Grade Net Spread Benchmark.

² "Net Spread Reduction" means the aggregate net spread reduction in each asset category as a result of capping individual assets at the Investment Grade Net Spread Benchmark.

³ Intended to measure the impact of asset adequacy testing under the level scenario for the New York 7 (i.e., NY1); may use gross premium reserve if consistent with asset adequacy testing approach.

### Cash Flow Testing Present Value of Market Value of Surplus under Level Scenario³

<table>
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<th>Investment Grade Net Spread Benchmark: Section Sai(a) Test</th>
<th>Baseline</th>
<th>Sensitivity Test</th>
<th>Change (%)</th>
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<th>Equity Sensitivity: Section Sai(b) Test</th>
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<th>Total Impact</th>
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### Section 5b: Attribution for Asset Adequacy Testing Guideline Excess Spreads - Initial Assets

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<th>Illiquidity Risk</th>
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<th>[Other Risk Component #2]</th>
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<tr>
<td>Public Corporate Bonds</td>
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(1) "IG Net Spread Benchmark" = Investment Grade Net Spread Benchmark

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**Additional Commentary**

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88
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Additional Commentary

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Section 5b: Attribution for Asset Adequacy Testing Guideline Excess Spreads - Reinvestments

8/8–9/22
Agenda Item 7

Hear an Update on Society of Actuaries (SOA)

Framework for ESG Model Governance
A Framework for Developing, Evaluating, and Implementing Economic Scenario Generators (ESGs) – ESG Model Governance

Tony Dardis, MAAA, FSA, CERA, FIA, CFA
Vice Chairperson, Economic Scenario Generator Work Group (ESGWG)

ESG Model Governance – Agenda

1. Background Considerations
2. The Importance of Model Governance
3. Core Components of an ESG Model Governance Program
4. Other Considerations
Background Considerations

☐ ESG model governance is concerned with the processes for ongoing scenario generation and delivery

☐ Any members of the American Academy of Actuaries (“the Academy”) who are involved in the production of the scenarios should consider what actuarial standards of practice (ASOPs) may apply
  - ASOP No. 56, *Modeling*, is particularly relevant. Even for those who are not members of the Academy, this ASOP provides many elements of best practice as far as model governance is concerned and should be viewed as an important reference for the National Association of Insurance Commissioners (NAIC) and Conning.

☐ The *Model Governance Practice Note* developed by the Model Governance Practice Note Work Group of the Academy is also a very useful reference.

ASOP No. 56, *Modeling*, provides guidance to practicing actuaries with respect to using, reviewing, or evaluating models

☐ Section 3.1.2 states actuaries “evaluating the model ... should confirm that, in the actuary’s professional judgment, the model reasonably meets the intended purpose.”

☐ Section 3.1.3 states that “[w]hen using the model, the actuary should make reasonable efforts to confirm that the model structure, data, assumptions, governance and controls, and model testing and output validation are consistent with the intended purpose.”

☐ Sections 3.2 and 3.4 also have important requirements in connection with model understanding.

As a general point, the ESGWG would like to reiterate the view previously communicated by Academy Life Practice Council work groups that the use of scenario sets generated by proprietary ESGs be permitted as an alternative option to scenario sets prescribed by the NAIC, subject to proper documentation on how the scenario sets were developed and why they are appropriate for statutory reserves and capital.
The Importance of Model Governance

ASOP No. 56, *Modeling*, Section 3.5.2, Appropriate Governance and Controls, states:

“The actuary should use or, if appropriate, rely on others to use appropriate governance and controls to minimize model risk” to maintain the integrity of the model, and to avoid the introduction or use of unintentional or untested changes.

Robust model governance processes will be critical to the ongoing delivery of scenarios for a number of reasons:

- Mitigates the risk of output errors
- Reduces the risk of selecting an incorrect (not fit-for-purpose) model & ensures it continues to be fit for purpose
- Allows for the smoother, more efficient, production of scenarios
- Increases transparency, which aids clarity and builds common understanding
- Allows issues to get resolved effectively due to built-in preparedness & escalation procedures for when things go wrong
- Gives the industry confidence and builds reputation for outside observers

Core Components of an ESG Model Governance Program

- **Roles & Responsibilities**—Define and document responsibilities for *all* stakeholders involved in the ongoing production of scenarios
- **Model Selection and Review Processes**—Establish processes for selecting fit-for-purpose models and for reviewing and validating the model and its outputs
- **Sign-off Protocols**—Establish where sign-offs need to take place
- **Change Control Procedures**—Establish processes for authorizing, reviewing, and testing changes to the model and calibration parameters
- **Access Controls**—For any aspects of the scenario generation process that are outside of Conning’s control, define processes for limiting access to models or processes through access authorization and periodic access review
- **Documentation**—This flows throughout the entire governance process. Documentation of all of the agreed upon processes and procedures should be produced, plus:
  - Appropriate documentation covering each published scenario set
  - Documentation of ongoing model updates and assumption changes
The Importance of Documentation: The NAIC’s View

- Deliverable I of NAIC RFP #2053
  - “Full documentation on the ESG specifications, calibration, and tools.”

- NAIC May 2020 Q&A
  - Q: Is the level of detail in the documentation expected to be comparable to the existing Academy Interest Rate Generator (AIRG) documentation, more, or less detailed? Does the NAIC intend on making the documentation public (like existing documentation on AIRG), or private (for NAIC eyes only)?
  - A: The documentation is expected to be robust and available to ESG end users. The quality of the documentation provided will be judged as one of the vendor selection criteria. Note that Section III.L of the RFP requires information on how end-users of the ESG will be able to generate scenarios on the fly through a mechanism such as software licensing, an application programming interface (API), and/or available full documentation of the technical workings of the ESG.

- Note, additional information on the AIRG is available at the following webpage:

The Importance of Documentation: Comprehensive model documentation is highlighted in ASOP No. 56 and the Practice Note

- ASOP No. 56, *Modeling*, and the *Model Governance Practice Note* discuss several important aspects of model documentation:
  - The intended purpose of the model
  - The conceptual framework of the model, including key methodologies, assumptions, and parameters
  - Model risks and potential limitations, including any approximations and shortcuts used
  - Data inputs, outputs, formats, and reports
  - Processes used to update assumptions, parameters, and other model data
  - Process maps identifying key controls and data handoff points
  - Applicable vendor or third-party documentation and the rationale for the selection of options where options exist
Details: Some immediate questions that need to be addressed

- What will final model documentation look like?
- What reports, statistics, charts, etc. will accompany each scenario set?
- How is “validation” defined and how will scenario sets be validated? What will the sign-off protocols be? What parties will be involved and what will their roles be? How will duties be segregated?
- What happens if a scenario set “fails” the NAIC’s validation, or does something unexpected?
- What aspects of the model will be updated or changed each month, each year? How will changes to the model be performed (formula/algorithjm/judgment), controlled, documented, reviewed, and signed off on? For example, what will the process and frequency be for updating long-term mean reversion points?
- How will changes to initial conditions, and their impact on scenario sets, be monitored?
- What is the regular timeline and process for recalibration timeline? What would trigger an “off-cycle” recalibration and how is that monitored, e.g., can a recalibration be triggered by significant changes to initial conditions or Federal Reserve policy that may change forward-looking expectations?
- What comprises user support (“help desk”)?

Other Considerations

- Field testing
  - As a best practice, on-going field testing should be built into the governance process for where there have been significant changes to ESG models, assumptions, and calibrations before final launch. This can be viewed as a form of impact analysis.

- Industry alerts on updates to the ESG
  - How can updates on the ongoing developments of the statutorily prescribed scenarios be more widely disseminated across the industry?
    - E.g., Besides valuation, risk and pricing, practitioners need to be aware of developments
    - Add ESG section to NAIC’s PBR landing page

- Retention of documents on the NAIC website
  - There should be a careful record of dates and versions for official exposure documents. Previously some documents have been removed and replaced with no version control record.
    - E.g., Have documentation in a single document, with controlled updates and versioning
Questions?

- Contact: Amanda Barry-Moilanen,
  Life Policy Analyst: barrymoilanen@actuary.org
Agenda Item 8
Discuss the ESG Field Test
Life Actuarial (A) Task Force: NAIC Economic Scenario Generator (ESG) Field Test Update

Scott O'Neal, FSA, MAAA

August 8th, 2022

Agenda

1. Background
2. Field Test Summary
3. Field Test Participation
4. Field Test Results Summaries
5. Plan for Collecting, Reviewing, and Sharing Field Test Results
6. Variable Annuity and Index-Linked Variable Annuity Model Office
7. Current Timeline and Risk of Extension

Appendices:
Appendix 1: Field Test Participation by Product
Appendix 1: Data to be Collected
Background

- Principle-based statutory reserve and capital frameworks have incorporated the use of economic scenario generators (ESGs) to determine assumptions such as discount rates, policyholder separate account fund investment returns, and assumptions related to model asset sales and reinvestment across a variety of potential future economic environments. The ESGs that are currently prescribed in the NAIC’s life and annuity statutory reserve and capital frameworks were developed by the American Academy of Actuaries (AAA).
- In 2017 the AAA notified the Life Actuarial (A) Task Force (LATF) that it did not have the resources to maintain the prescribed ESGs, except in their current form until a suitable replacement could be found.
- In June of 2019, the Financial Stability (E) Task Force noted a potential deficiency in the prescribed ESGs related to a limited reflection of extended periods of low and even negative interest rates and requested the Valuation Analysis (E) working Group assess the macro prudential risk to insurance organizations in the United States with a focus on variable annuity writers.
- After extensive work with regulators and ESG subject matter experts from the life insurance industry, the NAIC issued the RFP for a new economic scenario generator in March of 2020. Conning was selected as the ESG vendor in September 2020.
- Over the past two years since Conning was selected as the ESG vendor, regulators from LATF and the Life Risk-based Capital Working Group (LRBC WG) have spent significant time with Conning Staff, NAIC Staff, and subject-matter experts from the AAA and the industry defining the desired properties of the ESG and developing an ESG Field Test. The field test is currently underway with results due from participants on August 31, 2022.

