LIFE ACTUARIAL (A) TASK FORCE

Future Mortality Improvement (FMI) Update (Attachment Twenty-Seven)
SOA Research and Education Update (Attachment Twenty-Eight)
Academy Life Practice Council (LPC) Update (Attachment Twenty-Nine)

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Draft Pending Adoption

Draft: 12/29/21

Life Actuarial (A) Task Force
Virtual Meeting (*in lieu of meeting at the 2021 Fall National Meeting*)
December 8, 2021

The Life Actuarial (A) Task Force met Dec. 8, 2021. The following Task Force members participated: Cassie Brown, Chair, represented by Mike Boerner, Rachel Hemphill, and Karen Jiang (TX); Judith L. French, Vice Chair, represented by Peter Weber (OH); Lori K. Wing-Heier represented by Sharon Comstock (AK); Jim L. Ridling represented by Charles Hale (AL); Ricardo Lara represented by 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 Bruce Sartain and 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 Kevin Clarkson (NJ); Adrienne A. Harris represented by Bill Carmello and Amanda Fenwick (NY); Glen Mulready represented by Andrew Schallhorn (OK); Jonathan T. Pike represented by Tomasz Serbinowski (UT); and Scott A. White represented by Craig Chupp (VA).

1. Adopted its Dec. 1, Nov. 18, Nov. 4, Oct. 21, Sept. 30, and Sept. 16 Minutes

The Task Force met Dec. 1, Nov. 18, Nov. 4, Oct. 21, Sept. 30, and Sept. 16. During these meetings, the Task Force took the following action: 1) adopted its Summer National Meeting minutes; 2) adopted its 2022 proposed charges; 3) adopted the Society of Actuaries' (SOA's) 2022 Generally Recognized Expense Table (GRET); 4) adopted the SOA historical mortality improvement (HMI) recommendation and the HMI scale factors; 5) adopted amendment proposal 2021-13, which corrects language that allows the addition of prescribed mortality margins for some Life/Long-Term Care (LTC) combination products to decrease, rather than increase, modeled reserves; 6) adopted amendment proposal 2021-12, which corrects a reference error in VM-21, Requirements for Principle-Based Reserves for Variable Annuities, and clarifies the requirements for variable annuity contracts with no minimum guaranteed benefits under three prescribed assumptions in VM-21 Section 6C; 7) exposed amendment proposal 2021-11, which addresses items related to VM-21 information necessary for regulatory review that companies did not include in their VM-31, PBR Actuarial Report Requirements for Business Subject to a Principle-Based Valuation, reports; and 8) adopted revisions to *Actuarial Guideline XXV—Calculation of Minimum Reserves and Minimum Nonforfeiture Values for Policies with Guaranteed Increasing Death Benefits Based on an Index* (AG 25), which remove the fixed 4% nonforfeiture rate floor to align AG 25 with the VM-02, Minimum Nonforfeiture Mortality and Interest, changes implemented for the 2021 *Valuation Manual*.

Mr. Leung made a motion, seconded by Mr. Yanacheak, to adopt the Task Force's Dec. 1 (Attachment One), Nov. 18 (Attachment Two), Nov. 4 (Attachment Three), Oct. 21 (Attachment Four), Sept. 30 (Attachment Five), and Sept. 16 (Attachment Six) minutes; The motion passed unanimously.

2. Adopted the Report of the Longevity Risk (E/A) Subgroup

Mr. Leung made a motion, seconded by Mr. Yanacheak, to adopt the report of the Longevity Risk (E/A) Subgroup (Attachment Seven). The motion passed unanimously.

3. Adopted the Report of the GI Life Valuation (A) Subgroup

Mr. Leung made a motion, seconded by Mr. Yanacheak, to adopt the report of the Guaranteed Issue (GI) Life Valuation (A) Subgroup (Attachment Eight). The motion passed unanimously.

4. Adopted the Report of the Experience Reporting (A) Subgroup

Mr. Leung made a motion, seconded by Mr. Yanacheak, to adopt the report of the Experience Reporting (A) Subgroup (Attachment Nine). The motion passed unanimously.

5. Adopted the Report of the VM-22 (A) Subgroup

Mr. Sartain said the comment letters on the VM-22, Statutory Maximum Valuation Interest Rates for Income Annuities, Framework exposure are posted on the Valuation Manual (VM)-22 (A) Subgroup web page. He said the Subgroup will work

on consolidating the comments in preparation for a discussion on Subgroup calls that will begin in January, with a goal of having a second exposure next summer.

Mr. Sartain said the Subgroup created a drafting group to develop prescribed assumptions for a standard projection amount (SPA). He said it has not been decided whether the SPA will be used as a floor or a disclosure item. He said the varying nature of fixed annuities makes developing an SPA for VM-22 more challenging than the VM-21 SPA development efforts. He noted that the drafting group has been subdivided into two groups. The first group focuses on mortality, and the second group focuses on contract holder behavior. Mr. Sartain said the mortality group decided to use four product categories: structured settlements, other individual payout annuities, deferred annuities, and group annuities and pension risk transfer business. He said the short-term plan is to develop product assumptions for use in a VM-22 field test and a process for determining the appropriate assumptions for the future. He said factors generated from recent studies may be applied to existing basic mortality tables in the short-term approach. He indicated that the long-term approach for group annuities may be to collect company mortality data by adding to the VM-51, Experience Reporting Formats, data call.

Mr. Sartain said the Subgroup sent a letter to the American Academy of Actuaries (Academy) and the SOA requesting the development of mortality assumptions appropriate for use as prescribed assumptions for an SPA for structured settlements. He said similar requests for mortality assumptions have been drafted for other individual payout annuities and deferred annuities.

Mr. Leung made a motion, seconded by Mr. Chou, to adopt the report of the VM-22 (A) Subgroup. The motion passed unanimously.

6. Adopted the Report of the Index-Linked Variable Annuity (A) Subgroup

Mr. Weber said the Subgroup is charged with recommending changes to nonforfeiture or interim values to help address non-uniform state insurance department review and approval of index-linked variable annuities (ILVAs), also known as registered index-linked annuities (RILAs). He said the products are filed as variable annuity contracts and as such are exempted from the requirements of the *Standard Nonforfeiture Law for Individual Deferred Annuities* (#805). He said the Subgroup is considering what requirements are necessary for a product to be deemed a variable contract. He said the *Variable Annuity Model Regulation* (#250) defines a variable annuity as a product that provides for annuity benefits that vary according to the investment experience of a separate account or accounts. He said with respect to interim values, the ILVA should be consistent with this definition of variable products. He said state insurance regulators want to avoid the situation where the contract holder experiences losses if the separate account value drops, without experiencing commensurate reward when the separate account value increases. He said the Subgroup has developed an actuarial guideline to provide guidance on how ILVAs can be shown to have benefits consistent with the supporting assets. He said the proposed guideline is currently exposed for a public comment period ending Jan. 27, 2022.

Mr. Weber made a motion, seconded by Mr. Clarkson, to adopt the report of the Index-Linked Variable Annuity (A) Subgroup, including its Nov. 23 (Attachment Ten) and Sept. 23 (Attachment Eleven) minutes. The motion passed unanimously.

7. Adopted the Report of the IUL Illustration (A) Subgroup

Mr. Andersen provided background on the indexed universal life (IUL) illustration issues that led to the development of *Actuarial Guideline XLIX—The Application of the Life Illustrations Model Regulation to Policies with Index-Based Interest* (AG 49) and *Actuarial Guideline XLIX-A—The Application of the Life Illustrations Model Regulation to Policies with Index-Based Interest Sold On or After December 14, 2020* (AG 49A). He said state insurance regulator reviews have revealed that while illustrated credited rates may have lowered, they have not lowered as much as was contemplated when AG 49-A was adopted. He said a key development that has been identified is the increased use of volatility-controlled funds to rebalance between equities and fixed income assets. He said volatility-controlled funds provide downside protection. He noted that although they may be marketed as uncapped funds, they do not provide an upside that is close to the returns available from uncapped Standard and Poor's 500 index (S&P 500) funds. He said the main issue that has been identified is companies are increasingly using a portion of the policy hedge budget to provide upside potential to applying a volatility-controlled index, with the remainder funding a fixed bonus for policyholders. He said this reflects some companies' beliefs that a volatility-controlled fund with a fixed bonus allows illustrations that are more favorable than a traditional capped S&P 500. He said a summary of the issues will be made available to expose for public comment.

Mr. Leung made a motion, seconded by Mr. Yanacheak, to adopt the report of the IUL Illustration (A) Subgroup. The motion passed unanimously.

8. Re-Exposed Amendment Proposal 2021-11

Connie Tang (Academy Variable Annuity Reserves and Capital Work Group) said the Academy comment letter (Attachment Twelve) on the exposure of amendment proposal 2021-11 (Attachment Thirteen) suggests quantifying the assumption margins before using a floor and simplifying the assumption margin analysis by focusing on margin analysis for individual risk factors on the 70% conditional tail expectation (CTE 70) instead of CTE 70 and CTE 98. She said an alternative suggestion is to use CTE 70 (adjusted) for the individual margin analysis. Ms. Hemphill said CTE 70 (adjusted) was considered, but the drafters of the amendment proposal chose CTE 70 (best efforts) because it provides a more complete view. She said CTE 98 is needed for the Total Asset Requirement (TAR), so the drafters would not want to remove it. She agreed to consider revising the amendment proposal to incorporate the suggestion of quantifying the margins before applying a floor.

Brian Bayerle (American Council of Life Insurers—ACLI) said the ACLI comments (Attachment Fourteen) are supportive of adding the guidance in the amendment proposal to VM-21, but it questions the importance of the sensitivity testing requirements and how they can be used to help determine a reasonable margin. He said it is also not clear how the qualified actuary will use the sensitivity testing when setting their margin. He suggested removing that part of the language from the amendment proposal and VM-20, Requirements for Principle-Based Reserves for Life Products. He noted several other suggested edits in the comment letter.

Ms. Hemphill shared an updated draft of the amendment proposal for Task Force consideration. She said most of the ACLI comments were incorporated into the updated draft. The ACLI comments that were not accepted related to sensitivity testing and setting margins for more than one assumption. In response to the Academy comments, Ms. Hemphill proposed adding additional language to paragraphs ii and iii of VM-31 Section 3F(13)d.

Mr. Weber made a motion, seconded by Mr. Yanacheak, to re-expose amendment proposal 2021-11 (Attachment Fifteen), including the edits in response to the accepted ACLI and Academy comments, for a 38-day public comment period ending Jan. 14, 2022. The motion passed unanimously.

9. Heard an Update on the ESG

Scott O'Neal (NAIC) presented a slide deck (Attachment Sixteen) on the status of the economic scenario generator (ESG). He said it is unlikely that the ESG will be available for inclusion in the 2023 *Valuation Manual*. Mr. Boerner said inclusion in the 2023 *Valuation Manual* would require the Task Force adoption of changes by July 2022. He said given that the field test will not end until summer 2022, there will not be enough time for amendment proposals to be developed and adopted for inclusion in the *Valuation Manual*.

Mr. O'Neal said Conning has developed a new GEMS Treasury model calibration based on the acceptance criteria defined by the ESG Drafting Group. He said NAIC staff and Conning are analyzing the scenarios based on the new calibration. Those scenarios are expected to be presented to the Drafting Group later in the month. Upon approval of the scenarios by the Drafting Group, the scenarios will be discussed publicly at a joint meeting of the Task Force and the Life Risk-Based Capital (E) Working Group.

Mr. O'Neal discussed the key decisions in the development of the GEMS Equity Model. He said a major consideration is the theoretical and historical relationship between equities and Treasury rates. He said for equity returns and dividends, the GEMS Equity Model is configured with a linkage to Treasury rates. He said there are various ways to link equities and Treasuries, but he noted that it is unknown how much time and effort might be required to alter the existing GEMS equity/treasury linkage if the Drafting Group chooses to modify the GEMS linkage or use a different method. Mr. Bayerle stressed that the equity/treasury linkage is a critical assumption. He said it will be helpful if the Drafting Group provides an estimate of the time to modify the GEMS linkage or change to another method.

Mr. O'Neal said other decisions to be made for the Equity Model include those related to the risk/return relationship between different equity indices and the responsiveness of equity rates to changes in initial market conditions. He said the Drafting Group must also decide whether to use the GEMS Corporate Model in its current form or propose changes to the model. As with the GEMS Equity Model, changes to the GEMS Corporate Model will require development time and effort from Conning.

10. Discussed Comments on the Proposed AAT Actuarial Guideline Exposure

Mr. Andersen said the Task Force exposed the concept of an actuarial guideline focusing on the modeling of complex or high yielding assets in asset adequacy testing (AAT) on Sept. 30 for a public comment period ending Dec. 1. His presentation

(Attachment Seventeen) showed that the project was precipitated by the rapid entry of private equity firms into life insurance through the purchase of life insurance companies or the acquisition of fixed annuity blocks of business. He said in coordination with the Valuation Analysis (E) Working Group, the Minnesota Department of Insurance (DOI) collected information from 27 companies, representing 17 insurance groups, with the company scope: 1) being connected to a private equity firm through ownership or reinsurance, 2) having a large fixed annuity exposure with rich guarantees; or 3) having complex assets on the books. The information included details on AAT, including the modeling of complex assets. Mr. Andersen said the findings show that one of the benefits of the private equity relationship for life insurers is the access to alternative asset classes with higher potential yields. He said from the regulatory viewpoint, there are several concerns, including that some of these complex assets are less liquid or have a greater downside risk, as well as the loss of insurance company funds due to investment-related fees.

Mr. Andersen said after reviewing the information provided by the companies, the concept of an actuarial guideline focusing on the modeling of complex assets was exposed. Commenters were asked to provide feedback on the product scope, the size scope, whether the focus should be on constraints or standards of documentation, and the potential effective date of the guideline. Mr. Andersen discussed a summary of the comments submitted. He said the consensus of the commenters is that the scope should be broadened to include all life insurance company liabilities, especially liabilities related to supporting assets that have significant investment risk. He said there was a consensus that any exemption that is allowed should not be based on the size of the company because even small companies are investing more aggressively but could potentially focus on a ratio of complex, higher-yield assets to overall assets. He said commenters were split on whether to establish constraints or establish documentation requirements. He said there was a consensus to target year-end 2022 as the adoption date for the guideline. He noted that the year-end 2021 activity of appointed actuaries could inform the degree to which the guideline resorts to drastic measures. His final slides listed some potential goals of the AAT guideline.

Mr. Bayerle said while the ACLI comment letter (Attachment Eighteen) supports the regulatory efforts, it has concerns about the need to develop a guideline. He said its preference is to address the issues by enhancing documentation. Edward L. Toy (Risk & Regulatory Consulting LLC—RRC) said the RRC comment letter (Attachment Nineteen) focused on volatility, liquidity, complexity, and credit issues. He offered to assist in the development of a definition of complex assets. Mr. Leung said in addition to his comment letter (Attachment Twenty), he recommends that the Academy practice note on the treatment of spread and default cost assumptions in modeling assets for cashflow testing may be a good source of guidance. Aaron Sarfatti (Equitable) said the Equitable comments (Attachment Twenty-One) express its preference for guardrails, as opposed to additional documentation requirements. Mr. Carmello said the New York Department of Financial Services (NYDFS) supports the development of a guideline. He suggested that the guideline could follow the framework used by the NYDFS in its Special Consideration Letter. Jason Kehrberg (Academy) said the Academy comment letter (Attachment Twenty-Two) supports the concept of the AAT actuarial guideline. Mr. Andersen asked if the Academy could provide further comments on the role of the actuary in a company that is in a relationship with a private equity firm. Mr. Kehrberg agreed to take the issue back to the Academy. Comments were also submitted by the North Carolina DOI (Attachment Twenty-Three), F&G Annuities & Life (Attachment Twenty-Four), and an anonymous source (Attachment Twenty-Five).

Mr. Andersen said he will provide a revised request for comments focused on the argument of developing constraints versus solely relying on documentation.

11. Heard an Update on the Experience Reporting Data Collection Project

Pat Allison (NAIC) gave a presentation (Attachment Twenty-Six) on the mortality experience data collection project. A total of 110 companies are subject to mortality experience data collection for the 2018 and 2019 observation years, representing 87.5% of industry claims subject to mortality experience data collection. Ms. Allison said companies began submitting data on June 7, with initial submissions due by Sept. 30. She noted that the deadline for companies to correct their submissions is the end of December. She said the schedule calls for the NAIC to submit the aggregate experience data file to the SOA by May 31, 2022. She said to date, 105 companies have submitted data. Four of the remaining five companies have uploaded their data but have yet to submit it. The state insurance regulator for the outstanding company will be contacted by NAIC staff to assist with getting the company to submit its data.

Ms. Allison explained the rules-based data checks, reconciliations, and controls applied to the data upon submission. She said communications are sent to companies whose submissions do not meet the applicable standards. She noted that because of their size and the complexity of their policies, large companies tend to have lower percentages of acceptable data than small companies. She explained that NAIC staff are also reviewing field distributions to check the reasonableness of data. The 150 field distribution charts help identity items such as systematic errors and unusual or unlikely reporting patterns. Ms. Allison noted that there could be very reasonable explanations for the anomalies in the data. She said identification of an anomaly does

not mean the data is wrong, but it is merely an indication that the company should review the data and provide a valid explanation where possible. She said explanations are tracked to avoid repeating the question next year. She anticipates the process will be easier next year.

Ms. Allison said the NAIC recommends that the Task Force extend the deadline for corrected submissions to March 31, 2022. She said the extension will allow companies more time to correct and resubmit their data. She encouraged companies to not delay submitting their data; they should submit the data as soon as they have addressed the data exceptions and the questions from the data validation and field distribution reviews. She said extending the deadline will not adversely affect the target date for submitting data to the SOA. Mr. Boerner noted that the ability to extend the deadline is provided in the *Valuation Manual*.

The Task Force agreed to extend the deadline to March 31, 2022, without objection.

12. Heard an Update on FMI

Marianne Purushotham (Academy Mortality Improvements Life Working Group [MILWG] and SOA Preferred Mortality Project Oversight Group [Joint Committee]) presented an update (Attachment Twenty-Seven) on the methodology for developing future mortality improvement (FMI) rates applicable to the VM-20 reserve valuation. The rates are reviewed annually in a manner similar to the process used for the valuation basic table (VBT) scales. Ms. Purushotham noted that changes to the scale will be subject to a threshold of materiality. A best estimate scale and a loaded scale will be developed. The scales will vary by gender and attained age, and they will be applicable for a 20-year period.

Ms. Purushotham said the Joint Committee will develop a recommendation for reflecting the impact of COVID-19 and determine a method for smoothing FMI rates before presenting the scales to the Task Force for exposure by June 30, 2022. She expects to provide responses to exposure comments and seek Task Force approval of the FMI rates by mid-September 2022. She noted that the appendix to the presentation provides a review of the FMI scale development.

13. Heard an Update on SOA Research and Education

Dale Hall (SOA) gave a presentation (Attachment Twenty-Eight) on post-level term lapse and mortality predictive modeling. He said there is sufficient experience to compare graded premium, "jump to annual renewal term" premium experience, and analyze post-level term experience for 15-year level term policies. He said linear regression is used to build a model for shock lapse at the end of the level year period. He encouraged companies to access the model on the SOA website. The presentation also provided SOA analysis of HMI drivers since 1950.

14. Heard an Update on the Recent Activities of the Academy LPC

Laura Hanson (Academy Life Practice Council [LPC]) gave a presentation (Attachment Twenty-Nine) on the LPC's recent activities. She highlighted Academy accomplishments, such as the recent Academy webinars, boot camp, and annual meeting. She mentioned the upcoming Winter 2022 Life Policy Update webinar scheduled for January. She noted Academy efforts to provide policy analysis on the use of annuities in retirement plans, the use of data and algorithms in risk classification and underwriting, and supporting efforts to promote diversity and inclusion within the actuarial profession and in life insurance products.

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

Draft: 12/8/21

Life Actuarial (A) Task Force
Virtual Meeting
December 1, 2021

The Life Actuarial (A) Task Force met Dec. 1, 2021. The following Task Force members participated: Cassie Brown, Chair, represented by Mike Boerner, Rachel Hemphill, and Karen Jiang (TX); Judith L. French, Vice Chair, represented by Peter Weber (OH); Lori K. Wing-Heier represented by Sharon Comstock (AK); Jim L. Ridling represented by Jennifer Li (AL); Ricardo Lara represented by Ben Bock and Thomas Reedy (CA); Michael Conway represented by Eric Unger (CO); Andrew N. Mais represented by Wanchin Chou (CT); Dana Popish Severinghaus represented by Bruce Sartain and 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); Jonathan T. Pike represented by Tomasz Serbinowski (UT); and Scott A. White represented by Craig Chupp (VA).

1. Adopted AG 25

Reggie Mazyck (NAIC) said no comments on *Actuarial Guideline XXV—Calculation of Minimum Reserves and Minimum Nonforfeiture Values for Policies with Guaranteed Increasing Death Benefits Based on an Index* (AG 25) were submitted during the public comment period. Jessica Sever (National Alliance of Life Companies—NALC) expressed NALC's agreement with the revisions to the guideline. Brian Bayerle (American Council of Life Insurers—ACLI) said the ACLI also agrees with the revisions.

Mr. Chou made a motion, seconded by Mr. Weber, to adopt AG 25 (Attachment A). The motion passed unanimously.

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

https://naiconline.sharepoint.com/:f:/r/sites/NAICSupportStaffHub/Member Meetings/Fall 2021/TF/LifeActuarial/LATF Calls/12 01/Dec 1 minutes

Adopted by LATF
Dec. 1, 2021

ACTUARIAL GUIDELINE XXV

CALCULATION OF MINIMUM RESERVES AND MINIMUM NONFORFEITURE VALUES FOR POLICIES WITH GUARANTEED INCREASING DEATH BENEFITS BASED ON AN INDEX

A. Valuation - Text

For a policy where premiums are fixed in amount at issue which provides for whole life insurance with the amount of death benefit adjusted periodically with the Consumer Price Index or another cost of living index, the value of the minimum reserve at any time shall be based on the maximum valuation interest rate for the year of issue and an acceptable mortality table for life insurance statutory reserves and based on the death benefit and premium pattern adjusted as provided in the policy by reasonable annual increases based on the index. The present value of future benefits component shall be further adjusted each year by the ratio of the then current amount of death benefit to the initially projected amount of death benefit. If the policy provides for future premiums and such premiums are also adjusted periodically with the Consumer Price Index or another cost of living index, the present value of future premiums component shall likewise be further adjusted each year by the ratio of the then current amount of death benefit to the initially projected amount of death benefit. The assumption as to what is a reasonable annual increase in death benefits based on the index must not be less than the maximum valuation interest rate for the year of issue less:

1. 2.0% If the annual increase is limited to an annual and non-cumulative maximum of 0% through 5.0%
2. 1.5% If the annual increase is limited to an annual and cumulative maximum of 0% through 5.0%.
3. 1.5% If the annual increase is limited to an annual and non-cumulative maximum of 5.01% through 10.0%.
4. 1.25% If the annual increase is limited to an annual and cumulative maximum of 5.01% through 10.0%.
5. 1.0% For all other plans.

The term “annual and non-cumulative maximum” refers to a maximum where each annual increase is limited to the lower of the maximum or the increase in the index without carry forward of excess index increases.

The term “annual and cumulative maximum” refers to a maximum where each annual increase is limited to the lower of the maximum or the increase in the index with carry forward of excess index increases.

In no event shall the assumption as to an annual increase based on the index be less than 1.0%.

This guideline for valuation shall be effective immediately for policies issued on or after January 1, 1991.

B. Nonforfeiture – Text

The threshold amount shall be $10,000 until December 31, 2009. For years beginning after December 31, 2009, the threshold amount for a calendar year shall be the product of $10,000 and the ratio of 1) the index for June of the prior year to 2) 136.0 (the index as of June 30, 1991), rounded to the nearest $25. If this calculation would result in an increase in the threshold amount of less than $500, the unadjusted threshold amount from the prior year shall continue in effect for the next calendar year. In no calendar year shall the increase in threshold amount exceed 5% of the prior calendar year threshold amount.

The index used to determine the threshold amount for years beginning after December 31, 2009, shall be the Consumer Price Index for All Urban Consumers (CPI-U) as of June 30 of that year. If this index is no longer available, another index which, in the actuary’s opinion, reflects the change in general consumer prices for the year should be substituted.

I. FOR POLICIES WHERE ANY DEATH BENEFIT FOR ANY POLICY YEAR WOULD EXCEED THE THRESHOLD AMOUNT EVEN IN ABSENCE OF ANY ANNUAL INCREASES BASED ON THE INDEX

For a policy where premiums are fixed in amount at issue which provides for whole life insurance with the amount of death benefit adjusted periodically with the Consumer Price Index or another cost of living index, the value of the minimum nonforfeiture benefit at any time shall be based on the maximum nonforfeiture interest rate for the year of issue and an

acceptable mortality table for life insurance nonforfeiture and based on the death benefit and premium pattern adjusted as provided in the policy by reasonable annual increases based on the index. The present value of future benefits component shall be further adjusted each year by the ratio of the then current amount of death benefit to the initially projected amount of death benefit. If the policy provides for future premiums and such premiums are also adjusted periodically with the Consumer Price Index or another cost of living index, the present value of future premiums component shall likewise be further adjusted each year by the ratio of the then current amount of death benefit to the initially projected amount of death benefit. The assumption as to what is a reasonable annual increase in death benefits based on the index must not be less than the maximum valuation interest rate for the year of issue less:

1. 2.0% If the annual increase is limited to an annual and non-cumulative maximum of 0% through 5.0%.

2. 1.5% If the annual increase is limited to an annual and cumulative maximum of 0% through 5.0%.

3. 1.5% If the annual increase is limited to an annual and non-cumulative maximum of 5.01% through 10.0%.

4. 1.25% If the annual increase is limited to an annual and cumulative maximum of 5.01% through 10.0%.

5. 1.0% For all other plans.

The term "annual and non-cumulative maximum" refers to a maximum where each annual increase is limited to the lower of the maximum or the increase in the index without carry forward of excess index increases.

The term "annual and cumulative maximum" refers to a maximum where each annual increase is limited to the lower of the maximum or the increase in the index with carry forward of excess index increases.

In no event shall the assumption as to an annual increase based on the index be less than 1.0%.

II. FOR POLICIES WHERE ANY DEATH BENEFIT FOR ANY POLICY YEAR WOULD NOT EXCEED THE THRESHOLD AMOUNT IN ABSENCE OF ANY ANNUAL INCREASES BASED ON THE INDEX

For a policy where premiums are fixed in amount at issue which provides for whole life insurance with the amount of death benefit adjusted periodically with the Consumer Price Index or another cost-of-living index, the unadjusted value of the minimum nonforfeiture benefit at any time shall be based on a level death benefit, an acceptable mortality table for life insurance nonforfeiture and a nonforfeiture interest rate equal to the greater of (a) and (b):

(a) the nonforfeiture interest rate defined in Section 3 of VM-02, Minimum Nonforfeiture Mortality and Interest, less:

1. ~~4.5%~~ 0 bp If the annual increase based on the index is limited to a maximum of 0% through 5.0%.

2. ~~4.25%~~ 25 bp If the annual increase based on the index is limited to a maximum of 5.01% through 10.0%.

3. ~~4.0%~~ 50 bp For all other plans.

(b) The Applicable Accumulation Test Minimum Rate in the Cash Value Accumulation Test under IRS Section 7702 (*Life Insurance Contract Defined*) of the U.S. Internal Revenue Code.

The present value of future benefits component shall be further adjusted each year by the ratio of the then current amount of death benefit to the initially projected amount of death benefit. If the policy provides for future premiums and such premiums are also adjusted periodically with the Consumer Price Index or another cost-of-living index, the present value of future premiums component shall likewise be further adjusted each year by the ratio of the then current amount of death benefit to the initially projected amount of death benefit.

For purposes of this guideline multiple policies on a single life shall be aggregated and only those policies aggregating not more than $10,000 (or the threshold amount[1] after December 31, 2009), shall be considered under B.II.

This guideline for nonforfeiture shall be effective immediately for policies issued on or after January 1, 1991.

BACKGROUND

A number of companies are marketing individual life insurance policies with guaranteed increasing death benefits tied into a consumer price index or another cost-of-living index and are for low initial amounts of insurance sold through funeral directors to provide for burial expenses. Some of the policies provide for graded death benefits such as the return of premium with or without interest for the early policy years or for a fixed scheduled increase in death benefits prior to the operation of the index. In some cases, there is a maximum on the increase for any year. The vast majority of such policies are single premium policies, but some are annual premium policies (generally limited payment). The annual premium may or may not be subject to adjustment with the index.

Since the changes in the index are not known at issue, but from past experience, increases within a given range can be expected with a high probability, it is necessary to assume some increases and then to continually adjust the present value of future benefits component and, if appropriate, the present value of future premiums component in the reserve and nonforfeiture calculation.

Theoretically the same assumed increases in the death benefits should be used for both valuation and nonforfeiture. This guideline so provides for policies where the amount of death benefit in any given policy year would exceed $10,000 (or the threshold amount[1] after December 31, 2009), even if there were no increases based on the index. For practical purposes this may mean that such policies are not marketable for higher amounts as it is most likely that such policies will not qualify under the IRS Section 7702. The cash value accumulation test to qualify thereunder requires a minimum interest rate ~~of 4%~~ and an assumed level amount of death benefits.

In the case of policies for an initial amount of insurance of $5,000 or less, the IRS rules provide an exception to the prohibition of assuming increasing death benefits. However, since many of the policies for very low amounts of initial face amount of insurance would require relatively high expenses if underwritten, many of the policies are issued with simplified underwriting or on a guaranteed issue basis with lower amounts of death benefits in the early policy years, some of the resulting annual increases are such as would disqualify many of the policies for the exception. Therefore, it is recommended that policies for low amounts of insurance be allowed to qualify under the cash value accumulation test by permitting the nonforfeiture values to be based on a level death benefit and ~~4% or higher interest~~an interest rate not less than the ~~VM-02 nonforfeiture interest rate~~ Applicable Accumulation Test Minimum Rate in the Cash Value Accumulation Test under IRS Section 7702 and requiring such values to be updated as increases based on the index take place. The amount in this guideline is set at $10,000 (or the threshold amount[1] after December 31, 2009), to allow for future adjustments and for different patterns of benefits for low amounts.

For single premium policies, the value of nonforfeiture benefits based on a level death benefit and a net assumed nonforfeiture interest rate equal to the maximum nonforfeiture interest rate less an assumed increase based on the index and such factors then adjusted by the projected increases will approximate factors based on assumed increases and the maximum nonforfeiture interest rate. ~~However, the net interest rate is likely to be less than 4%. Thus t~~The procedure of assuming a level death benefit and a net assumed rate of not less than ~~4%the VM-02 nonforfeiture interest rate~~ the Applicable Accumulation Test Minimum Rate in the Cash Value Accumulation Test under IRS Section 7702 for policies of low amounts of insurance is apt to produce lower cash values than the procedure for large amounts of insurance. Such lower values can be justified based upon the fact that the highly specialized market is prearranged funeral expenses for very small amounts of insurance per policy.

To emphasize the qualification with the IRS rules for the very low amounts of insurance, the nonforfeiture guideline for small amount policies is stated in terms of the net rate, a level death benefit and continual adjustment.

For solvency purposes, reserves should be conservative. The same rules apply for reserve regardless of the size of the policy. That is, lower reserves are not permitted for policies with very low amounts of insurance per policy.

Paragraph 5c(3) of the Model Standard Nonforfeiture Law states that unscheduled changes do not need to be taken into account until the time of the change. The changes guaranteed according to an index are a hybrid, i.e., the changes are scheduled but the amount of the change is not known until the index is determined. Thus, the changes must be recognized at issue. This guideline is a hybrid with increases assumed at issue either explicitly or implicitly but with further adjustments made at the time the increase based on the index is determined.

[1] In 2010, the actuarial guideline was modified to substitute a threshold amount for 10,000, such threshold being increased by the change in the CPI-U, the CPI for All Urban Consumers.

Draft: 11/29/21

Joint Meeting of the Life Actuarial (A) Task Force
and the Valuation Manual (VM)-22 (A) Subgroup
Virtual Meeting
November 18, 2021

The Life Actuarial (A) Task Force and the VM-22 (A) Subgroup of the Life Actuarial (A) Task Force met Nov. 18, 2021. The following Task Force members participated: Cassie Brown, Chair, represented by Mike Boerner, Rachel Hemphill, and Karen Jiang (TX); Judith L. French, Vice Chair, represented by Peter Weber (OH); Lori K. Wing-Heier represented by Sharon Comstock (AK); Jim L. Ridling represented by Jennifer Li (AL); Ricardo Lara represented by Ben Bock 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 Bruce Sartain and Vincent Tsang (IL); Amy L. Beard represented by Stephen Chamblee (IN); 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); Jonathan T. Pike represented by Tomasz Serbinowski (UT); and Scott A. White represented by Craig Chupp (VA).

The following Subgroup members participated: Bruce Sartain, Chair, and Vincent Tsang (IL); 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); Rachel Hemphill and Karen Jiang (TX); Tomasz Serbinowski (UT); and Craig Chupp (VA). Also participating was: Ben Slutsker (MN).

1. Adopted Amendment Proposal 2021-12

Mr. Chupp proposed an edit to amendment proposal 2021-12 to correct misnumbering.

Mr. Weber made a motion, seconded by Mr. Chou, to adopt amendment proposal 2021-12 (Attachment Two-A), including the editorial change identified by Mr. Chupp. The motion passed unanimously.

2. Re-Exposed AG 25

Mr. Chupp said that after discussing his comment letter (Attachment Two-B) with NAIC staff, he agreed to withdraw his first comment. He said that the changes proposed in his second comment, his fourth comment, and the latter half of his fifth comment
were added to *Actuarial Guideline XXV—Calculation of Minimum Reserves and Minimum Nonforfeiture Values for Policies with Guaranteed Increasing Death Benefits Based on an Index* (AG 25) (Attachment Two-C). He said his third comment and the first part of his fifth comment are outside of the scope of the current exposure and will be deferred for a future review of AG 25. Jim Hodges (National Alliance of Life Companies—NALC) said the proposed revisions satisfactorily address the issues the NALC requested the Task Force to consider.

Mr. Chupp made a motion, seconded by Mr. Slutsker, to re-expose AG 25 for a 12-day public comment period ending Nov. 29. The motion passed unanimously.

3. Agreed to Send a Request for Mortality Rate Development to the SOA and the Academy

Mr. Sartain said the Standard Projection Amount Drafting Group of the VM-22 (A) Subgroup has drafted a request (Attachment Two-D) for the Society of Actuaries (SOA) and the American Academy of Actuaries (Academy) to develop rates for structured settlement mortality. He asked the Subgroup to approve forwarding the request to the SOA and the Academy. The Subgroup agreed, without objection, to forward the request to the SOA and the Academy.

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

https://naiconline.sharepoint.com/:w:/r/sites/NAICSupportStaffHub/MemberMeetings/Fall 2021/TF/LifeActuarial/LATF Calls/11 18/Nov 18 Minutes

Dates: Received	Reviewed by Staff	Distributed	Considered
9/8/21	RM		
Notes: APF 2021-12			

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

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

Identification:
PBR Staff of Texas Department of Insurance

Title of the Issue:
1. Correct a section reference for the CSMP method in-force modeling requirement in VM-21.

2. Three prescribed assumptions do not have clear requirements for VA contracts with no minimum guaranteed benefits in Additional Standard Projection Amount in VM-21 Section 6.C. These three prescribed assumptions are Partial Withdrawal, Account Value Depletion, and Other Voluntary Contract Termination.

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

VM-21 Section 6.B.3.a~~.v~~, VM-21 Section 6.B.6.a, VM-21 Section 6.B.6.b, VM-21 Section 6.C.4, VM-21 Section 6.C.10, VM-21 Section 6.C.11

January 1, 202~~1~~2 NAIC *Valuation Manual*

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

See attached.

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

1. VM-21 requires the CSMP method for Additional Standard Projection Amount be applied to a seriatim in-force to capture the impact of model offices under a few deterministic scenarios. There is an incorrect section reference for the in force method required for the prescribed amounts calculation in the CSMP method. There are also other incorrect section references that need to be corrected.

2. VM-21 does not make clear what requirements should be used for VA contract with no minimum guaranteed benefit for the prescribed assumptions for partial withdrawal, account value depletion and other voluntary contract termination. The requirements for these three prescribed assumptions for VA contracts with no minimum guaranteed benefits should be added to VM-21 Section 6.C.

For Partial Withdrawal assumption, it is reasonable to set the partial withdrawal rate at 3.5% or greater for VA contract with no minimum benefit since the prescribed partial withdrawal rate is 3.5% for GMDB only without guaranteed growth in the benefit basis. For Account Value Depletion assumption, the termination is assumed when the Contract's account value reaches zero. For Other Voluntary Contract Terminations

Dates: Received	Reviewed by Staff	Distributed	Considered
9/8/21	RM		
Notes: APF 2021-12			

assumption, the requirement should be clearly referred to Table 6.3 defined in Full Surrenders of Section 6.C.6.