Field Test Summary - ESG Models

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<td>Treasury</td>
<td>Conning Calibration and Generalized Fractional Floor (“Non-shadow”)</td>
<td>Conning developed Treasury model according to regulator’s acceptance criteria and Generalized fractional floor reduces severity and frequency of negative interest rates</td>
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<td>Alternative Calibration and Shadow Floor (“Shadow”)</td>
<td>Calibration developed by AAA ESWG that meets regulator acceptance criteria and places additional emphasis on “term premium” and Shadow floor preserves reduces severity and frequency of negative interest rates while preserving “arbitrage-free” nature of Treasury scenarios</td>
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<td>Calibrations that preserves base functionality of the GEMS® equity model while partially mitigating the impact of the equity-Treasury linkage</td>
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<td>Original GEMS® Conning Equity Calibration</td>
<td>Calibration that assumes that the equity risk premium over Treasuries has a constant mean in every projection period. In low starting interest rate environments, this calibration produces lower gross wealth factors than the AIRG equity model.</td>
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<td>ACLI GEMS® Equity Model Calibration</td>
<td>Calibration developed by the ACLI that assumes a constant mean equity return that is independent of starting Treasury rates. The constant mean equity return is set to produce a reasonable relationship with long-term equity returns and steady state interest rates.</td>
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<td>Corporate</td>
<td>GEMS® corporate model</td>
<td>Corporate model that captures complex dynamics that affect bond fund returns (e.g. dynamic spreads, defaults, and credit rating transitions) and Other simplified models may be included in future field tests</td>
</tr>
</tbody>
</table>
## Field Test Summary - Runs

<table>
<thead>
<tr>
<th>Run #</th>
<th>Description</th>
<th>Purpose of Run</th>
</tr>
</thead>
<tbody>
<tr>
<td>Baseline #1</td>
<td>Scenario set(s) the company used for 12/31/21 statutory reporting</td>
<td>Baseline used as comparative basis for 12/31/21 runs</td>
</tr>
<tr>
<td>Baseline #2</td>
<td>ESG the company used for 12/31/21 statutory reporting of reserves and RBC, but modified to produce scenario sets with a 12/31/19 yield curve modified using a 200 BP increase across all maturities</td>
<td>Baseline used as comparative basis for 12/31/19 + 200 BP runs</td>
</tr>
<tr>
<td>Test #1a</td>
<td>GEMS® Baseline Equity and Corporate model scenarios as of 12/31/21, and Conning Treasury model calibration with generalized fractional floor as of 12/31/21</td>
<td>Tests Conning Treasury model w/ GFF and Baseline Equity at YE 2021</td>
</tr>
<tr>
<td>Test #1b</td>
<td>Same as Test #1a, but with Alternative Treasury model calibration with shadow floor as of 12/31/21</td>
<td>Tests Alternative Treasury model with shadow floor and Baseline Equity at YE 2021</td>
</tr>
<tr>
<td>Test #2a</td>
<td>Same as Test #1a, but with Equity, Corporate, and Treasury models with a 12/31/19 starting yield curve modified using a 200 BP increase across all maturities. All other initial market conditions are unchanged. The Equity model parameters would be adjusted from #1a so that the year 30 median Large Cap Equity gross wealth factors remain consistent with #1a.</td>
<td>Stresses the starting Treasury rates using the same calibration as 1a to evaluate whether the model produces appropriate results in different economic environments</td>
</tr>
<tr>
<td>Test #2b</td>
<td>Same as Test #2a, but with the Alternative Treasury model calibration with shadow floor instead of the Conning Treasury model calibration with generalized fractional floor</td>
<td>Same as 2a, but designed to stress the 1b calibration</td>
</tr>
</tbody>
</table>

## Field Test Summary - Runs (cont.)

<table>
<thead>
<tr>
<th>Run #</th>
<th>Description</th>
<th>Purpose of Run</th>
</tr>
</thead>
<tbody>
<tr>
<td>Test #3</td>
<td>Conning Treasury model calibration with generalized fractional floor as of 12/31/21, GEMS Corporate model as of 12/31/21, and GEMS Baseline Equity model corresponding to a 12/31/19 yield curve with a 200 BP increase across all maturities</td>
<td>Attribution analysis that will illustrate how much of the difference between runs #1a and #2a is driven by the equity model vs the Treasury and Corporate models</td>
</tr>
<tr>
<td>Test #4</td>
<td>Same as Test #3, but using Alternative Treasury model calibration with shadow floor as of 12/31/21</td>
<td>Same as #3, but with respect to runs #1b and #2b.</td>
</tr>
<tr>
<td>Test #5a</td>
<td>Same as #1a, but with Conning’s original Equity model calibration that had significantly lower Gross Wealth Factor’s (GWFs) than the AIRG Equity Model.</td>
<td>Tests Conning Treasury model w/ GFF and original equity model as of year-end 2021.</td>
</tr>
<tr>
<td>Test #5b</td>
<td>Same as #5a but using a 12/31/19 starting yield curve modified using a 200 BP increase across all maturities. The parameters of Conning’s original Equity model are used without any adjustment.</td>
<td>Stresses the starting Treasury rates to understand the full impact of equity-Treasury linkage in Conning’s original equity model.</td>
</tr>
<tr>
<td>Test #6</td>
<td>Same as #1a, but with the ACLI’s GEMS® Equity Calibration</td>
<td>Tests the ACLI’s GEMS® Equity Calibration that assumes a constant mean equity return independent of rates and increases alignment with AIRG equity model GWFs</td>
</tr>
<tr>
<td>Test #7</td>
<td>12/31/21 scenarios from the ESG prescribed in VM-20 with a Mean Reversion Parameter (MRP) set to 3.25%</td>
<td>Attribution analysis to understand the impact of moving from the current C3 Phase I MRP of 6.55% to a lower MRP that incorporates recent UST history.</td>
</tr>
</tbody>
</table>
Field Test Participation

Note: Bold = Required Run

<table>
<thead>
<tr>
<th>Reserve/Capital Framework</th>
<th>Baseline #2</th>
<th>Test #1a</th>
<th>Test #1b</th>
<th>Test #2a</th>
<th>Test #2b</th>
<th>Test #3:</th>
<th>Test #4:</th>
<th>Test #5a:</th>
<th>Test #5b:</th>
<th>Test #6:</th>
<th>Test #7:</th>
</tr>
</thead>
<tbody>
<tr>
<td>VM-20</td>
<td>8</td>
<td>19</td>
<td>19</td>
<td>19</td>
<td>7</td>
<td>7</td>
<td>16</td>
<td>16</td>
<td>7</td>
<td></td>
<td></td>
</tr>
<tr>
<td>VM-21/C3 Phase II</td>
<td>15</td>
<td>31</td>
<td>31</td>
<td>31</td>
<td>14</td>
<td>13</td>
<td>29</td>
<td>29</td>
<td>14</td>
<td></td>
<td></td>
</tr>
<tr>
<td>C3 Phase I</td>
<td>17</td>
<td>31</td>
<td>31</td>
<td>29</td>
<td>29</td>
<td>8</td>
<td>8</td>
<td>19</td>
<td>18</td>
<td>8</td>
<td>20</td>
</tr>
</tbody>
</table>

The NAIC will receive close to 600 field test templates from participants

Field Test Results Summaries

<table>
<thead>
<tr>
<th>Field Test Objective</th>
<th>Planned Field Test Results Summaries</th>
</tr>
</thead>
</table>
| 1. Reserve and Capital Impact | • High-level comparisons of field test run results to baseline (reported) values
|                      | • Field test run results by each reserve and/or capital framework |
| 2. Range of Results  | • Participant results by various statistics (mean, median, percentiles, etc.)
|                      | • Analyses of Outliers (reserve and/or capital frameworks with high impact, etc.) |
| 3. Metrics           | • Illustrations of critical scenarios across field test participant results |
|                      | • Result comparisons at different confidence levels (CTE 70, CTE 90, CTE 98, etc.) |
| 4. Stability Over Time | • Comparisons of corresponding field test runs at different valuation dates (e.g. field test 1a compared to filed test 2a) |
| 5. Exclusion Testing and Reserve Components | • VM-20 NPR, DR, and SERT scenario results – including illustrations showing where winning reserve methodology changed |
| 6. Hedging Impact    | • Qualitative information from companies on their hedging strategies
|                      | • Analyses of VM-21 best-efforts and adjusted runs |
| 7. Sensitivity Tests and Attribution | • Comparisons of field test runs 3 and 4 to runs 1a/2a and 1b/2b, respectively
|                      | • Analysis of the C3 Phase I specific attribution analysis (Field Test #7) |
Plan for Collecting, Reviewing, and Sharing Field Test Results

- The NAIC has entered into a legal agreement with the Texas Department of Insurance to directly request and collect field test results under the regulatory authority of the Texas Insurance Commissioner. This agreement will maintain confidentiality of the field test results pursuant to Texas confidentiality laws while also streamlining the collection of the data.
- Under the agreement, the NAIC will be able to confidentially share field test results with state regulators, NAIC Committees, Task Forces, and Working Groups - including the Valuation Analysis Working Group. The NAIC will also be able to share aggregated field test results at public meetings.
- The NAIC will review individual company results for reasonableness, compile and aggregate field test results, and present the consolidated results at public NAIC meetings.
- Domestic regulators of the ESG Field Test participants have been provided with information on their respective participating domiciled companies and also informed on options that are available for their involvement in the review of field test results.