VM-21 Section 6.B.3

3. Calculation Methodology

a. CSMP Method:

~~i. The company shall apply this method to a seriatim in force.~~

~~ii.~~i. Calculate the scenario reserve, as defined in VM-01 and discussed further in Section 4.B, for each of the prescribed market paths outlined in Section 6.B.6 using the same method and assumptions as those that the company uses to calculate scenario reserves for the purposes of determining the CTE70 (adjusted), [2] as outlined in Section 9.C. These scenario reserves shall collectively be referred to as a Company Standard Projection Set.

~~iii.~~ii. Identify the market path from the Company Standard Projection Set such that the scenario reserve is closest to the CTE70 (adjusted), designated as Path A. This scenario reserve shall be referred to as Company Amount A.

~~iv.~~iii. Identify the following four market paths:

- Two paths with the same starting interest rate as Path A, but equity shocks +/– 5% from that of Path A.
- Two paths with the same equity fund returns as Path A, but the next higher and next lower interest rate shocks.

From the four paths, identify Path B whose reserve value is:

- If Company Amount A is lower than CTE70 (adjusted), the smallest reserve value that is greater than CTE70 (adjusted).
- If Company Amount A is greater than CTE70 (adjusted), the greatest reserve value that is less than CTE70 (adjusted).

If none of the four paths satisfy the stated condition, discard the identified Path A, and redo steps (ii~~i~~) and (iii~~v~~) using the next closest scenario to CTE70 (adjusted) to be the new Path A in step (ii~~i~~).

For the path designated as Path B, the scenario reserve shall be referred to as Company Amount B.

~~v.~~iv. Recalculate the scenario reserves for Path A and Path B using the same method as outlined in step (i~~i~~) above, but substitute the assumptions prescribed in Section 6.C and use ~~the modeled in force prescribed by Section 6.B.2~~a seriatim in force. These scenario reserves shall be referred to as Prescribed Amount A and Prescribed Amount B, respectively.

~~vi.~~v. Calculate the Prescribed Projections Amount as:

Prescribed Projections Amount

$$=Prescribed\ Amount\ A + (CTE70\ (adjusted) - Company\ Amount\ A) \times \left(\frac{Prescribed\ Amount\ B - Prescribed\ Amount\ A}{Company\ Amount\ B - Company\ Amount\ A}\right)$$

VM-21 Section 6.B.6.a

a. Equity Fund Returns

Eight equity fund return market paths shall be used. These market paths differ only in the prescribed gross return in the first projection year.

The eight prescribed gross returns for equity funds in the first projection year shall be negative 25% to positive 10%, at 5% intervals. These gross returns shall be projected to occur linearly over the full projection year. After the first projection year, all prescribed equity fund return market paths shall assume total gross returns of 3% per annum.

If the eight prescribed equity fund market paths are insufficient for a company to calculate the additional standard projection amount via steps (i) through (v~~ii~~) outlined in Section 6.B.3.a, then the company shall include additional equity fund market paths that increase or decrease the prescribed gross returns in the first projection year by 5% increments at a time.

VM-21 Section 6.B.6.b

If the five prescribed interest rate market paths are insufficient for a company to calculate the Additional Standard Projection Amount via steps (i) through (v~~ii~~) outlined in Section 6.B.3.a, then the company shall include additional interest rate market paths that increase or decrease the prescribed starting Treasury Department rates at each point on the term structure by increments equal to 25% of the difference between the Treasury Department rate as of the valuation date and 0.01%. The lowest interest rate to be used in this analysis is 0.01%.

VM-21 Section 6.C.4
4. Partial Withdrawals

~~j~~k. For contracts with no minimum guaranteed benefits, the partial withdrawal amount each year shall equal 3.5% of the Account Value.

~~j~~ ~~k~~l. There may be instances where the company has certain data limitations, (e.g., with respect to policies that are not enrolled in an automatic withdrawal program but have exercised a non-excess withdrawal in the contract year immediately preceding the valuation date [Section 6.C.4.g and

Section 6.C.4.i]). The company may employ an appropriate proxy method if it does not result in a material understatement of the reserve.

VM-21 Section 6.C.10

10. Account Value Depletions

The following assumptions shall be used when a contract's Account Value reaches zero:

a. If the contract has a GMWB, the contract shall take partial withdrawals that are equal in amount each year to the guaranteed maximum annual withdrawal amount.

b. If the contract has a GMIB, the contract shall annuitize immediately. If the GMIB contractually terminates upon account value depletion, such termination provision is assumed to be voided in order to approximate the contract holder's election to annuitize immediately before the depletion of the account value.

c. If the contract has any other guaranteed benefits, including a GMDB, the contract shall remain in-force. If the guaranteed benefits contractually terminate upon account value depletion, such termination provisions are assumed to be voided in order to approximate the contract holder's retaining adequate Account Value to maintain the guaranteed benefits inforce. At the option of the company, fees associated with the contract and guaranteed benefits may continue to be charged and modeled as collected even if the account value has reached zero. While the contract must remain in-force, benefit features may still be terminated according to contractual terms other than account value depletion provisions.

d. If the contract has no minimum guaranteed benefits, the contract should be terminated according to contractual terms.

VM-21 Section 6.C.11

11. Other Voluntary Contract Terminations

For contracts that have other elective provisions that allow a contract holder to terminate the contract voluntarily, the termination rate shall be calculated based on the Standard Table for Full Surrenders as detailed above in Table 6.3 with the following adjustments:

a. If the contract holder is not yet eligible to terminate the contract under the elective provisions, the termination rate shall be zero.

b. After the contract holder becomes eligible to terminate the contract under the elective provisions, the termination rate shall be determined using the "Subsequent years" column of Table 6.3.

c. In using Table 6.3, the ITM of a contract's guaranteed benefit shall be calculated based on the ratio of the guaranteed benefit's GAPV to the termination value of the contract. The termination value of the contract shall be calculated as the GAPV of the payment stream that the contract holder is entitled to receive upon termination of the contract; if the contract holder has multiple options for the payment stream, the termination value shall be the highest GAPV of these options.

d. For GMWB or hybrid GMIB contracts, for all contract years in which a withdrawal is projected, the termination rate obtained from Table 6.3 shall be additionally multiplied by 60%.

For calculating the ITM of a hybrid GMIB, the guaranteed benefit's GAPV shall be the larger of the Annuitization GAPV or the Withdrawal GAPV.

e. For contracts with no minimum guaranteed benefits, ITM is 0%; for all contract years in which a withdrawal is projected, the termination rate obtained from Table 6.3 shall be the row in the table for ITM < 50% using the "Subsequent years" column of Table 6.3.

Date: November 4, 2021

Virginia is submitting comments regarding the following exposure:

AG 25 Revision (Calculation of Minimum Reserves and Minimum Nonforfeiture Values for Policies with Guaranteed Increasing Death Benefits Based on an Index)

Comments:

1. In the first paragraph of B.II, the use of a comma in the title of VM-02 is confusing. Other references to the Valuation Manual in actuarial guidelines do not include the title of the VM section, but just simply use a reference such as VM-21. The reference to VM-02 in the first paragraph under B.II should eliminate the title of VM-02 or use a colon to match exactly the title used in the VM, as such: "VM-02: Minimum Nonforfeiture Mortality and Interest".

2. The nonforfeiture interest rate used under B.II should not be allowed to be less than the Applicable Accumulation Test Minimum Rate in the CVAT under Section 7702. If the nonforfeiture interest rate under B.II is less than the Section 7702 interest rate, then it seems likely that the policy would not be able to qualify as life insurance under Section 7702. Suggested wording is as follows:

   … a nonforfeiture interest rate equal to the greater of (a) and (b):

   a. the nonforfeiture interest rate defined in Section 3 of VM-02, less:

      i. 0 bp, if the annual increase based on the index is limited to a maximum of 0% through 5.0%,
      ii. 25 bp, if the annual increase based on the index is limited to a maximum of 5.01% through 10.0%, or
      iii. 50 bp, for all other plans.

   b. the Applicable Accumulation Test Minimum Rate in the Cash Value Accumulation Test under Section 7702 (*Life Insurance Contract Defined*) of the U.S. Internal Revenue Code."

3. The current wording under B.II of AG 25 regarding the annual adjustment to the present value of future benefits component does not seem to be correct. Since the procedure under B.II is based on a level death benefit, should not the adjustment be the ratio of the current death benefit to the initial level death benefit, rather than the ratio of the current death benefit to the initially projected amount of death benefit?

4. The nonforfeiture interest rate under B.II will always be less than or equal to the VM-02 rate. Therefore, the 3rd sentence of the 4th paragraph under "Background" should read as follows: "Therefore, it is recommended that policies for low amounts of insurance be allowed to qualify under the cash value accumulation test by permitting the nonforfeiture values to be based on a level death benefit and an interest rate no greater than the VM-02 nonforfeiture interest rate and requiring such values to be updated as increases based on the index take place."

5. I do not fully understand the 5th paragraph under "Background". The point of this paragraph seems to be to point out that the procedure under B.II is likely to produce lower cash values than the procedure for large amounts of insurance under B.I and that these lower cash values are justified for very small amounts of insurance. I did some sample calculations and it seems that this would still be true with the AG 25 revisions. I also did some sample calculations assuming level premiums and it still seems to hold true. Thus, I am not sure that it is necessary to qualify that this paragraph only applies for single premium policies. Also, the wording in the first sentence is very confusing and does not make sense. It seems to say that the adjusted factors using the B.II procedure will approximate factors based on assumed increases using the B.I procedure. However, I worked through an example with a single premium policy and the cash values adjusted by the ratio of the current death benefit to the initial level death benefit were much lower in the early durations and then grew at a faster rate so that the cash value was equal to the cash value using the B.I procedure at the terminal age. Given this, I recommend that the first sentence be deleted. The 2nd sentence that states that the net assumed rate is not less than the VM-02 nonforfeiture interest rate is incorrect. The 2nd sentence (which would really be the 1st sentence if the existing 1st sentence is deleted) could be re-written as follows: "The procedure of assuming a level death benefit and a net assumed rate that cannot be more than 50 bp lower than the VM-02 nonforfeiture interest rate for policies of low amounts of insurance is apt to produce lower cash values than the procedure for large amounts of insurance."

Thank you for your consideration of these comments.

Craig Chupp, FSA, MAAA
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Virginia Bureau of Insurance
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ACTUARIAL GUIDELINE XXV

CALCULATION OF MINIMUM RESERVES AND MINIMUM NONFORFEITURE VALUES FOR POLICIES WITH GUARANTEED INCREASING DEATH BENEFITS BASED ON AN INDEX

A. Valuation - Text

For a policy where premiums are fixed in amount at issue which provides for whole life insurance with the amount of death benefit adjusted periodically with the Consumer Price Index or another cost of living index, the value of the minimum reserve at any time shall be based on the maximum valuation interest rate for the year of issue and an acceptable mortality table for life insurance statutory reserves and based on the death benefit and premium pattern adjusted as provided in the policy by reasonable annual increases based on the index. The present value of future benefits component shall be further adjusted each year by the ratio of the then current amount of death benefit to the initially projected amount of death benefit. If the policy provides for future premiums and such premiums are also adjusted periodically with the Consumer Price Index or another cost of living index, the present value of future premiums component shall likewise be further adjusted each year by the ratio of the then current amount of death benefit to the initially projected amount of death benefit. The assumption as to what is a reasonable annual increase in death benefits based on the index must not be less than the maximum valuation interest rate for the year of issue less:

1. 2.0% If the annual increase is limited to an annual and non-cumulative maximum of 0% through 5.0%
2. 1.5% If the annual increase is limited to an annual and cumulative maximum of 0% through 5.0%.
3. 1.5% If the annual increase is limited to an annual and non-cumulative maximum of 5.01% through 10.0%.
4. 1.25% If the annual increase is limited to an annual and cumulative maximum of 5.01% through 10.0%.
5. 1.0% For all other plans.

The term “annual and non-cumulative maximum” refers to a maximum where each annual increase is limited to the lower of the maximum or the increase in the index without carry forward of excess index increases.

The term “annual and cumulative maximum” refers to a maximum where each annual increase is limited to the lower of the maximum or the increase in the index with carry forward of excess index increases.

In no event shall the assumption as to an annual increase based on the index be less than 1.0%.

This guideline for valuation shall be effective immediately for policies issued on or after January 1, 1991.

B. Nonforfeiture – Text

The threshold amount shall be $10,000 until December 31, 2009. For years beginning after December 31, 2009, the threshold amount for a calendar year shall be the product of $10,000 and the ratio of 1) the index for June of the prior year to 2) 136.0 (the index as of June 30, 1991), rounded to the nearest $25. If this calculation would result in an increase in the threshold amount of less than $500, the unadjusted threshold amount from the prior year shall continue in effect for the next calendar year. In no calendar year shall the increase in threshold amount exceed 5% of the prior calendar year threshold amount.

The index used to determine the threshold amount for years beginning after December 31, 2009, shall be the Consumer Price Index for All Urban Consumers (CPI-U) as of June 30 of that year. If this index is no longer available, another index which, in the actuary’s opinion, reflects the change in general consumer prices for the year should be substituted.

I. FOR POLICIES WHERE ANY DEATH BENEFIT FOR ANY POLICY YEAR WOULD EXCEED THE THRESHOLD AMOUNT EVEN IN ABSENCE OF ANY ANNUAL INCREASES BASED ON THE INDEX

For a policy where premiums are fixed in amount at issue which provides for whole life insurance with the amount of death benefit adjusted periodically with the Consumer Price Index or another cost of living index, the value of the minimum nonforfeiture benefit at any time shall be based on the maximum nonforfeiture interest rate for the year of issue and an acceptable mortality table for life insurance nonforfeiture and based on the death benefit and premium pattern adjusted as provided in the policy by reasonable annual increases based on the index. The present value of future benefits component shall be further adjusted each year by the ratio of the then current amount of death benefit to the initially projected amount of

death benefit. If the policy provides for future premiums and such premiums are also adjusted periodically with the Consumer Price Index or another cost of living index, the present value of future premiums component shall likewise be further adjusted each year by the ratio of the then current amount of death benefit to the initially projected amount of death benefit. The assumption as to what is a reasonable annual increase in death benefits based on the index must not be less than the maximum valuation interest rate for the year of issue less:

1. 2.0% If the annual increase is limited to an annual and non-cumulative maximum of 0% through 5.0%.

2. 1.5% If the annual increase is limited to an annual and cumulative maximum of 0% through 5.0%.

3. 1.5% If the annual increase is limited to an annual and non-cumulative maximum of 5.01% through 10.0%.

4. 1.25% If the annual increase is limited to an annual and cumulative maximum of 5.01% through 10.0%.

5. 1.0% For all other plans.

The term "annual and non-cumulative maximum" refers to a maximum where each annual increase is limited to the lower of the maximum or the increase in the index without carry forward of excess index increases.

The term "annual and cumulative maximum" refers to a maximum where each annual increase is limited to the lower of the maximum or the increase in the index with carry forward of excess index increases.

In no event shall the assumption as to an annual increase based on the index be less than 1.0%.

II. FOR POLICIES WHERE ANY DEATH BENEFIT FOR ANY POLICY YEAR WOULD NOT EXCEED THE THRESHOLD AMOUNT IN ABSENCE OF ANY ANNUAL INCREASES BASED ON THE INDEX

For a policy where premiums are fixed in amount at issue which provides for whole life insurance with the amount of death benefit adjusted periodically with the Consumer Price Index or another cost of living index, the unadjusted value of the minimum nonforfeiture benefit at any time shall be based on a level death benefit, an acceptable mortality table for life insurance nonforfeiture and a nonforfeiture interest rate equal to the greater of (a) and (b):

(a) the nonforfeiture interest rate defined in Section 3 of VM-02, Minimum Nonforfeiture Mortality and Interest, less:

1. 0 bp If the annual increase based on the index is limited to a maximum of 0% through 5.0%.

2. 25 bp If the annual increase based on the index is limited to a maximum of 5.01% through 10.0%.

3. 50 bp For all other plans.

(b) The Applicable Accumulation Test Minimum Rate in the Cash Value Accumulation Test under Section 7702 (*Life Insurance Contract Defined*) of the U.S. Internal Revenue Code.

The present value of future benefits component shall be further adjusted each year by the ratio of the then current amount of death benefit to the initially projected amount of death benefit. If the policy provides for future premiums and such premiums are also adjusted periodically with the Consumer Price Index or another cost of living index, the present value of future premiums component shall likewise be further adjusted each year by the ratio of the then current amount of death benefit to the initially projected amount of death benefit.

For purposes of this guideline multiple policies on a single life shall be aggregated and only those policies aggregating not more than $10,000 (or the threshold amount[1] after December 31, 2009), shall be considered under B.II.

This guideline for nonforfeiture shall be effective immediately for policies issued on or after January 1, 1991.

BACKGROUND

A number of companies are marketing individual life insurance policies with guaranteed increasing death benefits tied in to a consumer price index or another cost of living index and are for low initial amounts of insurance sold through funeral directors to provide for burial expenses. Some of the policies provide for graded death benefits such as the return of premium with or without interest for the early policy years or for a fixed scheduled increase in death benefits prior to the operation of the index. In some cases there is a maximum on the increase for any year. The vast majority of such policies are single

premium policies but some are annual premium policies (generally limited payment). The annual premium may or may not be subject to adjustment with the index.

Since the changes in the index are not known at issue, but from past experience, increases within a given range can be expected with a high probability, it is necessary to assume some increases and then to continually adjust the present value of future benefits component and, if appropriate, the present value of future premiums component in the reserve and nonforfeiture calculation.

Theoretically the same assumed increases in the death benefits should be used for both valuation and nonforfeiture. This guideline so provides for policies where the amount of death benefit in any given policy year would exceed $10,000 (or the threshold amount[1] after December 31, 2009), even if there were no increases based on the index. For practical purposes this may mean that such policies are not marketable for higher amounts as it is most likely that such policies will not qualify under the IRS Section 7702. The cash value accumulation test to qualify thereunder requires a minimum interest rate and an assumed level amount of death benefits.

In the case of policies for an initial amount of insurance of $5,000 or less, the IRS rules provide an exception to the prohibition of assuming increasing death benefits. However, since many of the policies for very low amounts of initial face amount of insurance would require relatively high expenses if underwritten, many of the policies are issued with simplified underwriting or on a guaranteed issue basis with lower amounts of death benefits in the early policy years, some of the resulting annual increases are such as would disqualify many of the policies for the exception. Therefore, it is recommended that policies for low amounts of insurance be allowed to qualify under the cash value accumulation test by permitting the nonforfeiture values to be based on a level death benefit and an interest rate not less than the Applicable Accumulation Test Minimum Rate in the Cash Value Accumulation Test under IRS Section 7702 and requiring such values to be updated as increases based on the index take place. The amount in this guideline is set at $10,000 (or the threshold amount[1] after December 31, 2009), to allow for future adjustments and for different patterns of benefits for low amounts.

For single premium policies, the value of nonforfeiture benefits based on a level death benefit and a net assumed nonforfeiture interest rate equal to the maximum nonforfeiture interest rate less an assumed increase based on the index and such factors then adjusted by the projected increases will approximate factors based on assumed increases and the maximum nonforfeiture interest rate. The procedure of assuming a level death benefit and a net assumed rate of not less than the Applicable Accumulation Test Minimum Rate in the Cash Value Accumulation Test under Section 7702 for policies of low amounts of insurance is apt to produce lower cash values than the procedure for large amounts of insurance. Such lower values can be justified based upon the fact that the highly specialized market is prearranged funeral expenses for very small amounts of insurance per policy.

To emphasize the qualification with the IRS rules for the very low amounts of insurance, the nonforfeiture guideline for small amount policies is stated in terms of the net rate, a level death benefit and continual adjustment.

For solvency purposes, reserves should be conservative. The same rules apply for reserve regardless of the size of the policy. That is, lower reserves are not permitted for policies with very low amounts of insurance per policy.

Paragraph 5c(3) of the Model Standard Nonforfeiture Law states that unscheduled changes do not need to be taken into account until the time of the change. The changes guaranteed according to an index are a hybrid, i.e. the changes are scheduled but the amount of the change is not known until the index is determined. Thus the changes must be recognized at issue. This guideline is a hybrid with increases assumed at issue either explicitly or implicitly but with further adjustments made at the time the increase based on the index is determined.

[1] In 2010, the actuarial guideline was modified to substitute a threshold amount for 10,000, such threshold being increased by the change in the CPI-U, the CPI for All Urban Consumers.

NAIC Life Actuarial (A) Task Force's Valuation Manual (VM) - 22 (A) Subgroup requests assistance from the American Academy of Actuaries (the Academy) and the Society of Actuaries (SOA) with respect to the development of appropriate mortality rates to be used as prescribed assumptions within a VM-22 Standard Projection Amount per the Standard Projection Amount Drafting Group's Statement of Intent.* Specifically the VM-22 (A) Subgroup requests the following:

1) In the short term develop best estimate mortality rates for standard Structured Settlement Annuities (SSAs), and if time permits substandard SSAs. We expect the SOA and the Academy to use their professional judgment as to how best to proceed. Our current expectation is that a set of mortality adjustment factors will be applied to the current statutorily prescribed 1983 Individual Annuity Mortality (IAM) Basic Table and the mortality adjustment factors will be developed based on SOA 2005-2017 Structured Settlement Mortality Experience Study. We request the mortality rates be completed in time for the VM-22 Field Study that is currently scheduled to be performed in May 2022.

2) In the longer term develop a new best estimate mortality table for SSAs. We expect the SOA and the Academy to use their professional judgment as to how best to proceed. Our current expectation is for the table to be developed based on the SOA 2005-2017 Structured Settlement Mortality Experience Study.

Thank You,

Bruce Sartain, Chair, NAIC Life Actuarial (A) Task Force VM - 22 (A) Subgroup

* Explore the feasibility of creating a Standard Projection Amount (SPA) using methodology consistent with VM-21. The Drafting Group (DG) will identify the (most) material assumptions by product line, identify appropriate data sources, and determine SPA prescribed assumptions. Those prescribed assumptions will be used to identify company outlier assumptions and substituted for company assumptions in a re-run of the stochastic reserve calculation. The DG is not expected to make a recommendation as to whether the SPA should result in a reserve floor or disclosure item.

Draft: 11/22/21

Life Actuarial (A) Task Force
Virtual Meeting
November 4, 2021

The Life Actuarial (A) Task Force met Nov. 4, 2021. The following Task Force members participated: Cassie Brown, Chair, represented by Mike Boerner, Rachel Hemphill, and Karen Jiang (TX); Judith L. French, Vice Chair, represented by Peter Weber (OH); Lori K. Wing-Heier represented by Sharon Comstock (AK); Jim L. Ridling represented by Jennifer Li (AL); Ricardo Lara represented by Ben Bock and Thomas Reedy (CA); Michael Conway represented by Eric Unger (CO); Andrew N. Mais represented by Wanchin Chou (CT); Dana Popish Severinghaus represented by Bruce Sartain and Vincent Tsang (IL); Amy L. Beard represented by Stephen Chamblee (IN); 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); Glen Mulready represented by Andrew Schallhorn (OK); Jonathan T. Pike represented by Tomasz Serbinowski (UT); and Scott A. White represented by Craig Chupp (VA).

1. Re-Exposed Amendment Proposal 2021-12

Bill Wilton (Unaffiliated) discussed his comment letter (Attachment Three-A), which recommends that the reference in amendment proposal 2021-12 (Attachment Three-B) to 0% in-the-money (ITM) be changed to 100% ITM. He said the benefit or guarantee is perceived to be ITM when it provides value in excess of the account value. He said when there is no guaranteed benefit, it is considered at-the money, which implies that the ITM percentage should be 100%. Ms. Jiang disagreed. She said that Section 6 of VM-21, Requirements for Principle-Based Reserves for Variable Annuities, defines ITM as the ratio of the greatest accumulated present value (GAPV) of a guaranteed benefit to the account value (AV). She said that in the case where there is no guaranteed benefit, the GAPV is zero. Therefore, the ratio of GAPV to AV would be zero.

Brian Bayerle (American Council of Life Insurers—ACLI) said the ACLI comment letter (Attachment Three-C) expressed agreement with the changes in the amendment proposal but suggested a few clarifications. He said the requirements of Section 6.B.3.a.i are intended to apply only to Section 6.B.3.a.v and not to Section 6.B.3.a.ii through Section 6.B.3.a.iv. He suggested deleting Section 6.B.3.a.i and revising the wording of what then becomes Section 6.B.3.a.iv by removing the phrase "the modeled in force prescribed by Section 6.B.3.a.i." Ms. Jiang agreed with the ACLI edits. She provided a version of amendment proposal 2021-12 that includes the changes suggested by the ACLI and other renumbering changes for potential re-exposure.

Mr. Leung made a motion, seconded by Mr. Weber, to re-expose the new version amendment proposal 2021-12 (Attachment Three-D), including the identified edits, for a 12-day public comment period ending Nov. 16. The motion passed unanimously.

2. Adopted Amendment Proposal 2021-13

Mr. Bayerle said the ACLI comment letter (Attachment Three-C) draws attention to the need for balance between the appropriate prudent margin for conservatism and the appropriate amount of disclosure, with the regulatory need for solvency monitoring. He said the letter suggests striking the last sentence of the guidance note. Ms. Hemphill agreed to strike the sentence as suggested.

Mr. Bock made a motion, seconded by Mr. Weber, to adopt amendment proposal 2021-13 (Attachment Three-E), after striking the last sentence in the guidance note. The motion passed unanimously.

3. Received an Update on the ESG

Scott O'Neal (NAIC) provided a presentation (Attachment Three-F) on the status of the economic scenario generator (ESG). He said a large part of the work on the ESG has been the development of acceptance criteria for the treasury model. He noted that the presentation lists the acceptance criteria in priority order. He said Conning Inc. is working on a new Treasury calibration based on the acceptance criteria. He noted that while Conning is working on the Treasury calibration, the ESG drafting group is beginning to work on the equity model. Mr. Carmello voiced concern that the low for long criteria is not conservative enough. He also suggested that the presentation highlight that December 2020 is the reference point for validation of the current acceptance criteria.

4. Received an Update on the Experience Data Collection Project

Pat Allison (NAIC) said the experience data collection project has participation from 110 companies representing 87.5% of industry claims. She said 83 of the participating companies previously participated in either the Kansas or New York data calls. She said 75 full submissions and nine partial submissions have been received. She noted that NAIC staff are currently reviewing submissions and providing validation packages to assist companies in their file cleanup efforts. She said the NAIC staff review also includes analyzing field distributions to screen company data for year-to-year consistency.

5. Discussed Other Matters

Reggie Mazyck (NAIC) said revisions to *Actuarial Guideline XXV—Calculation of Minimum Reserves and Minimum Nonforfeiture Values for Policies with Guaranteed Increasing Death Benefits Based on an Index* (AG 25) were exposed by the Task Force chair for a public comment period ending Nov. 17. He said the change, which removes the fixed 4% nonforfeiture rate floor, aligns the guideline with the VM-02, Minimum Nonforfeiture Mortality and Interest, changes implemented for the 2021 *Valuation Manual*. Mr. Mazyck said the Task Force plans to adopt AG 25 prior to the Fall National Meeting. He said the Life Insurance and Annuities (A) Committee and the Executive (EX) Committee and Plenary are expected to consider adoption of AG 25 during the Fall National Meeting.

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

https://naiconline.sharepoint.com/:w:/r/sites/NAICSupportStaffHub/MemberMeetings/Fall 2021/TF/LifeActuarial/LATF Calls/11 04/Nov 4 Minutes

William H. Wilton
Wilton579@sbcglobal.net

October 19, 2021

Reggie Mazyck
National Association of Insurance Commissioners
1100 Walnut Street – Suite 1500
Kansas City, MO 64106-2197

Re: APF 2021-12

I appreciate the opportunity to provide comments on amendment proposal form 2021-12 proposed by the PBR Staff of Texas Department of Insurance.

I would like clarification on Section 6.C.11. What is the rationale for referencing 0% ITM?

In Section 6.C.3. the following is stated:

> *The GAPV represents the actuarial present value of the lump sum or income payments associated with a guaranteed benefit. For the purpose of calculating the GAPV, such payments shall include the portion that is paid out of the contract holder's Account Value.*

Since there are no minimum guaranteed benefits and assuming that an account value still exists on the contract, the current requirements of VM-21 would imply a 100% ITM, not 0%.

Should Section 6.C.11 be revised as follows:

> e. For contracts with no minimum guaranteed benefits, ITM is 100%; for all contract years in which a withdrawal is projected, the termination rate obtained from Table 6.3 shall be the row in the table for ITM 100-125% ~~< 50%~~ using the "Subsequent years" column of Table 6.3.

Similarly, in Section 6 Full Surrenders, it appears that the current requirements also stated the ITM as 0%. It would seem that ITM should also be 100% in this section. The modification would be:

> *For contracts with no minimum guaranteed benefits, ITM is 100%; and the row in the table for ITM 100-125%~~< 50%~~ would apply.*

Sincerely,

William H. Wilton, FSA, MAAA

Dates: Received	Reviewed by Staff	Distributed	Considered
9/8/21	RM		
Notes: APF 2021-12			

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

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

Identification:
PBR Staff of Texas Department of Insurance

Title of the Issue:
1. Correct a section reference for the CSMP method in-force modeling requirement in VM-21.

2. Three prescribed assumptions do not have clear requirements for VA contracts with no minimum guaranteed benefits in Additional Standard Projection Amount in VM-21 Section 6.C. These three prescribed assumptions are Partial Withdrawal, Account Value Depletion, and Other Voluntary Contract Termination.

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

VM-21 Section 6.B.3.a~~.v~~, VM-21 Section 6.B.6.a, VM-21 Section 6.B.6.b, VM-21 Section 6.C.4, VM-21 Section 6.C.10, VM-21 Section 6.C.11

January 1, 202~~2~~1 NAIC *Valuation Manual*

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

See attached.

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

1. VM-21 requires the CSMP method for Additional Standard Projection Amount be applied to a seriatim in-force to capture the impact of model offices under a few deterministic scenarios. There is an incorrect section reference for the in force method required for the prescribed amounts calculation in the CSMP method. There are also other incorrect section references that need to be corrected.

2. VM-21 does not make clear what requirements should be used for VA contract with no minimum guaranteed benefit for the prescribed assumptions for partial withdrawal, account value depletion and other voluntary contract termination. The requirements for these three prescribed assumptions for VA contracts with no minimum guaranteed benefits should be added to VM-21 Section 6.C.

For Partial Withdrawal assumption, it is reasonable to set the partial withdrawal rate at 3.5% or greater for VA contract with no minimum benefit since the prescribed partial withdrawal rate is 3.5% for GMDB only without guaranteed growth in the benefit basis. For Account Value Depletion assumption, the termination is assumed when the Contract's account value reaches zero. For Other Voluntary Contract Terminations

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9/8/21	RM		
Notes: APF 2021-12			

assumption, the requirement should be clearly referred to Table 6.3 defined in Full Surrenders of Section 6.C.6.

VM-21 Section 6.B.3

3. Calculation Methodology

a. CSMP Method:

~~i. The company shall apply this method to a seriatim in-force.~~

~~i~~ii. Calculate the scenario reserve, as defined in VM-01 and discussed further in Section 4.B, for each of the prescribed market paths outlined in Section 6.B.6 using the same method and assumptions as those that the company uses to calculate scenario reserves for the purposes of determining the CTE70 (adjusted), [2] as outlined in Section 9.C. These scenario reserves shall collectively be referred to as a Company Standard Projection Set.

ii. Identify the market path from the Company Standard Projection Set such that the scenario reserve is closest to the CTE70 (adjusted), designated as Path A. This scenario reserve shall be referred to as Company Amount A.

iii. Identify the following four market paths:

- Two paths with the same starting interest rate as Path A, but equity shocks +/– 5% from that of Path A.
- Two paths with the same equity fund returns as Path A, but the next higher and next lower interest rate shocks.

From the four paths, identify Path B whose reserve value is:

- If Company Amount A is lower than CTE70 (adjusted), the smallest reserve value that is greater than CTE70 (adjusted).
- If Company Amount A is greater than CTE70 (adjusted), the greatest reserve value that is less than CTE70 (adjusted).

If none of the four paths satisfy the stated condition, discard the identified Path A, and redo steps (ii~~i~~) and (iii~~v~~) using the next closest scenario to CTE70 (adjusted) to be the new Path A in step (ii~~i~~).

For the path designated as Path B, the scenario reserve shall be referred to as Company Amount B.

iv. Recalculate the scenario reserves for Path A and Path B using the same method as outlined in step (ii~~i~~) above, but substitute the assumptions prescribed in Section 6.C and use ~~the modeled in-force prescribed by Section 6.B.2~~a seriatim in force. These scenario reserves shall be referred to as Prescribed Amount A and Prescribed Amount B, respectively.

v. Calculate the Prescribed Projections Amount as:

Prescribed Projections Amount

=Prescribed Amount A + (CTE70 (adjusted) − Company Amount A)

$$\times \left(\frac{Prescribed\ Amount\ B - Prescribed\ Amount\ A}{Company\ Amount\ B - Company\ Amount\ A}\right)$$

VM-21 Section 6.B.6.a

a. Equity Fund Returns

Eight equity fund return market paths shall be used. These market paths differ only in the prescribed gross return in the first projection year.

The eight prescribed gross returns for equity funds in the first projection year shall be negative 25% to positive 10%, at 5% intervals. These gross returns shall be projected to occur linearly over the full projection year. After the first projection year, all prescribed equity fund return market paths shall assume total gross returns of 3% per annum.

If the eight prescribed equity fund market paths are insufficient for a company to calculate the additional standard projection amount via steps (i) through (v~~ii~~) outlined in Section 6.B.3.a, then the company shall include additional equity fund market paths that increase or decrease the prescribed gross returns in the first projection year by 5% increments at a time.

VM-21 Section 6.B.6.b

If the five prescribed interest rate market paths are insufficient for a company to calculate the Additional Standard Projection Amount via steps (i) through (v~~ii~~) outlined in Section 6.B.3.a, then the company shall include additional interest rate market paths that increase or decrease the prescribed starting Treasury Department rates at each point on the term structure by increments equal to 25% of the difference between the Treasury Department rate as of the valuation date and 0.01%. The lowest interest rate to be used in this analysis is 0.01%.

VM-21 Section 6.C.4
4. Partial Withdrawals

j. For contracts with no minimum guaranteed benefits, the partial withdrawal amount each year shall equal 3.5% of the Account Value.

~~j~~ k. There may be instances where the company has certain data limitations, (e.g., with respect to policies that are not enrolled in an automatic withdrawal program but have exercised a non-excess withdrawal in the contract year immediately preceding the valuation date [Section 6.C.4.g and Section 6.C.4.i]). The company may employ an appropriate proxy method if it does not result in a material understatement of the reserve.

VM-21 Section 6.C.10

10. Account Value Depletions

The following assumptions shall be used when a contract's Account Value reaches zero:

a. If the contract has a GMWB, the contract shall take partial withdrawals that are equal in amount each year to the guaranteed maximum annual withdrawal amount.

b. If the contract has a GMIB, the contract shall annuitize immediately. If the GMIB contractually terminates upon account value depletion, such termination provision is assumed to be voided in order to approximate the contract holder's election to annuitize immediately before the depletion of the account value.

c. If the contract has any other guaranteed benefits, including a GMDB, the contract shall remain in-force. If the guaranteed benefits contractually terminate upon account value depletion, such termination provisions are assumed to be voided in order to approximate the contract holder's retaining adequate Account Value to maintain the guaranteed benefits inforce. At the option of the company, fees associated with the contract and guaranteed benefits may continue to be charged and modeled as collected even if the account value has reached zero. While the contract must remain in-force, benefit features may still be terminated according to contractual terms other than account value depletion provisions.

d. If the contract has no minimum guaranteed benefits, the contract should be terminated according to contractual terms.

VM-21 Section 6.C.11

11. Other Voluntary Contract Terminations

For contracts that have other elective provisions that allow a contract holder to terminate the contract voluntarily, the termination rate shall be calculated based on the Standard Table for Full Surrenders as detailed above in Table 6.3 with the following adjustments:

a. If the contract holder is not yet eligible to terminate the contract under the elective provisions, the termination rate shall be zero.

b. After the contract holder becomes eligible to terminate the contract under the elective provisions, the termination rate shall be determined using the "Subsequent years" column of Table 6.3.

c. In using Table 6.3, the ITM of a contract's guaranteed benefit shall be calculated based on the ratio of the guaranteed benefit's GAPV to the termination value of the contract. The termination value of the contract shall be calculated as the GAPV of the payment stream that the contract holder is entitled to receive upon termination of the contract; if the contract holder has multiple options for the payment stream, the termination value shall be the highest GAPV of these options.

d. For GMWB or hybrid GMIB contracts, for all contract years in which a

withdrawal is projected, the termination rate obtained from Table 6.3 shall be additionally multiplied by 60%.

For calculating the ITM of a hybrid GMIB, the guaranteed benefit's GAPV shall be the larger of the Annuitization GAPV or the Withdrawal GAPV.

e. For contracts with no minimum guaranteed benefits, ITM is 0%; for all contract years in which a withdrawal is projected, the termination rate obtained from Table 6.3 shall be the row in the table for ITM < 50% using the "Subsequent years" column of Table 6.3.