Variable Annuity and Index-Linked Variable Annuity Model Office

- After a fiscal was approved during a joint meeting of NAIC Internal Administration (EX1) Subcommittee and the NAIC Executive (EX) Committee, NAIC signed a statement of work for the consulting firm Oliver Wyman to build and deliver an AXIS model office to support the ESG Field Test. The model office will contain an inforce Variable Annuity (VA) product and a new-business Index-Linked Variable Annuity (ILVA) product.
  - The inforce VA model office will contain guaranteed minimum death benefits and a variety of guaranteed living benefits with different levels of richness that are commonly seen on inforce products throughout the industry. Different levels of in-the-moneyness at valuation will be included.
  - The new-business ILVA model office will include a buffer crediting strategy (consistent with common industry practice) with different levels of buffer, varying from 5% to 10%.
- Once the model is delivered (expected late August), the NAIC will have the capability to run the model using the ESG Field Test scenarios sets. The results of the model office can then be used to confirm, understand, and extend the participant field test results, in a similar fashion to how a model office was used for the VM-20 non-guaranteed YRT Field Test.
## Current Project Timeline

<table>
<thead>
<tr>
<th>Date Range</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>6/1 - 8/31</td>
<td>Companies participating in the NAIC’s ESG Field test will run their life insurance and annuity statutory reserve and capital models using field test scenario sets. The NAIC has conducted three meetings with participants in June and July. Results are due August 31st.</td>
</tr>
<tr>
<td>8/1 - 11/30</td>
<td>The NAIC compiles and aggregates individual participant field test results starting in August as results are submitted and ending in September. The aggregated and anonymized results will be presented at public joint meetings of LATF and the LRBC WG starting in September and ending in November.</td>
</tr>
<tr>
<td>Late 2022 - Early 2023</td>
<td>If field test results show that modifications are needed for the ESG, then Conning will make changes as directed by regulators. A follow-up field test may be held in early 2023 to quantify the impact of these changes to the reserve and capital calculations.</td>
</tr>
<tr>
<td>2024</td>
<td>If regulators are satisfied with the performance of the ESG in a follow-up field test, necessary updates will be made to the Valuation Manual and Life RBC instructions. For implementation in 2024, amendments to the Valuation Manual would need to be approved by June 2023 and updates to the RBC instructions would need to be adopted by June 2024.</td>
</tr>
</tbody>
</table>

The timeline is likely to be extended due to the large amount of field test results to compile, aggregate, and present under the current timeline.
### Appendix 1: Field Test Participation by Product

<table>
<thead>
<tr>
<th>Product</th>
<th>Number of Participants by Legal Entity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Whole Life</td>
<td>4</td>
</tr>
<tr>
<td>Term Life</td>
<td>14</td>
</tr>
<tr>
<td>Indexed Life</td>
<td>8</td>
</tr>
<tr>
<td>Universal Life</td>
<td>6</td>
</tr>
<tr>
<td>Universal Life with Secondary Guarantees</td>
<td>13</td>
</tr>
<tr>
<td>Variable Life</td>
<td>0</td>
</tr>
<tr>
<td>Variable Universal Life</td>
<td>6</td>
</tr>
<tr>
<td>Variable Annuities with Guarantees</td>
<td>27</td>
</tr>
<tr>
<td>Variable Annuities without Guarantees</td>
<td>17</td>
</tr>
<tr>
<td>Fixed Annuities</td>
<td>25</td>
</tr>
<tr>
<td>Indexed Annuities</td>
<td>5</td>
</tr>
<tr>
<td>Life Contingent Payout (Immediate and Annuitizations)</td>
<td>28</td>
</tr>
<tr>
<td>Other Annuities</td>
<td>13</td>
</tr>
</tbody>
</table>

### Appendix 2: Data to be Collected

#### VM-20
- Stochastic Reserve by scenario (with and without flooring)
- Accumulated deficiency by projection year
- High-level Deterministic Reserve, Net Premium Reserve, SERT scenario results, and any post-processing adjustments
- Fund mappings for variable products
- Survey questions (e.g., did dominant PBR reserve change, were there any changes to models or assumptions, was a proprietary ESG used for baseline results)

#### VM-21/C3 Phase II
- Best-efforts and adjusted reserves by scenario (with and without flooring, with explicit tax recognition for C3P2 where applicable)
- PV of Accumulated deficiency by projection year
- High-level TAR and RBC amounts (pre- and post-tax, any post-processing adjustments)
- Fund mappings for variable products
- Survey questions
- Hedging strategy descriptions, NAAR Calculation, In-the-moneyness, and other information by guarantee type

#### C3 Phase I
- C3 Phase I RBC Factor
- Various metrics
- Statutory surplus by projection year, C-3 factors, and discount rates by scenario
- Survey questions (e.g., did you use a 9/30 or 12/31 date for the baseline reporting, how many scenarios were used in the baseline run, explain the reflection of taxes in results)
Agenda Item 9

Consider Exposure of the Generally Recognized Expense Tables (GRETs)
TO: Reggie Mazycz, ASA, MAAA, Life Actuary, LATF Support

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: July 23, 2022

RE: 2023 Generally Recognized Expense Table (GRET) – SOA Research Institute Analysis

Dear Mr. Mazycz:

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 2023 GRET analysis for use with individual life insurance sales illustrations. The analysis is based on expense and expense related information reported on companies’ 2020 and 2021 Annual Statements. This project has been completed to assist the Life Actuarial Task Force (LATF) in its consideration of potential revisions to the GRET that could become effective for calendar year 2023. This memo describes the analysis and resultant findings.

NAIC staff provided Annual Statement data for life insurance companies for calendar years 2020 and 2021. This included data from 771 companies in 2020 and 766 companies in 2020. This decrease resumes the trend of small decreases from year to year. Of the total companies, 382 were in both years and passed the outlier exclusion tests and were included as a base for the GRET factors (375 companies passed similar tests last year).

APPROACH USED
The methodology for calculating the recommended GRET factors based on this data is similar to that followed the last several years. The methodology was last altered in 2015. The changes made at that time 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 (2020 and 2021 for those companies with data available for both years) of Annual Statement data was used. For each company an actual-to-expected 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 in order 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 enhancement of this multiple distribution channel information.

Companies were excluded from the analysis if in either 2020 or 2021 (1) their actual to expected 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’ actual-to-expected 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 2023 GRET values shown in Table 1. To facilitate comparisons, the current 2022 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 2022 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.

**TABLE 1**
PROPOSED 2023 GRET FACTORS, BASED ON AVERAGE OF 2019/2020 DATA

<table>
<thead>
<tr>
<th>DESCRIPTION</th>
<th>Acquisition per Policy</th>
<th>Acquisition per Unit</th>
<th>Acquisition per Premium</th>
<th>Maintenance per Policy</th>
<th>Companies Included</th>
<th>Average Premium Per Policy Issued During Year</th>
<th>Average Face Amt (000) Per Policy Issued During Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>Independent</td>
<td>$180</td>
<td>$1.00</td>
<td>45%</td>
<td>$54</td>
<td>141</td>
<td>3,073</td>
<td>204</td>
</tr>
<tr>
<td>Career</td>
<td>203</td>
<td>1.10</td>
<td>51%</td>
<td>61</td>
<td>84</td>
<td>2,296</td>
<td>197</td>
</tr>
<tr>
<td>Direct Marketing</td>
<td>197</td>
<td>1.10</td>
<td>49%</td>
<td>59</td>
<td>21</td>
<td>899</td>
<td>57</td>
</tr>
<tr>
<td>Niche Marketing</td>
<td>147</td>
<td>0.80</td>
<td>37%</td>
<td>44</td>
<td>30</td>
<td>507</td>
<td>14</td>
</tr>
<tr>
<td>Other*</td>
<td>153</td>
<td>0.90</td>
<td>39%</td>
<td>46</td>
<td>106</td>
<td>853</td>
<td>72</td>
</tr>
</tbody>
</table>

* Includes companies that did not respond to this or prior year surveys 382

**TABLE 2**
CURRENT 2022 GRET FACTORS, BASED ON AVERAGE OF 2017/2019 DATA

<table>
<thead>
<tr>
<th>DESCRIPTION</th>
<th>Acquisition per Policy</th>
<th>Acquisition per Unit</th>
<th>Acquisition per Premium</th>
<th>Maintenance per Policy</th>
<th>Companies Included</th>
<th>Average Premium Per Policy Issued During Year</th>
<th>Average Face Amt (000) Per Policy Issued During Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>Independent</td>
<td>$183</td>
<td>$1.00</td>
<td>46%</td>
<td>$55</td>
<td>142</td>
<td>3,252</td>
<td>194</td>
</tr>
<tr>
<td>Career</td>
<td>212</td>
<td>1.20</td>
<td>53%</td>
<td>64</td>
<td>77</td>
<td>2,327</td>
<td>197</td>
</tr>
<tr>
<td>Direct Marketing</td>
<td>200</td>
<td>1.10</td>
<td>50%</td>
<td>60</td>
<td>23</td>
<td>875</td>
<td>72</td>
</tr>
<tr>
<td>Niche Marketing</td>
<td>151</td>
<td>0.90</td>
<td>37%</td>
<td>45</td>
<td>24</td>
<td>517</td>
<td>13</td>
</tr>
<tr>
<td>Other*</td>
<td>139</td>
<td>0.80</td>
<td>35%</td>
<td>42</td>
<td>109</td>
<td>786</td>
<td>70</td>
</tr>
</tbody>
</table>

* Includes companies that did not respond to this or prior year surveys 375
In previous recommendations, an effort was made to reduce volatility in the GRET factors from year-to-year by limiting the change in GRET factors between years to about ten percent of the prior value. The changes from the 2022 GRET were reviewed to ensure that a significant change was not made in this year’s GRET recommendation.