Brian Bayerle
Senior Actuary

October 27, 2021

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

Re: APFs 2021-12 and 2021-13

Dear Mr. Boerner:

The American Council of Life Insurers (ACLI) appreciates the opportunity to submit the following comments on APFs 2021-12 and 2021-13.

APF 2021-12
We agree with the proposed changes, but we do have an alternate suggestion for the first proposal that should further enhance the clarity of CSMP implementation for both regulators and companies. It is ACLI's understanding that the requirements of 6.B.3.a.i intend to apply to 6.B.3.a.v, and not 6.B.3.a.ii through 6.B.3.a.iv. In the current order, this may be a potential source of confusion. We would suggest striking 6.B.3.a.i, relabeling the remaining romanettes and references to them, then revising the text in what will now be 6.B.3.a.iv (as opposed to 6.B.3.a.v) as follows:

> iv. Recalculate the scenario reserves for Path A and Path B using the same method as outlined in step (i~~i~~) above, but substitute the assumptions prescribed in Section 6.C and use a seriatim inforce ~~the modeled in force prescribed by Section 6.B.3.a.i~~. These scenario reserves shall be referred to as Prescribed Amount A and Prescribed Amount B, respectively.

APF 2021-13
ACLI believes that a robust principle-based framework should appropriately reflect inherent offsets between risks. However, we do recognize the inherently conservative nature of the statutory reserve framework. We do have concerns regarding the last sentence of the guidance note; given the risks are offsetting, it may not be possible to achieve the level of margin described in this sentence. For this reason, we recommend striking that sentence.

We appreciate the consideration of our comments and look forward to discussing on a future call. Thank you.

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

Sincerely,

cc:Reggie Mazyck, NAIC

Dates: Received	Reviewed by Staff	Distributed	Considered
9/8/21	RM		
Notes: APF 2021-12			

Life Actuarial (A) Task Force/ Health Actuarial (B) Task Force
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1. Identify yourself, your affiliation and a very brief description (title) of the issue.

Identification:
PBR Staff of Texas Department of Insurance

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

VM-21 Section 6.B.3.a~~.v~~, VM-21 Section 6.B.6.a, VM-21 Section 6.B.6.b, VM-21 Section 6.C.4, VM-21 Section 6.C.10, VM-21 Section 6.C.11

January 1, 202~~1~~2 NAIC *Valuation Manual*

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1. VM-21 requires the CSMP method for Additional Standard Projection Amount be applied to a seriatim in-force to capture the impact of model offices under a few deterministic scenarios. There is an incorrect section reference for the in force method required for the prescribed amounts calculation in the CSMP method. There are also other incorrect section references that need to be corrected.

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assumption, the requirement should be clearly referred to Table 6.3 defined in Full Surrenders of Section 6.C.6.

VM-21 Section 6.B.3

3. Calculation Methodology

a. CSMP Method:

~~The company shall apply this method to a seriatim in force.~~

~~ii.~~i. Calculate the scenario reserve, as defined in VM-01 and discussed further in Section 4.B, for each of the prescribed market paths outlined in Section 6.B.6 using the same method and assumptions as those that the company uses to calculate scenario reserves for the purposes of determining the CTE70 (adjusted),[2] as outlined in Section 9.C. These scenario reserves shall collectively be referred to as a Company Standard Projection Set.

~~iii.~~ii. Identify the market path from the Company Standard Projection Set such that the scenario reserve is closest to the CTE70 (adjusted), designated as Path A. This scenario reserve shall be referred to as Company Amount A.

~~iv.~~iii. Identify the following four market paths:

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For the path designated as Path B, the scenario reserve shall be referred to as Company Amount B.

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~~vi.~~v. Calculate the Prescribed Projections Amount as:

Prescribed Projections Amount

$$= Prescribed\ Amount\ A + (CTE70\ (adjusted) - Company\ Amount\ A) \times \left(\frac{Prescribed\ Amount\ B - Prescribed\ Amount\ A}{Company\ Amount\ B - Company\ Amount\ A}\right)$$

VM-21 Section 6.B.6.a

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If the eight prescribed equity fund market paths are insufficient for a company to calculate the additional standard projection amount via steps (i) through (v~~ii~~) outlined in Section 6.B.3.a, then the company shall include additional equity fund market paths that increase or decrease the prescribed gross returns in the first projection year by 5% increments at a time.

VM-21 Section 6.B.6.b

If the five prescribed interest rate market paths are insufficient for a company to calculate the Additional Standard Projection Amount via steps (i) through (v~~ii~~) outlined in Section 6.B.3.a, then the company shall include additional interest rate market paths that increase or decrease the prescribed starting Treasury Department rates at each point on the term structure by increments equal to 25% of the difference between the Treasury Department rate as of the valuation date and 0.01%. The lowest interest rate to be used in this analysis is 0.01%.

VM-21 Section 6.C.4
4. Partial Withdrawals

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c. If the contract has any other guaranteed benefits, including a GMDB, the contract shall remain in-force. If the guaranteed benefits contractually terminate upon account value depletion, such termination provisions are assumed to be voided in order to approximate the contract holder's retaining adequate Account Value to maintain the guaranteed benefits inforce. At the option of the company, fees associated with the contract and guaranteed benefits may continue to be charged and modeled as collected even if the account value has reached zero. While the contract must remain in-force, benefit features may still be terminated according to contractual terms other than account value depletion provisions.

d. If the contract has no minimum guaranteed benefits, the contract should be terminated according to contractual terms.

VM-21 Section 6.C.11

11. Other Voluntary Contract Terminations

For contracts that have other elective provisions that allow a contract holder to terminate the contract voluntarily, the termination rate shall be calculated based on the Standard Table for Full Surrenders as detailed above in Table 6.3 with the following adjustments:

a. If the contract holder is not yet eligible to terminate the contract under the elective provisions, the termination rate shall be zero.

b. After the contract holder becomes eligible to terminate the contract under the elective provisions, the termination rate shall be determined using the "Subsequent years" column of Table 6.3.

c. In using Table 6.3, the ITM of a contract's guaranteed benefit shall be calculated based on the ratio of the guaranteed benefit's GAPV to the termination value of the contract. The termination value of the contract shall be calculated as the GAPV of the payment stream that the contract holder is entitled to receive upon termination of the contract; if the contract holder has multiple options for the payment stream, the termination value shall be the highest GAPV of these options.

d. For GMWB or hybrid GMIB contracts, for all contract years in which a withdrawal is projected, the termination rate obtained from Table 6.3 shall be additionally multiplied by 60%.

For calculating the ITM of a hybrid GMIB, the guaranteed benefit's GAPV shall be the larger of the Annuitization GAPV or the Withdrawal GAPV.

e. For contracts with no minimum guaranteed benefits, ITM is 0%; for all contract years in which a withdrawal is projected, the termination rate obtained from Table 6.3 shall be the row in the table for ITM < 50% using the "Subsequent years" column of Table 6.3.

Dates: Received	Reviewed by Staff	Distributed	Considered
9/16/21	RM		
Notes: APF 2021-13			

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

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

   Joint submission by:
   -- Staff of Office of Principle-Based Reserving, California Department of Insurance
   -- Texas Department of Insurance

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

   Valuation Manual (January 1, 2022 edition), VM-20 Section 9.C.6.e, VM-20 Section 9.C.7, VM-31 Section 3.D.3.o.

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

   See attached Appendix.

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

   See attached Appendix.

NAIC Staff Comments:

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Appendix

ISSUE:

It has been observed that adding the prescribed mortality margins for some Life/LTC combination products cause modeled reserves to decrease rather than increase.

SECTION:

VM-20 Section 9.C.6.e, VM-20 Section 9.C.7, VM-31 Section 3.D.3.o.

REDLINE:

(New) VM-20 Section 9.C.6.e

e. In the event that the prescribed mortality margins set forth above do not produce a reserve increase of adequate magnitude – and in particular when the prescribed margins produce a decrease in the reserve – the company shall derive and use margins that do produce an appropriately conservative result.

Guidance Note: This can occur, for example, when a rider -- such as a long-term care rider -- is being valued together with the base policy, pursuant to Section II, Subsection 6 of the *Valuation Manual*. Reductions to mortality rates, rather than additions, would potentially be needed in such cases. Such a product/rider combination would likely need to be in its own separate mortality segment. In the case of the product/rider combination, an adequate magnitude for a reserve increase can be thought of in terms of the size of reserve increase that would occur for the product using the tabular prescribed margins if the rider had not been present.

VM-20 Section 9.C.7.a

a. If applicable industry basic tables are used in lieu of company experience as the anticipated experience assumptions, or if the level of credibility of the data as provided in Section 9.C.5 is less than 20%, the prudent estimate assumptions for each mortality segment shall equal the respective mortality rates in the applicable industry basic tables as provided in Section 9.C.3, including any applicable improvement pursuant to Section 9.C.3.g, plus the prescribed margin as provided in Section 9.C.6.c, and further adjusted by~~plus~~ any applicable ~~additional~~ margin changes pursuant to Section 9.C.6.d.v and/or Section 9.C.6.d.vi and/or Section 9.C.6.e.

VM-20 Section 9.C.7.b.v

v. For each policy in a given mortality segment, from the start of the projection through policy duration E, the prudent estimate mortality assumptions are the company experience mortality rates (as defined in Section 9.C.2), plus the prescribed margin pursuant to Section 9.C.6.b, and further adjusted by~~plus~~ any applicable~~additional~~ margin changes pursuant to Section 9.C.6.d or Section 9.C.6.e.

(New) VM-31 Section 3.D.3.o

o. Adjustments to Prescribed Margins - Description and rationale for any adjustments made to prescribed mortality margins pursuant to VM-20 Section 9.C.6.d or 9.C.6.e.

REASONING:

We want to make sure that mortality margins always increase, rather than decreased, the modeled reserve.

Treasury Model Acceptance Criteria

Item	Category	Suggested Direction for Next Iteration
1.	Low For Long	10 and 30-year geometric average of 20yr UST below current level a) 10-year threshold: 10% b) 30-year threshold: 5%
2.	Prevalence of High Rates, Upper Bound on Treasury Rates	a) The scenario set should reasonably reflect history, with some allowance for more extreme high and low interest rate environments b) Upper Bound: i. [20%] is >= [99%]-tile on the 3M yield fan chart, and no more than [5%] of scenarios have 3M yields that go above [20%] in the first 30 years ii. [20%] is >= [99%]-tile on the 10Y yield fan chart, and no more than [5%] of scenarios have 10Y yields that go above [20%] in the first 30 years
3.	Lower Bound on Negative Interest Rates, Arbitrage Free Considerations	Apply the following guidance for negative rates: a) All maturities could experience negative interest rates b) Interest rates may remain negative for multi-year time periods c) Rates should generally not be lower than -1.5% A floor will likely be employed but the exact form of the floor will be determined later

Treasury Model Acceptance Criteria

Item	Category	Suggested Direction for Next Iteration
4.	Initial Yield Curve Fit, Yield Curve Shapes in Projection, and Steady State Yield Curve Shape	a) Review initial actual vs. fitted spot curve differences for a sampling of 5 dates representing different shapes and rate levels for the entire curve and review fitted curves qualitatively to confirm they stylistically mimic the different actual yield curve shapes b) The frequency of different yield curve shapes in early durations should be reasonable considering the shape of the starting yield curve (e.g. a flatter yield curve leads to more inversions). c) The steady state curve has normal shape (not inverted for short maturities, longer vs shorter maturities, or between long maturities)
5.	Realized short and long maturity volatility at different interest rate levels	a) No Criteria for realized short and long maturity volatility at different interest rate levels

Draft: 11/30/21

Life Actuarial (A) Task Force
Virtual Meeting
October 21, 2021

The Life Actuarial (A) Task Force met Oct. 21, 2021. The following Task Force members participated: Cassie Brown, Chair, represented by Mike Boerner, Rachel Hemphill, and Karen Jiang (TX); Judith L. French, Vice Chair, represented by Peter Weber (OH); Lori K. Wing-Heier represented by Sharon Comstock (AK); Jim L. Ridling represented by Jennifer Li (AL); Ricardo Lara represented by Ben Bock 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 Bruce Sartain and Vincent Tsang (IL); Amy L. Beard represented by Stephen Chamblee (IN); 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); Adrienne A. Harris represented by Bill Carmello and Amanda Fenwick (NY); Jonathan T. Pike represented by Tomasz Serbinowski (UT); and Scott A. White represented by Craig Chupp (VA).

1. Adopted the SOA Historical Mortality Improvement Factors

Marianne Purushotham (Society of Actuaries—SOA) presented the SOA Historical Mortality Improvement (HMI) Recommendation 2021 Scale Update (Attachment Four-A) and the HMI Scale Factors (Attachment Four-B). She said slide 10 of the presentation provides the recommendation for application of the HMI scale for 2021. The SOA recommends: 1) applying the same methodology used in past years; 2) decreasing the HMI scale for males and females; and 3) having individual companies use temporary mortality adjustments to reflect their expectations related to the effects of COVID-19 on short-term mortality levels. She said as more data is amassed, COVID-19 impacts will be reflected in future historical mortality improvement factors. Mr. Chupp expressed concern about the mortality deterioration between ages 25 and 40 that was eliminated by the smoothing technique. Ms. Purushotham said that because the smoothing was applied to all ages, the deterioration in the 25 to 40 age range is spread across all other ages and dampens the mortality improvement in the other age ranges. She said the SOA will consider using a different smoothing technique in the future. Mr. Boerner requested that the HMI Scale Factors and the recommendations on slide 10 for application of the HMI scale be reflected on the SOA website once they are adopted.

Mr. Leung made a motion, seconded by Mr. Unger, to adopt the HMI Factors and the SOA recommendations on slide 10 of the presentation. The motion passed unanimously.

2. Exposed Amendment Proposal 2021-11

Ms. Hemphill said amendment proposal 2021-11 seeks to address items related to VM-21, Requirements for Principle-Based Reserves for Variable Annuities, information necessary for review that companies did not include in their VM-31, PBR Actuarial Report Requirements for Business Subject to a Principle-Based Valuation reports. She reviewed the recommended changes to VM-21 and referenced the sections of VM-20, Requirements for Principle-Based Reserves for Life Products that the changes are intended to parallel. Mr. Chupp indicated a few reference changes that should be made prior to exposure.

Mr. Weber made a motion, seconded by Mr. Andersen, to expose amendment proposal 2021-11 (Attachment Four-C) for a 40-day public comment period ending Dec. 1, including the edits suggested by Mr. Chupp. The motion passed unanimously.

3. Discussed Other Matters

Mr. Mazyck announced that the exposure of the proposed actuarial guideline on asset adequacy testing was extended to Dec. 1.

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

https://naiconline.sharepoint.com/sites/NAICSupportStaffHub/Member_Meetings/Fall_2021/TF/LifeActuarial/LATF_Calls/1021/Oct 21 Minutes.docx

Historical Mortality Improvement Recommendation (VM-20) 2021 Scale Update

Mortality Improvements Life Work Group (MILWG) of the Academy Life Experience Committee and SOA Preferred Mortality Project Oversight Group ("Joint Committee")

Life Actuarial Task Force (LATF) Meeting—September 16, 2021

1

Agenda

- Review standard methodology used for Historical Mortality Improvement (HMI) scale development each year
- Review results of application of the methodology for 2021
- Recommendation for HMI scale for use with 2021 valuation under VM20

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HMI Standard Methodology

Historical Component

- Most recent HMI data—last 10 years
- Source: Social Security Administration (SSA)
- ***Historical data only available through the end of the year that is 2 years prior to the current valuation year***

Forward-Looking Component

- Most recent SSA Alt 2 forecast of future improvements over longer period (20 years)
- Alt 2 = intermediate projection from most recent SSA Trustees Report release

Estimated HMI Scale

- Average of historical data and forecasted components
- With smoothing process applied

3

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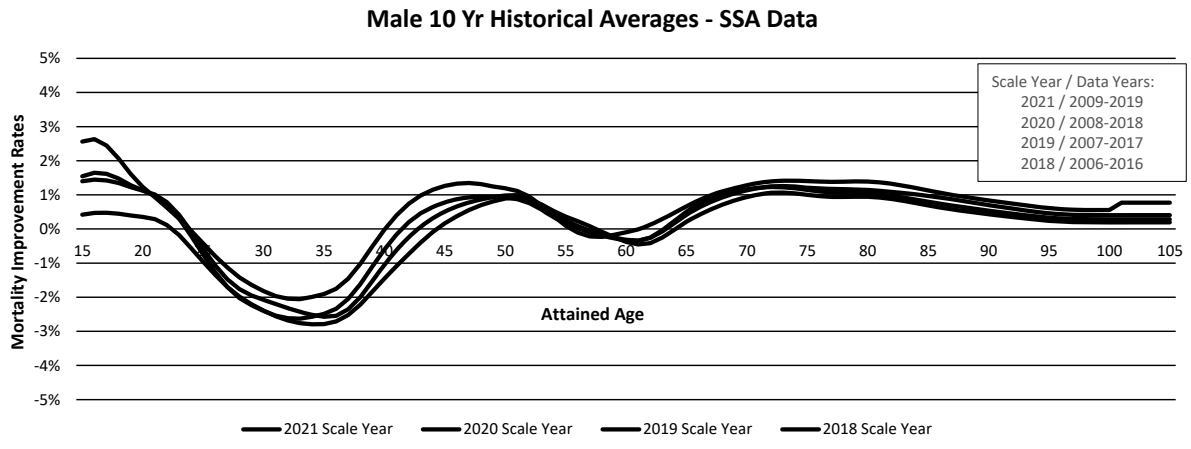
Historical Component:

10-Year Historical Average Annual Improvement



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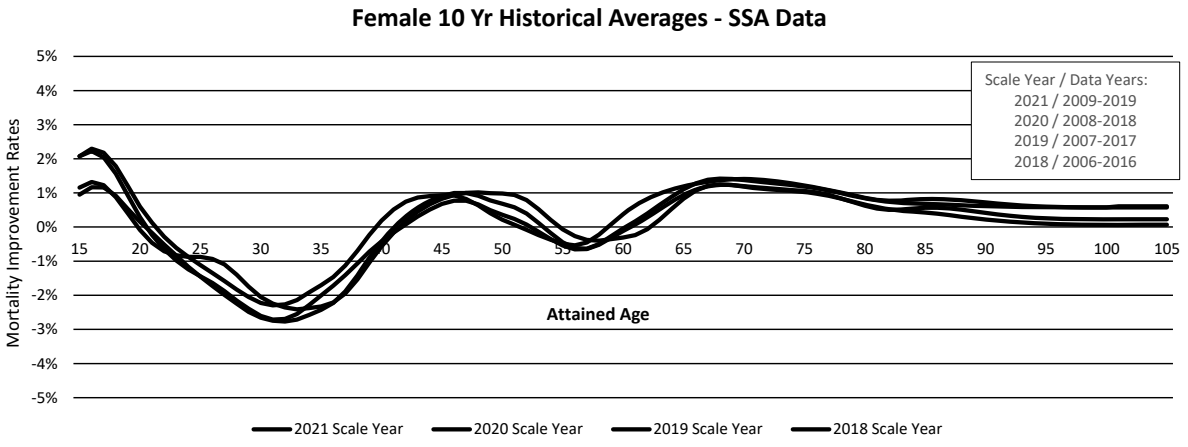
Historical Component:

10-Year Historical Average Annual Improvement



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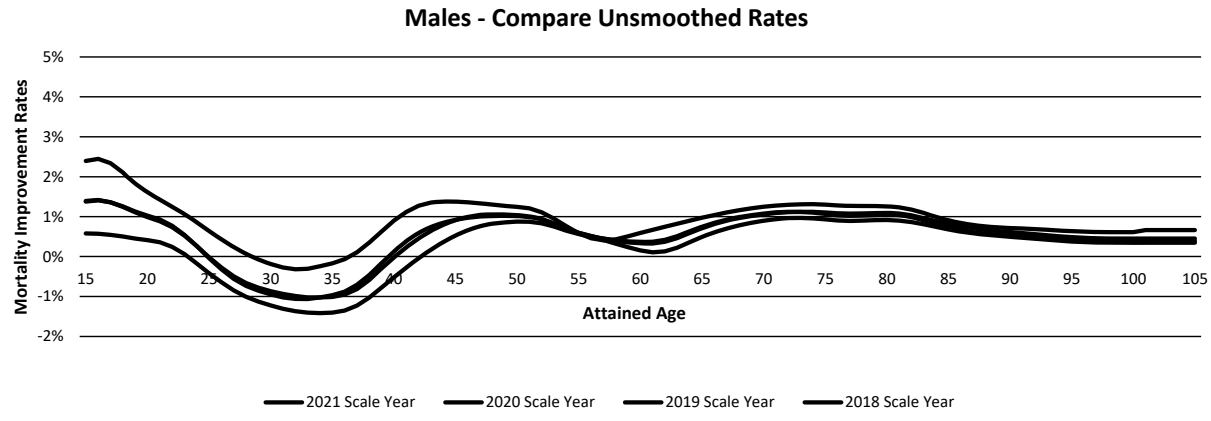
Unsmoothed Preliminary—Male

Comparison by Scale Year – 2021 Scale Revised



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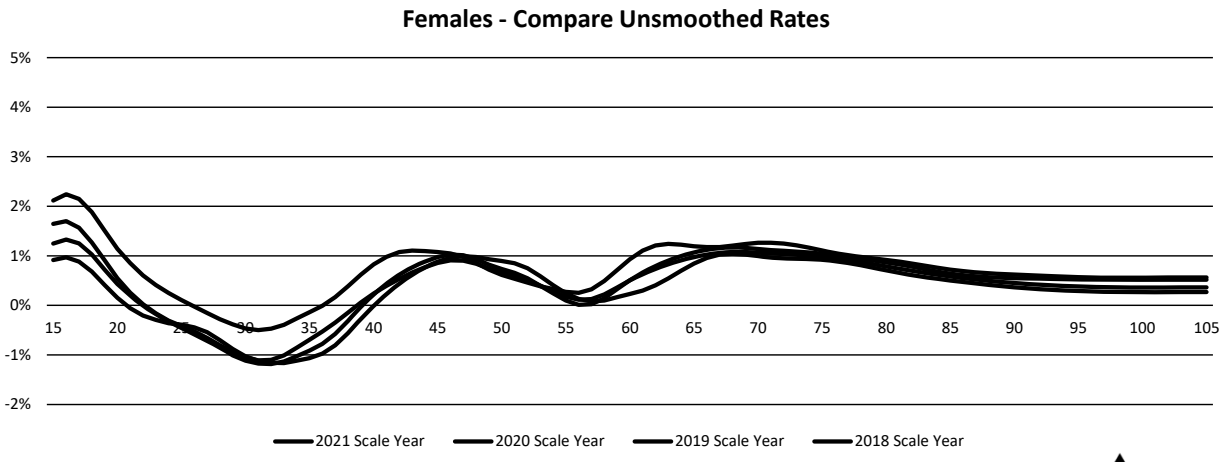
Unsmoothed Preliminary—Female

Comparison by Scale Year - 2021 Scale Revised



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Smoothed Preliminary—Male

Comparison by Scale Year - 2021 Scale Revised

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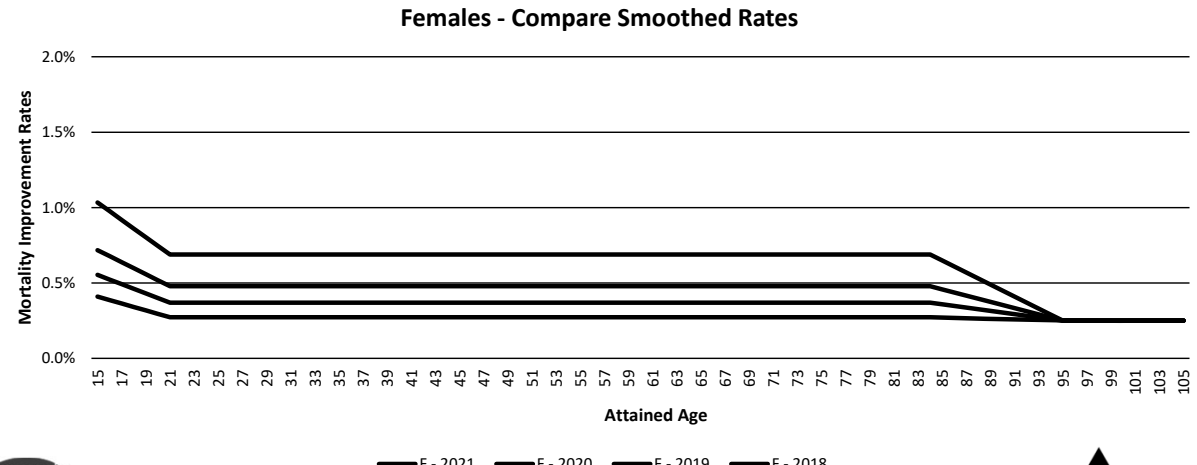
Smoothed Preliminary—Female

Comparison by Scale Year - 2021 Scale Revised



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Recommendation for Application of HMI Scale for 2021 Revised

Recommendation

- Use standard methodology for the published HMI scale for 2021
- Decrease the HMI scale for males and for females for 2021 based on the application of the standard methodology
- Recommend individual companies reflect their expectations around COVID-19 impacts for short-term mortality levels as part of a temporary mortality adjustment

Impact on the 12/31/21 Valuation

- Bring up to valuation date (standard Valuation Basic Table (VBT))
- Note: Companies start with different base mortality levels
  - Possibly higher mortality for the near term to reflect COVID-19
  - HMI scale would not attempt to adjust for COVID-19 as the exposure and the handling of deaths in the underlying company data will vary

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Questions?

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Contact Information

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Life Policy Analyst
American Academy of Actuaries
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Historical Mortality Improvement Rates
To be used for VM20 Products
2021 Recommended Scale

Attained Age	Male	Female
0	0.00281	0.004089
1	0.00281	0.004089
2	0.00281	0.004089
3	0.00281	0.004089
4	0.00281	0.004089
5	0.00281	0.004089
6	0.00281	0.004089
7	0.00281	0.004089
8	0.00281	0.004089
9	0.00281	0.004089
10	0.00281	0.004089
11	0.00281	0.004089
12	0.00281	0.004089
13	0.00281	0.004089
14	0.00281	0.004089
15	0.00281	0.004089
16	0.002654	0.003862
17	0.002498	0.003635
18	0.002341	0.003408
19	0.002185	0.003181
20	0.002029	0.002954
21	0.001873	0.002726
22	0.001873	0.002726
23	0.001873	0.002726
24	0.001873	0.002726
25	0.001873	0.002726
26	0.001873	0.002726
27	0.001873	0.002726
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41	0.001873	0.002726
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76	0.001873	0.002726
77	0.001873	0.002726
78	0.001873	0.002726
79	0.001873	0.002726
80	0.001873	0.002726
81	0.001873	0.002726
82	0.001873	0.002726
83	0.001873	0.002726
84	0.001873	0.002726
85	0.00193	0.002706
86	0.001987	0.002685
87	0.002044	0.002665
88	0.002101	0.002644
89	0.002158	0.002623
90	0.002215	0.002603
91	0.002272	0.002582
92	0.002329	0.002562

93	0.002386	0.002541
94	0.002443	0.002521
95	0.0025	0.0025
96	0.0025	0.0025
97	0.0025	0.0025
98	0.0025	0.0025
99	0.0025	0.0025
100	0.0025	0.0025
101	0.0025	0.0025
102	0.0025	0.0025
103	0.0025	0.0025
104	0.0025	0.0025
105	0.0025	0.0025
106	0.0025	0.0025
107	0.0025	0.0025
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109	0.0025	0.0025
110	0.0025	0.0025
111	0.0025	0.0025
112	0.0025	0.0025
113	0.0025	0.0025
114	0.0025	0.0025
115	0.0025	0.0025
116	0.0025	0.0025
117	0.0025	0.0025
118	0.0025	0.0025
119	0.0025	0.0025

Dates: Received	Reviewed by Staff	Distributed	Considered
8/26/21	RM		
Notes: APF 2021-11			

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

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

   Identification:
   PBR Staff of Texas Department of Insurance

   Title of the Issue:
   Add a section for other assumptions requirement in VM-21 which covers general guidance and requirements for assumptions, and expense assumptions.

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

   VM-21 Section 1.C.2.b, VM-21 Section 12, VM-21 Section 13, VM-21 Section 1.B, VM-21 Section 10.A, VM-31 Section 3.F.3.d, VM-31 Section 3.F.13.d

   January 1, 2021 NAIC Valuation Manual

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

   See attached.

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

   A new section is needed in VM-21 to provide general guidance and requirements for assumptions, similar to VM-20, to address assumption reporting issues identified in VM-21 PBR report reviews, e.g., some companies don't discuss regular assumption reviews for any necessary updates. In addition, this section provides the specific requirements for assumptions that have not been covered in previous sections of VM-21, i.e., the expense assumptions. VM-21 is not very explicit about expenses (e.g., whether they are fully allocated or include one-time expenses). For VM-20, we have had some material impacts from how companies treat one-time expenses that may be multi-year but temporary. Companies could understate expenses if there is no adjustment for periodic or other recurrent expenses in expense study years where they do not occur. This APF is to make the VM-21 expense assumption requirement explicit and consistent with what is specified in VM-20 Section 9.E. The new section can also be used to cover any other assumptions requirements that need to be addressed in the future. The reporting requirement of the sensitivity testing and the impact of margin analysis is added to VM-31 to help regulators better understand how companies comply with the newly added assumption guidance and requirements.

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VM-21 Section 1.C.2.b

a) Liability risks

i. Reinsurer default, impairment or rating downgrade known to have occurred before or on the valuation date.

ii. Mortality/longevity, persistency/lapse, partial withdrawal and premium payment risks.

iii. Utilization risk associated with guaranteed living benefits.

iv. Anticipated mortality trends based on observed patterns of mortality improvement or deterioration, where permitted.

v. Annuitization risks.

vi. Additional premium dump-ins (high interest rate guarantees in low interest rate environments).

~~vi.~~vii. Applicable expense risks, including fluctuation in maintenance expenses directly attributable to the business, future commission expenses, and expense inflation/growth.

VM-21 Section 12 (new)

Section 12: Other Guidance and Requirements for Assumptions

A. Overview

This section provides guidance and requirements in general for setting prudent estimate assumptions when determining either the stochastic reserve or the reserve for any contracts determined using the Alternative Methodology. It also provides specific guidance and requirements for expense assumptions.

B.
General Assumption Requirements

1. The company shall use prudent estimate assumptions for risk factors that are not stochastically modeled by applying margins to the anticipated experience assumptions if such risk factors have been categorized as material risks by following Section 1.B Principle 3 and requirements in Section 12.C.

2. The company shall establish the prudent estimate assumptions for risk factors in compliance with the requirements in Section 12 of Model #820 and must periodically review and update the assumptions as appropriate in accordance with these requirements.

3. The company shall model the following risk factors stochastically unless the company

elects the Aalternative Mmethodology defined in Section 7:

a. Interest rate movements (i.e., Treasury interest rate curves).

b. Equity performance (e.g., Standard & Poor's 500 index [S&P 500] returns and returns of other equity investments).

4. If the company elects to stochastically model risk factors in addition to the economic scenarios, the requirements in this section for determining prudent estimate assumptions for these risk factors do not apply.

Guidance Note: It is expected that companies will not stochastically model risk factors other than the economic scenarios, such as contract holder behavior or mortality, until VM-21 has more specific guidance and requirements available. Companies shall discuss with domiciliary regulators if they wish to stochastically model other risk factors.

5. The company shall use its own experience, if relevant and credible, to establish an anticipated experience assumption for any risk factor. To the extent that company experience is not available or credible, the company may use industry experience or other data to establish the anticipated experience assumption, making modifications as needed to reflect the circumstances of the company.

a. For risk factors (such as mortality) to which statistical credibility theory may be appropriately applied, the company shall establish anticipated experience assumptions for the risk factor by combining relevant company experience with industry experience data, tables or other applicable data in a manner that is consistent with credibility theory and accepted actuarial practice.

b. For risk factors (such as utilization of guaranteed living benefits) that do not lend themselves to the use of statistical credibility theory, and for risk factors (such as some of the lapse assumptions) to which statistical credibility theory can be appropriately applied but cannot currently be applied due to lack of industry data, the company shall establish anticipated experience assumptions in a manner that is consistent with accepted actuarial practice and that reflects any available relevant company experience, any available relevant industry experience, or any other experience data that are available and relevant. Such techniques include:

i. Adopting standard assumptions published by professional, industry or regulatory organizations to the extent they reflect any available relevant company experience or reasonable expectations.

ii. Applying factors to relevant industry experience tables or other relevant data to reflect any available relevant company experience and differences in expected

experience from that underlying the base tables or data due to differences between the risk characteristics of the company experience and the risk characteristics of the experience underlying the base tables or data.

iii. Blending any available relevant company experience with any available relevant industry experience and/or other applicable data using weightings established in a manner that is consistent with accepted actuarial practice and that reflects the risk characteristics of the underlying contracts and/or company practices.

c. For risk factors that have limited or no experience or other applicable data to draw upon, the assumptions shall be established using sound actuarial judgment and the most relevant data available, if such data exists.

d. For any assumption that is set in accordance with the requirements of Section 12.B.5.c, the qualified actuary to whom responsibility for this group of contracts is assigned shall use sensitivity testing and disclose the analysis performed to ensure that the assumption is set at the conservative end of the plausible range.

e. The qualified actuary, to whom responsibility for this group of contracts is assigned, shall annually review relevant emerging experience for the purpose of assessing the appropriateness of the anticipated experience assumption. If the results of statistical or other testing indicate that previously anticipated experience for a given factor is inadequate, then the qualified actuary shall set a new, adequate, anticipated experience assumption for the factor.

6. The company shall sensitivity test risk factors that are not stochastically modeled and examine the impact on the stochastic reserve. The company shall update the sensitivity tests periodically as appropriate. The company may update the tests less frequently, but no less than every 3 years, when the tests show less sensitivity of the stochastic reserve to changes in the assumptions being tested or the experience is not changing rapidly. Providing there is no material impact on the results of the sensitivity testing, the company may perform sensitivity testing:

a. Using samples of the contracts in force rather than performing the entire valuation for each alternative assumption set.

b. Using data from prior periods.

Guidance Note: Sensitivity testing every risk factor on an annual basis is not required. For some risk factors, it may be reasonable, in lieu of sensitivity testing, to employ statistical measures for margins, such as adding one or more standard deviations to the anticipated experience assumption.

7. The company shall vary the prudent estimate assumptions from scenario to scenario within the stochastic reserve calculation in an appropriate manner to reflect the scenario-dependent risks.

C. Assumption Margins

The company shall include margins to provide for adverse deviations and estimation error in the prudent estimate assumption for each risk factor that is not stochastically modeled or prescribed, subject to the following:

1. The level of margin applied to the anticipated experience assumptions may be determined in aggregate or independently as discussed in Section 1.B Principle 3. It is not permissible to set a margin less toward the conservative end of the spectrum to recognize, in whole or in part, implicit or prescribed margins that are present, or are believed to be present, in other risk factors.

Risks that are stochastically modeled (e.g., interest rates, equity returns) or have prescribed margins or guardrails (e.g., assets, revenue sharing) shall be considered material risks. Other risks generally considered to be material include, but are not limited to, mortality, contract holder behavior, maintenance and overhead expenses, inflation and implied volatility. In some cases, the list of material risks may also include acquisition expenses, partial withdrawals, policy loans, annuitizations, account transfers and deposits, and/or option elections that contain an element of anti-selection.

2. The greater the uncertainty in the anticipated experience assumption, the larger the required margin, with the margin added or subtracted as needed to produce a larger modeled TAR than would otherwise result. For example, the company shall use a larger margin when:

a. The experience data have less relevance or lower credibility.

b. The experience data are of lower quality, such as incomplete, internally inconsistent or not current.

c. There is doubt about the reliability of the anticipated experience assumption, such as, but not limited to, recent changes in circumstances or changes in company policies.

d. There are constraints in the modeling that limit an effective reflection of the risk factor.

3. In complying with the sensitivity testing requirements in Section 12.B.6 above, greater analysis and more detailed justification are needed to determine the level of uncertainty when establishing margins for risk factors that produce greater sensitivity on the stochastic reserve.

4. A margin is permitted but not required for assumptions that do not represent material risks.

5. A margin should reflect the magnitude of fluctuations in historical experience of the company for the risk factor, as appropriate.

6. The company shall apply the method used to determine the margin consistently on each valuation date but is permitted to change the method from the prior year if the rationale for the change and the impact on the stochastic reserve is disclosed.

D. Expense Assumptions

1. General Prudent Estimate Expense Assumption Requirements

In determining prudent estimate expense assumptions, the company:

a. May spread certain information technology development costs and other capital expenditures over a reasonable number of years in accordance with accepted statutory accounting principles as defined in the Statements of Statutory Accounting Principles.

Guidance Note: Care should be taken with regard to the potential interaction with the inflation assumption below.

b. Shall assume that the company is a going concern.

c. Shall choose an appropriate expense basis that properly aligns the actual expense to the assumption. If values are not significant, they may be aggregated into a different base assumption.

Guidance Note: For example, death benefit expenses should be modeled with an expense assumption that is per death incurred.

d. Shall reflect the impact of inflation.

e. Shall not assume future expense improvements.

f. Shall not include assumptions for federal income taxes (and expenses paid to provide fraternal benefits in lieu of federal income taxes) and foreign income taxes.

g. Shall use assumptions that are consistent with other related assumptions.

h. Shall use fully allocated expenses.

Guidance Note: Expense assumptions should reflect the direct costs associated with the block of contracts being modeled, as well as indirect costs and overhead costs that have been allocated to the modeled contracts.

i. Shall allocate expenses using an allocation method that is consistent across company lines of business. Such allocation must be determined in a manner that is within the range of actuarial practice and methodology and consistent with applicable ASOPs. Allocations may not be done for the purpose of decreasing the stochastic reserve.

j. Shall reflect expense efficiencies that are derived and realized from the combination of blocks of business due to a business acquisition or merger in the expense assumption only when any future costs associated with achieving the efficiencies are also recognized.

Guidance Note: For example, the combining of two similar blocks of business on the same administrative system may yield some expense savings on a per unit basis, but any future cost of the system conversion should also be considered in the final assumption. If all costs for the conversion are in the past, then there would be no future expenses to reflect in the valuation.

k. Shall reflect the direct costs associated with the contracts being modeled, as well as an appropriate portion of indirect costs and overhead (i.e., expense assumptions representing fully allocated expenses should be used), including expenses categorized in the annual statement as "taxes, licenses and fees" (Exhibit 3 of the annual statement) in the expense assumption.

l. Shall include acquisition expenses associated with business in force as of the valuation date and significant non-recurring expenses expected to be incurred after the valuation date in the expense assumption.

m. For contracts sold under a new policy form or due to entry into a new product line, the company shall use expense factors that are consistent with the expense factors used to determine anticipated experience assumptions for contracts from an existing block of mature contracts taking into account:

i. Any differences in the expected long-term expense levels between the block of new contacts and the block of mature contracts.

ii. That all expenses must be fully allocated as required

under Section 1~~1~~2.D~~E~~.1.~~i~~h above.

2. Margins for Prudent Estimate Expense Assumptions

The company shall determine margins for expense assumptions following Section 12.C.

VM-21 Section 13

Section 1~~3~~2: Allocation of the Aggregate Reserve to the Contract Level

VM-21 Section 1.B

Principle 3: The implementation of a model involves decisions about the experience assumptions and the modeling techniques to be used in measuring the risks to which the company is exposed. Generally, assumptions are to be based on the conservative end of the confidence interval. The choice of a conservative estimate for each assumption may result in a distorted measure of the total risk. Conceptually, the choice of assumptions and the modeling decisions should be made so that the final result approximates what would be obtained for the stochastic reserve at the required CTE level if it were possible to calculate results over the joint distribution of all future outcomes. In applying this concept to the actual calculation of the stochastic reserve, the company should be guided by evolving practice and expanding knowledge base in the measurement and management of risk.

Guidance Note: The intent of Principle 3 is to describe the conceptual framework for setting assumptions. Section 10 provides the requirements and guidance for setting contract holder behavior assumptions and includes alternatives to this framework if the company is unable to fully apply this principle. More guidance and requirements for setting assumptions in general are provided in Section 12.

VM-21 Section 10.A

Section 10: Contract Holder Behavior Assumptions

A. General

Contract holder behavior assumptions encompass actions such as lapses, withdrawals, transfers, recurring deposits, benefit utilization, option election, etc. Contract holder behavior is difficult to predict accurately, and variance in behavior assumptions can significantly affect the results. In the absence of relevant and fully credible empirical data, the company should set behavior assumptions as guided by Principle 3 in Section 1.B and Section 12.

VM-31 Section 3.F.3.d

3. Liability Assumptions and Margins – A listing of the assumptions and margins used in the projections to determine the stochastic reserve, including a discussion of the source(s) and the rationale for each assumption:

   a. Premiums and Subsequent Deposits – Description of premiums and subsequent deposits.

b. Interest Crediting Strategy – Description of the interest crediting strategy.

c. Commissions – Description of commissions, including any commission chargebacks.

d. Expenses Other than Commissions – Description and listing of insurance company expenses other than commissions, such as overhead, including:

i. Method used to allocate expenses to the contracts included in a principle- based valuation under VM-21 and a statement confirming that expenses have been fully allocated in accordance with VM-21 Section 12.D.1.h.~~.~~

ii. Method used to apply the allocated expenses to model segments or sub- segments within the cash-flow model.

iii. Identification of types of costs that were spread, and for how many years, if any cost spreading was done pursuant to VM-21 Section 12.D.1.a.

~~ii.~~iv. Method used to determine margins.

VM-31 Section 3.F.13.c (new)

c. Sensitivity Tests – For each distinct product type for which margins were established:

i. List the specific sensitivity tests performed for each risk factor or combination of risk factors.~~, other than those discussed in Section 3.D.3.h.iv and 3.D.3.i.ii.~~

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ii. Indicate whether the reserve was calculated based on the anticipated experience assumptions or prudent estimate assumptions for all other risk factors while performing the tests.

iii. Provide the numerical results of the sensitivity tests for both reserves and capital.

iv. Explain how the results of sensitivity tests were used or considered in developing assumptions.

VM-31 Section 3.F.13.d (new)

d. Impact of Margin

i. Company can perform the impact of margin analysis using off-cycle data. The analysis can be done less frequently than annual unless there is change or update in the margins, but not less frequently than every 3 years.

ii. Impact of Margins for Each Risk Factor – The impact of margins on the stochastic reserve for each risk factor, or group of risk factors, that has a material impact on the stochastic reserve, determined by subtracting (i) from (ii), expressed in both dollar amounts and percentages:

(1) The CTE70(best efforts), as outlined in VM-21 Section 9.C, but with the reserve calculated based on the anticipated experience assumption for the risk factor and prudent estimate assumptions for all other risk factors.

(2) The CTE70(best efforts), as outlined in VM-21 Section 9.C, for that group of contracts as reported.

(3) Repeat the impact analysis using the same method on CTE(98) levels.

Guidance Note: Pursuant to VM-21, margins must increase TAR, so the impact of each margin, as calculated above on CTE(98), must be positive.

iii. Aggregate Impact of Margins – the aggregate impact of all margins on the stochastic reserve for that group of contracts determined by subtracting (1) from (2), expressed in both dollar amounts and percentages:

(1) The CTE70(best efforts), as outlined in VM-21 Section 9.C, for that group of contracts, but with the reserve calculated based on anticipated experience assumptions for all risk factors prior to the addition of any margins.

(2) The CTE70(best efforts), as outlined in VM-21 Section 9.C, for that group of contracts as reported.

(3) Repeat the impact analysis using the same method on CTE(98) levels.

iv. Impact of Implicit Margins – For purposes of the disclosures required in 13.d.ii and 13.d.iii above:

(1) If the company believes the method used to determine anticipated experience assumptions includes an implicit margin, the company can adjust the anticipated experience assumptions to remove this implicit margin for this reporting purpose only. If any such adjustment is made, the company shall document the rationale and method used to determine the anticipated experience assumption.

(2) Since the company is not required to determine an anticipated experience assumption or a prudent estimate assumption for risk factors that are prescribed (i.e., interest rates movements, equity performance, default costs and net spreads on reinvestment assets), when determining the impact of margins, the prescribed assumption shall be deemed to be the prudent estimate assumption for the risk factor, and the company can elect to determine an anticipated experience assumption for the risk factor, based on the company's anticipated experience for the risk factor. If this is elected, the company shall document the rationale and method used to determine the anticipated experience assumption.

Draft: 10/8/21

Life Actuarial (A) Task Force
Virtual Meeting
September 30, 2021

The Life Actuarial (A) Task Force met Sept. 30, 2021. The following Task Force members participated: Cassie Brown, Chair, represented by Mike Boerner, Rachel Hemphill, and Karen Jiang (TX); Judith L. French, Vice Chair, represented by Peter Weber (OH); Lori K. Wing-Heier represented by Sharon Comstock (AK); Jim L. Ridling represented by Jennifer Li (AL); Ricardo Lara represented by Ben Bock and Thomas Reedy (CA); Michael Conway represented by Eric Unger (CO); Andrew N. Mais represented by Wanchin Chou (CT); Dana Popish Severinghaus represented by Bruce Sartain and Vincent Tsang (IL); Amy L. Beard represented by Stephen Chamblee (IN); 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 Kevin Clarkson (NJ); Adrienne A. Harris represented by Bill Carmello and Amanda Fenwick (NY); Glen Mulready represented by Andrew Schallhorn (OK); and Scott A. White represented by Craig Chupp (VA).

1. Exposed Concepts and Questions Related to a Proposed Actuarial Guideline on AAT

Mr. Andersen said the Valuation Analysis (E) Working Group identified a potential concern about how blocks of legacy deferred annuity products with 3% or higher lifetime credited rate guarantees are being supported in the current low interest rate environment. He noted that transactions related to this business, including acquisitions of companies and reinsurance deals, has resulted in an increasing concentration of this risk being held by firms that support the risk with nontraditional assets. He said state insurance regulators should pool their actuarial and capital markets expertise to identify good practices and bad practices. He said bad practices must be corrected by reflecting the asset risk more appropriately in asset adequacy testing (AAT), potentially resulting in higher reserves. He said state insurance regulators want to avoid the possibility of a company setting up $900 of risky assets in support of a $1,000 liability. The risk of such a scenario occurring increases as the assets held become more complex and are less subject to publicly available valuation. He said the Working Group found that some complex assets have an appropriate risk return profile to support the underlying liability, while others were found to have inflated investment or reinvestment net yield assumptions.

Mr. Andersen said there is a consensus among state insurance regulators discussing this issue that an actuarial guideline should be developed to help ensure reserve adequacy and claims paying ability under moderately adverse conditions, including conditions negatively affecting cash flows from complex assets. He said the guideline should also clarify how margins for uncertainty are established, such that the greater the uncertainty, the larger the required margin and resulting reserve. He said other goals of the guideline will be to recognize that higher asset returns are to some extent associated with higher risk. He said it is possible that sensitivity testing for complex assets supporting certain business, including fixed annuities, may be required. He said the guideline is not contemplated to be a standalone requirement but will provide guidance on modeling and existing asset adequacy requirements. He said the document being considered for exposure represents questions that must be addressed as the guideline is developed. He said there is a possibility that some of the guidance could apply before year-end 2022. Brian Bayerle (American Council of Life Insurers—ACLI) asked how the applicability prior to year-end 2022 would work. Mr. Andersen said it is possible that certain documentation requirements could apply prior to year-end 2022. He asked interested parties to comment on the applicability date.

Mr. Andersen made a motion, seconded by Ms. Eom, to expose the concepts and questions related to a proposed actuarial guideline on AAT (Attachment Five-A) for a 45-day public comment period ending Nov. 15. The motion passed unanimously.

2. Adopted its Summer National Meeting Minutes

Mr. Sartain recommended placing the first sentence of the second paragraph on the report of the VM-22 (A) Subgroup just after the second sentence of the first paragraph and deleting the remainder of the second paragraph.

Mr. Weber made a motion, seconded by Mr. Leung, to adopt the Task Force's Summer National Meeting minutes, including the revision recommended by Mr. Sartain (Attachment Five-B). The motion passed unanimously.

3. Adopted its 2022 Proposed Charges

Mr. Boerner questioned whether the target completion dates for the Guaranteed Issue (GI) Life Valuation (A) Subgroup charges and the Longevity Risk (E/A) Subgroup charges should be retained. He pointed out that no other Subgroup charges have target dates. Reggie Mazyck (NAIC) said the target dates were set by the former chair. He suggested removing the target dates to not unfairly saddle the next chair with target dates in which they did not have input.

Mr. Chou made a motion, seconded by Mr. Schallhorn, to adopt the Task Force's 2022 proposed charges (Attachment Five-C), after removing the target dates. The motion passed unanimously.

4. Exposed Amendment Proposal 2021-12

Ms. Hemphill said amendment proposal 2021-12 (Attachment Five-D) corrects a reference error in VM-21, Requirements for Principle-Based Reserves for Variable Annuities, and clarifies the requirements for variable annuity contracts with no minimum guaranteed benefits under three prescribed assumptions in VM-21 Section 6C.

Mr. Weber made a motion, seconded by Mr. Leung, to expose amendment proposal 2021-12 for a 28-day public comment period ending Oct. 27. The motion passed unanimously.

5. Exposed Amendment Proposal 2021-13

Mr. Bock said amendment proposal 2021-13 (Attachment Five-E) corrects language that allows the addition of prescribed mortality margins for some Life/Long-Term Care (LTC) combination products to decrease, rather than increase, modeled reserves. Ms. Hemphill suggested changing the word "actuary" in the revision proposed for Section 9C(6)e of VM-20, Requirements for Principle-Based Reserves for Life Products, to "company."

Mr. Bock made a motion, seconded by Mr. Unger, to expose amendment proposal 2021-13, including the change suggested by Ms. Hemphill, for a 28-day public comment period ending Oct. 27. The motion passed unanimously.

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

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Life Actuarial (A) Task Force
Exposure Draft
Please send comments to Reggie Mazyck (RMazyck@NAIC.Org)
by close of business November 15

Consider concept of an actuarial guideline focusing on modeling of complex or high-yielding assets in asset adequacy testing.

Development of an actuarial guideline focusing on modeling of complex or high-yielding assets in asset adequacy testing (AAT), with particular interest in receiving feedback on the following issues:

- Product scope: Should the focus be on assets supporting fixed annuities or assets supporting all life insurer liabilities subject to AAT?
- Size scope: Should only life insurers or blocks exceeding a certain size threshold be subject to the actuarial guideline?
- Constraints or documentation: Should the actuarial guideline focus on establishing constraints related to the modeling of complex or high gross yield assets (impacting AAT results) or providing detailed documentation and sensitivity testing on the modeling of such assets (potentially not impacting AAT results)?
- Effective date: Is a year-end 2022 effective date for the actuarial guideline reasonable, or should some guidance apply before that date?

Life Actuarial (A) Task Force
Virtual Meeting (*in lieu of meeting at the 2021 Summer National Meeting*)
August 12, 2021

The Life Actuarial (A) Task Force met Aug. 12, 2021. The following Task Force members participated: Doug Slape, Chair, represented by Mike Boerner and Rachel Hemphill (TX); Judith L. French, Vice Chair, represented by Peter Weber (OH); Lori K. Wing-Heier represented by Sharon Comstock (AK); Jim L. Ridling represented by Jennifer Li (AL); Ricardo Lara represented by Perry Kupferman, Thomas Reedy, and Ted Chang (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 Bruce Sartain and Vincent Tsang (IL); Amy L. Beard represented by Steven Chamblee (IN); Vicki Schmidt represented by Nicole Boyd (KS); Grace Arnold represented by Fred Andersen and John Robinson (MN); Chlora Lindley-Myers represented by William Leung (MO); Eric Dunning represented by Rhonda Ahrens (NE); Marlene Caride represented by Seong-min Eom (NJ); Linda A. Lacewell represented by Bill Carmello and Amanda Fenwick (NY); Glen Mulready represented by Andrew Schallhorn (OK); Jonathan T. Pike represented by Tomasz Serbinowski (UT); and Scott A. White represented by Craig Chupp (VA).

1. Adopted its July 1, June 24, June 17, June 10, May 27, May 20, May 13, May 6, April 29, and April 22 Minutes

The Task Force met July 1, June 24, June 17, June 10, May 27, May 20, May 13, May 6, April 29, and April 22. During these meetings, the Task Force took the following action: 1) adopted its Spring National Meeting minutes; 2) adopted amendment proposal 2019-33, which clarifies the definition of individually underwritten life insurance and the applicability of principle-based reserving (PBR) requirements for group contracts with individual risk selection issued under insurance certificates; 3) adopted amendment proposal 2020-10, which allows the use of a prudent level of mortality improvement beyond the valuation date; 4) adopted amendment proposal 2021-03, which updates the reference to required minimum distribution age; 5) adopted amendment proposal 2021-05, which changes the term in VM-31, PBR Actuarial Report Requirements for Business Subject to a Principle-Based Valuation, from "model investment strategy" to "modeled company investment strategy" and clarifies the comparison to the alternative investment strategy; 6) adopted amendment proposal 2021-06, which allows for third-party submission of experience data; 7) adopted amendment proposal 2021-07, which clarifies the universal life with secondary guarantees (ULSG) net premium reserve (NPR) calculation requirements; and 8) adopted amendment proposal 2021-09, which updates the materiality language in Section 3.E.1 of VM-31 to be consistent with VM-21, Requirements for Principle-Based Reserves for Variable Annuities.

Mr. Yanacheak made a motion, seconded by Mr. Schallhorn, to adopt the Task Force's July 1 (Attachment One), June 24 (Attachment Two), June 17 (Attachment Three) , June 10 (Attachment Four), May 27 (Attachment Five), May 20 (Attachment Six), May 13 (Attachment Seven), May 6 (Attachment Eight), April 29 (Attachment Nine), and April 22 (Attachment Ten) minutes. The motion passed unanimously.

2. Adopted the Report of the Index-Linked Variable Annuity (A) Subgroup

Mr. Weber made a motion, seconded by Ms. Ahrens, to adopt the report of the Index-Linked Variable Annuity (A) Subgroup (Attachment Eleven), including its July 15 minutes (Attachment Twelve). The motion passed unanimously.

3. Adopted the Report of the Longevity Risk (E/A) Subgroup

Mr. Weber made a motion, seconded by Ms. Ahrens, to adopt the report of the Longevity Risk (E/A) Subgroup (Attachment Thirteen). The motion passed unanimously.

4. Adopted the Report of the GI Life Valuation (A) Subgroup

Mr. Weber made a motion, seconded by Ms. Ahrens, to adopt the report of the Guaranteed Issue (GI) Life Valuation (A) Subgroup (Attachment Fourteen). The motion passed unanimously.

5. Adopted the Report of the Experience Reporting (A) Subgroup

Mr. Weber made a motion, seconded by Ms. Ahrens, to adopt the report of the Experience Reporting (A) Subgroup (Attachment Fifteen). The motion passed unanimously.

6. Adopted the Report of the IUL Illustration (A) Subgroup

Mr. Weber made a motion, seconded by Ms. Ahrens, to adopt the report of the Indexed Universal Life (IUL) Illustration (A) Subgroup (Attachment Sixteen). The motion passed unanimously.

7. Adopted the Report of the VM-22 (A) Subgroup

Mr. Sartain said the Valuation Manual (VM)-22 (A) Subgroup completed discussions of the American Academy of Actuaries' (Academy's) Annuity Reserves and Capital Work Group (ARCWG) preliminary framework. He said the most important discussions were focused on aggregation. He said liability elements, hedging issues, and field test plans were also discussed. He noted that field testing is scheduled for the first half of 2022. He noted that the ARCWG framework is exposed for a 90-day public comment period ending Oct. 19.

Mr. Sartain said the Subgroup initially settled on two reserve categories for aggregation; i.e., one for payout annuities and another for deferred annuities. The Subgroup later decided against using the payout and deferred annuity categories. They revised the categories to refer to a principled-based approach and a prescriptive approach. The Subgroup asked for feedback on the principle-based and prescriptive approaches as part of the framework exposure.

Mr. Sartain said the Subgroup has separate drafting groups focused on developing a standard projection amount (SPA) and studying mortality underlying pension risk transfer (PRT) business. He said the SPA drafting group has not met recently. He said the PRT drafting group meets regularly and is reviewing information solicited from a small group of companies with PRT business. He said the Subgroup hopes to use the formula based or asset adequacy information from those companies in the development of the principle-based aggregation approach.

Mr. Sartain made a motion, seconded by Mr. Yanacheak, to adopt the report of the VM-22 (A) Subgroup, including its July 21 (Attachment Seventeen), July 7 (Attachment Eighteen), June 30 (Attachment Nineteen), June 16 (Attachment Twenty), May 26 (Attachment Twenty-One), May 12 (Attachment Twenty-Two), May 5 (Attachment Twenty-Three), April 28 (Attachment Twenty-Four), and April 21 (Attachment Twenty-Five) minutes. The motion passed unanimously.

8. Heard an Update on Future Mortality Improvement

Marianne Purushotham (Academy Mortality Improvements Life Working Group [MILWG] and Society of Actuaries [SOA] Preferred Mortality Project Oversight Group [Joint Committee]) presented a recommendation (Attachment Twenty-Six) for the methodology for developing mortality improvement rates applicable to the VM-20, Requirements for Principle-Based Reserves for Life Products, reserve valuation. The rates will be reviewed annually in a manner similar to the process used for the valuation basic table (VBT) scales. Ms. Purushotham noted that the scale will be subject to a threshold of materiality. A best estimate scale and a loaded scale will be developed. The scales will vary by gender and attained age, and they will be applicable for a 20-year period.

Ms. Purushotham said the scale will be initially based on the best estimate of recent historical mortality improvement. The rates will linearly grade to the long-term mortality improvement rates (LTMIRs), defined as the average of projection years 10–15 from the U.S. Social Security Administration (SSA) intermediate projection, over the first 10 years. The mortality improvement rates will then remain level for five years and linearly grade to no improvement at year 20. She noted that the mortality improvement will not be zero at year 20, it will remain at the level of accumulated mortality improvement for the 20-year period. The mortality improvement factors are expected to be available for 2022 valuations and will factor in COVID-19 impacts.

Scott O'Neal (NAIC) discussed model office results showing the impact on ULSG reserves from the application of the mortality improvement rates, including two levels of margin. He noted that instead of the reserve calculation using historical mortality improvement up to the valuation date and future mortality improvement rates beyond the valuation date, the future mortality improvement rates were used for both historical and future rates as a means of simplification. Historical mortality improvement is not applied prior to 2021. Mr. O'Neal said the model office demonstrates that the use of mortality improvement rates beyond the valuation date results in reductions of 14%, 10%, and 8% for the best estimate, best estimate with 25% margin, and best estimate with 35% margin, respectively. He said the NPR floor is not considered in the analysis but could be reflected at the request of state insurance regulators. He noted that Section 3.D.11.c of VM-31 provides an opportunity for companies to identify and quantify the impact of any perceived implicit margins present in the VM-20 methodology in their PBR Actuarial Reports. Several companies have highlighted VM-20's prohibition of future mortality improvement as a source of implicit margin in VM-20 and provided a quantification of the impact. He said a review of 2020 PBR Actuarial Reports for a sample

of large life insurance companies revealed that companies reported between a 9% and 80% reduction to their deterministic reserves for ULSG products with the inclusion of a future mortality improvement assumption.

Ms. Purushotham said the recommendation is to use the best estimate with a 25% margin. She pointed out the 25% reduction is a material cushion to the reserve impact. She noted that the mortality improvement rates are not locked in. The scale is subject to change on an annual basis to reflect any new trends. She said there are several issues that will be considered when setting the rates, including the short-term and long-term impacts of COVID-19, the impact of opioid addiction, the threshold for materiality and the socioeconomic-based mortality differences between the general and insured populations. Mr. Carmello asked if the impacts of COVID-19 will be carved out. Ms. Purushotham said that is being considered, but a final decision is yet to be made. Mr. Carmello suggested delaying implementation of the future mortality improvement for a few years. He asked if the margin will be applied if the mortality improvement is negative. Ms. Purushotham responded that the margin will be applied as a further reduction to the negative mortality improvement. She said a zero mortality rate will receive a flat 25 basis point margin. Mr. Carmello suggested that if the mortality improvement rates are between +1 and -1, they should have a flat margin.

Mr. Yanacheak voiced concern that the SOA determination of materiality threshold would take some decision making out of the hands of the Task Force. Ms. Purushotham said the intent is to fully provide the data to the Task Force. If the SOA recommendation is to forgo changes to the mortality improvement rates, the final decision will reside with the Task Force.

9. Heard an Update on the ESG

Mr. O'Neal presented a slide deck (Attachment Twenty-Seven) on the status of the economic scenario generator (ESG). He said the ESG Drafting Group comprises selected Task Force members, NAIC staff, Conning Inc. staff, and industry subject matter experts (SMEs). He said the drafting group is focused on developing a set of recommendations for the GEMS Treasury model and a set of associated scenarios for consideration by the Task Force and the Life Risk-Based Capital (E) Working Group. He listed the key calibration goals. Once the key calibration goals are met and scenarios are created, a field test will be conducted. Mr. O'Neal stressed that the process of meeting the goals and setting the scenarios is iterative. He noted that technical discussions and questions are posted on SharePoint. Dan Finn (Conning Inc.) discussed the calibration targets and the tradeoffs that may be encountered when attempting to meet the calibration targets.

10. Exposed the 2022 GRET

Tony Phipps (SOA) discussed the 2022 Generally Recognized Expense Table (GRET) presentation (Attachment Twenty-Eight). He noted that the SOA has also supplied a letter (Attachment Twenty-Nine), which provides a deeper view of the methodology. He said there are no material changes in the process as compared to past years. He said the methodology limits percentage changes to in expense factors to 10% to minimize large jumps from one year to the next. He noted that the number of companies in the study increased from 292 to 375. He attributed the increase to fewer companies falling outside the exclusion criteria.

Mr. Chou made a motion, seconded by Mr. Leung, to expose the 2022 GRET for a 21-day public comment period ending Sept. 7. The motion passed unanimously.

11. Heard an Update on the LIBOR Transition

Pat Allison (NAIC) presented an update (Attachment Thirty) on the transition away from the London Interbank Offered Rate (LIBOR). She said the currently recommended replacement for LIBOR is the Secured Overnight Financing Rate (SOFR). On July 29, the Alternative Reference Rates Committee (ARRC) recommended the Chicago Mercantile Exchange's (CME Group's) forward-looking SOFR term rates, which are now published daily for one-month, three-month, and six-month tenors. As of July 2023, LIBOR tenors will no longer be published. The NAIC has identified the actions companies must take prior to that date.

Ms. Allison discussed the *Valuation Manual* language related to setting the asset spreads used in cashflow modeling. She said the language makes it clear that the three-month and six-month market observable values referenced are based on LIBOR, which requires that they be replaced. She pointed to the language that supports the move from LIBOR to its replacement. She noted that it does not name a specific replacement, such as the SOFR. She said several competing alternatives, other than the SOFR, have surfaced. She said NAIC staff are conducting research to determine if long-term benchmark spreads might also need to be replaced as part of the LIBOR transition.

Brian Bayerle (American Council of Life Insurers—ACLI) said an industry working group has been set up to assist in the transition effort. He said the working group is monitoring the alternatives, but he believes efforts should be focused on the SOFR as the LIBOR replacement. He noted that it is important for companies to fully understand how they are currently using LIBOR to determine where a replacement may be necessary.

12. Discussed the Mortality Data Collection Project

Ms. Allison gave a presentation (Attachment Thirty-One) on the mortality experience data collection. She said NAIC staff provided training webinars through May 27. She said data for observation years 2018 and 2019 will be collected from 115 companies. The data must be submitted through the NAIC Regulatory Data Collection (RDC) by the end of September. Ms. Allison said the company will receive feedback from the RDC when the data is initially submitted. After the company data meets the RDC critical criteria, the data will undergo further analysis from NAIC staff. NAIC staff will provide feedback within 30 days of receiving the submission. The company must correct any errors discovered by NAIC staff before resubmitting the file. There is no limit on the number of resubmissions a company can make, but the final corrected data file must be submitted on or before Dec. 31. The NAIC has committed to provide the aggregate experience data to the SOA by May 31, 2022. To date, four companies have submitted mortality experience data; only three of the four submissions are complete. Submissions must include data for the 2018 and 2019 observation years; VM-51, Experience Reporting Formats, questionnaires; control totals; and a reconciliation to be considered complete. Five companies have loaded data into the RDC but have not yet submitted the data. The presentation included a list of resources available to participating companies.

13. Heard an Update on SOA Research and Education

Dale Hall (SOA) gave a presentation (Attachment Thirty-Two) on group and individual life COVID-19 mortality experience for various demographic categories and geographic regions by quarter from April 2020 through March 2021. He noted that after seeing general population mortality continue to decline in 2019, the 2020 results were 16% higher than the 2019 mortality rates. He noted that excluding deaths from COVID-19, the 2020 mortality rates were 4.4% higher than the 2019 results. He said the highest actual to expected ratios occurred in the age range from 35 to 54.

14. Heard an Update on the Recent Activities of the Academy LPC

Laura Hanson (Academy Life Practice Council—LPC) gave a presentation (Attachment Thirty-Three) on the LPC's recent activities. She highlighted that the Academy is providing input to the ESG Drafting Group. She also noted the ARCWG work on VM-22, Statutory Maximum Valuation Interest Rates for Income Annuities, and discussed the Academy webinars and boot camps planned for the remainder of 2021. She listed a few of the Academy efforts supporting its promotion of diversity and inclusion within the actuarial profession and in the broader insurance industry.

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

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Draft: 10/12/21
Adopted by the Executive (EX) Committee and Plenary, TBD
Adopted by the Life Insurance and Annuities (A) Committee, TBD
Adopted by the Life Actuarial (A) Task Force, Sept. 30, 2021

2022 Proposed Charges

LIFE ACTUARIAL (A) TASK FORCE

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

Ongoing Support of NAIC Programs, Products and Services

1. The **Life Actuarial (A) Task Force** will:
   A. Work to keep reserve, reporting, and other actuarial-related requirements current. This includes principle-based reserving (PBR) and other requirements in the *Valuation Manual*, actuarial guidelines, and recommendations for appropriate actuarial reporting in blanks. Respond to charges from the Life Insurance and Annuities (A) Committee and referrals from other groups or committees, as appropriate.
   B. Report progress on all work to the Life Insurance and Annuities (A) Committee and provide updates to the Financial Condition (E) Committee on matters related to life insurance company solvency. This work includes the following:
      1. Work with the American Academy of Actuaries (Academy) and the Society of Actuaries (SOA) to develop new mortality tables for valuation and minimum nonforfeiture requirements, as appropriate, for life insurance and annuities.
      2. Provide recommendations for guidance and requirements for accelerated underwriting, as needed.
      3. Evaluate and provide recommendations regarding the VM-21, Requirements for Principle-Based Reserves for Variable Annuities/*Actuarial Guideline XLIII—CARVM for Variable Annuities* (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.
      4. Work with the SOA on the annual development of the Generally Recognized Expense Table (GRET) factors.
      5. Provide recommendations and changes, as appropriate, to other reserve and nonforfeiture requirements to address issues and provide actuarial assistance and commentary to other NAIC committees relative to their work on actuarial matters.
      6. Work with the selected vendor to develop and implement the new economic scenario generator (ESG) for use in regulatory reserve and capital calculations.
      7. Monitor international developments regarding life and health insurance reserving, capital, and related topics. Compare and benchmark with PBR requirements.

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

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

4. The **Indexed Universal Life (IUL) Illustration (A) Subgroup** will:
   A. Monitor the results and practices of IUL illustrations following implementation of *Actuarial Guideline XLIX-A—The Application of the Life Illustrations Model Regulation to Policies with Index-Based Interest to Policies Sold On or After December 14, 2020* (AG 49-A). Provide recommendations for consideration of changes to *Life Insurance Illustrations Model Regulation* (#582) to the Life Actuarial (A) Task Force, as needed.

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

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

7. The **Guaranteed Issue (GI) Life Valuation (A) Subgroup** will:
   A. Provide recommendations regarding valuation requirements for GI life business, including any appropriate mortality table(s) for valuation as well as nonforfeiture.

8. The **Index-Linked Variable Annuity (A) Subgroup** will:
   A. Provide recommendations and changes, as appropriate, to nonforfeiture or interim value requirements related to index-linked variable annuities (ILVAs).

NAIC Support Staff: Reggie Mazyck/Jennifer Frasier

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Dates: Received	Reviewed by Staff	Distributed	Considered
9/8/21	RM		
Notes: APF 2021-12			

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

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

   Identification:
   PBR Staff of Texas Department of Insurance

   Title of the Issue:
   1. Correct a section reference for the CSMP method in-force modeling requirement in VM-21.

   2. Three prescribed assumptions do not have clear requirements for VA contracts with no minimum guaranteed benefits in Additional Standard Projection Amount in VM-21 Section 6.C. These three prescribed assumptions are Partial Withdrawal, Account Value Depletion, and Other Voluntary Contract Termination.

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

   VM-21 Section 6.B.3.a.v, VM-21 Section 6.C.4, VM-21 Section 6.C.10, VM-21 Section 6.C.11

   January 1, 2021 NAIC *Valuation Manual*

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

   See attached.

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

   1. VM-21 requires the CSMP method for Additional Standard Projection Amount be applied to a seriatim in-force to capture the impact of model offices under a few deterministic scenarios. There is an incorrect section reference for the in force method required for the prescribed amounts calculation in the CSMP method.

   2. VM-21 does not make clear what requirements should be used for VA contract with no minimum guaranteed benefit for the prescribed assumptions for partial withdrawal, account value depletion and other voluntary contract termination. The requirements for these three prescribed assumptions for VA contracts with no minimum guaranteed benefits should be added to VM-21 Section 6.C.

   For Partial Withdrawal assumption, it is reasonable to set the partial withdrawal rate at 3.5% or greater for VA contract with no minimum benefit since the prescribed partial withdrawal rate is 3.5% for GMDB only without guaranteed growth in the benefit basis. For Account Value Depletion assumption, the termination is assumed when the Contract's account value reaches zero. For Other Voluntary Contract Terminations assumption, the requirement should be clearly referred to Table 6.3 defined in Full Surrenders of Section 6.C.6.

VM-21 Section 6.B.3

3. Calculation Methodology

a. CSMP Method:

i. The company shall apply this method to a seriatim in-force.

ii. Calculate the scenario reserve, as defined in VM-01 and discussed further in Section 4.B, for each of the prescribed market paths outlined in Section 6.B.6 using the same method and assumptions as those that the company uses to calculate scenario reserves for the purposes of determining the CTE70 (adjusted), [2] as outlined in Section 9.C. These scenario reserves shall collectively be referred to as a Company Standard Projection Set.

iii. Identify the market path from the Company Standard Projection Set such that the scenario reserve is closest to the CTE70 (adjusted), designated as Path A. This scenario reserve shall be referred to as Company Amount A.

iv. Identify the following four market paths:

- Two paths with the same starting interest rate as Path A, but equity shocks +/– 5% from that of Path A.
- Two paths with the same equity fund returns as Path A, but the next higher and next lower interest rate shocks.

From the four paths, identify Path B whose reserve value is:

- If Company Amount A is lower than CTE70 (adjusted), the smallest reserve value that is greater than CTE70 (adjusted).
- If Company Amount A is greater than CTE70 (adjusted), the greatest reserve value that is less than CTE70 (adjusted).

If none of the four paths satisfy the stated condition, discard the identified Path A, and redo steps (iii) and (iv) using the next closest scenario to CTE70 (adjusted) to be the new Path A in step (iii).

For the path designated as Path B, the scenario reserve shall be referred to as Company Amount B.

v. Recalculate the scenario reserves for Path A and Path B using the same method as outlined in step (ii) above, but substitute the assumptions prescribed in Section 6.C and use the modeled in force prescribed by Section 6.B.3.a.i~~2~~. These scenario reserves shall be referred to as Prescribed Amount A and Prescribed Amount B, respectively.

vi. Calculate the Prescribed Projections Amount as:

Prescribed Projections Amount

$$= Prescribed\ Amount\ A + (CTE70\ (adjusted) - Company\ Amount\ A) \times \left(\frac{Prescribed\ Amount\ B - Prescribed\ Amount\ A}{Company\ Amount\ B - Company\ Amount\ A}\right)$$

VM-21 Section 6.C.4
4. Partial Withdrawals

j. For contracts with no minimum guaranteed benefits, the partial withdrawal amount each year shall equal 3.5% of the Account Value.

~~j~~ k. There may be instances where the company has certain data limitations, (e.g., with respect to policies that are not enrolled in an automatic withdrawal program but have exercised a non-excess withdrawal in the contract year immediately preceding the valuation date [Section 6.C.4.g and Section 6.C.4.i]). The company may employ an appropriate proxy method if it does not result in a material understatement of the reserve.

VM-21 Section 6.C.10
10. Account Value Depletions
The following assumptions shall be used when a contract's Account Value reaches zero:

a. If the contract has a GMWB, the contract shall take partial withdrawals that are equal in amount each year to the guaranteed maximum annual withdrawal amount.

b. If the contract has a GMIB, the contract shall annuitize immediately. If the GMIB contractually terminates upon account value depletion, such termination provision is assumed to be voided in order to approximate the contract holder's election to annuitize immediately before the depletion of the account value.

c. If the contract has any other guaranteed benefits, including a GMDB, the contract shall remain in-force. If the guaranteed benefits contractually terminate upon account value depletion, such termination provisions are assumed to be voided in order to approximate the contract holder's retaining adequate Account Value to maintain the guaranteed benefits inforce. At the option of the company, fees associated with the contract and guaranteed benefits may continue to be charged and modeled as collected even if the account value has reached zero. While the contract must remain in-force, benefit features may still be terminated according to contractual terms other than account value depletion provisions.

d. If the contract has no minimum guaranteed benefits, the contract should be terminated according to contractual terms.