All GRET factors for the other distribution channel category experienced a change greater than ten percent so the factors for these lines were capped at this ten percent level (or slightly above 10% due to rounding of the factor) from the corresponding 2022 GRET values. The volatility occurred due to incorrect NAIC data for 2018 for some companies, which caused their actual to expected ratios to be considered outliers and they were not included in the calculation. This resulted in lower final 2022 GRET factors and subsequently the same for the 2023 recommendation. Over the next one to three years, the ten percent cap will allow this difference to be graded in so calculated GRET will be used for the final recommended GRET factors.

**USAGE OF THE GRET**

This year’s survey, responded to by companies’ Annual Statement correspondent, included a question regarding whether the 2022 GRET table was used in its illustrations by the company. Last year, 31% of the responders indicated their company used the GRET for sales illustration purposes, with similar percentage results by size of company; this contrasted with about 29% in 2020. This year, 35% of responding companies indicated that they used the GRET in 2022 for sales illustration purposes. The range was from 33% for Career and Niche Marketing to 43% for Independent. No companies in Career or Other used GRET. 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 Study Actuary  
Society of Actuaries Research Institute

Tony Phipps, FSA, MAAA  
Chair, SOA Research Institute Committee on Life Insurance Company Expenses
APPENDIX A — DISTRIBUTION CHANNELS

The following is a description of distribution channels used in the development of recommended 2022 GRET values:

1. **Independent** – 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. **Career** – 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. **Direct Marketing** – 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. **Niche Marketers** – 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. **Other** – 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.
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 2022 GRET and the 2021 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:

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

### CURRENT UNIT EXPENSE SEEDS:

<table>
<thead>
<tr>
<th></th>
<th>Acquisition/ Policy</th>
<th>Acquisition/ Face Amount (000)</th>
<th>Acquisition/ Premium</th>
<th>Maintenance/ Policy</th>
</tr>
</thead>
<tbody>
<tr>
<td>All distribution channels</td>
<td>$200</td>
<td>$1.10</td>
<td>50%</td>
<td>$60</td>
</tr>
</tbody>
</table>
2023 GRET Recommendation

Tony Phipps, FSA, MAAA
Chair SOA Research Institute Committee on Life Insurance Expenses
August 8, 2022

Agenda

• Methodology
• Recommendation
• Comparison to Prior Years
• Information on Companies in Study
Presentation Disclaimer

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Methodology

1. Calculate Actual to Expected Expenses
   • Gather data points from company Annual Statement submissions provided by NAIC
   • Seed factors used to calculate expected expenses.

2. Determine Distribution Channel
   • Survey sent by SOA Research Institute to companies to determine primary distribution channel.
   • This channel is used or the historical distribution channel for those companies that did not respond.

3. Remove outlier companies

4. Analyze data to derive unit expense factors by those Distribution Channels
Seed Values

Expenses allocated to acquisition and maintenance categories using the same seeds as has been previously used:

- Acquisition/Policy: $200.00
- Acquisition/Face Amount: $1.10
- Acquisition/Premium: 50%
- Maintenance/Policy: $60.00

Recommendation for 2023 GRET Factors

<table>
<thead>
<tr>
<th>Description</th>
<th>Acquisition per Policy</th>
<th>Acquisition per Unit</th>
<th>Acquisition per Premium</th>
<th>Maintenance per Policy</th>
<th>Company Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Independent</td>
<td>$180</td>
<td>$1.00</td>
<td>45%</td>
<td>$54</td>
<td>141</td>
</tr>
<tr>
<td>Career</td>
<td>203</td>
<td>1.10</td>
<td>51%</td>
<td>61</td>
<td>84</td>
</tr>
<tr>
<td>Direct Marketing</td>
<td>197</td>
<td>1.10</td>
<td>49%</td>
<td>59</td>
<td>21</td>
</tr>
<tr>
<td>Niche Marketing</td>
<td>147</td>
<td>0.80</td>
<td>37%</td>
<td>44</td>
<td>30</td>
</tr>
<tr>
<td>Other*</td>
<td>153</td>
<td>0.90</td>
<td>39%</td>
<td>46</td>
<td>106</td>
</tr>
</tbody>
</table>

* Includes companies that did not respond to this or prior year surveys

<table>
<thead>
<tr>
<th>Description</th>
<th>Acquisition per Policy</th>
<th>Acquisition per Unit</th>
<th>Acquisition per Premium</th>
<th>Maintenance per Policy</th>
<th>Company Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Independent</td>
<td>$183</td>
<td>$1.00</td>
<td>46%</td>
<td>$55</td>
<td>142</td>
</tr>
<tr>
<td>Career</td>
<td>212</td>
<td>1.20</td>
<td>53%</td>
<td>64</td>
<td>77</td>
</tr>
<tr>
<td>Direct Marketing</td>
<td>200</td>
<td>1.10</td>
<td>50%</td>
<td>60</td>
<td>23</td>
</tr>
<tr>
<td>Niche Marketing</td>
<td>151</td>
<td>0.90</td>
<td>37%</td>
<td>45</td>
<td>24</td>
</tr>
<tr>
<td>Other*</td>
<td>139</td>
<td>0.80</td>
<td>35%</td>
<td>42</td>
<td>109</td>
</tr>
</tbody>
</table>

* Includes companies that did not respond to this or prior year surveys

Attachment Nine
Life Actuarial (A) Task Force
8/8–9/22
## Comparison to Prior Years

### Acquisition per Policy

<table>
<thead>
<tr>
<th>Description</th>
<th>2023</th>
<th>Percentage Change</th>
<th>2022</th>
<th>Percentage Change</th>
<th>2021</th>
</tr>
</thead>
<tbody>
<tr>
<td>Independent</td>
<td>$180</td>
<td>-2%</td>
<td>$183</td>
<td>10%</td>
<td>$166</td>
</tr>
<tr>
<td>Career</td>
<td>203</td>
<td>-4%</td>
<td>212</td>
<td>-1%</td>
<td>214</td>
</tr>
<tr>
<td>Direct Marketing</td>
<td>197</td>
<td>-2%</td>
<td>200</td>
<td>3%</td>
<td>195</td>
</tr>
<tr>
<td>Niche Marketing</td>
<td>147</td>
<td>-3%</td>
<td>151</td>
<td>10%</td>
<td>137</td>
</tr>
<tr>
<td>Other*</td>
<td>153</td>
<td>10%</td>
<td>139</td>
<td>10%</td>
<td>126</td>
</tr>
</tbody>
</table>

* Includes companies that did not respond to this or prior year surveys

### Acquisition per Unit

<table>
<thead>
<tr>
<th>Description</th>
<th>2023</th>
<th>Percentage Change</th>
<th>2022</th>
<th>Percentage Change</th>
<th>2021</th>
</tr>
</thead>
<tbody>
<tr>
<td>Independent</td>
<td>$1.00</td>
<td>0%</td>
<td>$1.00</td>
<td>11%</td>
<td>$0.90</td>
</tr>
<tr>
<td>Career</td>
<td>1.10</td>
<td>-8%</td>
<td>1.20</td>
<td>0%</td>
<td>1.20</td>
</tr>
<tr>
<td>Direct Marketing</td>
<td>1.10</td>
<td>0%</td>
<td>1.10</td>
<td>0%</td>
<td>1.10</td>
</tr>
<tr>
<td>Niche Marketing</td>
<td>0.80</td>
<td>-11%</td>
<td>0.90</td>
<td>13%</td>
<td>0.80</td>
</tr>
<tr>
<td>Other*</td>
<td>0.90</td>
<td>13%</td>
<td>0.80</td>
<td>14%</td>
<td>0.70</td>
</tr>
</tbody>
</table>

* Includes companies that did not respond to this or prior year surveys

### Acquisition per Premium

<table>
<thead>
<tr>
<th>Description</th>
<th>2023</th>
<th>Percentage Change</th>
<th>2022</th>
<th>Percentage Change</th>
<th>2021</th>
</tr>
</thead>
<tbody>
<tr>
<td>Independent</td>
<td>45%</td>
<td>-2%</td>
<td>46%</td>
<td>10%</td>
<td>42%</td>
</tr>
<tr>
<td>Career</td>
<td>51%</td>
<td>-4%</td>
<td>53%</td>
<td>-2%</td>
<td>54%</td>
</tr>
<tr>
<td>Direct Marketing</td>
<td>49%</td>
<td>-2%</td>
<td>50%</td>
<td>2%</td>
<td>49%</td>
</tr>
<tr>
<td>Niche Marketing</td>
<td>37%</td>
<td>0%</td>
<td>37%</td>
<td>9%</td>
<td>34%</td>
</tr>
<tr>
<td>Other*</td>
<td>39%</td>
<td>11%</td>
<td>35%</td>
<td>9%</td>
<td>32%</td>
</tr>
</tbody>
</table>