VM-21 Section 6.C.11

11. Other Voluntary Contract Terminations

For contracts that have other elective provisions that allow a contract holder to terminate the contract voluntarily, the termination rate shall be calculated based on the Standard Table for Full Surrenders as detailed above in Table 6.3 with the following adjustments:

a. If the contract holder is not yet eligible to terminate the contract under the elective provisions, the termination rate shall be zero.

b. After the contract holder becomes eligible to terminate the contract under the elective provisions, the termination rate shall be determined using the "Subsequent years" column of Table 6.3.

c. In using Table 6.3, the ITM of a contract's guaranteed benefit shall be calculated based on the ratio of the guaranteed benefit's GAPV to the termination value of the contract. The termination value of the contract shall be calculated as the GAPV of the payment stream that the contract holder is entitled to receive upon termination of the contract; if the contract holder has multiple options for the payment stream, the termination value shall be the highest GAPV of these options.

d. For GMWB or hybrid GMIB contracts, for all contract years in which a withdrawal is projected, the termination rate obtained from Table 6.3 shall be additionally multiplied by 60%.

For calculating the ITM of a hybrid GMIB, the guaranteed benefit's GAPV shall be the larger of the Annuitization GAPV or the Withdrawal GAPV.

e. For contracts with no minimum guaranteed benefits, ITM is 0%; for all contract years in which a withdrawal is projected, the termination rate obtained from Table 6.3 shall be the row in the table for ITM < 50% using the "Subsequent years" column of Table 6.3.

Dates: Received	Reviewed by Staff	Distributed	Considered
9/16/21	RM		
Notes: APF 2021-13			

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

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

   Joint submission by:
   -- Staff of Office of Principle-Based Reserving, California Department of Insurance
   -- Texas Department of Insurance

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

   Valuation Manual (January 1, 2022 edition), VM-20 Section 9.C.6.e, VM-20 Section 9.C.7, VM-31 Section 3.D.3.o.

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

   See attached Appendix.

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

   See attached Appendix.

NAIC Staff Comments:

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Appendix

ISSUE:

It has been observed that adding the prescribed mortality margins for some Life/LTC combination products cause modeled reserves to decrease rather than increase.

SECTION:

VM-20 Section 9.C.6.e, VM-20 Section 9.C.7, VM-31 Section 3.D.3.o.

REDLINE:

(New) VM-20 Section 9.C.6.e

e. In the event that the prescribed mortality margins set forth above do not produce a reserve increase of adequate magnitude – and in particular when the prescribed margins produce a decrease in the reserve – the company shall derive and use margins that do produce an appropriately conservative result.

Guidance Note: This can occur, for example, when a rider -- such as a long-term care rider -- is being valued together with the base policy, pursuant to Section II, Subsection 6 of the *Valuation Manual*. Reductions to mortality rates, rather than additions, would potentially be needed in such cases. Such a product/rider combination would likely need to be in its own separate mortality segment. In the case of the product/rider combination, an adequate magnitude for a reserve increase can be thought of in terms of the size of reserve increase that would occur for the product using the tabular prescribed margins if the rider had not been present.

VM-20 Section 9.C.7.a

a. If applicable industry basic tables are used in lieu of company experience as the anticipated experience assumptions, or if the level of credibility of the data as provided in Section 9.C.5 is less than 20%, the prudent estimate assumptions for each mortality segment shall equal the respective mortality rates in the applicable industry basic tables as provided in Section 9.C.3, including any applicable improvement pursuant to Section 9.C.3.g, plus the prescribed margin as provided in Section 9.C.6.c, and further adjusted by~~plus~~ any applicable ~~additional~~ margin changes pursuant to Section 9.C.6.d.v and/or Section 9.C.6.d.vi and/or Section 9.C.6.e.

VM-20 Section 9.C.7.b.v

v. For each policy in a given mortality segment, from the start of the projection through policy duration E, the prudent estimate mortality assumptions are the company experience mortality rates (as defined in Section 9.C.2), plus the prescribed margin pursuant to Section 9.C.6.b, and further adjusted by~~plus~~ any applicable~~additional~~ margin changes pursuant to Section 9.C.6.d or Section 9.C.6.e.

(New) VM-31 Section 3.D.3.o

o. Adjustments to Prescribed Margins - Description and rationale for any adjustments made to prescribed mortality margins pursuant to VM-20 Section 9.C.6.d or 9.C.6.e.

REASONING:

We want to make sure that mortality margins always increase, rather than decreased, the modeled reserve.

Draft: 9/24/21

Life Actuarial (A) Task Force
Virtual Meeting
September 16, 2021

The Life Actuarial (A) Task Force met Sept. 16, 2021. The following Task Force members participated: Cassie Brown, Chair, represented by Mike Boerner, Rachel Hemphill, and Karen Jiang (TX); Judith L. French, Vice Chair, represented by Peter Weber (OH); Lori K. Wing-Heier represented by Sharon Comstock (AK); Jim L. Ridling represented by Jennifer Li (AL); Ricardo Lara represented by Thomas Reedy (CA); Andrew N. Mais represented by Wanchin Chou (CT); Dana Popish Severinghaus represented by Bruce Sartain and Vincent Tsang (IL); Grace Arnold represented by Fred Andersen (MN); Chlora Lindley-Myers represented by William Leung (MO); Eric Dunning represented by Rhonda Ahrens (NE); Marlene Caride represented by Kevin Clarkson (NJ); Adrienne A. Harris represented by Bill Carmello and Amanda Fenwick (NY); Glen Mulready represented by Andrew Schallhorn (OK); and Jonathan T. Pike represented by Tomasz Serbinowski (UT).

1. Adopted the 2022 GRET

Mr. Leung made a motion, seconded by Mr. Weber, to adopt the Society of Actuaries' (SOA's) 2022 Generally Recognized Expense Table (GRET) (Attachment Six-A). The motion passed unanimously.

2. Exposed the SOA HMI 2021 Scale Recommendation

Marianne Purushotham (SOA) presented the SOA Historical Mortality Improvement (HMI) 2021 scale recommendation (Attachment Six-B). She said since 2014, the SOA has applied a standard methodology to develop the HMI scale. The methodology averages a historical component and a forward-looking component to develop the scale, and it uses a smoothing process to eliminate volatility. The historical component is a short-term estimate of the mortality trend since the publication of the 2015 Valuation Basic Table (VBT). The forward-looking component is based on the U.S. Social Security Administration (SSA) Alt2 forecast of future improvements over the next 20 years. Ms. Purushotham noted that there is a difference in experience between the general population data used in the Alt2 forecast and insured population data. She said currently, because of the "noise" in the insured population data, the SOA chooses to use general population data from the SSA. She said in the future, the SOA will look at mortality within the general population by socio-economic group to better differentiate the data.

Ms. Purushotham discussed the graphs, comparing the smoothed and unsmoothed scales by gender for 2018 through 2021. She said the SOA recommends no change to the female scale and a decrease in the male scale for 2021. She recommended that individual companies reflect their expectations for COVID-19 impacts on short-term mortality as part of a temporary mortality adjustment.

Mr. Weber made a motion, seconded by Mr. Kupferman, to expose the SOA HMI 2021 scale recommendation, including the Microsoft Excel tables (Attachment Six-C), for a 21-day public comment period ending Oct. 6. The motion passed unanimously.

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

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TO: Reggie Mazyck, NAIC

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

DATE: August 4, 2021

RE: 2022 Generally Recognized Expense Table (GRET) – SOA Analysis

Dear Mr. Mazyck:

As in previous years, the Society of Actuaries expresses its thanks to NAIC staff for their assistance and responsiveness in providing Annual Statement expense and unit data for the 2022 GRET analysis for use with individual life insurance sales illustrations. The analysis is based on expense and expense related information reported on companies' 2019 and 2020 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 2022. This memo describes the analysis and resultant findings.

NAIC staff provided Annual Statement data for life insurance companies for calendar years 2019 and 2020. This included data from 776 companies in 2019 and 771 companies in 2020. This decrease resumes the trend of small decreases from year to year. Of the total companies, 375 were in both years and passed the outlier exclusion tests and were included as a base for the GRET factors (292 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[1].

To calculate updated GRET factors, the average of the factors from the two most recent years (2019 and 2020 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

[1] https://www.soa.org/Files/Research/Projects/research-2016-gret-recommendation.pdf

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 2019 or 2020 (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 2022 GRET values shown in Table 1. To facilitate comparisons, the current 2021 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 2021 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 2022 GRET FACTORS, BASED ON AVERAGE OF 2019/2020 DATA

Description	Acquisition per Policy	Acquisition per Unit	Acquisition per Premium	Maintenance per Policy	Companies Included	Average Premium Per Policy Issued During Year	Average Face Amt (000) Per Policy Issued During Year
Independent	$183	$1.00	46%	$55	142	3,252	194
Career	212	1.20	53%	64	77	2,327	197
Direct Marketing	200	1.10	50%	60	23	875	72
Niche Marketing	151	0.90	37%	45	24	517	13
Other*	139	0.80	35%	42	109	786	70
* Includes companies that did not respond to this or prior year surveys					375		

TABLE 2

CURRENT 2021 GRET FACTORS, BASED ON AVERAGE OF 2017/2019 DATA

Description	Acquisition per Policy	Acquisition per Unit	Acquisition per Premium	Maintenance per Policy	Companies Included	Average Premium Per Policy Issued During Year	Average Face Amt (000) Per Policy Issued During Year
Independent	$166	$0.90	42%	$50	121	2,916	194
Career	214	1.20	54%	64	63	2,517	195
Direct Marketing	195	1.10	49%	59	15	2,933	119
Niche Marketing	137	0.80	34%	41	26	590	11
Other*	126	0.70	32%	38	67	836	29
* Includes companies that did not respond to this or prior year surveys					292		

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 2021 GRET were reviewed to ensure that a significant change was not made in this year's GRET recommendation.

The Independent, Niche Marketing and Other distribution channel categories experienced a change greater than ten percent so the factors for this line were capped at the ten percent level (the Acquisition per unit factor changed somewhat more than 10% because of rounding) from the corresponding 2021 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 2021 GRET factors and subsequently the same for the 2022 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 2021 GRET table was used in its illustrations by the company. Last year, 29% 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 28% in 2019. This year, 31% of responding companies indicated that they used the GRET in 2020 for sales illustration purposes. The range was from 11% for Direct Marketing to 43% for Independent. 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

Tony Phipps, FSA, MAAA
Chair, SOA 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:

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

CURRENT UNIT EXPENSE SEEDS:

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

Historical Mortality Improvement Recommendation (VM-20) 2021 Scale Update

Mortality Improvements Life Work Group (MILWG) of the Academy Life Experience Committee and SOA Preferred Mortality Project Oversight Group ("Joint Committee")

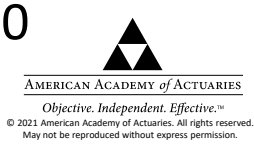
Life Actuarial Task Force (LATF) Meeting—September 16, 2021

1

Agenda

- Review standard methodology used for Historical Mortality Improvement (HMI) scale development each year
- Review results of application of the methodology for 2021
- Recommendation for HMI scale for use with 2021 valuation under VM20

2



2

HMI Standard Methodology

Historical Component

- Most recent HMI data—last 10 years
- Source: Social Security Administration (SSA)
- ***Historical data only available through the end of the year that is 2 years prior to the current valuation year***

Forward-Looking Component

- Most recent SSA Alt 2 forecast of future improvements over longer period (20 years)
- Alt 2 = intermediate projection from most recent SSA Trustees Report release

Estimated HMI Scale

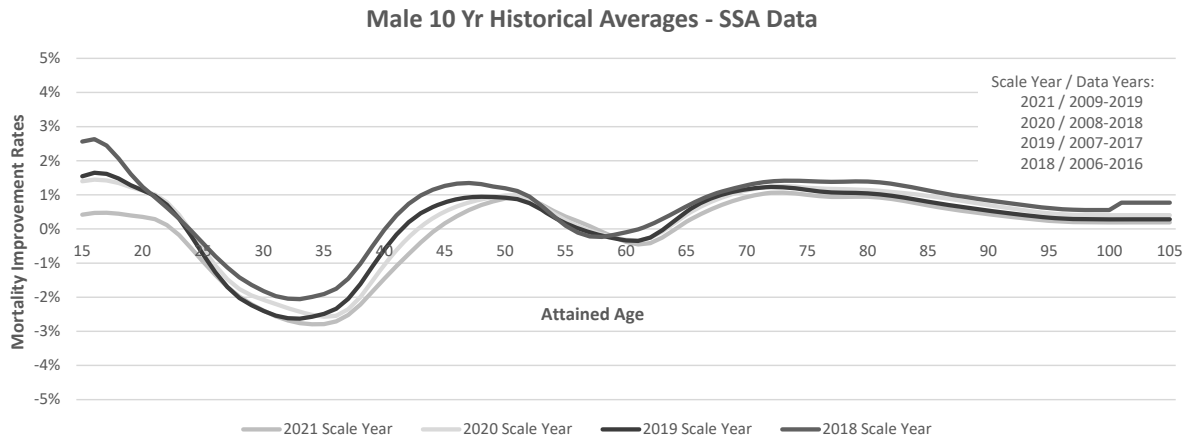
- Average of historical data and forecasted components
- With smoothing process applied

3

3

Historical Component:

10-Year Historical Average Annual Improvement



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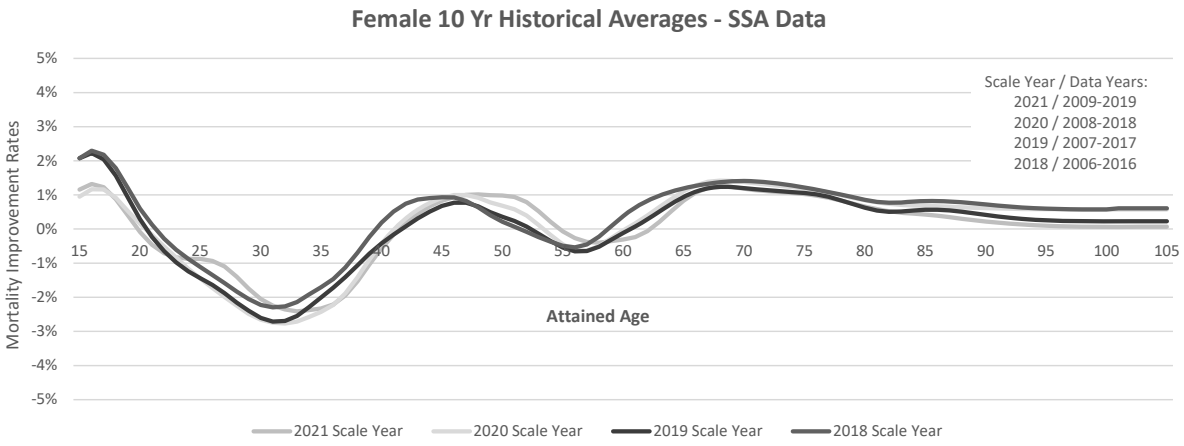
4

Historical Component:

10-Year Historical Average Annual Improvement



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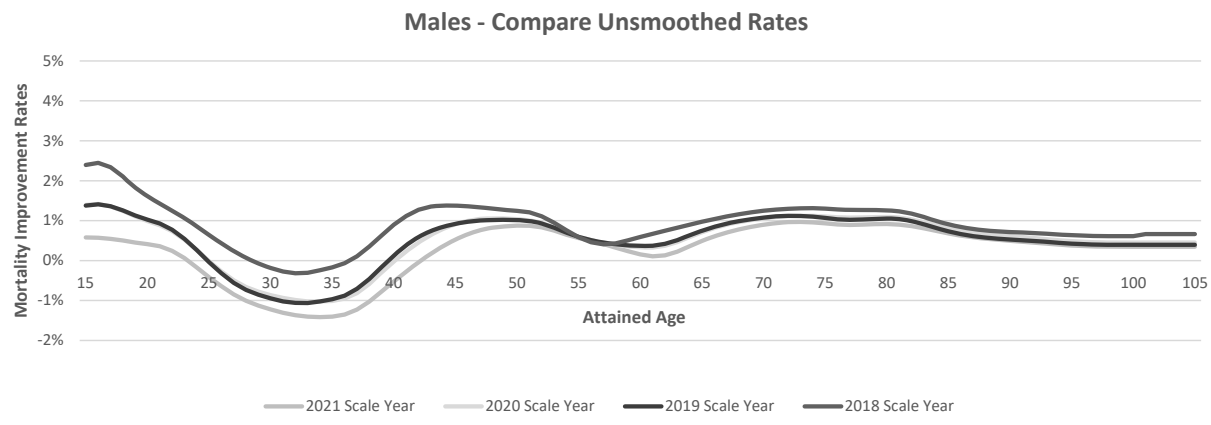
Unsmoothed Preliminary—Male

Comparison by Scale Year – 2021 Scale Revised



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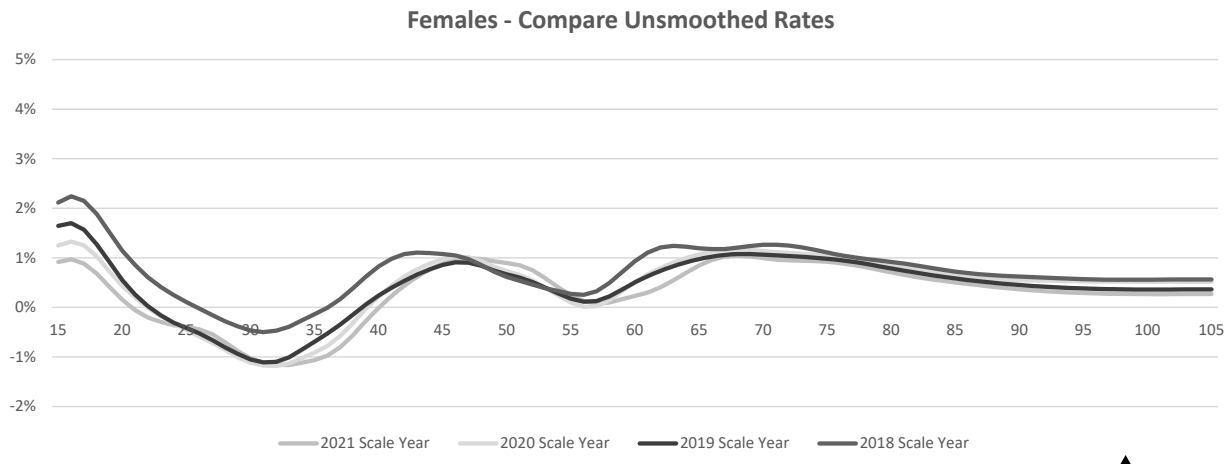
Unsmoothed Preliminary—Female

Comparison by Scale Year - 2021 Scale Revised



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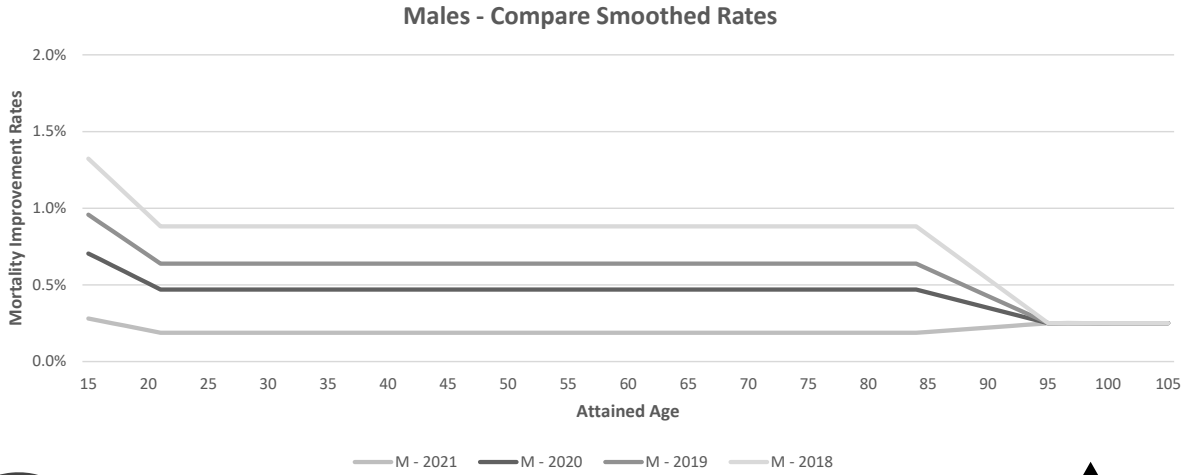
Smoothed Preliminary—Male

Comparison by Scale Year - 2021 Scale Revised



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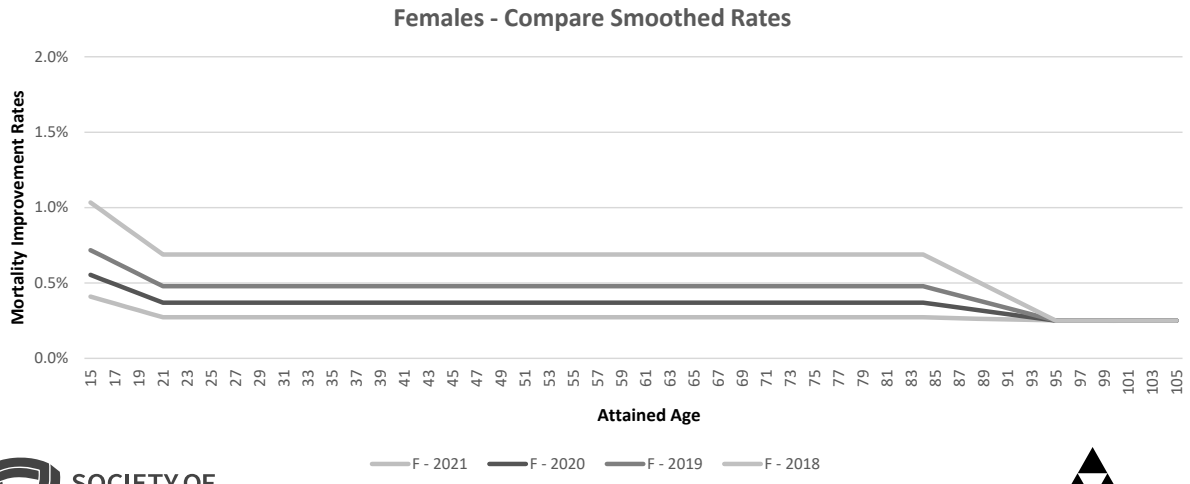
Smoothed Preliminary—Female

Comparison by Scale Year - 2021 Scale Revised



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Recommendation for Application of HMI Scale for 2021 Revised

Recommendation

- Use standard methodology for the published HMI scale for 2021
- Decrease the HMI scale for males and for females for 2021 based on the application of the standard methodology
- Recommend individual companies reflect their expectations around COVID-19 impacts for short-term mortality levels as part of a temporary mortality adjustment

Impact on the 12/31/21 Valuation

- Bring up to valuation date (standard Valuation Basic Table (VBT))
- Note: Companies start with different base mortality levels
  - Possibly higher mortality for the near term to reflect COVID-19
  - HMI scale would not attempt to adjust for COVID-19 as the exposure and the handling of deaths in the underlying company data will vary

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Questions?

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Contact Information

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Historical Mortality Improvement Rates
To be used for VM20 Products
2021 Recommended Scale

Attained Age	Male	Female
0	0.00281	0.004089
1	0.00281	0.004089
2	0.00281	0.004089
3	0.00281	0.004089
4	0.00281	0.004089
5	0.00281	0.004089
6	0.00281	0.004089
7	0.00281	0.004089
8	0.00281	0.004089
9	0.00281	0.004089
10	0.00281	0.004089
11	0.00281	0.004089
12	0.00281	0.004089
13	0.00281	0.004089
14	0.00281	0.004089
15	0.00281	0.004089
16	0.002654	0.003862
17	0.002498	0.003635
18	0.002341	0.003408
19	0.002185	0.003181
20	0.002029	0.002954
21	0.001873	0.002726
22	0.001873	0.002726
23	0.001873	0.002726
24	0.001873	0.002726
25	0.001873	0.002726
26	0.001873	0.002726
27	0.001873	0.002726
28	0.001873	0.002726
29	0.001873	0.002726
30	0.001873	0.002726
31	0.001873	0.002726
32	0.001873	0.002726
33	0.001873	0.002726
34	0.001873	0.002726
35	0.001873	0.002726
36	0.001873	0.002726
37	0.001873	0.002726
38	0.001873	0.002726
39	0.001873	0.002726
40	0.001873	0.002726
41	0.001873	0.002726
42	0.001873	0.002726
43	0.001873	0.002726

44	0.001873	0.002726
45	0.001873	0.002726
46	0.001873	0.002726
47	0.001873	0.002726
48	0.001873	0.002726
49	0.001873	0.002726
50	0.001873	0.002726
51	0.001873	0.002726
52	0.001873	0.002726
53	0.001873	0.002726
54	0.001873	0.002726
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58	0.001873	0.002726
59	0.001873	0.002726
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66	0.001873	0.002726
67	0.001873	0.002726
68	0.001873	0.002726
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71	0.001873	0.002726
72	0.001873	0.002726
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76	0.001873	0.002726
77	0.001873	0.002726
78	0.001873	0.002726
79	0.001873	0.002726
80	0.001873	0.002726
81	0.001873	0.002726
82	0.001873	0.002726
83	0.001873	0.002726
84	0.001873	0.002726
85	0.00193	0.002706
86	0.001987	0.002685
87	0.002044	0.002665
88	0.002101	0.002644
89	0.002158	0.002623
90	0.002215	0.002603
91	0.002272	0.002582
92	0.002329	0.002562

93	0.002386	0.002541
94	0.002443	0.002521
95	0.0025	0.0025
96	0.0025	0.0025
97	0.0025	0.0025
98	0.0025	0.0025
99	0.0025	0.0025
100	0.0025	0.0025
101	0.0025	0.0025
102	0.0025	0.0025
103	0.0025	0.0025
104	0.0025	0.0025
105	0.0025	0.0025
106	0.0025	0.0025
107	0.0025	0.0025
108	0.0025	0.0025
109	0.0025	0.0025
110	0.0025	0.0025
111	0.0025	0.0025
112	0.0025	0.0025
113	0.0025	0.0025
114	0.0025	0.0025
115	0.0025	0.0025
116	0.0025	0.0025
117	0.0025	0.0025
118	0.0025	0.0025
119	0.0025	0.0025

December 8, 2021

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

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

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

The Longevity Risk (E/A) Subgroup has not met since the Summer National Meeting. A new Subgroup chair has been appointed. The Subgroup will coordinate with the PRT Mortality Drafting Group of the VM-22 (A) Subgroup to assess risks associated with pension risk transfer business.

December 8, 2021

From: Reggie Mazyck, NAIC Support Staff
Guaranteed Issue (GI) Life Valuation (A) Subgroup

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

Subject: The Report of Guaranteed Issue (GI) Life Valuation (A) Subgroup to the Life Actuarial (A) Task Force

The Guaranteed Issue (GI) Life Valuation (A) Subgroup has not met since the Summer National Meeting. It is awaiting the appointment of a new chair. Otherwise, it is in a dormant/monitoring mode given that there have been no new known studies of GI Life mortality that could prove useful in formulating a new prescriptive requirement for the reserves for GI Life products. One direction the subgroup could go is to continue consideration of how to adopt the GI Life table but require companies with credible experience to use a credibility weighted mortality whether their experience is lower or higher than the table.

Dec 8, 2021

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

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

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

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

Draft: 11/30/21

Index-Linked Variable Annuity (A) Subgroup
Virtual Meeting
November 23, 2021

The Index-Linked Variable Annuity (A) Subgroup of the Life Actuarial (A) Task Force met Nov. 23, 2021. 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 and David Wolf (NJ); Bill Carmello and Michael Cebula (NY); Mengting Kim and Mike Boerner (TX); and Craig Chupp (VA).

1. Exposed the Draft Actuarial Guideline for ILVAs

Mr. Weber said index-linked variable annuities (ILVAs) are filed as variable products. As such, they are exempt from nonforfeiture requirements, which are a source of consumer protection. He said the usual tradeoff available to variable product owners in lieu of nonforfeiture values is the availability of unitized separate account values at surrender. He said that the ILVA product does not have the safeguard of nonforfeiture, nor does it have unitized values. He said the proposed actuarial guideline (Attachment Ten-A) seeks to remedy this issue by providing guidance for how a non-unit-linked product can be considered to provide values that vary according to the investment experience of a separate account. He said the guideline clarifies the application of the *Standard Nonforfeiture Law for Individual Deferred Annuities* (#805) and the *Variable Annuity Model Regulation* (#250) to ILVAs to provide values that vary according to the investment experience of the assets in the underlying separate account, therefore allowing them to be considered variable annuities. Mr. Serbinowski provided an overview of the proposed guideline. He noted that the guideline is not a finished product but is intended to be a good starting point for discussion. He recommended that state insurance regulators review non-unitized products being filed as variable in their states to ensure that they are in conformance with the requirements of Model #250.

Wayne Mehlman (American Council of Life Insurers—ACLI) and Steve Roth (Committee of Annuity Insurers) said an industry drafting group has been developed to create a revised version of the proposed guideline. He said the aims of the revised version are to: 1) ensure that there are more choices and options for ILVA clients; 2) maintain the transparency of the interim or unitized value designs; 3) preserve the ability for carriers to use spread based rather than fee-based manufacturing model; and 4) allow flexibility in new product innovation and development. He said that industry believes the proposed guideline is currently too prescriptive and should be more principle-based.

The Subgroup agreed, without objection, to expose the proposed actuarial guideline for a 60-day public comment period ending Jan. 27, 2022.

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

https://naiconline.sharepoint.com/:w:/r/sites/NAICSupportStaffHub/Member_Meetings/Fall_2021/TF/LifeActuarial/ILVA/1123/11_23 ILVA Minutes.docx

Actuarial Guideline ILVA
The Application of Model 250 to Variable Products Supported by Non-Unitized Separate Accounts

Background

Variable annuities are exempted from the scope of NAIC Model 805, Standard Nonforfeiture Law for Individual Deferred Annuities. The Model does not define the term "variable annuity". NAIC Model 250, Variable Annuity Model Regulation, provides requirements for nonforfeiture benefits. Model 250 also defines variable annuities as "contracts that provide for annuity benefits that vary according to the investment experience of a separate account."

Section 7B of the Model 250 provides that "to the extent that a variable annuity contract provides benefits that do not vary in accordance with the investment performance of a separate account" the contract shall satisfy the requirements of Model 805.

The application of the Model 250 to a traditional variable annuity with unit-linked values is straightforward. The unit-linked feature provides an automatic linkage between annuity values and the investment experience of a separate account. Daily values (market values of the separate account assets) are the basis of all the benefits, including surrender values.

Recently, a number of insurers introduced new, hybrid annuity products with periodic credits based on the performance of a specified portfolio of assets, typically through an index. These hybrid products typically are not unit-linked and do not invest in the assets whose performance forms the basis for the periodic credits.

There is no established terminology for these hybrid products. These products go by several names, including structured annuities, registered index-linked annuities, or index-linked variable annuities, among others. This guideline refers to them as index-linked variable annuities (ILVA).

The fact that ILVA products are not unit-linked means they don't have daily values determined by the market prices of the underlying assets. Instead, they provide interim values defined by contractual provisions. These interim values may or may not reflect the market values of the actual assets held by the insurer in support of the product guarantees.

Many ILVA products are registered with the SEC and claim to be exempt from model 805 as variable annuities. However, because they are not unit-linked, the question arises whether they provide values that vary according to the investment experience of a separate account, as required in Model 250.

The purpose of this guideline is to clarify the application of the Models 805 and 250 to those hybrid products. Specifically, the guideline provides conditions under which a non-unit-linked product can be considered to provide values that vary according to the

investment experience of a separate account, and therefore be considered a variable annuity under Model 250 and exempt from Model 805.

Scope

This guideline applies to any annuity contract claiming exemption from Model 805 on the basis that it is variable and that it is not unit-linked.

This guidance applies to index-linked crediting features that are provided through non-unitized separate account(s) that are built into policies or contracts (with or without unitized subaccounts) or added to such by rider, endorsement, or amendment. This guidance applies to both insulated and non-insulated separate account products.

This guideline does not apply to products supported by a general account and subject to the requirements of NAIC Model 805, Standard Nonforfeiture Law for Individual Deferred Annuities.

Definitions

"Hypothetical Portfolio" means hypothetical portfolio of fixed income assets and derivative assets designed to replicate an Index Option Value at the end of the Index Term.

"Interim value" means the value, attributable to one or more index options, used in determining the death benefit, withdrawal amount, annuitization amount or surrender value at any time other than the start date and end date of an index term.

"Index Strategy" means a method used to determine index credits with specified index or indices and cap, buffer, participation rate, spread, margin or other index crediting elements.

"Index Option Value" means the contract value or other well-defined base value in an index option at an index term start date or end date.

"Index Term" means the period of time from the term start date to the term end date over which an index change and index credit is determined.

Principles

This guideline is based on the following principles:

1. The Interim Value methodology must provide equity to both the contract holder and the company. Equity in this case, means that the Interim Values approximate the actual market values of the separate account assets backing the policies or contracts.
2. There exists a hypothetical portfolio containing fixed-income assets and derivatives that use values consistent with the underlying market prices of the hypothetical derivative assets at the time the index crediting elements are determined.
3. Such hypothetical portfolio must be designed to perfectly hedge the benefit guarantees at the end of the term.
4. The market value of such hypothetical portfolio is determinable based on the daily values of the hypothetical portfolio's assets.

Text

Interim values must be based on the market value of the separate account assets supporting the guarantees in the contract. That determination may be based on the actual separate account assets or based on a hypothetical portfolio of supporting assets described herein.

The value of the Hypothetical Portfolio at any time is the sum of the Fixed-Income Asset Proxy value (with or without a market-value adjustment) and the Derivative Asset Proxy value.

"Fixed-Income Asset Proxy" represents a zero-coupon bond that accrues interest, simple or compound, over the Index Term and matures for a value equal to the initial Index Option Value.

"Derivative Asset Proxy" is a package of hypothetical derivative assets designed to hedge the risks associated with guaranteeing the Index Option Value.

The value of the Derivative Asset Proxy plus the value of the Fixed-Income Asset Proxy shall match the Index Option Value at the end of the Index Term as determined by the Index Strategy.

Assumptions used to value the Hypothetical Portfolio including yields, implied volatility, risk-free rate, and dividend yield:

1. Must be supported by market prices of the Fixed-Income Asset Proxy and Derivative Asset Proxy at the time index crediting elements are determined;

2. May be static throughout the Index Term or may be dynamic. If dynamic assumptions are used, the assumptions must be based on market prices of the Fixed-Income Asset Proxy and Derivative Asset Proxy at the time of valuation.

The initial value of the Fixed-Income Asset Proxy is equal to the initial Index Option Value less the initial value of the Derivative Asset Proxy.
Drafting Note: The difference is expected to be small, as any profit provisions, spreads, and expenses should be reflected as explicit charges disclosed in the contract. Any explicit charges deducted at the beginning of the Index Term would decrease the Index Option Value for the purpose of the comparison to the Hypothetical Portfolio value. There may need to be a provision for recognition of periodic charges to be assessed over the Index Term in the comparison required above.

The company (or actuary) must describe the Hypothetical Portfolio and the assumptions used to calculate its value at any time. The product filing must quantify the maximum difference between the value of the Hypothetical Portfolio and the Index Option Value at the beginning of the Index Term. The actuary must justify and explain the source of any material differences.

Company must provide an actuary's certification that provisions of this guideline are being met. *<What, if any, details need to be provided in the cert or its support?>*

Effective Date

Questions to commenters

Draft: 10/4/21

Index-Linked Variable Annuity (A) Subgroup
Virtual Meeting
September 23, 2021

The Index-Linked Variable Annuity (A) Subgroup of the Life Actuarial (A) Task Force met Sept. 23, 2021. The following Subgroup members participated: Peter Weber, Chair (OH); Tomasz Serbinowski, Vice Chair (UT); Sarvjit Samra (CA); Derek Wallman (NE); Kevin Clarkson and David Wolf (NJ); Bill Carmello (NY); and Mengting Kim (TX). Also participating were: Vincent Tsang (IL); David Sky (NH); and Mike Boerner (TX).

1. Discussed Establishing Interim Values for ILVAs

Mr. Weber discussed the list of options (Attachment Eleven-A) for the consideration of the Subgroup. Mr. Clarkson suggested that the Subgroup determine the order of importance for addressing the following items: 1) determining the definition of the product; 2) resolving the valuation and nonforfeiture issues; 3) deciding how closely the returns must come to matching the underlying index; and 4) the equity of the interim value provisions. Mr. Weber noted that valuation issues are outside of the scope of the Subgroup charges. He said he wants to focus on the Subgroup charge to provide recommendations for interim values.

Mr. Samra voiced support for basing any new guidance on state regulations currently in use. He asked if Mr. Weber's survey of state regulations also included state-issued bulletins or notices companies could use as guidance. Mr. Weber responded that his survey, which was informal and conducted verbally, did not uncover any notices or bulletins. He said most states provided companies with a list of questions intended to promote disclosure.