* Includes companies that did not respond to this or prior year surveys

### Maintenance per Policy

<table>
<thead>
<tr>
<th>Description</th>
<th>2023</th>
<th>Percentage Change</th>
<th>2022</th>
<th>Percentage Change</th>
<th>2021</th>
</tr>
</thead>
<tbody>
<tr>
<td>Independent</td>
<td>$54</td>
<td>-2%</td>
<td>$55</td>
<td>10%</td>
<td>$50</td>
</tr>
<tr>
<td>Career</td>
<td>61</td>
<td>-5%</td>
<td>64</td>
<td>0%</td>
<td>64</td>
</tr>
<tr>
<td>Direct Marketing</td>
<td>59</td>
<td>-2%</td>
<td>60</td>
<td>2%</td>
<td>59</td>
</tr>
<tr>
<td>Niche Marketing</td>
<td>44</td>
<td>-2%</td>
<td>45</td>
<td>10%</td>
<td>41</td>
</tr>
<tr>
<td>Other*</td>
<td>46</td>
<td>10%</td>
<td>42</td>
<td>11%</td>
<td>38</td>
</tr>
</tbody>
</table>

* Includes companies that did not respond to this or prior year surveys
Survey Results

• Percent of survey respondents that responded that GRET factors are used for individual life sales illustration purposes:

<table>
<thead>
<tr>
<th>Survey Year</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>2022</td>
<td>35%</td>
</tr>
<tr>
<td>2021</td>
<td>31%</td>
</tr>
<tr>
<td>2020</td>
<td>29%</td>
</tr>
<tr>
<td>2019</td>
<td>26%</td>
</tr>
<tr>
<td>2018</td>
<td>28%</td>
</tr>
<tr>
<td>2017</td>
<td>30%</td>
</tr>
<tr>
<td>2016</td>
<td>26%</td>
</tr>
</tbody>
</table>

• We believe variation is a result of the mix of respondents and the limited number of responses.

Information on Companies in Study

• NAIC Data extracts included:
  • 2021: 766 companies
  • 2020: 771 companies

• Total ordinary policies issued saw a modest increase of 3.1% (312k) in 2021 after having been relatively flat for the previous two years.

• Face amount issued increased by 6.9% over the prior year, which was an increase compared to the 2.6% from last year, but more in line with the 6.1% from the year before that.

• The final companies used in the GRET calculation was 382, an increase of 7 from the previous year.
Questions?
Agenda Item 10

Hear an Update on SOA Research and Education
SOCIETY OF ACTUARIES RESEARCH UPDATE TO LATF

August 8, 2022

R. DALE HALL, FSA, MAAA, CERA, CFA
Managing Director of Research

Presentation Disclaimer

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Mortality Improvement Survey Report

• 35 companies/groups participating
• Goals:
  • Reactions to the COVID-19 Pandemic
  • Examine mortality improvement practices as of year-end 2021 with respect to life insurance and annuity pricing and financial projections

Mortality Improvement Survey Report

• Key Takeaways
  • Mortality improvement factors used in 2021 are generally lower than 2018 for both life and annuity products when comparing across comparable companies
  • Updates to mortality improvement factors are more likely in near term than in later years
  • Companies that adjust durational mortality improvement factors tend to differentiate based on attained age, sex, duration and calendar year; less differentiation for smoking status and risk class
Mortality Improvement Survey Report

Overview of Select Summary Statistics

<table>
<thead>
<tr>
<th>Mortality Improvement Survey Question</th>
<th>Pricing Life</th>
<th>Pricing Annuities</th>
<th>Financial Projections Life</th>
<th>Financial Projections Annuities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average Minimum Annual Improvement Rate</td>
<td>0.08</td>
<td>0.10</td>
<td>0.11</td>
<td>0.09</td>
</tr>
<tr>
<td>Average Maximum Annual Improvement Rate</td>
<td>1.48</td>
<td>1.41</td>
<td>1.54</td>
<td>1.41</td>
</tr>
</tbody>
</table>

COVID-19 and the Short-Term Impact on Future U.S. Mortality

- Expert Opinion Survey of key actuaries and related medical / demographic professionals
- Opinions of excess population and insured mortality in 2022, 2023, 2025 and 2030 using 2019 mortality as a baseline
- 59 responses to survey
COVID-19 and the Short-Term Impact on Future U.S. Mortality

- Key results
- Excess mortality expected to continue for U.S. population in near term, but declining over time

COVID-19 and the Short-Term Impact on Future U.S. Mortality

- Key results
- Excess population mortality expected to be higher than for the insured, annuitant and pension plan populations
- Non-COVID-19 causes of death to contribute more to excess mortality than COVID-19 for younger ages. For older ages, COVID-19 expected to drive excess mortality
- Mortality from cardiovascular disorders, cancer and drug overdose mortality expected to deteriorate due of COVID era impact / long COVID in coming years
Additional Life Research

Experience Studies

<table>
<thead>
<tr>
<th>Project Name</th>
<th>Objective</th>
<th>Link/Expected Completion Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Experience Study Report - 2Q 2021</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Individual Life Waiver Study</td>
<td></td>
<td></td>
</tr>
<tr>
<td>COVID-19 Individual Life Mortality Study</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Experience Study Report - 3Q 2021</td>
<td></td>
<td></td>
</tr>
<tr>
<td>COVID-19 Reported Claims Analysis - 3Q 2022</td>
<td>Draft a research study reviewing Covid-19 reported deaths by quarter.</td>
<td>7/27/2022</td>
</tr>
<tr>
<td>2018 Age Mortality Study</td>
<td>Complete a study of old age mortality on Individual Life Insurance</td>
<td>7/28/2022</td>
</tr>
<tr>
<td>Economic Scenario Generator - 2022 Update</td>
<td>Update the AAA Economic Scenario Generator Annually.</td>
<td>7/30/2022</td>
</tr>
<tr>
<td>Rates</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2000-2021 Individual Life Experience Committee</td>
<td>Study mortality and lapse experience in the database of 2000-2021 individual life experience data and release a report with the findings.</td>
<td>8/3/2022</td>
</tr>
<tr>
<td>age and Mortality Study</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2018 for 2021</td>
<td>Develop the Generally Recognized Experience Table (GRET) for 2021.</td>
<td>9/5/2022</td>
</tr>
<tr>
<td>2021 Cause of Death Study - 3Q 2021 Update</td>
<td>Prepare a cause of death study for Individual Life Insurance.</td>
<td>6/29/2022</td>
</tr>
<tr>
<td>Group Life COVID-19 Mortality Survey Update -</td>
<td>Complete an update on a mortality study assessing the impact of COVID-19 on Group Life Insurance.</td>
<td>8/15/2022</td>
</tr>
<tr>
<td>Report</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2014-19 Individual Payout Annuity Experience</td>
<td>Examine the mortality experience from 2014-19 under individual payout annuity contracts.</td>
<td>10/31/2022</td>
</tr>
<tr>
<td>Study - Report</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2015-2019 Deferred Annuity Mortality Study</td>
<td>Examine the mortality experience from 2015-2019 in deferred annuity contracts and release a report with the findings and a database with the experience data.</td>
<td>12/30/2022</td>
</tr>
</tbody>
</table>
## Practice Research & Data Driven In-house Research

<table>
<thead>
<tr>
<th>Project Name</th>
<th>Objective</th>
<th>Link/Expected Completion Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Expert Opinion on Impact of COVID-19 on Future Mortality</td>
<td>Survey panel of experts on short and mid term thoughts on future population and insured mortality.</td>
<td>7/29/2022</td>
</tr>
<tr>
<td>Maternal Mortality</td>
<td>Study maternal mortality in U.S. and compare to other countries.</td>
<td>7/30/2022</td>
</tr>
<tr>
<td>2021 Emerging Risks Survey-Applicability Report</td>
<td>Provide analysis of the applicability of the 2021 Emerging Risk Survey.</td>
<td>8/10/2022</td>
</tr>
<tr>
<td>2021 Emerging Risks Survey-Report</td>
<td>Tracks the trends and thoughts of risk managers on emerging risks across time.</td>
<td>8/10/2022</td>
</tr>
<tr>
<td>Mortality and Mental Illness</td>
<td>Examine the impact on mortality of mental illness during the COVID-19 pandemic.</td>
<td>8/15/2022</td>
</tr>
<tr>
<td>2022 Mortality Improvement Company Survey</td>
<td>Survey life insurers and annuity companies to see how mortality improvement assumptions have changed in light of COVID.</td>
<td>8/20/2022</td>
</tr>
<tr>
<td>Mortality Improvement Trends Analysis</td>
<td>Identify how mortality improvement varies by driver.</td>
<td>8/31/2022</td>
</tr>
<tr>
<td>ALM Practices</td>
<td>Conduct 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.</td>
<td>8/30/2022</td>
</tr>
<tr>
<td>International Comparison of Regulatory Requirements Study Note: 2021.08</td>
<td>Capital Adequacy Regulatory Requirements in Life Insurance across 4 key models in the US, Canada, EU and Bermuda.</td>
<td>8/30/2022</td>
</tr>
<tr>
<td>Unhealthy Longevity</td>
<td>Examine differences in mortality/longevity between impaired vs healthy lives.</td>
<td>9/30/2022</td>
</tr>
</tbody>
</table>
Agenda Item 11

Hear an Update on Mortality Improvement

(Materials Pending)
Agenda Item 12

Hear an Update on the SOA and Life Insurance Marketing and Research Association Experience Studies Partnership
A Powerful Industry Partnership

In 2021, LIMRA and the SOA Research Institute entered into a partnership to support the industry with a comprehensive program of industry experience studies.

This program will provide timely, consistent, and comprehensive releases of industry experience data — providing you with the necessary tools for addressing product development, pricing, and regulatory strategies.
Together, We have Unmatched Breadth & Depth of Experience

Expertise
We are both associations dedicated to this industry, with a long history of conducting large data-intensive efforts

Trust
Strong reputation for unbiased research, analysis, and industry relationships

Value
Together we provide unparalleled value while delivering cost-effective insights

Benefits to Participants

- **Credible, robust, benchmarking, and strong industry representation:** 70% market participation is typical
- **Comprehensive and timely:** updates of industry data on a regularly published schedule
- **Detailed and deeper analytics:** to support product development, inforce management, reserving, and growth strategies
Robust Reporting Options

Standard Data Package

- Executive Summary Dashboard highlighting key findings and top-line analysis
- Detailed report presenting results and analysis of key findings
- Access to an aggregated industry level dataset for further analysis by companies
- Individualized presentation by SOA and LIMRA of your own company results and a discussion of the relationship to industry

$10-$15K for participants+
$30-$60K for non participants*+

* Non participants are defined as companies or organizations that do not provide data for the study analysis.
+ per study

Premium Data Package

- Standard Data Package plus…
- Customized tools for participating companies’ own analysis
- Including predictive modeling and Artificial Intelligence methods

$20-$35K for participants+
$45-$85K for non participants*+

* Non participants are defined as companies or organizations that do not provide data for the study analysis.
+ per study
# Wide Breadth of Studies

<table>
<thead>
<tr>
<th>Product Line</th>
<th>2022</th>
<th>2023</th>
<th>2024 (preliminary)</th>
<th>2025 (preliminary)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Retail Annuity</strong></td>
<td>FIA Contract Behavior</td>
<td>FIA Contract Behavior</td>
<td>FIA Contract Behavior</td>
<td>FIA Contract Behavior</td>
</tr>
<tr>
<td></td>
<td>VA Contract Behavior</td>
<td>VA Contract Behavior</td>
<td>VA Contract Behavior</td>
<td>VA Contract Behavior</td>
</tr>
<tr>
<td></td>
<td>Income Annuity (Payout) Study</td>
<td>Fixed Rate Annuity (lapse/surrender)</td>
<td>Fixed Rate Annuity Mortality</td>
<td>Income Annuity (Payout) Study</td>
</tr>
<tr>
<td><strong>Retail Life Insurance</strong></td>
<td>UL and VUL Flexible Premium - Premium Persistency</td>
<td>UL and VUL Flexible Premium - Premium Persistency</td>
<td>UL and VUL Flexible Premium - Premium Persistency</td>
<td>UL and VUL Flexible Premium - Premium Persistency</td>
</tr>
<tr>
<td><strong>Disability Insurance</strong></td>
<td>Disability Income Claims, Mortality, Lapse</td>
<td>Critical Illness and LTC on Life</td>
<td>LTC Claims, Mortality, Lapse</td>
<td>LTC Claims, Mortality, Lapse</td>
</tr>
<tr>
<td><strong>Pension</strong></td>
<td>Private Pension Mortality</td>
<td>Private Pension Mortality</td>
<td>Private Pension Mortality</td>
<td>Private Pension Mortality</td>
</tr>
<tr>
<td></td>
<td>Public Pension Mortality</td>
<td>Public Pension Mortality</td>
<td>Public Pension Mortality</td>
<td>Public Pension Mortality</td>
</tr>
<tr>
<td><strong>Workplace</strong></td>
<td>Group Annuity Mortality</td>
<td>Group Life Mortality Study</td>
<td>Group Long Term Disability</td>
<td>Group Long Term Disability</td>
</tr>
</tbody>
</table>

## Studies to Be Completed in 2022

### Payout Annuities
- Data call sent in Sept 2021
- Study to be completed November 2022

### Fixed Indexed Annuities
- Data call sent in February 2022
- Study to be completed December 2022
Agenda Item 13

Hear an Update from the Academy Life Practice Council

(No Materials)
Agenda Item 14 & 15

Hear from the Academy on ESG

Stylized Facts for Equity – Part 1 & 2
Economic Scenario Generator (ESG) Stylized Facts for Equities

Jason Kehrberg, MAAA, FSA
Chairperson, Economic Scenario Generator Work Group (ESGWG)

Link Richardson, MAAA, FSA, CERA
Chairperson, Field Test Subgroup of ESGWG (FTSG)

Henry Yim, MAAA, FSA, CFA
Member, Economic Scenario Generator Work Group (ESGWG)

Agenda

1. Background, framework, and purpose
2. Overview of equity stylized facts
3. Detail on each equity stylized fact
4. Questions and next steps
Our goal today is to present equity stylized facts and hear feedback so the ESGWG can begin work to develop equity acceptance criteria.

1. Background, framework, and purpose

- The charge for the Academy’s Economic Scenario Generator Work Group (ESGWG) is to help ensure a smooth transition from the currently prescribed ESG (i.e., the Academy Interest Rate Generator or AIRG) to the NAIC’s new ESG developed by Conning.

- LATF has requested the ESGWG assist with developing and proposing formal acceptance criteria for use in validating scenarios produced by the NAIC’s new ESG.

- As discussed in our presentation on “A Framework for Developing, Evaluating, and Implementing an ESG”:
  - A comprehensive set of qualitative stylized facts is a key prerequisite for model selection and the development of acceptance criteria.
  - A comprehensive set of quantitative acceptance criteria is key to making objective, timely, and actionable decisions on scenario sets produced by an ESG and helps ensure the ESG is performing in line with agreed upon stylized facts.
Framework for developing, implementing, and evaluating ESGs and the scenario sets they produce

1. Define Purpose: The intended purpose of the ESG informs the stylized facts and their relative importance.

2. Develop Stylized Facts: Equity stylized facts describe properties of equity returns observed in capital markets that should be reflected in sets of economic scenarios given the defined purpose. The establishment of stylized facts is critical for selecting an ESG model and a key prerequisite for the development of acceptance criteria.

3. Develop Acceptance Criteria: A set of quantitative metrics or target values at different time horizons or in different economic conditions used to ensure the scenarios it produces are consistent with agreed upon stylized facts.

4. Implementation: ESG models are selected based on their ability to reflect agreed upon stylized facts, then calibrated in accordance with acceptance criteria. This is an iterative process. Also, it is important to periodically review and recalibrate the ESG as market conditions change over time.

“Suitability for Purpose” considerations help inform Stylized Facts

“ESGs are a critical component of a wide range of applications used by insurers in managing the economic risks of their operations. For a given application, it is critical that the ESG be suitable and properly maintained relative to the application’s purposes.”

“The objective and purpose of the analysis to be undertaken with an ESG should dictate the techniques and modeling formulas used.”


US Statutory Reserve & Capital Reporting for Long-Duration Life & Annuity Products

- Real world framework
- Importance of economic variables over the life of the business (not a 1-year or short-term distribution)
- Importance of tail events and “plausible extremes” in the conditional tail expectation (CTE) framework (vs. center of distribution or simple mean/standard deviation statistics)
- Importance of stability / responsiveness of scenarios from period to period as markets change – on an absolute dollar basis (vs. relative metrics or outcomes, e.g., strategic asset allocation, yes/no decisions)
- Importance of cumulative returns over multiple projection horizons (vs. single year or steady state)
- Importance of pathwise behavior for path-dependent guarantees
2. Overview of equity stylized facts

Equity Stylized Facts are a key part of the framework for developing, implementing, and evaluating ESGs.

- Equity stylized facts describe properties of equity returns observed in capital markets that should be reflected in sets of economic scenarios.

- There are several important considerations for equity stylized facts:
  - Long-term pathwise behaviors within single scenarios
  - Single-period distributions across all scenarios
  - How a set of scenarios transitions from initial market conditions to steady state equilibrium
  - Changes in the distribution from one valuation date to the next as initial market conditions change
  - The nature of the relationships between different economic variables simulated by the ESG
It is important to consider the relative importance of stylized facts

- ESG models differ in their ability to reflect stylized facts and no ESG model will be able to perfectly reflect all of them.

- Stylized facts can be prioritized by looking to the ESG’s intended purpose.
  - Stylized facts related to the *pathwise behavior of equity markets over long time horizons* should be prioritized given that long-duration life and annuity products tend to be sensitive to *cumulative* equity returns over the life of the product.
  - Stylized facts related to how scenario sets should *change as initial conditions change* should be prioritized to avoid artificial volatility one valuation date to the next is a key consideration for statutory reserves and capital.

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**Equity Stylized Facts**

1. Equity indices (indeed, all asset classes) tend to exhibit *consistent risk/reward relationships* over long time horizons.
2. Cumulative equity returns tend to exceed the compounded risk-free rate (positive *equity risk premium*) over long time horizons, but over short time horizons the equity risk premium fluctuates due to several factors and can be negative.
3. Equities *fluctuate between bull and bear markets* (bubbles tend to burst) – Markets can experience significant losses but eventually tend to *move back into positive territory* (negative cumulative equity returns become less likely over longer time horizons).
4. Cumulative equity returns *over long time horizons are not materially impacted by initial market conditions.*
Equity Stylized Facts (cont’d)

5. The volatility of equity returns varies over time but quickly reverts to normative levels. This allows for both extreme gains and extreme losses over short time periods (i.e., the distribution has fat tails, or positive kurtosis). Furthermore, the volatility of equity returns is higher in bear markets. This increases the probability of extreme losses relative to extreme gains (i.e., the distribution has a longer left tail, or negative skewness).