Mr. Tsang said Illinois Regulation 1551 provides a definition for a variable contract, but it does not cover index-linked variable annuity (ILVA) products and other contracts that provide guarantees. Mr. Serbinowski said the ILVA may be covered if it is registered under the Securities Act of 1933. Mr. Weber suggested using the regulation as a template for developing a regulation that addresses interim values. Mr. Carmello said the New York State Department of Financial Services (NYSDFS) has a draft ILVA regulation that bases interim values on the market value of the segment guarantees or the prorated value based on the term of the guarantee. He said the buffer is included as part of the prorated value. He said the proration method is not perfect, but it has the advantage of being simple. Mr. Serbinowski said he favors developing an Actuarial Guideline that follows the path of the Illinois regulation, but it provides a slightly different interpretation of how benefits may follow the performance of the asset values. Mr. Carmello said the guideline should be applied to new issues only. Mr. Sky suggested notifying the commissioner of the intent to develop new requirements and recommending a moratorium on new ILVA product approvals. Mr. Carmello said it is probably too late for such a recommendation. Mr. Weber said he, Mr. Serbinowski, and a few others will begin work on the guideline.

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

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Approach	Pros	Cons
Do nothing	• No impact to currently marketed products	• Not uniform and increased non-uniformity if states tighten standards on their own to address evolving designs • No minimum value provided • Evolving designs are less equitable to contract holder
Base guidance on a current states' approach where such exists*. Or a blending of approaches	• Uniformity • Likely minimal effort to implement • Likely minimal impact on current marketed products	• Not well defined • Depends on the approach
Guidance for how these products can be considered variable (Compact approach)	• Uniformity • Potentially minimal impact on currently marketed products	• May be difficult to define
Modify model 805 and/or develop separate requirements for hybrid separate account products	• Uniformity	• Considerable effort • Such approach should be part of a more in-depth review and modification of the model beyond just ILVAs • Requires individual state adoption
Reject products as variable	• Regulatory framework exists but it must be strictly enforced	• Non-compliant products currently exist in market • Disrupts an important segment of the market between VAs and FIAs • Since many states will allow these products anyway, creates increased non-uniformity (this may be worse than "do nothing")

* Approaches shared through an informal state survey were aligned with but generally, less formal than the Illinois regulation's expanded definition of "variable". The states' guidance included standard questions in review and disclosure requirements. Elements that could be incorporated into a recommended approach.

IL – Regulation 1551

> Variable Contract means any policy or contract that provides for life insurance or annuity benefits that vary according to the investment experience of any separate account or accounts maintained by the insurer as to that policy or contract, as provided for in Section 245.21 of the Code; or any policy or contract that is registered under the Securities Act of 1933, as amended (15 USC 77a et seq.), and that provides for benefits that vary according to the performance of an index, when the funds are not guaranteed as to principal or a stated rate of interest and in which the supporting assets are held and reported in a noninsulated separate account in which changes in asset values substantially match changes in contractual benefits from inception of the contract.

What is a metric for “substantially match”?
Could states accept actuary’s certification that they substantially match?
Would a demonstration be required? What would a demonstration of that look like?

December 1, 2021

Mr. Mike Boerner
Chair, Life Actuarial (A) Task Force
National Association of Insurance Commissioners

Re: Amendment Proposal Form (APF) 2021-11

Dear Mr. Boerner,

On behalf of the Variable Annuity Reserves & Capital Work Group (VARCWG) of the American Academy of Actuaries,[1] I am pleased to provide comments on the proposed assumption disclosure requirements in APF 2021-11.

VARCWG believes that the proposed disclosures in VM-31 Section 3.F.13.d.ii and iii should consider unfloored conditional tail expectations (CTEs)—i.e., calculate the CTE without requiring that the scenario reserve for any scenario be no less than the cash surrender value. Quantifications before the cash surrender value floor are likely to provide a better understanding of the conservatism selected for the assumption.

It may also be possible to simplify the assumption margin analysis.

For example, one approach would be to simplify the assessment of individual risk factors in VM-31 Section 3.F.13.d.ii by using CTE 70 (adjusted) instead of CTE 70 (best efforts) and removing the CTE 98 requirement.

- Using CTE 70 (adjusted) for the assumption margin analysis is consistent with the use of CTE 70 (adjusted) to assess assumption outliers in the Standard Projection and in other disclosures.
- The CTE (adjusted) basis may make the analysis more tractable and/or less subject to estimation noise from simplifications for companies with a Clearly Defined Hedging Strategy (CDHS).

[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.

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- The analogous disclosure requirement for VM-20 reserves uses only the Deterministic Reserve even if there are stochastic reserves.
- If desired, CTE 70 (adjusted) could be added to the VM-31 Section 3.F.13.d.iii aggregate margin disclosure requirements to connect the individual margin analysis to the aggregate CTE 70 and CTE 98 margin analysis.

Another approach would also remove the CTE 98 requirement from VM-31 Section 3.F.13.d.ii but allow actuaries to use either CTE (adjusted) or CTE (best efforts) for both VM-31 Section 3.F.13.d.ii and iii and disclose their selected basis and rationale. Both measures provide insights into assumption margins, and some actuaries may determine that one is more appropriate than the other based upon the underlying facts and circumstances.

Thank you for your consideration of these comments. Please contact Academy life policy analyst Khloe Greenwood (greenwood@actuary.org) with any questions.

Sincerely,
Connie Tang, MAAA, FSA, CERA, CFA
Chairperson, VARCWG

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Dates: Received	Reviewed by Staff	Distributed	Considered
8/26/21	RM		
Notes: APF 2021-11			

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

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

   Identification:
   PBR Staff of Texas Department of Insurance

   Title of the Issue:
   Add a section for other assumptions requirement in VM-21 which covers general guidance and requirements for assumptions, and expense assumptions.

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

   VM-21 Section 1.C.2.b, VM-21 Section 12, VM-21 Section 13, VM-21 Section 1.B, VM-21 Section 10.A, VM-31 Section 3.F.3.d, VM-31 Section 3.F.13.d

   January 1, 2021 NAIC Valuation Manual

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

   See attached.

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

   A new section is needed in VM-21 to provide general guidance and requirements for assumptions, similar to VM-20, to address assumption reporting issues identified in VM-21 PBR report reviews, e.g., some companies don't discuss regular assumption reviews for any necessary updates. In addition, this section provides the specific requirements for assumptions that have not been covered in previous sections of VM-21, i.e., the expense assumptions. VM-21 is not very explicit about expenses (e.g., whether they are fully allocated or include one-time expenses). For VM-20, we have had some material impacts from how companies treat one-time expenses that may be multi-year but temporary. Companies could understate expenses if there is no adjustment for periodic or other recurrent expenses in expense study years where they do not occur. This APF is to make the VM-21 expense assumption requirement explicit and consistent with what is specified in VM-20 Section 9.E. The new section can also be used to cover any other assumptions requirements that need to be addressed in the future. The reporting requirement of the sensitivity testing and the impact of margin analysis is added to VM-31 to help regulators better understand how companies comply with the newly added assumption guidance and requirements.

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VM-21 Section 1.C.2.b

a) Liability risks

i. Reinsurer default, impairment or rating downgrade known to have occurred before or on the valuation date.

ii. Mortality/longevity, persistency/lapse, partial withdrawal and premium payment risks.

iii. Utilization risk associated with guaranteed living benefits.

iv. Anticipated mortality trends based on observed patterns of mortality improvement or deterioration, where permitted.

v. Annuitization risks.

vi. Additional premium dump-ins (high interest rate guarantees in low interest rate environments).

~~vi.~~vii. Applicable expense risks, including fluctuation in maintenance expenses directly attributable to the business, future commission expenses, and expense inflation/growth.

VM-21 Section 12 (new)

Section 12: Other Guidance and Requirements for Assumptions

A. Overview

This section provides guidance and requirements in general for setting prudent estimate assumptions when determining either the stochastic reserve or the reserve for any contracts determined using the Alternative Methodology. It also provides specific guidance and requirements for expense assumptions.

B.
General Assumption Requirements

1. The company shall use prudent estimate assumptions for risk factors that are not stochastically modeled by applying margins to the anticipated experience assumptions if such risk factors have been categorized as material risks by following Section 1.B Principle 3 and requirements in Section 12.C.

2. The company shall establish the prudent estimate assumptions for risk factors in compliance with the requirements in Section 12 of Model #820 and must periodically review and update the assumptions as appropriate in accordance with these requirements.

3. The company shall model the following risk factors stochastically unless the company

elects the ~~A~~alternative ~~M~~methodology defined in Section 7:

a. Interest rate movements (i.e., Treasury interest rate curves).

b. Equity performance (e.g., Standard & Poor's 500 index [S&P 500] returns and returns of other equity investments).

4. If the company elects to stochastically model risk factors in addition to the economic scenarios, the requirements in this section for determining prudent estimate assumptions for these risk factors do not apply.

Guidance Note: It is expected that companies will not stochastically model risk factors other than the economic scenarios, such as contract holder behavior or mortality, until VM-21 has more specific guidance and requirements available. Companies shall discuss with domiciliary regulators if they wish to stochastically model other risk factors.

5. The company shall use its own experience, if relevant and credible, to establish an anticipated experience assumption for any risk factor. To the extent that company experience is not available or credible, the company may use industry experience or other data to establish the anticipated experience assumption, making modifications as needed to reflect the circumstances of the company.

a. For risk factors (such as mortality) to which statistical credibility theory may be appropriately applied, the company shall establish anticipated experience assumptions for the risk factor by combining relevant company experience with industry experience data, tables or other applicable data in a manner that is consistent with credibility theory and accepted actuarial practice.

b. For risk factors (such as utilization of guaranteed living benefits) that do not lend themselves to the use of statistical credibility theory, and for risk factors (such as some of the lapse assumptions) to which statistical credibility theory can be appropriately applied but cannot currently be applied due to lack of industry data, the company shall establish anticipated experience assumptions in a manner that is consistent with accepted actuarial practice and that reflects any available relevant company experience, any available relevant industry experience, or any other experience data that are available and relevant. Such techniques include:

i. Adopting standard assumptions published by professional, industry or regulatory organizations to the extent they reflect any available relevant company experience or reasonable expectations.

ii. Applying factors to relevant industry experience tables or other relevant data to reflect any available relevant company experience and differences in expected

experience from that underlying the base tables or data due to differences between the risk characteristics of the company experience and the risk characteristics of the experience underlying the base tables or data.

iii. Blending any available relevant company experience with any available relevant industry experience and/or other applicable data using weightings established in a manner that is consistent with accepted actuarial practice and that reflects the risk characteristics of the underlying contracts and/or company practices.

c. For risk factors that have limited or no experience or other applicable data to draw upon, the assumptions shall be established using sound actuarial judgment and the most relevant data available, if such data exists.

d. For any assumption that is set in accordance with the requirements of Section 12.B.5.c, the qualified actuary to whom responsibility for this group of contracts is assigned shall use sensitivity testing and disclose the analysis performed to ensure that the assumption is set at the conservative end of the plausible range.

e. The qualified actuary, to whom responsibility for this group of contracts is assigned, shall annually review relevant emerging experience for the purpose of assessing the appropriateness of the anticipated experience assumption. If the results of statistical or other testing indicate that previously anticipated experience for a given factor is inadequate, then the qualified actuary shall set a new, adequate, anticipated experience assumption for the factor.

6. The company shall sensitivity test risk factors that are not stochastically modeled and examine the impact on the stochastic reserve. The company shall update the sensitivity tests periodically as appropriate. The company may update the tests less frequently, but no less than every 3 years, when the tests show less sensitivity of the stochastic reserve to changes in the assumptions being tested or the experience is not changing rapidly. Providing there is no material impact on the results of the sensitivity testing, the company may perform sensitivity testing:

a. Using samples of the contracts in force rather than performing the entire valuation for each alternative assumption set.

b. Using data from prior periods.

Guidance Note: Sensitivity testing every risk factor on an annual basis is not required. For some risk factors, it may be reasonable, in lieu of sensitivity testing, to employ statistical measures for margins, such as adding one or more standard deviations to the anticipated experience assumption.

7. The company shall vary the prudent estimate assumptions from scenario to scenario within the stochastic reserve calculation in an appropriate manner to reflect the scenario-dependent risks.

C. Assumption Margins

The company shall include margins to provide for adverse deviations and estimation error in the prudent estimate assumption for each risk factor that is not stochastically modeled or prescribed, subject to the following:

1. The level of margin applied to the anticipated experience assumptions may be determined in aggregate or independently as discussed in Section 1.B Principle 3. It is not permissible to set a margin less toward the conservative end of the spectrum to recognize, in whole or in part, implicit or prescribed margins that are present, or are believed to be present, in other risk factors.

Risks that are stochastically modeled (e.g., interest rates, equity returns) or have prescribed margins or guardrails (e.g., assets, revenue sharing) shall be considered material risks. Other risks generally considered to be material include, but are not limited to, mortality, contract holder behavior, maintenance and overhead expenses, inflation and implied volatility. In some cases, the list of material risks may also include acquisition expenses, partial withdrawals, policy loans, annuitizations, account transfers and deposits, and/or option elections that contain an element of anti-selection.

2. The greater the uncertainty in the anticipated experience assumption, the larger the required margin, with the margin added or subtracted as needed to produce a larger modeled TAR than would otherwise result. For example, the company shall use a larger margin when:

a. The experience data have less relevance or lower credibility.

b. The experience data are of lower quality, such as incomplete, internally inconsistent or not current.

c. There is doubt about the reliability of the anticipated experience assumption, such as, but not limited to, recent changes in circumstances or changes in company policies.

d. There are constraints in the modeling that limit an effective reflection of the risk factor.

3. In complying with the sensitivity testing requirements in Section 12.B.6 above, greater analysis and more detailed justification are needed to determine the level of uncertainty when establishing margins for risk factors that produce greater sensitivity on the stochastic reserve.

4. A margin is permitted but not required for assumptions that do not represent material risks.

5. A margin should reflect the magnitude of fluctuations in historical experience of the company for the risk factor, as appropriate.

6. The company shall apply the method used to determine the margin consistently on each valuation date but is permitted to change the method from the prior year if the rationale for the change and the impact on the stochastic reserve is disclosed.

D. Expense Assumptions

1. General Prudent Estimate Expense Assumption Requirements

In determining prudent estimate expense assumptions, the company:

a. May spread certain information technology development costs and other capital expenditures over a reasonable number of years in accordance with accepted statutory accounting principles as defined in the Statements of Statutory Accounting Principles.

Guidance Note: Care should be taken with regard to the potential interaction with the inflation assumption below.

b. Shall assume that the company is a going concern.

c. Shall choose an appropriate expense basis that properly aligns the actual expense to the assumption. If values are not significant, they may be aggregated into a different base assumption.

Guidance Note: For example, death benefit expenses should be modeled with an expense assumption that is per death incurred.

d. Shall reflect the impact of inflation.

e. Shall not assume future expense improvements.

f. Shall not include assumptions for federal income taxes (and expenses paid to provide fraternal benefits in lieu of federal income taxes) and foreign income taxes.

g. Shall use assumptions that are consistent with other related assumptions.

h. Shall use fully allocated expenses.

Guidance Note: Expense assumptions should reflect the direct costs associated with the block of contracts being modeled, as well as indirect costs and overhead costs that have been allocated to the modeled contracts.

i. Shall allocate expenses using an allocation method that is consistent across company lines of business. Such allocation must be determined in a manner that is within the range of actuarial practice and methodology and consistent with applicable ASOPs. Allocations may not be done for the purpose of decreasing the stochastic reserve.

j. Shall reflect expense efficiencies that are derived and realized from the combination of blocks of business due to a business acquisition or merger in the expense assumption only when any future costs associated with achieving the efficiencies are also recognized.

Guidance Note: For example, the combining of two similar blocks of business on the same administrative system may yield some expense savings on a per unit basis, but any future cost of the system conversion should also be considered in the final assumption. If all costs for the conversion are in the past, then there would be no future expenses to reflect in the valuation.

k. Shall reflect the direct costs associated with the contracts being modeled, as well as an appropriate portion of indirect costs and overhead (i.e., expense assumptions representing fully allocated expenses should be used), including expenses categorized in the annual statement as "taxes, licenses and fees" (Exhibit 3 of the annual statement) in the expense assumption.

l. Shall include acquisition expenses associated with business in force as of the valuation date and significant non-recurring expenses expected to be incurred after the valuation date in the expense assumption.

m. For contracts sold under a new policy form or due to entry into a new product line, the company shall use expense factors that are consistent with the expense factors used to determine anticipated experience assumptions for contracts from an existing block of mature contracts taking into account:

i. Any differences in the expected long-term expense levels between the block of new contacts and the block of mature contracts.

ii. That all expenses must be fully allocated as required

under Section 1~~1~~2.D~~E~~.1.~~i~~h above.

2. Margins for Prudent Estimate Expense Assumptions

The company shall determine margins for expense assumptions following Section 12.C.

VM-21 Section 13

Section 1~~3~~2: Allocation of the Aggregate Reserve to the Contract Level

VM-21 Section 1.B

Principle 3: The implementation of a model involves decisions about the experience assumptions and the modeling techniques to be used in measuring the risks to which the company is exposed. Generally, assumptions are to be based on the conservative end of the confidence interval. The choice of a conservative estimate for each assumption may result in a distorted measure of the total risk. Conceptually, the choice of assumptions and the modeling decisions should be made so that the final result approximates what would be obtained for the stochastic reserve at the required CTE level if it were possible to calculate results over the joint distribution of all future outcomes. In applying this concept to the actual calculation of the stochastic reserve, the company should be guided by evolving practice and expanding knowledge base in the measurement and management of risk.

Guidance Note: The intent of Principle 3 is to describe the conceptual framework for setting assumptions. Section 10 provides the requirements and guidance for setting contract holder behavior assumptions and includes alternatives to this framework if the company is unable to fully apply this principle. More guidance and requirements for setting assumptions in general are provided in Section 12.

VM-21 Section 10.A

Section 10: Contract Holder Behavior Assumptions

A. General

Contract holder behavior assumptions encompass actions such as lapses, withdrawals, transfers, recurring deposits, benefit utilization, option election, etc. Contract holder behavior is difficult to predict accurately, and variance in behavior assumptions can significantly affect the results. In the absence of relevant and fully credible empirical data, the company should set behavior assumptions as guided by Principle 3 in Section 1.B and Section 12.

VM-31 Section 3.F.3.d

3. Liability Assumptions and Margins – A listing of the assumptions and margins used in the projections to determine the stochastic reserve, including a discussion of the source(s) and the rationale for each assumption:

   a. Premiums and Subsequent Deposits – Description of premiums and subsequent deposits.

b. Interest Crediting Strategy – Description of the interest crediting strategy.

c. Commissions – Description of commissions, including any commission chargebacks.

d. Expenses Other than Commissions – Description and listing of insurance company expenses other than commissions, such as overhead, including:

i. Method used to allocate expenses to the contracts included in a principle- based valuation under VM-21 and a statement confirming that expenses have been fully allocated in accordance with VM-21 Section 12.D.1.h.~~-~~

ii. Method used to apply the allocated expenses to model segments or sub- segments within the cash-flow model.

iii. Identification of types of costs that were spread, and for how many years, if any cost spreading was done pursuant to VM-21 Section 12.D.1.a.

~~ii.~~iv. Method used to determine margins.

VM-31 Section 3.F.13.c (new)

c. Sensitivity Tests - For each distinct product type for which margins were established:

i. List the specific sensitivity tests performed for each risk factor or combination of risk factors~~, other than those discussed in Section 3.D.3.h.iv and 3.D.3.i.ii.~~

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ii. Indicate whether the reserve was calculated based on the anticipated experience assumptions or prudent estimate assumptions for all other risk factors while performing the tests.

iii. Provide the numerical results of the sensitivity tests for both reserves and capital.

iv. Explain how the results of sensitivity tests were used or considered in developing assumptions.

VM-31 Section 3.F.13.d (new)

d. Impact of Margin

i. Company can perform the impact of margin analysis using off-cycle data. The analysis can be done less frequently than annual unless there is change or update in the margins, but not less frequently than every 3 years.

ii. Impact of Margins for Each Risk Factor – The impact of margins on the stochastic reserve for each risk factor, or group of risk factors, that has a material impact on the stochastic reserve, determined by subtracting (i) from (ii), expressed in both dollar amounts and percentages:

(1) The CTE70(best efforts), as outlined in VM-21 Section 9.C, but with the reserve calculated based on the anticipated experience assumption for the risk factor and prudent estimate assumptions for all other risk factors.

(2) The CTE70(best efforts), as outlined in VM-21 Section 9.C, for that group of contracts as reported.

(3) Repeat the impact analysis using the same method on CTE(98) levels.

Guidance Note: Pursuant to VM-21, margins must increase TAR, so the impact of each margin, as calculated above on CTE(98), must be positive.

iii. Aggregate Impact of Margins – the aggregate impact of all margins on the stochastic reserve for that group of contracts determined by subtracting (1) from (2), expressed in both dollar amounts and percentages:

(1) The CTE70(best efforts), as outlined in VM-21 Section 9.C, for that group of contracts, but with the reserve calculated based on anticipated experience assumptions for all risk factors prior to the addition of any margins.

(2) The CTE70(best efforts), as outlined in VM-21 Section 9.C, for that group of contracts as reported.

(3) Repeat the impact analysis using the same method on CTE(98) levels.

iv. Impact of Implicit Margins – For purposes of the disclosures required in 13.d.ii and 13.d.iii above:

(1) If the company believes the method used to determine anticipated experience assumptions includes an implicit margin, the company can adjust the anticipated experience assumptions to remove this implicit margin for this reporting purpose only. If any such adjustment is made, the company shall document the rationale and method used to determine the anticipated experience assumption.

(2) Since the company is not required to determine an anticipated experience assumption or a prudent estimate assumption for risk factors that are prescribed (i.e., interest rates movements, equity performance, default costs and net spreads on reinvestment assets), when determining the impact of margins, the prescribed assumption shall be deemed to be the prudent estimate assumption for the risk factor, and the company can elect to determine an anticipated experience assumption for the risk factor, based on the company's anticipated experience for the risk factor. If this is elected, the company shall document the rationale and method used to determine the anticipated experience assumption.

Brian Bayerle
Senior Actuary

December 1, 2021

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

Re: APF 2021-11

Dear Mr. Boerner:

The American Council of Life Insurers (ACLI) appreciates the opportunity to submit the following comments on APF 2021-11.

ACLI is supportive of regulatory requirements that ensure appropriate assumptions and margins, as well as disclosures that provide regulators useful insights into how a company has determined reserves. Industry is, however, concerned about further increases in reporting requirements that do not provide significant value to regulators. Therefore, although we support the majority of this APF, we are concerned about the inclusion of language regarding sensitivity testing in VM-21 Section 12.B.6. The margins on the assumptions are intended to account for the uncertainty around the assumptions, not the sensitivity of reserves to a given assumption; thus, it is unclear how this information assists regulators in assessing the reasonableness of the margin. The phrase "no material impact" also may be a source of confusion, as certain assumptions can display different sensitivities in different market conditions. Further, it is unclear how, if at all, the qualified actuary is intended to use the results of this sensitivity testing. For this reason, ACLI believes this requirement should be removed from APF 2021-11.

The proposed requirements regarding sensitivity testing in this APF are like those found in VM-20. Consequently, the same comment above holds for VM-20; namely, that sensitivity tests appear to have little regulatory value concerning the determination of margins because sensitivity is different from uncertainty. Accordingly, ACLI believes that strong consideration should be given to removing the sensitivity testing requirements from VM-20 as well.

In addition to the primary concern raised above, we have the following additional comments:

- VM-21, Section 12.B.4 Guidance Note: The last sentence of the guidance note states that "Companies shall discuss…", and we would like clarification if this language is intended as a requirement or a suggestion. If the latter, we would suggest changing to "Companies may ~~shall~~ discuss…."

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- VM-21, Section 12.C.1: This language seems to require a conservative margin on every individual assumption without recognizing potential impacts from other margins. That appears to contradict Principle 3, which says, "The choice of a conservative estimate for each assumption may result in a distorted measure of the total risk." Principle 3 implies that margins should be set to get to an appropriate overall level of conservatism.
- - VM-31, Section 3.F.13.d.ii.3: The Guidance Note implies that TAR is equal to CTE(98), which is inaccurate. TAR is equal to reserves plus C-3 RBC, which will not be equal to CTE(98) due to the factors within the C-3 RBC formula.

We appreciate the consideration of our comments and look forward to discussing on a future call. Thank you.

Sincerely,

cc: Reggie Mazyck, NAIC

Dates: Received	Reviewed by Staff	Distributed	Considered
8/26/21	RM		
Notes: APF 2021-11			

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

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

   Identification:
   PBR Staff of Texas Department of Insurance

   Title of the Issue:
   Add a section for other assumptions requirement in VM-21 which covers general guidance and requirements for assumptions, and expense assumptions.

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

   VM-21 Section 1.C.2.b, VM-21 Section 12, VM-21 Section 13, VM-21 Section 1.B, VM-21 Section 10.A, VM-31 Section 3.F.3.d, VM-31 Section 3.F.13.d

   January 1, 2021 NAIC Valuation Manual

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

   See attached.

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

   A new section is needed in VM-21 to provide general guidance and requirements for assumptions, similar to VM-20, to address assumption reporting issues identified in VM-21 PBR report reviews, e.g., some companies don't discuss regular assumption reviews for any necessary updates. In addition, this section provides the specific requirements for assumptions that have not been covered in previous sections of VM-21, i.e., the expense assumptions. VM-21 is not very explicit about expenses (e.g., whether they are fully allocated or include one-time expenses). For VM-20, we have had some material impacts from how companies treat one-time expenses that may be multi-year but temporary. Companies could understate expenses if there is no adjustment for periodic or other recurrent expenses in expense study years where they do not occur. This APF is to make the VM-21 expense assumption requirement explicit and consistent with what is specified in VM-20 Section 9.E. The new section can also be used to cover any other assumptions requirements that need to be addressed in the future. The reporting requirement of the sensitivity testing and the impact of margin analysis is added to VM-31 to help regulators better understand how companies comply with the newly added assumption guidance and requirements.

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VM-21 Section 1.C.2.b

a) Liability risks

i. Reinsurer default, impairment or rating downgrade known to have occurred before or on the valuation date.

ii. Mortality/longevity, persistency/lapse, partial withdrawal and premium payment risks.

iii. Utilization risk associated with guaranteed living benefits.

iv. Anticipated mortality trends based on observed patterns of mortality improvement or deterioration, where permitted.

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vi. Additional premium dump-ins (high interest rate guarantees in low interest rate environments).

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Section 12: Other Guidance and Requirements for Assumptions

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3. The company shall model the following risk factors stochastically unless the company

elects the Alternative Methodology defined in Section 7:

a. Interest rate movements (i.e., Treasury interest rate curves).

b. Equity performance (e.g., Standard & Poor's 500 index [S&P 500] returns and returns of other equity investments).

4. If the company elects to stochastically model risk factors in addition to the economic scenarios, the requirements in this section for determining prudent estimate assumptions for these risk factors do not apply.

It is expected that companies will not stochastically model risk factors other than the economic scenarios, such as contract holder behavior or mortality, until VM-21 has more specific guidance and requirements available. Companies shall discuss with domiciliary regulators if they wish to stochastically model other risk factors.

Commented [RH1]: Regarding ACLI comment (EDIT): Make not a guidance note since includes instruction for a specific case.

5. The company shall use its own experience, if relevant and credible, to establish an anticipated experience assumption for any risk factor. To the extent that company experience is not available or credible, the company may use industry experience or other data to establish the anticipated experience assumption, making modifications as needed to reflect the circumstances of the company.

a. For risk factors (such as mortality) to which statistical credibility theory may be appropriately applied, the company shall establish anticipated experience assumptions for the risk factor by combining relevant company experience with industry experience data, tables or other applicable data in a manner that is consistent with credibility theory and accepted actuarial practice.

b. For risk factors (such as utilization of guaranteed living benefits) that do not lend themselves to the use of statistical credibility theory, and for risk factors (such as some of the lapse assumptions) to which statistical credibility theory can be appropriately applied but cannot currently be applied due to lack of industry data, the company shall establish anticipated experience assumptions in a manner that is consistent with accepted actuarial practice and that reflects any available relevant company experience, any available relevant industry experience, or any other experience data that are available and relevant. Such techniques include:

i. Adopting standard assumptions published by professional, industry or regulatory organizations to the extent they reflect any available relevant company experience or reasonable expectations.

ii. Applying factors to relevant industry experience tables or other relevant data to reflect any available relevant company experience and differences in expected

experience from that underlying the base tables or data due to differences between the risk characteristics of the company experience and the risk characteristics of the experience underlying the base tables or data.

iii. Blending any available relevant company experience with any available relevant industry experience and/or other applicable data using weightings established in a manner that is consistent with accepted actuarial practice and that reflects the risk characteristics of the underlying contracts and/or company practices.

c. For risk factors that have limited or no experience or other applicable data to draw upon, the assumptions shall be established using sound actuarial judgment and the most relevant data available, if such data exists.

d. For any assumption that is set in accordance with the requirements of Section 12.B.5.c, the qualified actuary to whom responsibility for this group of contracts is assigned shall use sensitivity testing and disclose the analysis performed to ensure that the assumption is set at the conservative end of the plausible range.

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6. The company shall sensitivity test material risk factors that are not stochastically modeled and examine the impact on the stochastic reserve. The company shall update the sensitivity tests periodically as appropriate. The company may update the tests less frequently, but no less than every 3 years, when the tests show less sensitivity of the stochastic reserve to changes in the assumptions being tested or the experience is not changing rapidly. Providing there is no material impact on the results of the sensitivity testing, the company may perform sensitivity testing:

a. Using samples of the contracts in force rather than performing the entire valuation for each alternative assumption set.

b. Using data from prior periods.

Guidance Note: Sensitivity testing every risk factor on an annual basis is not required. For some risk factors, it may be reasonable, in lieu of sensitivity testing, to employ statistical measures for margins, such as adding one or more standard deviations to the anticipated experience assumption.

Commented [RH2]: Regarding ACLI comment (unrelated EDIT):

Having an understanding both of uncertainty **and** the impacts of different types of variation are necessary in margin development (and reviewing the appropriateness of margin development). See, just for example, VM-21 Section 10.C. No change is needed for ACLI comment.

However, while reviewing we saw that adding "material" before "risk factors" would be a good clarifying edit in the first sentence.

7. The company shall vary the prudent estimate assumptions from scenario to scenario within the stochastic reserve calculation in an appropriate manner to reflect the scenario-dependent risks.

C. Assumption Margins

The company shall include margins to provide for adverse deviations and estimation error in the prudent estimate assumptions for ~~each~~all risk factors that ~~is~~are not stochastically modeled or prescribed, subject to the following:

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Commented [RH3]: **Regarding ACLI comment (EDIT):** In case the ACLI comment should have been on this language instead of 12.C.1, I can see how this could have been read to mean a margin on each assumption rather than having some margin provide for all risk factors, whether directly on the individual risk factor or not.

Commented [RH4]: **Regarding ACLI comment (no edit):** Nowhere here does it say you can't set margins for more than one assumption - in fact this says the opposite. If the comment was indirectly about not being able to offset prescribed elements, we believe that preserves regulatory intent.

4. A margin is permitted but not required for assumptions that do not represent material risks.

5. A margin should reflect the magnitude of fluctuations in historical experience of the company for the risk factor, as appropriate.

6. The company shall apply the method used to determine the margin consistently on each valuation date but is permitted to change the method from the prior year if the rationale for the change and the impact on the stochastic reserve is disclosed.

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c. Shall choose an appropriate expense basis that properly aligns the actual expense to the assumption. If values are not significant, they may be aggregated into a different base assumption.

Guidance Note: For example, death benefit expenses should be modeled with an expense assumption that is per death incurred.

d. Shall reflect the impact of inflation.

e. Shall not assume future expense improvements.

f. Shall not include assumptions for federal income taxes (and expenses paid to provide fraternal benefits in lieu of federal income taxes) and foreign income taxes.

g. Shall use assumptions that are consistent with other related assumptions.

h. Shall use fully allocated expenses.

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i. Shall allocate expenses using an allocation method that is consistent across company lines of business. Such allocation must be determined in a manner that is within the range of actuarial practice and methodology and consistent with applicable ASOPs. Allocations may not be done for the purpose of decreasing the stochastic reserve.

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l. Shall include acquisition expenses associated with business in force as of the valuation date and significant non-recurring expenses expected to be incurred after the valuation date in the expense assumption.

m. For contracts sold under a new policy form or due to entry into a new product line, the company shall use expense factors that are consistent with the expense factors used to determine anticipated experience assumptions for contracts from an existing block of mature contracts taking into account:

i. Any differences in the expected long-term expense levels between the block of new contacts and the block of mature contracts.

ii. That all expenses must be fully allocated as required

under Section 1~~1~~2.~~E~~D.1.~~i~~h above.

2. Margins for Prudent Estimate Expense Assumptions

The company shall determine margins for expense assumptions following Section 12.C.

VM-21 Section 13

Section 1~~3~~2: Allocation of the Aggregate Reserve to the Contract Level

VM-21 Section 1.B

Principle 3: The implementation of a model involves decisions about the experience assumptions and the modeling techniques to be used in measuring the risks to which the company is exposed. Generally, assumptions are to be based on the conservative end of the confidence interval. The choice of a conservative estimate for each assumption may result in a distorted measure of the total risk. Conceptually, the choice of assumptions and the modeling decisions should be made so that the final result approximates what would be obtained for the stochastic reserve at the required CTE level if it were possible to calculate results over the joint distribution of all future outcomes. In applying this concept to the actual calculation of the stochastic reserve, the company should be guided by evolving practice and expanding knowledge base in the measurement and management of risk.

Guidance Note: The intent of Principle 3 is to describe the conceptual framework for setting assumptions. Section 10 provides the requirements and guidance for setting contract holder behavior assumptions and includes alternatives to this framework if the company is unable to fully apply this principle. More guidance and requirements for setting assumptions in general are provided in Section 12.

VM-21 Section 10.A

Section 10: Contract Holder Behavior Assumptions

A. General

Contract holder behavior assumptions encompass actions such as lapses, withdrawals, transfers, recurring deposits, benefit utilization, option election, etc. Contract holder behavior is difficult to predict accurately, and variance in behavior assumptions can significantly affect the results. In the absence of relevant and fully credible empirical data, the company should set behavior assumptions as guided by Principle 3 in Section 1.B and Section 12.

VM-31 Section 3.F.3.d

3. Liability Assumptions and Margins – A listing of the assumptions and margins used in the projections to determine the stochastic reserve, including a discussion of the source(s) and the rationale for each assumption:

   a. Premiums and Subsequent Deposits – Description of premiums and subsequent deposits.

b. Interest Crediting Strategy – Description of the interest crediting strategy.

c. Commissions – Description of commissions, including any commission chargebacks.

d. Expenses Other than Commissions – Description and listing of insurance company expenses other than commissions, such as overhead, including:

i. Method used to allocate expenses to the contracts included in a principle- based valuation under VM-21 and a statement confirming that expenses have been fully allocated in accordance with VM-21 Section 12.D.1.h.-

ii. Method used to apply the allocated expenses to model segments or sub- segments within the cash-flow model.

iii. Identification of types of costs that were spread, and for how many years, if any cost spreading was done pursuant to VM-21 Section 12.D.1.a.

~~ii.~~iv. Method used to determine margins.

VM-31 Section 3.F.13.c (new)

c. Sensitivity Tests - For each distinct product type for which margins were established:

i. List the specific sensitivity tests performed for each risk factor or combination of risk factors, other than those discussed in Section 3.F.3.h.vi and 3.F.3.i.ii.

ii. Indicate whether the reserve was calculated based on the anticipated experience assumptions or prudent estimate assumptions for all other risk factors while performing the tests.

iii. Provide the numerical results of the sensitivity tests for both reserves and capital.

iv. Explain how the results of sensitivity tests were used or considered in developing assumptions.

Commented [RH5]: EDIT: Added back these cross-references that were removed during verbal discussion of the first draft, with corrected section references. The goal is to avoid duplicate reporting for these sensitivities.

VM-31 Section 3.F.13.d (new)

d. Impact of Margin

i. Company can perform the impact of margin analysis using off-cycle data. The analysis can be done less frequently than annual unless there is change or update in the margins, but not less frequently than every 3 years.

ii. Impact of Margins for Each Risk Factor – The impact of margins on the stochastic reserve for each risk factor, or group of risk factors, that has a material impact on the stochastic reserve, determined

by subtracting (i) from (ii), expressed in both dollar amounts and percentages. For the purposes of this analysis, calculate the CTE without requiring that the scenario reserve for any scenario be no less than the cash surrender value:

(1) The CTE70(best efforts), as outlined in VM-21 Section 9.C, but with the reserve calculated based on the anticipated experience assumption for the risk factor and prudent estimate assumptions for all other risk factors.

(2) The CTE70(best efforts), as outlined in VM-21 Section 9.C, for that group of contracts as reported.

(3) Repeat the impact analysis using the same method on CTE(98) levels.