6. Equity markets contain pathwise dynamics over long time horizons that aren’t present in the distribution of single-period returns. Future equity scenarios should have reasonable distributions of cumulative equity returns over long time horizons (e.g., 10, 20, 30 years), especially since these distributions are key to the performance of long-duration life and annuity products.

7. Future equity scenarios should include events that are plausibly more extreme than history.

8. Equity returns have both a price and dividend component, and they behave differently—Dividend returns tend to be more stable than price returns.

3. Additional detail on each equity stylized fact
1. Equity indices (indeed, all asset classes) tend to exhibit **consistent risk/reward relationships** over longtime horizons.

- The principle of consistent risk/reward relationships between equity indices is already a common theme in the valuation manual, often expressed in terms of the market price of risk (Sharpe ratio) or mean-variance efficiency.

- Excerpts from the 2022 valuation manual:
  - “It would generally be inappropriate to assume that a market or fund consistently outperforms (lower risk, higher expected return relative to the efficient frontier) over the long term.”
  - “One approach to establish consistent scenarios would set the model parameters to maintain a near-constant market price of risk. A closely related method would assume some form of mean-variance efficiency to establish consistent model parameters.”
  - “The Market Price of Risk implied in the projected fund returns when compared against the Market Price of Risk for all funds generated by the prescribed scenario generator should produce reasonable relationships.”
  - “Guidance Note: While the model need not strictly adhere to “mean-variance efficiency,” prudence dictates some form of consistent risk/return relationship between the proxy investment funds.”
  - “Recognizing the uncertainty in the data, a “corridor” could be established for the frontier. Model parameters would then be adjusted to move the proxy market (fund) inside the corridor.”

1. Equity indices (indeed, all asset classes) tend to exhibit **consistent risk/reward relationships** over long time horizons. *(continued)*

- The NAIC’s ESG Drafting Group has already provided some direction consistent with this stylized fact in their 3/31/21 update to the Life Actuarial (A) Task Force and the Life RBC (E) Working Group which contained the following recommendation for the field test:
  - “Apply a Sharpe-ratio approach with a 5% corridor [relative to the S&P 500 index] to set the expected returns for the [other equity indices, e.g., the] diversified international equity, aggressive international equity, and US aggressive equity indices.”

- The S&P 500 index is generally used as the reference point for other indices due to its longstanding predominance in the U.S. market; it has the a much larger historical data set than the other equity indices.
2. Cumulative equity returns tend to exceed the compounded risk-free rate (positive equity risk premium) over long time horizons, but over short time horizons the equity risk premium fluctuates due to several factors and can be negative. (continued)

- The Equity Risk Premium (ERP) is the expected return on stocks less the compounded (expected) risk-free rate. It is the compensation investors require to hold risky stocks over risk-free bonds.
- The ERP fluctuates (oscillates) over short time periods.
  - The fluctuation isn’t completely random, but more of an oscillation due to several factors such as cyclical effects and systematic trends.
  - It fluctuates as the business cycle changes. It tends to contract in bull markets when stock prices rise and risk aversion falls, and tends to expand in bear markets when stock prices fall and risk aversion rises.
  - It fluctuates as bond yields change. It shrinks when the return on risk-free bonds increases and grows when the yield on risk-free bonds decreases.
    - This inverse relationship (i.e., ERP contracting when rates increase and expanding when rates fall) is consistent with economic theory such as the dividend discount model, where a company’s valuation (based on the present value of future dividends) falls as rates rise.
    - It is also consistent with the Fed’s use of monetary policy (i.e., short term rate management) as a key tool to achieve their dual mandate of maximum employment and price stability.
  - Such relationships have also been observed in historical data.

Excerpts from Academic Research

“What are the determinants of equity risk premiums?

- investors’ risk aversion and consumption preferences
- overall economic risk
- inflation and interest rates
- quality and availability of earnings information
- liquidity and fund flows into/out of equities
- potential for catastrophic risk / rare events
- government policies
- monetary policy
- irrational behavior”


“Five myths about equity risk premiums

3. The equity risk premium does not change much over time: Equity risk premiums reflect both economic fundamentals and investor risk aversion and they do change over time, sometimes over very short intervals, as evidenced by what happened in the last quarter of 2008. Shocks to the system – a collapse of a large company or sovereign entity or a terrorist attack – can cause premiums to shoot up overnight. A failure to recognize this reality will lead to analyses that lag reality.”

2. Cumulative equity returns tend to exceed the compounded risk-free rate (positive **equity risk premium**) over long time horizons, but over short time horizons the equity risk premium fluctuates due to several factors and can be negative. *(continued)*

- Historical data suggests an inverse (countercyclical) relationship, i.e., one that is better described by a constant mean return than a constant mean ERP.

- The chart to the left illustrates the range observed for the S&P 500’s ERP over the 3-month Treasury rate from April 1953 to December 2020.

- The graph shows positive ERPs in the three lowest buckets and near-zero or negative ERPs in the three highest buckets.

- Note that the 3M Treasury Rate is indirectly impacted by Fed monetary policy, for example:
  - The Fed increases/decreases short-term rates to slow/stimulate economic activity in the near term and maintain long-term stability.
  - The ‘70s & ‘80s featured high rates with low ERP and equity returns while the last decade had low rates with high ERP and equity returns.
  - The Fed is currently raising Fed Fund rates to fight inflation which has had a bearish impact on equity markets as companies deal with higher borrowing costs.

- The methodology used by the ESGWG to create this chart was to calculate monthly ERP as the monthly return on S&P 500 less the monthly average 3-month Treasury rate. The monthly ERPs were then ranked ordered by the 3-month Treasury rate and bucketed into 10 equally sized groups. The average monthly ERP for each bucket is calculated and then translated to an annual ERP.

- This stylized fact is prioritized because the nature of the ERP relationship within the ESG directly affects the shape of the scenario distribution (particularly in the tails) and how scenario distributions respond changes in initial market conditions.
  - The method an ESG uses to reflect the ERP has significant implications for the behavior of equity return paths in the tail scenarios that drive U.S. statutory reserve and capital requirements.
  - The method an ESG uses to reflect the ERP also has significant implications for how scenario sets produced by the ESG change under different initial conditions, which could introduce artificial volatility into U.S. statutory reserve and capital requirements from one valuation date to the next.

Direction on this stylized fact is key for the subsequent development of equity acceptance criteria by the ESGWG.
3. Equities fluctuate between bull and bear markets (bubbles tend to burst) – Markets can experience significant losses but eventually tend to move back into positive territory (negative cumulative equity returns become less likely over longer time horizons).

- Equity markets can and do crash, but looking at historical S&P 500 cumulative returns over 20 years suggests markets tend to move back into positive territory given enough time.
  - This chart only shows cumulative returns over a 20-year time horizon. Acceptance criteria should consider cumulative returns over multiple time horizons (e.g., 1, 5, 10, 20, 30 years).
- Future scenarios for the S&P 500 should include the possibility of negative cumulative returns over 20-year periods.
  - Even though this has not happened historically, there are relatively few non-overlapping periods to draw from.
  - Acceptance criteria will attempt to quantify the likelihood of this happening, which is informed by historical data and economic theory/models.

- The NAIC’s ESG Drafting Group has already provided direction consistent with this stylized fact
  - Per their 12/17/20 update to the Life Actuarial (A) Task Force and the Life RBC (E) Working Group:
    
    **Goal relating to the equity scenarios:**

    **5. Equity scenarios need to reflect the possibility of a very long recovery after a period of losses**

    **Rationale and Background:** During certain periods of time after periods of recession or depression, there have been extended periods of equity market recovery. This is important to reflect in the scenarios due to the long-term nature of some insurance liabilities.

    - Per their 3/31/22 update to the Life Actuarial (A) Task Force and the Life RBC (E) Working Group:
      
      “After a recession or depression, there have been some extended periods of equity market recovery. This is important to reflect in the scenarios due to the long-term nature of some insurance liabilities.”
4. Cumulative equity returns *over long time horizons* are not materially impacted by initial market conditions.

- Over short time horizons (within a business cycle), equity returns may be impacted by initial market conditions (observables) such recent interest rates and equity returns, current market sentiment, current point in the business cycle, and news on current dividend and cash flow yields.

- But over long time horizons (10, 20, 30+ years), changes in initial market conditions should not materially impact future expectations (cumulative equity returns).
  - Markets bouncing around during the quarter (trading fluctuations) shouldn’t materially change future expectations.
  - Instead, cumulative equity returns over long time horizons are driven by fundamental factors such as future GDP and earnings growth.
  - For example, equity market sell-offs often occur during periods of investor fear and uncertainty. This increases short-term market volatility but is not expected to have a significant impact on long-term GDP and earnings growth.

- If there isn’t sufficiently compelling evidence to the contrary there should be not be any material procyclical or countercyclical equity return response to changes in initial market conditions.
  - Note, we are referring to changes in initial market conditions that are *not* indicative of a change in long-term trends or policies.

### Business cycle considerations

- The Fed uses monetary policy to maintain long-term stability, so more often than not, long-term equity expectations should not change as initial market conditions change.
  - Fed actions to manage the business cycle are not likely to materially change cumulative equity return distributions beyond the current cycle.
    - For example, if the Fed raises short term rates to 3.5% to slow a heated economy, there is little reason to suddenly expect cumulative equity returns over the next 30-50 years to be significantly higher.
    - However, if the Fed changes its mandate or long-term targets (e.g., 3% instead of 2% inflation) then long-term equity expectations should change.

- The National Bureau of Economic Research (NBER) maintains data on the length of the U.S. business cycles. For the years 1945 through 2020:
  - Contractions have averaged approximately 1 year
  - Expansions have averaged approximately 5 years
  - Taken together, the full business cycle has averaged approximately 6 years
4. Cumulative equity returns over long time horizons are not materially impacted by initial market conditions. (continued)

Do other regulatory or accounting frameworks have anything to say on this topic?

- US GAAP (countercyclical view): existing insurance accounting models (e.g., FAS 97 UL deferred acquisition costs, SOP 03-1 reserves for GMDBs and life secondary guarantees)
  - A common practice is to assume that if recent equity returns (e.g., over the last 4-year period) were low, then future equity returns (e.g., over the next 4-year period) will be high (and vice versa); i.e., that the combined equity return over both periods will be consistent with long-term averages.

- Canada: excerpts from OSFI’s 2012 policy paper, Evidence for Mean Reversion in Equity Prices
  - “The claim that equity returns revert to the mean over the long term is not completely unfounded, and cannot be dismissed out of hand. However, there is at least as much evidence to refute this claim as there is to support it, and there is certainly no consensus answer within the economics profession. OSFI must therefore rely on its own judgement as to whether to accept mean reversion assumptions in modeling segregated funds.”
  - “Given the large reduction in segregated fund guarantee reserve and capital requirements that would result from assuming mean reversion in equity returns, it would not be prudent for OSFI to approve equity return models that are based on the assumption of mean reversion without strong evidence that mean reversion actually occurs in the market and is likely to continue in the future. The current state of research does not provide such evidence to a sufficiently high degree of certainty.”

5. The volatility of equity returns varies over time but quickly reverts to normative levels. This allows for both extreme gains and extreme losses from one period to the next (i.e., the distribution has fat tails, or positive kurtosis). Furthermore, the volatility of equity returns is higher in bear markets. This increases the probability of extreme losses relative to extreme gains (i.e., the distribution has a longer left tail, or negative skewness).

- Equity return volatility should be stochastic, time varying, with strong mean reversion.
  - Equity return volatility, especially over short time periods, is driven by market sentiment and the flow of new information to the market, and where the economy is in the business cycle (economic outlook), both of which are quite unpredictable.
  - As these things change, the level of equity return volatility fluctuates and clusters (exhibits regimes of high and low volatility) over time but tends to revert to normative levels rather quickly.

- Historically, the level of equity return volatility has tended to be higher in bear markets and lower in bull markets.
  - Recently, fears of recession and prolonged inflation have caused equity return volatility to increase.
5. The **volatility of equity returns varies over time but quickly reverts to normative levels**. This allows for both extreme gains and extreme losses from one period to the next (i.e., the distribution has fat tails, or **positive kurtosis**). Furthermore, the **volatility of equity returns is higher in bear markets**. This increases the probability of extreme losses relative to extreme gains (i.e., the distribution has a longer left tail, or **negative skewness**). (continued)

- Distributions of historical equity returns (see below for an illustrative example) generally exhibit positive kurtosis and negative skewness, consistent with the volatility characteristics presented on the last slide.

![Graph showing stock return density compared to normal density](image)

5. The **volatility of equity returns varies over time but quickly reverts to normative levels**. This allows for both extreme gains and extreme losses from one period to the next (i.e., the distribution has fat tails, or **positive kurtosis**). Furthermore, the **volatility of equity returns is higher in bear markets**. This increases the probability of extreme losses relative to extreme gains (i.e., the distribution has a longer left tail, or **negative skewness**). (continued)

- Conning’s “NAIC Scenario Set Technical Documentation – Equity and Dividend Model” contains the following chart associated observations:
  - A degree of randomness or stochasticity in the price returns.
  - Periods of high and low volatility which have a tendency to cluster.
  - Extreme events, with the price return suddenly spiking to high positive or negative values.
  - A higher frequency and a larger magnitude of extreme events during periods of high volatility.
  - A higher frequency of extreme negative returns as compared to extreme positive returns.
5. The volatility of equity returns varies over time but quickly reverts to normative levels. This allows for both extreme gains and extreme losses from one period to the next (i.e., the distribution has fat tails, or positive kurtosis). Furthermore, the volatility of equity returns is higher in bear markets. This increases the probability of extreme losses relative to extreme gains (i.e., the distribution has a longer left tail, or negative skewness). (continued)

- The NAIC’s ESG Drafting Group has already provided direction consistent with this stylized fact
  - Per their 12/17/20 update to the Life Actuarial (A) Task Force and the Life RBC (E) Working Group:

  **Goal relating to the equity scenarios:**

  3. The equity model should have stochastic volatility and the initial volatility should be updated frequently

  **Rationale for this Goal:** Most equity models have stochastic volatility because this allows for fatter tails in the scenario distribution. Without it, there would be little ability to produce big drops, such as the 2008 financial crisis or Black Monday.

- The NAIC’s 3/31/22 update also provided data points on normative levels of volatility:

6. Equity markets contain pathwise dynamics over long time horizons that aren’t present in the distribution of single-period returns. Future equity scenarios should have reasonable distributions of cumulative equity returns over long time horizons (e.g., 10, 20, 30 years), especially since these distributions are key to the performance of long-duration life and annuity products.

- “A path represents one possible future evolution of the economy and therefore represents one possible complete future “economic experience.” The importance of pathwise model behavior is that it is the simulated path that represents the way an insurance company will experience the evolution of the economy. If the overall distribution of returns for an asset class is correct but the pathwise behavior does not correspond to the nature of the fluctuations that we see in the historical record, then the model has an issue.”

- This stylized fact is critical for understanding and modeling long-term insurance liabilities
  - Long-term insurance liabilities have account values that accumulate over time, investment returns over time with cashflows, and guarantee amounts—all of which are path-dependent. At each individual point in time, it’s not the cross-sectional distribution at that point in time that matters, but the specific path taken leading up to that point in time.

- The importance of pathwise behavior in interest rates to insurance products is evident by looking at the types of scenarios present in the ubiquitous “New York 7” scenarios
  - E.g., level, pop up, pop down, up/down, down/up, delayed pop up, delayed pop down
6. Equity markets contain pathwise dynamics over long time horizons that aren’t present in the distribution of single-period returns. Future equity scenarios should have reasonable distributions of cumulative equity returns over long time horizons (e.g., 10, 20, 30 years), especially since these distributions are key to the performance of long-duration life and annuity products. (continued)

- An example—clearly, guaranteed amounts and resulting cash flows will differ under the three scenarios.

![Graph showing three hypothetical 20-year market scenarios]

Source: Richard Bernstein Advisors LLC, Bloomberg, S&P [https://www.rbadvisors.com/insights/the-good-side-to-a-bad-market/]

Note: Each scenario results in 10% compounded annual returns.

- With contributions” assumes constant $100 annual contributions.

7. Future equity scenarios should include events that are plausibly more extreme than the historical record.

- “A good ESG produces some extreme but plausible outcomes, which encapsulate historical behavior but do not stray too far from market norms.”

- It’s important to distinguish between plausible events versus implausible but theoretically possible events.
  - The tails of scenario distributions should reflect plausibly severe stresses (including some more extreme than the historical record) that are appropriate for statutory reserves and capital.
  - While it’s theoretically possible for an asteroid to hit the Earth someday, scenarios like that probably shouldn’t be driving statutory reserve and capital levels.
  - Black swan events should occur with black swan probabilities.
7. Future equity scenarios should include events that are *plausibly more extreme than the historical record*. (continued)

- For example, since the historical record contains fewer non-overlapping 30-year equity returns than 1-month equity returns, there is a greater chance for future 30-year equity returns to be more extreme than the historical record than there is for 1-month equity returns.

- The plausibility range for such extreme events should be informed using judgment combined with economic theory/models.

8. Equity returns have both a **price and dividend component**, and they behave differently—dividend returns tend to be more stable than price returns.

- This stylized fact is last because although long duration life and annuity products are often very sensitive to *total* returns, they tend not to be that sensitive to how those total returns are *split* between price and dividend.

  - For liability cashflows on life and annuity products, it’s usually the total returns that matter. However, price returns do potentially come into play on the asset side, particularly when it comes to derivatives and hedging.

  - When considering probabilities of cumulative losses or distributions in general, it’s important know if those probabilities or distributions are for total returns or price returns—cumulative losses are less likely when considering total returns.
8. Equity returns have both a price and dividend component, and they behave differently—dividend returns tend to be more stable than price returns. (continued)

Conning’s “NAIC Scenario Set Technical Documentation – Equity and Dividend Model” contains the following language and chart, which are consistent with this stylized fact.

“Another important dynamic to capture in equity markets are the income cash flows received from dividends. In particular it is observed across multiple equity markets that dividend yields are negatively correlated with price returns, and that when jumps are observed in equity prices the dividend yield tends to jump in the opposite direction. Figure 2 shows this behavior in the historical data. We observe that the rolling 12-month equity price returns and the 12-month dividend yield on United States Large Cap equity are negatively correlated and during the 2008 crisis moved rapidly apart.”

Figure 2: Historical relationship between large cap price returns in a rolling twelve month window and dividend yields.

4. Next steps and questions
The Academy’s proposed schedule for developing acceptance criteria and other elements of a framework for working with ESGs

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Questions?

- Contact: Amanda Barry-Moilanen,
  Life Policy Analyst: barrymoilanen@actuary.org
Reference Materials


- The Equity Risk Premium: A Contextual Literature Review, CFA Institute (p. 9)


- Duff & Phelps Client Alert May 2019

Agenda Item 16

Hear an Update from the Academy

Council on Professionalism and Education

(No Materials)
Agenda Item 17

Discuss Any Other Matter

(No Materials)