Commented [RH6]: Regarding ACLI comment (EDIT): While we were not implying CTE(98) is equal to TAR, we acknowledge that since the directional impacts on CTE(70) and CTE(98) may differ, it is not true that the impact on CTE(98) must be positive. Delete guidance note. Request regulator input on whether they want a full TAR impact analysis or whether they are ok following up if the CTE(70) and CTE(98) directional impacts differ and the combined impact is unclear.

iii. Aggregate Impact of Margins – the aggregate impact of all margins on the stochastic reserve for that group of contracts determined by subtracting (1) from (2), expressed in both dollar amounts and percentages. For the purposes of this analysis, calculate the CTE without requiring that the scenario reserve for any scenario be no less than the cash surrender value:

(1) The CTE70(best efforts), as outlined in VM-21 Section 9.C, for that group of contracts, but with the reserve calculated based on anticipated experience assumptions for all risk factors prior to the addition of any margins.

(2) The CTE70(best efforts), as outlined in VM-21 Section 9.C, for that group of contracts as reported.

(3) Repeat the impact analysis using the same method on CTE(98) levels.

iv. Impact of Implicit Margins – For purposes of the disclosures required in 13.d.ii and 13.d.iii above:

(1) If the company believes the method used to determine anticipated experience assumptions includes an implicit margin, the company can adjust the anticipated experience assumptions to remove this implicit margin for this reporting purpose only. If any such adjustment is made, the company shall document the rationale and method used to determine the anticipated experience assumption.

(2) Since the company is not required to determine an anticipated experience assumption or a prudent estimate assumption for risk factors that are prescribed (i.e., interest rates movements, equity performance, default costs and net spreads on reinvestment assets), when determining the impact of margins, the prescribed assumption shall be deemed to be the prudent estimate assumption for the risk factor, and the company can elect to determine an anticipated experience assumption for the risk factor, based on the company's anticipated experience for the risk factor. If this is elected, the company shall document the rationale and method used to determine the anticipated experience assumption.

NAIC ESG Update

NAIC National Meeting – Fall 2021

Scott O'Neal, FSA, MAAA – NAIC Life Examination Actuary
Dan Finn, FCAS, ASA – Managing Director at Conning

December 8, 2021

NAIC NATIONAL ASSOCIATION OF INSURANCE COMMISSIONERS

Agenda

1. Treasury Model Calibration Update
2. Key Decisions for Equity Model
3. Key Decisions for Corporate Model

Treasury Model Calibration Update

- Conning has developed a new calibration of the GEMS® Treasury model according to the acceptance criteria defined by the ESG Drafting Group (see Appendix 1)
- NAIC Staff and Conning are analyzing the Treasury scenarios from the new calibration to ensure that they meet the most important acceptance criteria while making appropriate tradeoffs, where necessary.
- The analysis of the scenarios is expected to be completed shortly to be presented at an upcoming ESG Drafting Group in December for additional discussion.
- The ESG Drafting Group may request tweaks to the Treasury scenarios upon review.
- After the ESG Drafting Group approves the scenarios, a discussion of the Treasury scenarios will occur on a public Life Actuarial (A) Task Force (LATF) and Life Risk-Based Capital (E) Working Group (LRBC WG) meeting.

Key Decisions for Equity Model: Relationship between equities and Treasury rates

Theoretical and Historical Relationship	Modeling Considerations
• The relationship between equities and Treasury rates, commonly referred to as the "Equity Risk Premium", reflects the additional return investors demand to invest in risky equity assets over the risk-free return offered by U.S. Treasuries. • It is difficult to see strong relationships in historical data between equities and Treasuries because the equity market is so volatile. • The idea of an "Equity Risk Premium" is consistent with a number of theoretical concepts, including the Capital Asset Pricing Model (CAPM) and the Sharpe Ratio	• As currently configured, the GEMS® equity model contains a linkage to Treasury rates in both the process governing equity returns as well as the dividend process. • There are a number of ways that the relationship between equities and interest rates could be defined in the model, including a formulaic linkage, correlation factors, and linking long-term equity targets to long-term interest rate targets. Alternatively, the equity returns could be set to be independent of the Treasury rates. • Altering GEMS® existing equity/Treasury linkage by specifying an alternative relationship between equities and treasuries or assuming independence would require a currently unknown amount of development time and effort.

Key Decisions for Equity Model: Other Considerations

Risk/return relationship for and between different equity indices	How should equity rates respond to changes in initial market conditions
• The GEMS® equity model will produce returns for a variety of U.S. and international funds. • Typically, it is reasonable to assume that there is a relationship with expected return and volatility, such that "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." (VM-21 Section 8.C.4) • Recent historical data (since 1987) for the International Diversified Equity fund (MSCI EAFE) has shown underperformance on a risk-adjusted basis relative to the Diversified Large Cap U.S. Equity fund (S&P 500). However, an evaluation of the longer historical record has shown both periods of under- and over-performance for the International Diversified Equity fund.	• Changes to recent and/or initial market conditions such as equity returns, equity volatility, and Treasury rates can influence future equity returns. For example, the Chicago Board Options Exchange Volatility Index (VIX) reflects the market's estimate of future volatility. When the VIX is high, there tends to be more volatility in the short term. • Some subject-matter experts from the ESG Drafting Group have suggested that initial/recent market conditions should not impact equity returns beyond the near term (~six years) with most of the impacts from initial conditions experienced in the first two years.

Key Decisions for Corporate Model

Corporate Model Complexity
• The GEMS® corporate model has the capability to produce bond fund returns that reflect dynamic spreads, credit rating transitions, and defaults. • Bond fund returns produced by the ESG will be used to model policyholder separate account investments in bond funds and general account investments in bond funds where applicable. • Regulators will have to weigh the benefits of a complex model that is able to capture the key dynamics that drive bond fund returns versus the desire for a simplified model. • It will be a development effort for Conning to produce a new simplified corporate model if that is the direction chosen by regulators.

Appendix 1: Treasury Model Acceptance Criteria

Item	Category	Suggested Direction for Next Iteration
1.	Low For Long	10 and 30-year geometric average of 20yr UST below current level a) 10-year threshold: 10% b) 30-year threshold: 5%
2.	Prevalence of High Rates, Upper Bound on Treasury Rates	a) The scenario set should reasonably reflect history, with some allowance for more extreme high and low interest rate environments b) Upper Bound: i. [20%] is >= [99%]-tile on the 3M yield fan chart, and no more than [5%] of scenarios have 3M yields that go above [20%] in the first 30 years ii. [20%] is >= [99%]-tile on the 10Y yield fan chart, and no more than [5%] of scenarios have 10Y yields that go above [20%] in the first 30 years
3.	Lower Bound on Negative Interest Rates, Arbitrage Free Considerations	Apply the following guidance for negative rates: a) All maturities could experience negative interest rates b) Interest rates may remain negative for multi-year time periods c) Rates should generally not be lower than -1.5% A floor will likely be employed but the exact form of the floor will be determined later

Appendix 1: Treasury Model Acceptance Criteria (cont.)

Item	Category	Suggested Direction for Next Iteration
4.	Initial Yield Curve Fit, Yield Curve Shapes in Projection, and Steady State Yield Curve Shape	a) Review initial actual vs. fitted spot curve differences for a sampling of 5 dates representing different shapes and rate levels for the entire curve and review fitted curves qualitatively to confirm they stylistically mimic the different actual yield curve shapes b) The frequency of different yield curve shapes in early durations should be reasonable considering the shape of the starting yield curve (e.g. a flatter yield curve leads to more inversions). c) The steady state curve has normal shape (not inverted for short maturities, longer vs shorter maturities, or between long maturities)
5.	Realized short and long maturity volatility at different interest rate levels	a) No Criteria for realized short and long maturity volatility at different interest rate levels

Life Actuarial (A) Task Force

Modeling of complex assets in asset adequacy testing

December 8, 2021

Webex

1

Drivers of project

- Rapid entry of private equity firms into life insurer
  - Owners of life insurers
  - Acquirers of fixed annuity blocks
- Valuation Analysis (E) Working Group charge
  - Identify concerns re: life insurers' asset adequacy testing (AAT)
- MN Department, coordinating with VAWG, collected information from 27 companies representing 17 groups
  - Details on AAT, including modeling of complex assets
  - Scope: one or more of: connected to private equity, large fixed annuity exposure, complex assets
  - Company-specific information is confidential, per SVL

2

Information collected

- Richness of liability guarantees
  - Implying pressure to attain yield to support the liabilities
- Non-traditional assets, amount and valuation of
  - Including CLOs, ABS, BA assets
- Assumed net yields on existing and reinvestment assets
- Investment manager, arrangement, expertise, fees
- Other actuarial assumptions: lapse, borrowing
- Reinsurance ceded

3

Findings

- Sampling of responses
- If investment assumptions are too optimistic:
  - Inappropriately signal adequacy of formula reserves
  - Additional AAT reserves won't be held
  - Understated reserves
  - Inflated surplus
  - Inflated RBC ratios
  - Money leaving the insurer under inappropriate circumstances
    - e.g., through shareholder dividends
  - Claims-paying ability in jeopardy

4

Findings (in some cases) and risks

- Inflated net yields
  - Simplistic modeling - similar level of defaults assumed for higher-yielding complex assets as for similarly-rated corporate bonds
- Internal modeling of asset values
  - When no CUSIP and no deep secondary market
  - Risk of asset values being overstated is high
- CLO performance
  - Generally performed well in recent years
  - Some assume this high performance will continue for the length of the projection
- Investment manager relationships and expenses
  - Is an inappropriate amount of money leaving the insurer?
  - In some cases, AAT modeling of investment expenses appears simplistic

5

Other findings

- Creation of structured assets
  - Packaging of underlying collateral, selling lower tranches
  - Ensure modeling captures tail risk and realistic cash flows
- Offshore / affiliated reinsurance
  - To address perceived reserve redundancy, tax favorability, and increasing RBC ratios
- Trend towards less liquid assets
  - To attain high yield, recognizing low liquidity of some liabilities
  - Ensure appropriate modeling in scenarios where asset sale needed

6

LATF Exposure – Sept 2021

- Findings and rapid increase in private equity / complex asset / life insurer activity -> need for action
- Action item: development of actuarial guideline, focused on modeling of complex assets
- Comment period re:
  - Product scope
  - Size scope
  - Focus on constraints / standards of documentation
  - Effective date

7

Comments: Scope

- Activity beyond fixed annuities has occurred
- Potential consensus is all liabilities with significant investment risk should be in the scope
- Exemption or phase in for some cases?
  - Exemption by size of insurer may not be appropriate
    - Even some smaller insurers are getting more aggressive with investments
  - Perhaps exemption if complex assets are a small portion of the portfolio
  - Need to focus on definition of complex assets if exemption put in place

8

Comments: Establishment of Constraints

- Establishing constraints on asset assumptions - Pros
  - Needed to prevent further optimism in assumptions
  - Discourage race to the bottom (re: minimizing reflection of risk associated with high returns)
  - Level playing field
  - Consistent with moderately adverse condition requirement
  - VM-20 already has constraints on net yields
    - Why would other blocks be treated differently?
- Establishing constraints on asset assumptions - Cons
  - Difficult to establish a one-size-fits all constraint without being too restrictive
  - Analysis of risk/reward relationship is key, will vary by situation
  - Additional documentation will help in the understanding of the modeling

9

Comments: Effective date

- YE 2021 is too early for an AG adoption
  - However, insurers should be on notice – expect robust support for assumptions
  - Particularly those that can be viewed as optimistic
- YE 2022 target for AG adoption
- Perhaps narrower scope for 2022, boarder scope for 2023

10

Potential AG AAT goals

- Uniform guidance for support of asset-related AAT assumptions
- Help ensure reserve adequacy and claims-paying ability in moderately adverse conditions
  - Including conditions negatively impacting complex asset cash flows
- Clarify how margins for uncertainty are established such that the greater the uncertainty the larger the margin and resulting reserve
  - If modeling of asset risk is simplistic, add margin
- Recognize that higher gross returns are, to some extent, associated with higher risk
  - Assumptions should fit reasonably within the risk-return spectrum

11

Potential AG AAT goals

- Require sensitivity testing of complex asset returns;
- Identify expectations in practice regarding the valuation of complex assets
- Require additional documentation of investment fee income relationships with affiliated / close entities

12

Next steps

- Draft Actuarial Guideline, considering comments
- Refine AG draft in early 2022

13

Brian Bayerle
Senior Actuary

December 1, 2021

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

Mr. Fred Andersen
Chief Life Actuary, Minnesota Department of Commerce

Re: Proposed Actuarial Guideline on Complex Assets in Asset Adequacy Testing

Dear Messrs. Boerner and Andersen:

The American Council of Life Insurers (ACLI) appreciates the opportunity to submit the following comments on the proposed Actuarial Guideline to address the modeling of complex assets in Asset Adequacy Testing (AAT).

ACLI encourages the task force to provide a clear, concise, public statement of the regulatory concern that would guide drafting efforts and facilitate the assessment of any proposed solutions. Based on public comments to date, ACLI understands that regulators are concerned about assumed projected yields, used in the context of asset adequacy testing, for certain complex and high-yielding assets that some companies have used to back in-force blocks of fixed annuities.

Given our current understanding, we believe that a prudent initial approach involves developing additional disclosures in VM-30 instead of the proposed Actuarial Guideline. For example, disclosures could include details of the assets, describe characteristics including credit and liquidity, and explain modeling practices, including the development of projected returns. Such disclosures would also provide consistency across the states. ACLI welcomes the opportunity to assist in the development of appropriate and meaningful disclosures.

We believe that disclosure is preferable to an actuarial guideline at this stage for several reasons. First, we believe well-designed disclosures provide regulators with greater insight and allow for productive discussions between regulators and appointed actuaries. Second, enhanced disclosures encourage appointed actuaries to devote additional attention and provide additional support and justification to modeling practices. Finally, disclosures inform the development of subsequent measures, if any are necessary.

We have the following specific comments regarding the exposed questions:

Product scope: Should the focus be on assets supporting fixed annuities or assets supporting all life insurer liabilities subject to AAT?

ACLI response: If regulators are concerned about the modeling of certain categories of assets, then the material use of assets to back any line of business is more relevant than the fact that such assets are being used to back any particular product line. Additionally, AAT is by definition based on a holistic view of each company's balance sheet and is not specific to a particular line of business such as fixed annuities.

Size scope: Should only life insurers or blocks exceeding a certain size threshold be subject to the actuarial guideline?

ACLI response: We believe that it is appropriate to develop size/materiality thresholds for both the size of the block and the material use of complex/high-yielding assets. Immaterial exposures should be exempt from any new requirements.

Constraints or documentation: Should the Actuarial Guideline focus on establishing constraints related to the modeling of complex or high gross yield assets (impacting AAT results) or providing detailed documentation and sensitivity testing on the modeling of such assets (potentially not impacting AAT results)?

ACLI response: Given our current understanding of the concern, ACLI believes regulators should focus on detailed documentation and disclosures around the use of such assets as discussed above. Our thinking may evolve as we better understand the concerns of the regulators.

Effective date: Is a year-end 2022 effective date for the Actuarial Guideline reasonable, or should some guidance apply before that date?

ACLI response: Given our current understanding of the regulatory concern, we believe it is most appropriate to develop appropriate disclosures in VM-30, which would complement the existing documentation requirements already in VM-30. Given the lead time required for changes to the Valuation Manual, revised requirements would be effective for the 2023 Valuation Manual. If regulators believe the disclosures are necessary sooner, the task force can release guidance along with the adoption of the APF. Additionally, state regulators can request a variety of additional information from carriers using existing authority.

We appreciate the consideration of our comments and look forward to discussing on a future call. Thank you.

Sincerely,

cc: Reggie Mazyck, NAIC

rrc risk&regulatory CONSULTING

Memo

To: Mike Boerner, Chair, Life Actuarial Task Force

From: Tricia Matson, Partner and Ed Toy, Director

Date: November 18, 2021

Subject: RRC comments regarding AG on complex assets

Background

The Life Actuarial Task Force (LATF) issued a request for feedback related to the concept of an actuarial guideline (AG) focusing on modeling of complex or high-yielding assets in asset adequacy testing (AAT). This request relates to the increasing use of complex investments to back reserves, and the importance of appropriately capturing the risks associated with those assets in AAT. RRC appreciates the opportunity to offer our comments. Should you have any questions, we would be glad to discuss our comments with you and the LATF members.

RRC Comments

- Overall comments:
    - We applaud these efforts. There are many unique risks associated with some of the invested assets that are increasingly being used to back insurance liabilities. As noted, many of these invested assets present unique challenges due to their complexity, but they also often represent assets that are opaque, are highly volatile from a fair value standpoint and are illiquid. While these complex investments can provide benefits to the insurer and the policyholder (typically in the form of higher yields), it is critical that the reserves (and capital) supporting the business appropriately take the additional risk exposures into account.
    - We support doing this in the near term via an Actuarial Guideline. We would also encourage LATF and the NAIC to consider how to incorporate guidance more directly into the valuation manual and into the risk-based capital formula.
    - We believe that current guidance to Appointed Actuaries (in Actuarial Standards of Practice that apply to AAT) already require appropriate inclusion of asset risks in AAT; however, more specific guidance in the form of an AG may be helpful to Appointed Actuaries and may improve consistency of industry practice and policyholder protection.
- Regarding Product Scope (Should the focus be on assets supporting fixed annuities or assets supporting all life insurer liabilities subject to AAT?)
    - We believe the scope should include all products.
    - We see use of complex investments backing life insurance and long term care, and see no reason why the associated risks should be considered in fixed annuity reserves but not other types of products.

- Regarding Size Scope (Should only life insurers or blocks exceeding a certain size threshold be subject to the actuarial guideline?)
    - We do not think the size of the insurer or the block should impact application of the guidance. If an insurer is willing to take the risk, we believe the insurer should be able to appropriately understand the unique nature of some of these assets and reserve for the risk.
    - That said, if complex assets are less than some defined immaterial percentage of the total assets backing the reserves or are very short duration in nature, limiting application of the guidance might be appropriate.
- Regarding Constraints or Documentation (Should the actuarial guideline focus on establishing constraints related to the modeling of complex or high gross yield assets (impacting AAT results) or providing detailed documentation and sensitivity testing on the modeling of such assets (potentially not impacting AAT results)?)
    - We believe that a higher risk profile for any invested assets should result in additional provision for risk in the reserve analysis, and therefore we favor a "constraints" approach. We also believe that this approach is aligned with existing guidance, which requires that reserves cover moderately adverse conditions.
    - In addition to specific constraints, inclusion of explicit disclosure requirements and/or sensitivity tests may also be helpful. For example, many of the "newer" investments do not have as much historical data for use in setting assumptions regarding investment yield, cash flow profile, default or prepayment, thereby making both provisions for adverse deviation and sensitivity testing important. The availability of reliable data may also be informative in determining what would be appropriately considered "moderately adverse".
- Regarding Effective Date (Is a year-end 2022 effective date for the actuarial guideline reasonable, or should some guidance apply before that date?)
    - Since there is current guidance (albeit not necessarily prescriptive) in ASOPs, and new guidance should generally be implemented with sufficient notice so that companies can make good faith efforts to comply, we believe that year-end 2022 is sufficient.
    - We also recognize that to develop, vet, and adopt good guidance on this complex topic takes time, so it may also make sense to adopt interim guidance for year-end 2022, and further enhance that guidance for subsequent year ends.

Life Actuarial (A) Task Force
Exposure Draft
Please send comments to Reggie Mazyck (RMazyck@NAIC.Org)
by close of business December 1

Consider concept of an actuarial guideline focusing on modeling of complex or high-yielding assets in asset adequacy testing.

Development of an actuarial guideline focusing on modeling of complex or high-yielding assets in asset adequacy testing (AAT), with particular interest in receiving feedback on the following issues:

- Product scope: Should the focus be on assets supporting fixed annuities or assets supporting all life insurer liabilities subject to AAT?
  Investing in complex and/or high-yielding assets is not a stand-alone issue for fixed annuity products. Providing guideline for all life insurer liabilities subject to AAT is not expected to dilute the focus for assets supporting fixed annuities.

- Size scope: Should only life insurers or blocks exceeding a certain size threshold be subject to the actuarial guideline?
  When the actuarial guideline is specifically applied to assets, it should not be limited to certain size of business. Smaller companies asset assumptions should follow the same guideline as it applies to larger companies.

- Constraints or documentation: Should the actuarial guideline focus on establishing constraints related to the modeling of complex or high gross yield assets (impacting AAT results) or providing detailed documentation and sensitivity testing on the modeling of such assets (potentially not impacting AAT results)?

  The actuarial guideline should focus on establishing constraints related to the modeling of complex or high gross yield assets (impacting AAT results), which should include detailed documentation, and supplemental sensitivity tests. The regulating actuary who review the actuarial memorandum may not have adequate experience in assessing the risk underlying these complex/ high yielding assets. Simply relying on documentation and sensitivity test does not give sufficient support for regulators to review and challenge the assumptions used.

- Effective date: Is a year-end 2022 effective date for the actuarial guideline reasonable, or should some guidance apply before that date?
  Year-end 2022 effective date for the actuarial guideline appears reasonable. Providing guidance before that date would imply year-end 2021 effectiveness, which would seem too rush and not much time for industry to react.

  In addition, I wonder if LATF would be interested in expanding the scope to cover all assets including the non-callable corporate bonds with regularly updated assumptions for PBR purposes. These should cover
  a) if reinvestment strategy should be consistent with the company's investment strategy for the relevant block of business.
  b) If default assumptions should be allowed to be less than Table A less margin.

c) If current spreads and ultimate spread should be allowed to be higher than the VM-20 spreads as published in Table F and Table G for Current Benchmark Spreads and Table H & Table I for Long Term Spreads.

d) If a grading period is used to bridge current spread and ultimate spread, what range of grading period would be considered acceptable in light of the four year prescribed in VM-20.

DATE: December 1, 2021

FROM: Aaron Sarfatti, Chief Risk Officer

SUBJECT: Equitable Comments on the concept of developing an Actuarial Guideline on modeling complex or high-yielding assets in Asset Adequacy Testing (AAT).

Equitable appreciates the opportunity to comment on the concept of developing an Actuarial Guideline on modeling of complex or high-yielding assets in Asset Adequacy Testing (AAT). We support an Actuarial Guideline to govern spread recognition as a first step in a necessary broader effort to establish consistent national standards for AAT. Our viewpoints are summarized in the table below:

Question	**Recommendation**	**Rationale**
Should the AG *constrain* spreads or require *enhanced documentation*?	Constrained via guardrails	• Spread forecasts are inherently subjective; guardrails govern against "unbridled optimism" in judgments • Guardrails simplify governance and improve comparability across firms (within and across states) • Documenting subjective forecasts in detail is a low value activity for both regulators and industry
When should be the effective date?	Year-end 2022	• Design of a simple guardrail is readily achievable • Field testing of impact should be straightforward and readily estimable by firms (e.g. DV01 estimate)
What other reforms to AAT should be pursued?[1]	Introduce an aggregate investment spread cap equal to the "A- rated" corporate bond spread + a modest illiquidity premium	• Subjectivity and inconsistency in spread recognition applies to all investment classes • Aggregate spread cap best ensures resilience of reserves to "above market" spread recognition • "A rated" bond spread is the emergent standard for spread recognition in other public accounting and regulatory regimes (FASB, IAIS, VM-22, etc.) • Illiquidity allowance reflects "benefit of doubt" for superior spread generation through private credit
	Harmonize capital markets scenarios (interest rates, equity returns)	• Regulators should enforce a consistent reserve standard for common risk factors • US Treasury rates and public equity returns are common risk factors across all entities

[1] For further details on additional proposed reforms please reference "Illuminating the "Low Interest Rate Peril"—A Blueprint to Recalibrate the U.S. Life Insurance Reserve and Capital Framework Amid Global Low Interest Rates". The Financial Reporter, July 2020. https://www.soa.org/globalassets/assets/library/newsletters/financial-reporter/2020/july/fr-2020-iss-07.pdf

	Simplify and shorten stress scenarios to "stressed intrinsic value", with ALM actions permitted	• Intrinsic value approach reduces company burden by obviating complex reinvestment modeling • Short-term stresses allow companies and regulators to focus on priority AAT measure: reserve adequacy in light of ALM mismatches and hedging policies

For background, Equitable views the life insurance industry and regulatory system as having arrived at a critical juncture that calls for increased reliance on a robust AAT framework:

- Sustained low interest rates has manifested in a material gap between the (i) market yields at which firms can reinvest maturing investments and (ii) Stat Valuation Rates that drive reserves.
- Consequently, the life industry has begun to increase investment risk concentrations both directly and through reinsurance, with structured securities a common tool for increasing yields; industry surveys have further shown that actuarial judgments regarding what constitutes "moderately adverse" future interest rate scenarios are further diverging in consistency - in particular, whether the continuation of prevailing market yields qualifies as moderately adverse
- The result is a rising reliance on AAT as the *de facto* reserving standard for many life insurers, which today is inconsistent in its governance of high sensitivity input judgments such as the projected recognition of investment spreads, among other factors
- Moreover, the prevalence of market-based regulatory regimes is increasing internationally, and there are growing calls for the NAIC Model Law and RBC system to demonstrate substantive equivalence with such regimes to avoid the imposition of supplemental regimes on select firms.

These combined factors increase the imperative to enact standards that boost comparability across firms, necessary to ensure the resilience of reserves in a low interest rate environment. Maintaining the current AAT framework, with its inconsistency across firms and non-standard use of inputs that are common to all financial markets (e.g. US Treasury rates), is no longer in the best interests of the US regulator community. A broader-based reform of AAT as recommended represents the most pragmatic way both to introduce necessary consistency across firms and on common market factors, as well as demonstrate substantive equivalence with international regimes that staves off the imposition of supplementary regulatory regimes (like the International Capital Standard) that could challenge industry capital management.[2]

So, in summary, Equitable fully supports the plan to create a formal Actuarial Guideline to ensure companies do not assume complex assets generate high gross returns with little deduction for risk – but also to encourage regulators to consider this as simply the first step in a broader reform necessary to harmonize AAT across firms irrespective of their state of domicile.

Below are our thoughts on specific items requested for comment in the exposure; on the questions of product and size scope, our views are appropriately captured in the ACLI comment letter. We note that the exposure was limited and so would appreciate any additional information that can be shared to help us better address and understand regulator concerns.

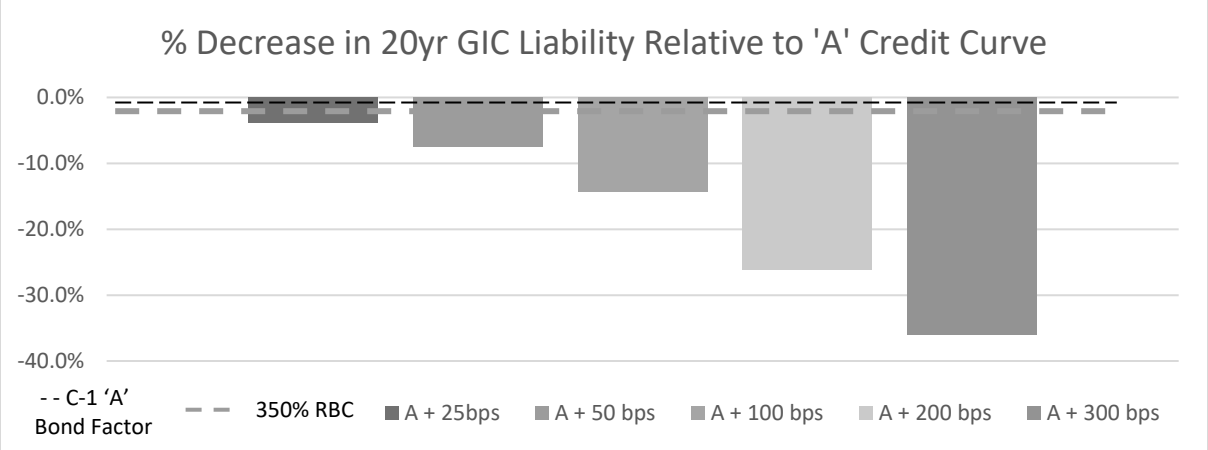
Constraint or Documentation:
Question: Should the actuarial guideline focus on establishing constraints related to the modeling of complex or high gross yield assets (impacting AAT results) or providing detailed documentation and sensitivity testing on the modeling of such assets (potentially not impacting AAT results)?

[2] See IAIS HLP1, a requirement for reciprocal regimes (including the US-proposed Aggregation Method) to demonstrate consistent movements in reserves and capital with the market-based ICS design.

Equitable Perspective: Equitable believes that formal guidance should establish guardrails related to the modeling of complex or high yielding assets. Imposing a constraint rather than a documentation requirement would provide the issue with the appropriate focus. We note that in the current low interest rate environment, AAT requirements frequently become the de facto reserve requirement, validating the importance of this topic and need for formal guardrails.

Equitable suggests a credit spread cap of a single- "A-"corporate bond spread plus a modest illiquidity premium as a potential guardrail for such complex assets. We firmly believe that companies should not be incentivized and rewarded for taking on higher investment risk without a commensurate reserve increase, and this guardrail would ensure that reserves are appropriately risk adjusted. We note that the single-A curve is widely recognized in the insurance industry as an appropriate measure of fair value (e.g., GAAP LDTI, VM22, etc.), and we believe that adding a modest illiquidity premium is appropriate to reflect the ability of insurers to realize such a premium given the long-dated nature of their liabilities.

Credit spread limits are an important part of a principle-based reserving framework. Such limits ensure reserves do not rely on excessive amounts of credit spread in excess of industry investment and pricing practices. As an example of the significance of spread assumptions within AAT reserves, we examined the market value AAT requirement of a 20-year guaranteed investment contract (GIC) liability as of December 2020. The chart below shows the results, namely that the market value of liabilities significantly decreases as the assumed asset spread increases. While a portion of this risk is contemplated in the Risk-Based Capital framework, the C-1 charges are not significant enough to offset the impacts on reserves shown below at higher spread levels. Assuming elevated spreads can cause insurers to hold insufficient AAT reserves, thereby impairing their claims-paying ability.



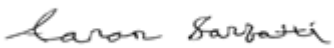
If the guideline is not retained for reserving, we propose that it be retained for dividend setting practices. This will result in companies retaining necessary capital, instead of paying dividends, to pay for future policyholder obligations.

Additional Equitable Perspective on AAT:
In addition to the potential introduction of guardrails on the spreads of complex or high yielding assets assumed in cash flow testing discussed above and contemplated in the NAIC exposure, Equitable posits that broader AAT reform within the NAIC regulatory framework is necessary. In particular, this includes some basic standardization of the interest rate scenario(s) tested in AAT and an aggregate guardrail on spread recognition across *all* asset classes. As noted above, in the current interest rate environment AAT requirements frequently become the binding reserve requirement, thus necessitating the need for some guardrails on the most important inputs into the AAT calculation.

Effective Date:
Question: Is a year-end 2022 effective date for the actuarial guideline reasonable, or should some guidance apply before that date?
Equitable Perspective: Equitable supports a year-end 2022 goal for an Actuarial Guideline.

Equitable appreciates the opportunity to comment on this exposed proposal and we look forward to working with regulators to reach an appropriate framework for modeling of complex assets within the Asset Adequacy Testing framework. We are available to discuss our comments further as desired.

Sincerely,



Aaron Sarfatti, ASA

Chief Risk Officer, Equitable

December 2, 2021

Mr. Mike Boerner
Chair, Life Actuarial (A) Task Force
National Association of Insurance Commissioners

Re: *Consider concept of an actuarial guideline on asset adequacy testing focusing on modeling of complex or high-yielding assets*

Dear Mr. Boerner,

The American Academy of Actuaries'[1] Life Practice Council (LPC) has formed an ad hoc task force[2] to provide comment on the exposure of LATF's proposal on consideration of a conceptional actuarial guideline on asset adequacy testing (AAT) with a comment period ending December 1.

Before we respond to the specific questions that were included in the exposure, we would like to note that the ad hoc task force was unable to form an opinion on many of the issues raised because we did not have a clear understanding of the specific practices giving rise to regulators' concerns.

We would also like to note that several Actuarial Standards of Practice (ASOPs) currently exist for actuaries when modeling complex or high-yielding assets in AAT. Specifically, the actuary should:

- Identify the assets chosen for the analysis (ASOP No. 7);
- Consider any known factors that are likely to have a material effect on asset cash flows and/or the insurer's investment strategy (ASOP No. 7).
- Choose assets that are appropriate for the analysis (ASOP No. 22);
- Use assumptions that are appropriate for the analysis (ASOP No. 22);
- Document the assumptions used and provide supporting rationale for the appropriateness of the assumptions (ASOP No. 22);
- Disclose the assets chosen and provide supporting rationale for the appropriateness of the assets (ASOP No. 22[3]);
- Review data for reasonableness, consistency and limitations, and provide appropriate disclosures (ASOP No. 23);

[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.
[2] The members of the ad hoc task force are listed at the end of this comment letter.
[3] Version that will be effective June 1, 2022.

1850 M Street NW Suite 300 Washington, DC 20036 Telephone 202 223 8196 Facsimile 202 872 1948 www.actuary.org

- Identify the methods, procedures, assumptions and data used with sufficient clarity as to allow for an objective appraisal of the reasonableness of the actuary's work (ASOP No. 41);
- Confirm that the selected model reasonably meets the intended purpose (ASOP No. 56);
- 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 (ASOP No. 56); and
- Understand important aspects of the model being used, as well as known weaknesses and limitations (ASOP No. 56).

Nevertheless, we recognize that there may be differences among actuaries in this evolving area, and a regulatory effort to promote more transparency around actuarial practices and uniformity in the related disclosures would be a positive step. For such an effort, we note that revisions to VM-30 may be preferable to a new actuarial guideline because VM-30 contains the Actuarial Opinion and Memorandum Regulation (AOMR) requirements for AAT.

With those comments in mind, responses to the specific questions that were included in the exposure are provided below.

Product scope: Should the focus be on assets supporting fixed annuities or assets supporting all life insurer liabilities subject to AAT?

We believe the focus should be on assets supporting all liabilities subject to AAT because considerations and best practices for the modeling of the assets would be applicable regardless of the liabilities supported by those assets.

Size scope: Should only life insurers or blocks exceeding a certain size threshold be subject to the actuarial guideline?

We believe an appropriate threshold would be based on the materiality of the assets to the AAT because a small exposure can be material to the AAT. Thus, all insurers or blocks with a material percentage of these assets should be subject to the requirements, regardless the size of the insurer or block.

Constraints or documentation: Should the actuarial guideline focus on establishing constraints related to the modeling of complex or high gross yield assets (impacting AAT results) or providing detailed documentation and sensitivity testing on the modeling of such assets (potentially not impacting AAT results)?

As stated above, a regulatory effort that is focused on disclosures would be beneficial. Such disclosures would promote more transparency and uniformity and could stimulate more robust actuarial analysis in support of the disclosures.

We are unable to comment on the establishment of constraints because we do not have a clear understanding of the specific practices giving rise to the regulators' concerns. We would be pleased to provide comments on such an approach if LATF outlines specific concerns.

Effective date: Is a year-end 2022 effective date for the actuarial guideline reasonable, or should some guidance apply before that date?

A year-end 2022 effective date seems reasonable if LATF establishes disclosure requirements; however, more time may be needed for implementation if LATF establishes constraints.

In summary, we note that several ASOPs apply to the actuary when modeling complex or high-yielding assets in AAT, and a regulatory effort that brings more transparency to these practices would be a positive development. Such an effort should apply to the assets regardless of the liabilities they support and should apply to assets that are material to the AAT. Focusing on disclosure requirements would promote more transparency and uniformity of the disclosures and could stimulate more robust actuarial analysis in support of the disclosures.

Thank you for your consideration of these comments. Please contact Academy life policy analyst, Khloe Greenwood (greenwood@actuary.org), with any questions.

Jason Kehrberg, MAAA, FSA
Chair, Ad Hoc Task Force of the Life Practice Council

Nancy Bennett, MAAA, FSA
Laura Hanson, MAAA, FSA
Len Mangini, MAAA, FSA
Tricia Matson, MAAA, FSA
John Miller, MAAA, FSA
Craig Morrow, MAAA, FSA
Link Richardson, MAAA, FSA
Ben Slutsker, MAAA, FSA
Mike Ward, MAAA, FSA

Life Actuarial (A) Task Force
Exposure Draft
Please send comments to Reggie Mazyck (RMazyck@NAIC.Org)
by close of business November 15

Consider concept of an actuarial guideline focusing on modeling of complex or high-yielding assets in asset adequacy testing.

Submitted by David Yetter - NCDOI

Development of an actuarial guideline focusing on modeling of complex or high-yielding assets in asset adequacy testing (AAT), with particular interest in receiving feedback on the following issues:

- Product scope: Should the focus be on assets supporting fixed annuities or assets supporting all life insurer liabilities subject to AAT? NC would prefer the focus to be on assets supporting all life insurer liabilities. There are concerns that if the focus was only looking at just assets supporting annuities, companies could just move/switch assets.
- Size scope: Should only life insurers or blocks exceeding a certain size threshold be subject to the actuarial guideline? We would be more concerned with the percentage of the liability the asset (or assets) is supporting. In other words, if the high-yielding assets are supporting 50% of the block, we should be concerned. If the high-yielding assets are supporting 0.5%, it's probably not worth including.
- Constraints or documentation: Should the actuarial guideline focus on establishing constraints related to the modeling of complex or high gross yield assets (impacting AAT results) or providing detailed documentation and sensitivity testing on the modeling of such assets (potentially not impacting AAT results)? NC would rather see detailed documentation and sensitivity testing on the modeling. The company, hopefully, understands the asset much better than anyone else. There should not be constraints on modeling new or unique assets. By having the company provide detailed documentation, the regulator can decide what factors could affect the value of that asset.
- Effective date: Is a year-end 2022 effective date for the actuarial guideline reasonable, or should some guidance apply before that date?

Life Actuarial (A) Task Force
Exposure Draft
Please send comments to Reggie Mazyck (RMazyck@NAIC.Org)
by close of business December 1

Consider concept of an actuarial guideline focusing on modeling of complex or high-yielding assets in asset adequacy testing.

Development of an actuarial guideline focusing on modeling of complex or high-yielding assets in asset adequacy testing (AAT), with particular interest in receiving feedback on the following issues:

- Product scope: Should the focus be on assets supporting fixed annuities or assets supporting all life insurer liabilities subject to AAT?

I believe this approach should apply to both fixed annuities and to life insurance liabilities. The performance of the ALT assets is not linked to the liabilities, so the approach to modeling the assets should be consistent by product line.

- Size scope: Should only life insurers or blocks exceeding a certain size threshold be subject to the actuarial guideline?

I would link the size of the block would not matter. The approach to modeling these assets should be appropriate and consistent across all life insurers.

- Constraints or documentation: Should the actuarial guideline focus on establishing constraints related to the modeling of complex or high gross yield assets (impacting AAT results) or providing detailed documentation and sensitivity testing on the modeling of such assets (potentially not impacting AAT results)?

I am not sure what constraints would mean. Does this suggest that the approach can be aggressive, but the guideline will limit the aggressiveness? I have discussed CFT analysis with other actuaries that use ALTS for CFT. Their comments seem to fall under two buckets (both of which are concerning):

- The ALTS are only 5% of the portfolio, so it was immaterial. If the ALTs are assumed to earn 12% and this replaces assets earning 3%, then the impact is an extra 45bps of return. It seems difficult to argue immateriality.
- The ALTs are expected to have a 12% return, so the appointed actuary uses 8% to be "conservative" and model as a bond. We are talking about assets that could have an annual return distribution from -30% to +30%. It also has cash flows that are dissimilar from other asset types (pledged capital, contributions, distributions). The NII is not realized until distributions occur. The analysis needs to recognize the asset cash flows and NII pattern used to support the liability cash flows.

It seems like the AG should require detailed documentation on the ALT modeling approach. In addition, ALTS are one of the most volatile asset types used by Life insurers. It seems like the AG should require the analysis to capture the volatility of the asset type. Some of the requirements to consider include:

- The analysis should capture the cash flows of the asset type. This would include contributions, distributions, and total returns.

- The analysis should capture the distributions of the outcomes from the A/L analysis. This may require stochastic analysis that captures the distribution of results for the ALTs and for the other assets supporting the liabilities. It could use the NY7 scenarios and run number of paths of stochastic asset spreads, defaults (migrations), and equity returns for each scenario. It seems like reserve sufficiency is an 85th percentile measure, so a focus at the 85th percentile seems reasonable to consider. (I would suggest Conning could provide these paths for each NY scenario)
- The requirements should consider the illiquidity of the asset type. The analysis shouldn't be allowed to disinvest an asset type that is illiquid.

(This approach is difficult to implement, but the volatility of the asset class requires this level of detail. If the appointed actuary is going to use these asset types to support CFT, then the analysis requires this level of thoroughness. I would pose this question: How would the appointed actuary know the assets are adequate to support the liabilities without this type of analysis?)

- Effective date: Is a year-end 2022 effective date for the actuarial guideline reasonable, or should some guidance apply before that date?

EOY 2022 seems appropriate if a documentation approach is used. The industry would need time to implement.

Comment on the Actuarial Guideline for AAT Exposure
Received 9/30/21
Submitter: Anonymous

I. My main suggestion would be to be broader in how you look at and write things up (rather than focusing on a specific asset such as CLOs).

II. Areas of investment-related risk likely not captured in credit ratings include:

1. **Liquidity**
2. **Volatility of returns**
3. **Volatility of fair market valuation**
4. **Difficulty in assessing fair market valuation**

Life insurers have largely been trying to get more yield by going farther out on the spectrum for one or all of those risks. Guidance could include adjustments related to those risks.

Update on Mortality Experience Data Collection

Pat Allison, FSA, MAAA

December 8, 2021

NATIONAL ASSOCIATION OF INSURANCE COMMISSIONERS

1

Agenda

- Current Data Collection Timeline
- NAIC Data Review Process and Status
- Recommended Deadline Extension

 2

2

2021 Experience Data Collection Timeline

6/7/21	NAIC notified companies that they could begin submitting data for the 2018 and 2019 observation years. A total of 110 companies, representing 87.5% of industry claims, are subject to the mortality experience data collection.
9/30/21	Deadline for initial submissions. A complete submission includes 2 years of data submitted using the Regulatory Data Collection (RDC) tool as well as Control Totals, Reconciliation to Exhibit of Life Insurance, and VM-51 Appendix Questionnaires.
12/31/21	Deadline for companies to make corrections to data submissions.
5/31/22	NAIC to submit aggregate experience data to SOA.

 3

3

Data Review Process and Status

1. Data submissions - RDC Tool gives immediate feedback on form and format data exceptions (Example of a data exception: Smoker Status has an invalid code)

   Status: 100 companies have submitted their data for the 2018 and 2019 observation years. The remaining 10 companies have uploaded their data but have not yet submitted it.

2. Control Totals and Reconciliation to Annual Statement – These serve as an inclusion controls, ensuring that all records intended to be submitted were received, and that only business in scope was submitted.

   Status: The NAIC is having ongoing communication with companies regarding any control totals and reconciliations that do not match the data submission.

3. VM-51 Appendix Questionnaires – Preferred Class Structure Questionnaires, Mortality Claims Questionnaire, Additional Plan Code Form

   Status: Most companies have completed these.

 4

4

Data Review Process and Status (continued)

4. Rules-Based Data Validation - includes all RDC checks, plus more complex data validations (e.g., year-over-year data comparisons) added by NAIC actuarial staff. A list of the validations can be found on the NAIC website (https://content.naic.org/pbr_data.htm - Scroll down to VM-50 / VM-51 Experience Reporting). A company will need to meet a minimum threshold of acceptable data in order to be included in the aggregate file to be sent to the SOA.

   Status: Initial data submissions range from 0% - 100% acceptable.

   - Small companies tend to have higher percentages of acceptable data. Large companies are generally more complex. There are often many product types, multiple admin systems, and sometimes coordination is required with 3rd party administrators.
   - Common reasons for lower acceptance percentages include:
     - Face Amount is missing, zero, or negative.
     - Inconsistencies in year-over-year data (e.g., changes in issue age, smoker status, or number of classes in preferred class structure)

5

Data Review Process (continued)

5. Field Distribution Review - checks data reasonability in accordance with VM-50 Section 4.B.8. To do this, the NAIC created approximately 150 charts and tables in Tableau to help identify potential systematic errors, unusual or unlikely reporting patterns in the data, etc. Note: Data corrections may be needed even if review step #4 indicates that 100% of the data passes the rules-based tests.

   Status: Typically, companies are receiving at least 60 comments/questions for which a written response is required.

   - Common questions are regarding:
     - Small face amounts (<$5,000) – These may represent paid-up additions in some cases.
     - Preferred classes – There is confusion on how to code preferred and standard classes.
     - Underwriting type – Many companies have coded a high percentage of records as Unknown, Not Underwritten, or Underwritten with unknown fluid collection.
     - Terminations – These appear low for some companies.
     - Unlikely gender and smoker status concentrations (e.g., plan codes with 100% females)
   - Note: There may be reasonable explanations for apparent data anomalies. In this case, the NAIC will keep track of company responses so that questions are not repeated in future years.

6

Recommendation for Deadline Extension

- The VM-51 deadline for corrected data submissions is 12/31/21.
- NAIC staff recommends a deadline extension to 3/31/22 to allow companies more time to review NAIC feedback, provide responses, and make corrections as needed.
  - It is anticipated that companies may need to submit more than one corrected file. We encourage companies to resubmit as soon as they feel they have addressed the data exceptions and questions from the data validation and field distribution review.
- A deadline extension is not expected to delay delivery of aggregated data to the SOA by 5/31/22.

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Future Mortality Improvement Scale Development (VM-20) UPDATE

Mortality Improvements Life Work Group (MILWG) of the Academy Life Experience Committee and SOA Preferred Mortality Project Oversight Group ("Joint Committee")

Life Actuarial Task Force (LATF) Winter Meeting— December 2021

RECAP: Individual Life Insurance Future Mortality Improvement (FMI) for VM-20 Products

GOAL: To allow a prudent level of future mortality improvement (FMI) for VM-20 products beginning with the 2022 valuation manual

- FMI scale will be developed, updated and made available to practitioners annually
- Updates will be limited to a threshold of materiality for making a change
- Two versions of the scale will be published: Basic ("Best Estimate") and Loaded ("with margin")
- Period of scale application: 20 years
- Varies only by gender and attained age

Topics for Presentation

- 2022 scale development plan
- Issues to be addressed in 2022 recommendation
- Next steps/future considerations

3

2022 MI Scale Development Plan (VM-20)

2022 MI Scale Development	
	Timeline
1. Receive 2020 data from CMS and SOA creates preliminary estimate for 2020	2/28/2022
2. Determine preliminary 2022 HMI and FMI Scales by applying approved methodology to SOA 2020 estimate	3/31/2022
3. Develop recommendation for reflecting COVID impact	5/1/2022
4. Determine method for smoothing (FMI)	6/1/2022
5. Finalize approach for application of margin	6/1/2022
6. Develop revised version of 2022 HMI and FMI scales - apply COVID, smoothing, and margin adjustments	6/15/2022
7. Receive SSA Trustees Report - Intermediate Projections for 2022	6/30/2022
8. Develop final recommendation for HMI and FMI scales for 2022 (basic and loaded versions) and present to LATF for exposure	6/30/2022
9. Receive SSA mortality improvement data (final SOA estimates for 2020)	8/15/2022
10. Respond to exposure comments obtain LATF approval of 2022 HMI and FMI scales - both basic and loaded versions	9/15/2022
11. Publish 2022 HMI and FMI scales on SOA website	9/30/2022

4

Issues to be Addressed in 2022 Scale Recommendation

- COVID-19 impacts
- Smoothing method
- Margin application

5

Issues to be Addressed in 2022 Scale Recommendation COVID-19 Impacts

- Quantification of COVID-19 impact
  - Data sources
  - Short vs medium vs longer term impacts
  - Return to improvement over time or continued deterioration
  - Insured vs general population impacts
  - Differences in COVID-19 impact/adjustment approaches by company
- Approach for reflecting impacts
  - Direct adjustment or reflected in margins
  - Consistency across product lines (“Think Tank Group” recommendations)

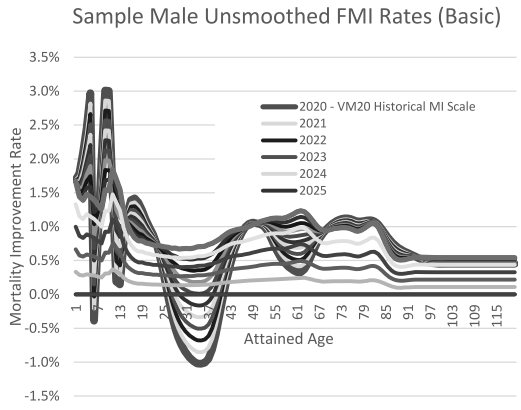
6

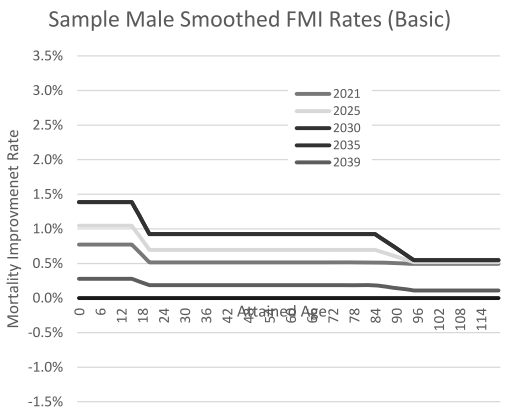
Issues to be Addressed in 2022 Scale Recommendation Smoothing Method

- Unsmoothed historical estimates vary materially by age
- Consider reflecting larger differences in smoothed rates for FMI recommendation
- Consider implications to HMI smoothing for 2022

7

Issues to be Addressed in 2022 Scale Recommendation Smoothing Method





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Issues to be Addressed in 2022 Scale Recommendation Margin Application

- Apply any adjustments for COVID-19 impacts as determined by subgroup work
- Specify approach for application where FMI rates are zero, near zero or negative

9

Next Steps and future considerations

- Threshold of materiality for making a change in a given year
- Impacts of opioid epidemic
- Obesity impacts
- Mental health impacts
- Slowdown in cardiovascular mortality improvement
- Smoker status impacts
- Socioeconomic differences (between general and insured population beyond COVID-19 impacts)

10

Questions?

11

Contact Information

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Life Policy Analyst
American Academy of Actuaries
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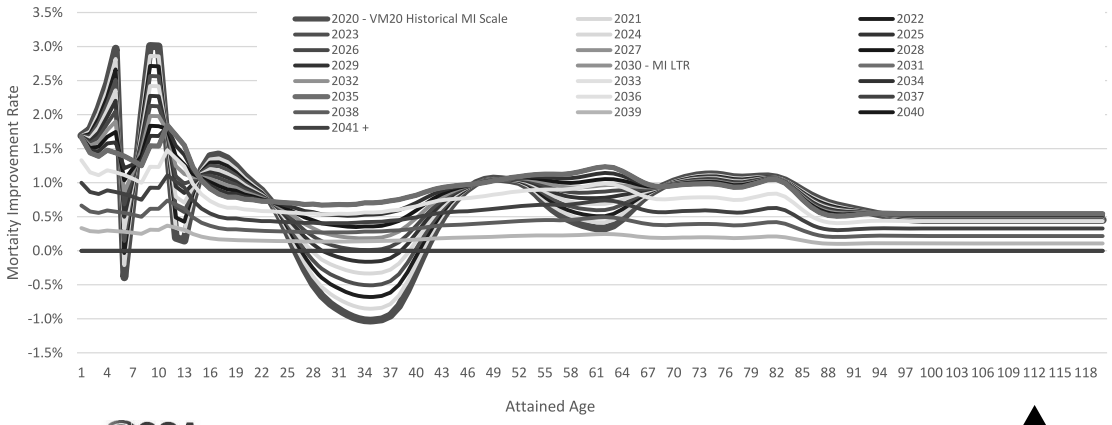
Appendix

FMI Scale Development—Methodology Review

- Best estimate FMI grades from the historical basis to a long-term MI rate ("LTMIR") at 10 years
- Remains level from 10 to 15 years
- Grades to no additional improvement at 20 years
- Separate exercise for initial published scale to consider COVID-19 impacts

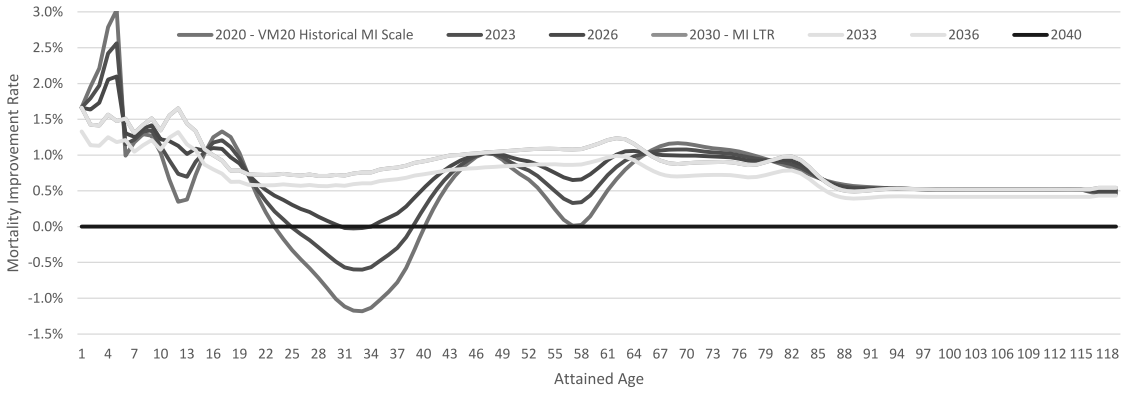
Sample Best Estimate FMI Rates

Unsmoothed—Male—2020 Valuation

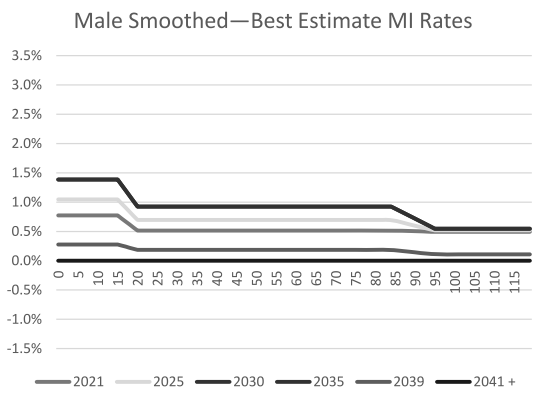


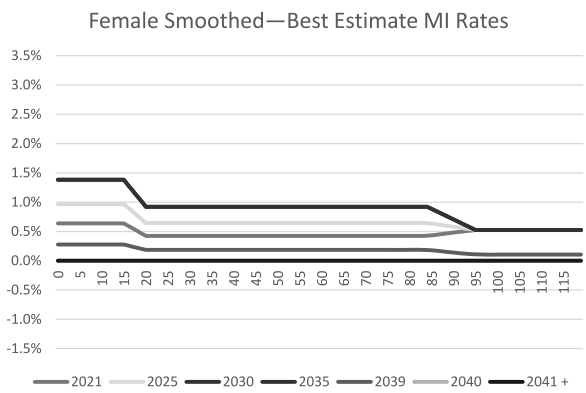
Example Best Estimate FMI Rates

Unsmoothed—Female—2020 Valuation



2020 Smoothed Best Estimate FMI Rates





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Margin Recommendation

MARGIN ON THE INCREMENTAL MORTALITY IMPROVEMENT SCALE

- Margin will be included for all companies
  - Companies may use a more conservative MI scale but not less conservative
- Margin will take the form of a flat % reduction in the best estimate MI scale
  - **Recommendation for 25% flat reduction**

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Considerations in Margin Recommendation

- 25% reduction in best estimate scale is a material cushion to reserve impact
- Conservatism in best estimate MI scale
  - Not explicitly included
  - Methodology has some conservatism—i.e., limiting cumulative improvements to 20 years
- Ability to change best estimate MI scale each year
  - No lock in of assumptions under VM-20
  - Corrections can be made if trends change

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SOCIETY OF ACTUARIES RESEARCH UPDATE TO LATF

December 8, 2021

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

1

SOA Research INSTITUTE

U.S. Post-Level Term Lapse and Mortality Predictive Modeling Report

2

2

U.S. Post Level Term Lapse and Mortality

- Previous PLT report published in 2014
  - Included data from 37 companies
  - 317,000 policy years in duration 11
  - Did not include significant predictive modeling
- Current study began in January, 2019
  - Included data from 25 companies
  - 737,000 policy years in duration 11
  - Enough experience to:
    - Compare graded vs jump to ART premium experience
    - Analyze PLT experience for 15-year LT policies

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U.S. Post Level Term Lapse and Mortality

- Key findings
  - Shock lapse at the end of the term is the pivotal variable
  - Other variables have greater impact for lower premium increases (esp. up to 3x premium increases)
  - Lapses in each duration are higher if the shock lapse is higher
  - For graded, subsequent premium jumps in the PLT period were an important driver of lapsation
  - Mortality deterioration in PLT was higher for higher shock lapses
  - For higher shock lapse ranges, the mortality deterioration wore off quickly; this was not the case for graded or low shock lapses

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U.S. Post Level Term Lapse and Mortality

- Modeling approach
  - Use Generalized Linear Regression to build a model for the shock lapse at the end of the level term
    - Include all variables and interactions found to be significant
  - Add the predicted shock lapse as a new variable to the dataset
  - Use the data, including the predicted shock lapse, to build separate models (Step 2 Models) for experience during the PLT period for:
    - Lapse experience
    - Mortality experience

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U.S. Post Level Term Lapse and Mortality

- Link to Report: https://www.soa.org/resources/research-reports/2021/u.s.-post-level-term-lapse-and-mortality-predictive-modeling/

- Tableau Link: https://tableau.soa.org/t/soa-public/views/USPost-LevelTermPredictiveModelingInteractiveTool/1-ShockLapseOverview

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Analysis of Historical U.S. Population Mortality Improvement Drivers Since 1950

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Research Objective

- Authors: Andres Villegas, lead researcher
- Builds on earlier SOA-sponsored project "Components of Historical Mortality Improvements" (Li et al., 2017a,b).
- Identifying significant mortality drivers in the U.S. population that have a high likelihood of being linked to the improvement or deterioration of mortality by age, period and cohort (APC) components.
- Quantifying possible correlations using cause of death and other relevant data sources and quantifying the likely degree of causality between each APC mortality improvement component and the relevant extrinsic drivers.

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Data Source

- HMD Cause of Death Data 1959-2016
- 6 broad causes of death - circulatory diseases, neoplasms, respiratory diseases, digestive system diseases, external causes and other causes.
- 26 subcategories
- 9 Risk factors associated with mortality – AIDS and tuberculosis, alcohol abuse, dementia and Alzheimers, diabetes and obesity, drug dependency, homicide, hypertensive disease, self harm, smoking

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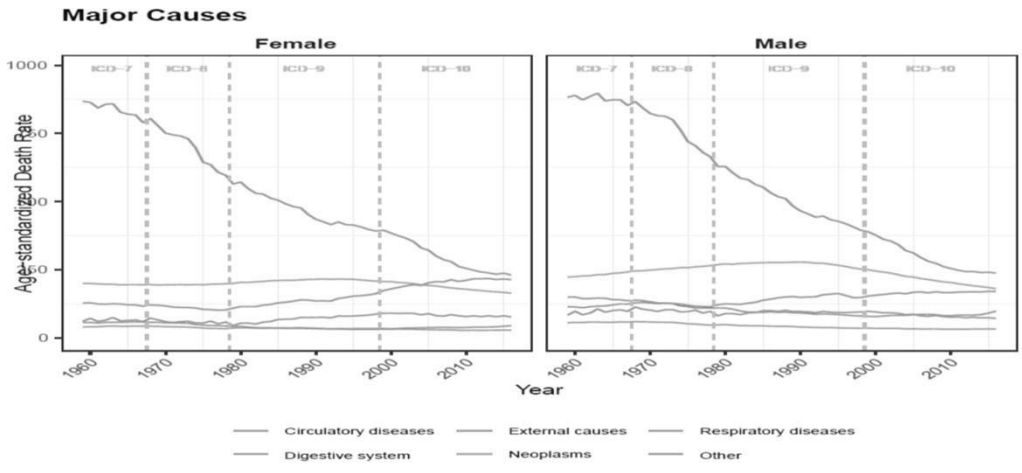
Age Standardized Death Rates



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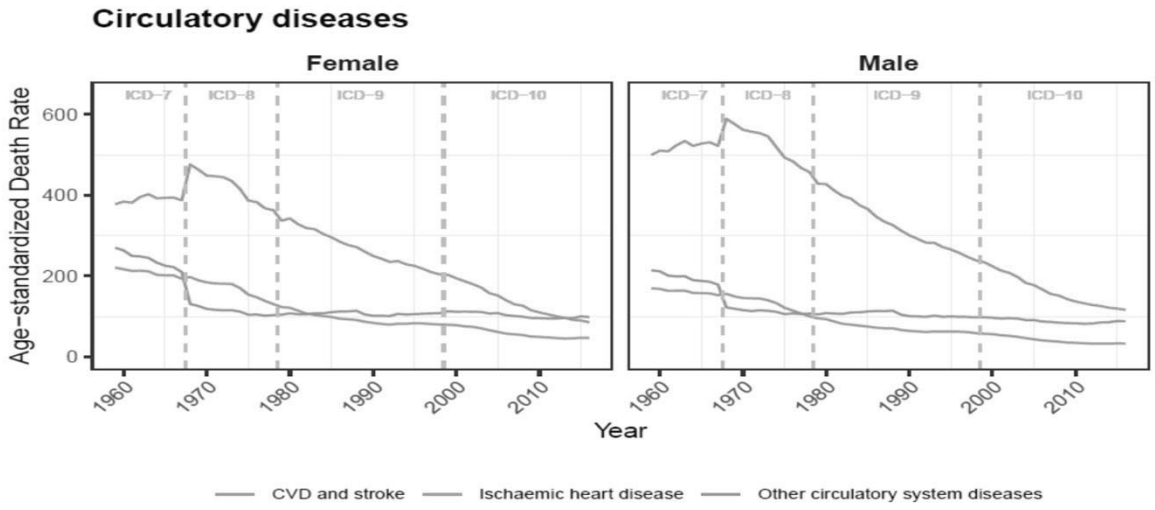
Age Standardized Death Rates - Subcause



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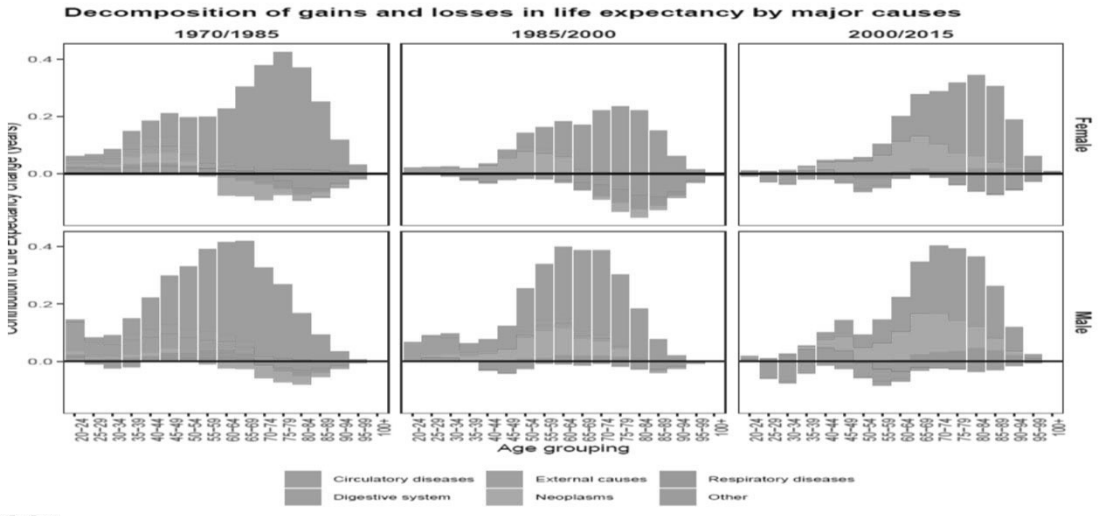
Life Expectancy Decomposition



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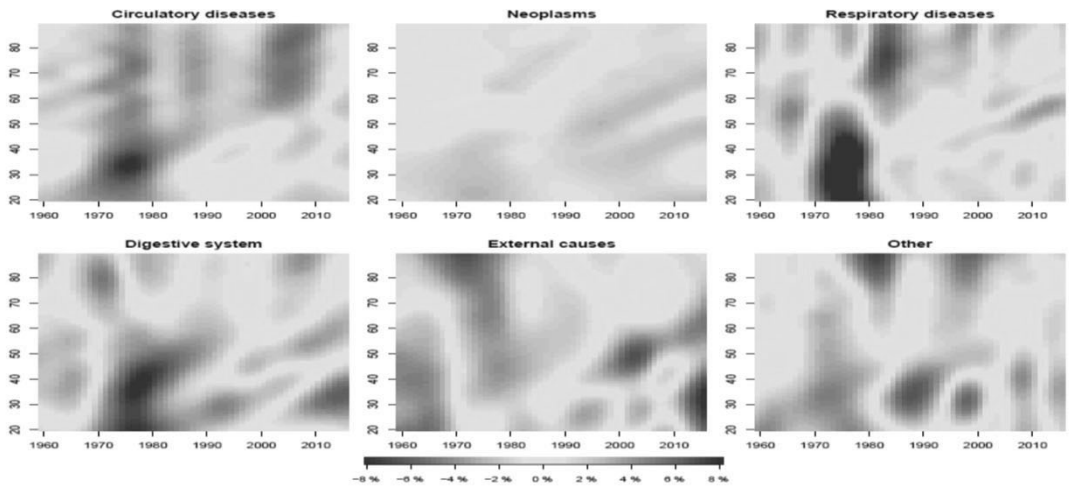
Heatmaps

Figure 4.13: Heatmaps for broad causes of death, ages 20–89, years 1959–2016, females



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Link to Report

- https://www.soa.org/resources/research-reports/2021/analysis-historical-us-drivers/

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Additional SOA Life Research

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SOA Experience Studies

Project Name	Objective	Link/Expected Completion Date
2000-2017 Post Level Term Mortality and Lapse - Machine Learning Report	Draft a report regarding the PLT machine learning analysis that was done; this report will supplement the main report.	https://www.soa.org/resources/research-reports/2021/u.s.-post-level-term-lapse-and-mortality-predictive-modeling/
2000-2019 U.S. Historical Population Mortality Rates	Publish unsmoothed SSA-Style historical mortality rates for 2000-2019.	https://www.soa.org/resources/research-reports/2021/us-pop-mort-rates-2000-2019/
2016-18 Fixed Indexed Annuity Study	Examine lapse and the utilization of guaranteed living withdrawal benefit options on fixed index annuity policies under a Joint SOA/LIMRA project and release Tableau visualizations with the observations from the study.	https://www.soa.org/resources/experience-studies/2021/fixed-indexed-annuity-experience-study-policy-years-2016-2018/
2018 Variable Annuity Guaranteed Living Benefit Utilization Study	Examine the utilization of guaranteed living benefit options on variable annuity policies under a Joint SOA/LIMRA project.	https://www.soa.org/research/topics/2018-variable-annuity-guaranteed-living-benefits-utilization/
2020 U.S. Population Mortality - Preview 2020 U.S. Population Mortality - Preview Update	Complete an analysis of 2020 U.S. population mortality using the CDC's quarterly rapid release data.	https://www.soa.org/resources/research-reports/2021/us-population-observations-preview/
2021 Life Mortality Improvement	Develop AG38 mortality improvement assumptions for YE 2021.	https://www.soa.org/resources/research-reports/2021/individual-life-insurance-mortality-improvement-scale-recommendation/
COVID-19 Individual Life Mortality Study - Experience Study Report - 2020 Q3	Complete a mortality study assessing the impact of COVID-19 on Individual Life Insurance.	https://www.soa.org/resources/experience-studies/2021/covid-19-life-mortality-study/
Economic Scenario Generator - 2020 update	Update the AAA Economic Scenario Generator Annually.	https://www.soa.org/resources/tables-calcs-tools/research-scenario/
GRET for 2021	Develop the Generally Recognized Expense Table (GRET) for 2022.	https://www.soa.org/resources/research-reports/2020/2022-gret-recommendations/
Group Life COVID-19 Mortality Survey Update - Report	Complete an update on a mortality study assessing the impact of COVID-19 on Group Life Insurance.	https://www.soa.org/resources/experience-studies/2021/group-life-covid-19-mortality/
COVID-19 Individual Life Mortality Study - Experience Study Report - 2020 Q4	Complete a mortality study assessing the impact of COVID-19 on Individual Life Insurance.	https://www.soa.org/resources/experience-studies/2021/covid-mortality-update-2020-4th-qtr/
ILEC Mortality Experience Report Update for 2009-2017	Draft a report updating the ILEC mortality experience reporting for 2017.	11/30/2021
Mortality Improvement Survey	Complete a survey to learn how companies are reacting to the slowdown in the level of mortality improvement within the general population.	12/30/2021
Group Life COVID-19 Mortality Survey Update - Report	Complete an update on a mortality study assessing the impact of COVID-19 on Group Life Insurance.	1/31/2022
US Population Mortality Observations: Updated with 2020 Experience	Explore observations from the release of the 2020 U.S. population mortality data.	1/31/2022
2011-2015 Deferred Annuity Mortality Study	Examine the mortality experience from 2011-2015 in deferred annuity contracts and release a report with the findings and a database with the experience data.	2/28/2022

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SOA Practice Research & Data Driven In-house Research

Project Name	Objective	Link/Expected Completion Date
2020 Emerging Risks Survey	Tracks the trends and thoughts of risk managers on emerging risks across time.	https://www.soa.org/resources/research-reports/2021/14th-annual-survey/
Deep Learning for Liability-Driven Investments	Explores the possibility of using deep learning and reinforcement learning techniques to improve investment decision-making for pension funds and life insurance companies.	https://www.soa.org/resources/research-reports/2021/liability-driven-investment/
Human Mortality Database - 2019 Projects-interstate mortality in the United States	Enhances the Human Mortality Database by focusing on state level mortality tables and expanding causes of death mortality tables for more countries.	https://www.soa.org/resources/research-reports/2021/interstate-variations-in-mortality-in-the-united-states-1959-2018/
Managing Investment Risks of Insurance/Annuity Contractual Designs	Develop a framework for quantifying and analyzing various forms of contractual designs and their risk management techniques.	https://www.soa.org/resources/research-reports/2021/contracutal-designs/
MIM-2021 Update	Update MIM-2021 for RPEC model integration.	https://www.soa.org/resources/research-reports/2021/mortality-improvement-model/
Modelling and Forecasting Cause-of-Death Mortality by Socio-Economic Factors	Develop mortality projection models to analyze and forecast mortality by cause of death and socio-economic factors.	https://www.soa.org/resources/research-reports/2021/modeling-and-forecasting-cause-of-death-mortality-by-socioeconomic-factors/
Predictive Analytics for Early Detection of Insurer Insolvency	Develop market-based insolvency prediction model to detect financially distressed insurers at an early stage.	https://www.soa.org/resources/research-reports/2021/early-detection-insolvency/
Obesity Trends and Morbidity and Longevity Impacts	Develop an estimate of the impact of obesity in mortality and morbidity costs in the US and Canada.	12/9/2021
Impact of Ins & Ret Products on Wealth Inequality	Quantify the impact of a variety insurance, retirement and financial products and services on the wealth gap across various racial and ethnic groups in the U.S.	1/31/2022
Mortality Improvement Trends Analysis	Identify how mortality improvement varies by driver.	1/31/2022
U.S. Cause of Death Mortality By Socioeconomic Category	Develop US age-adjusted death rates by cause of death and socioeconomic category from 1982-2018.	1/31/2022

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Life Practice Council Update

Laura Hanson, MAAA, FSA
Outgoing Vice President

American Academy of Actuaries
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Life Actuarial Task Force (LATF) Meeting—December 8, 2021

Agenda

- Webinars and Events
- Recent Activities and Deliverables
- Ongoing Efforts

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Webinars and Events

- Recent
  - *PBR Boot Camp: The Regulatory Perspective* (Oct 13)
  - Academy Annual Meeting (Nov 4-5)
    - Life breakout sessions on reinsurance, long-term care, and registered index-linked annuities
- Upcoming
  - Winter 2022 Life Policy Update Webinar (January 2022)

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Recent Activity

- Presented recommendations on updated C-2 mortality factors to the NAIC's Life Risk-Based Capital Working Group
- Submitted comments to the Actuarial Standards Board on the exposure draft of ASOP No. 24
- Published an exposure draft on considerations regarding Market Risk Benefits
- Published an updated version of the Life Illustrations Practice Note

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Recent Activity (continued)

- Submitted comments to LATF on Asset Adequacy Testing modeling
- Submitted comments to LATF on APF 2021-11
- Submitted comments to Accelerated Underwriting (A) Working Group on the charges and scope of the working group

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Ongoing Activities

- Provide input on Economic Scenario Generator development
- Develop VM-22 and C-3 field study for non-variable annuities
- Publish the VM-21 Practice Note Addendum
- Publish FAQs on changes to tax reserve calculations and reporting under the federal Tax Cuts and Jobs Act of 2017

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Ongoing Activities (continued)

- Provide public policy analysis on:
  - The use of annuities in retirement plans, including changes as a result of the federal SECURE* Act
  - The use of data and algorithms in risk classification and underwriting
  - Efforts to promote diversity and inclusion in the profession and in life insurance products

* Setting Every Community Up for Retirement Enhancement

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Recent Academy Activities

- Released a major issue paper, *Big Data and Algorithms in Actuarial Modeling and Consumer Impacts,* from the Data Science and Analytics Committee
- Updated U.S. Qualifications Standards effective January 1, 2022
- Council on Professionalism and Education (CoPE)

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Thank You

- Questions?
- For more information, please contact the Academy's life policy analyst, Khloe Greenwood, at greenwood@actuary.org.

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