NATIONAL ASSOCIATION OF INSURANCE COMMISSIONERS

Date: 1/18/22

Virtual Meeting

LIFE RISK-BASED CAPITAL (E) WORKING GROUP
Thursday, January 20, 2022
12:00 – 1:00 p.m. ET / 11:00 a.m. – 12:00 p.m. CT / 10:00 – 11:00 a.m. MT / 9:00 – 10:00 a.m. PT

ROLL CALL

Philip Barlow, Chair	District of Columbia	William Leung	Missouri
Jennifer Li	Alabama	Derek Wallman	Nebraska
Thomas Reedy	California	Seong-min Eom	New Jersey
Wanchin Chou	Connecticut	Bill Carmello	New York
Sean Collins	Florida	Andrew Schallhorn	Oklahoma
Vincent Tsang	Illinois	Mike Boerner/Rachel Hemphill	Texas
Mike Yanacheak/Carrie Mears	Iowa	Tomasz Serbinowski	Utah
Fred Andersen	Minnesota		

NAIC Support Staff: Dave Fleming`

AGENDA

1. Discuss Comments Received on the American Academy of Actuaries' (Academy) C2 Mortality Work Group Recommendation—*Philip Barlow (DC)*

   - American Council of Life Insurer Comments   Attachment 1
   - Minnesota Comments   Attachment 2
   - New York Comments   Attachment 3

2. Discuss the Academy's Longevity Comments—*Philip Barlow (DC)*   Attachment 4

3. Discuss Asset Valuation Reserve for Bond Factor Changes—*Philip Barlow (DC)*

4. Discuss Any Other Matters Brought Before the Working Group—*Philip Barlow (DC)*

5. Adjournment

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![ACLI - Financial Security for Life]

Brian Bayerle
Senior Actuary

January 11, 2022

Mr. Philip Barlow
Chair, NAIC Life Risk-Based Capital (E) Working Group (Life RBC)

Re: C-2 Mortality Factor Proposal

Dear Mr. Barlow:

The American Council of Life Insurers (ACLI) appreciates the opportunity to submit the following comments on the American Academy of Actuaries (the Academy) C-2 mortality factor proposal.

ACLI appreciates the diligent efforts of the Academy in the development of these factors, and the thoughtful questioning and efforts from Life RBC working group members. ACLI is generally supportive of the initiative to update the C-2 mortality factors. We believe the structural changes to the methodology to determine the factors makes sense, and particularly updating the mortality assumptions underlying the factors is appropriate. However, ACLI would like more analysis and justification for the assumptions regarding the risk exposure periods and the ability of companies to adjust mortality rates for emerging experience because we are unsure as to the consistency of these assumptions across product types. In addition, ACLI would support greater analysis of the margins. We note that both the proposed factors include a 5% margin, while both pre-PBR and post-PBR reserves likely include margins that significantly exceed this level.

Additionally, ACLI is supportive of Life RBC's goal of more frequent updates to the mortality factors. ACLI believes the frequency of updates should reflect the greater percentage of inforce on a PBR-basis over time, greater availability of relevant data, and evolving reserves and practices .

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

Sincerely,

[signature: B Bayerle]

cc: Dave Fleming, NAIC

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m1 COMMERCE DEPARTMENT

Date: 01/07/2022

To: Phillip Barlow, Chair of the Life Risk-Based Capital (E) Working Group

Subject: Life C-2 Mortality Factor Update

Thank you for the opportunity to provide comments on the Life C-2 Mortality Factor proposal. We applaud the Academy C-2 Mortality Work Group's efforts, and think this is a great analysis. There are a few comments we would like to make to consider as potential refinements to the proposed factor updates, which are discussed below.

Catastrophe Risk Component

The impact of updating the catastrophic component of the C-2 risk in the proposal, inclusive of removing the HIV scenarios, is a large decrease to the C-2 factors (-35% for large inforce size and -20% for small inforce size). However, the Academy C-2 Mortality Work Group mentioned on a prior NAIC Life RBC Working Group call that, due to timing, the analysis does not include impacts due to the emergence of COVID-19. Given that we are in the midst of a two-year pandemic and that C-2 factors are not frequently revised, we believe it would be prudent to reflect the current environment in the update.

Therefore, we would like to ask whether the Academy C-2 Mortality Working Group would be open considering an adjustment to reflect additional uncertainty of future mortality in light of COVID-19. Such uncertainty may reflect the impact of "long COVID", additional variants, or an increased likelihood of future pandemics. Given the status of the proposal, we acknowledge it may be challenging to come up with a sophisticated approach at this point, so we would be open to exploring any higher-level adjustments, such as employing sensitivity tests to pandemic shock probabilities and distribution of severities to determine a COVID-19 adjustment. In addition, one of the sensitivity tests in the report shows a small impact from increasing the probability of an unknown sustained catastrophe from 2.5% probability to 5.0% probability, but it may be worth considering higher probabilities or severities for this component in coming up for an adjustment to COVID-19 (to reflect the risk of future respiratory issues or long COVID), in addition to sensitivity testing pandemic risk.

Product Categories

The Academy's proposal to differentiate risks based on product duration is a welcome development, which permits companies to more accurately reflect C-2 mortality risk for their mix of inforce business. The current proposal breakdown categories into "ULSG", "Term", and "Other" with exposure periods of 20 years, 10 years, and 5 years respectively. Although the simplicity of this approach for differentiating product groups is consistent with the overall RBC framework, it also creates some unintuitive results:

- **ULSG Categorization** – The proposal contains separate charges for "ULSG" vs. "other", where "other" is about half the ULSG charge. However, "ULSG" is defined at issue as a secondary guarantee less than or equal to 5 years. This results in a universal life policy with a 5-year secondary guarantee having half the

charge of a universal life with a 6-year secondary guarantee. In contrast, a 40-year secondary guarantee will have the same mortality risk charge as a 6-year secondary guarantee.

- **Whole Life Categorization** – Similar to the ULSG observation described above, a non-participating whole life with low funding values would also get half the charge of universal life with a 6-year secondary guarantee. This is due to the underlying assumption that the non-participating whole life mortality risk is based on a 5-year exposure period, which is shorter than the average contract life of a whole life policy.

- **Term Categorization** – The term category is based on a 10-year liability exposure period. Therefore, the C-2 term charge (less than ULSG) might work for 10-year level term to 20-year level term, but the ULSG charge may be more appropriate for reflecting the associated risk for a 30-year level term.

As an alternative, we recommend differentiating the assignment to the 5, 10, and 20-year exposure period factors based on the guarantee duration, similar to how valuation rates are assigned in the Standard Valuation Law:

Guarantee Duration (Years)	Exposure Period
10 or less	5 Years
More than 10, but not more than 20	10 Years
More than 20	20 Years

We believe this modification would maintain simplicity (as this split is already required for valuation purposes), while also avoiding some of the unintuitive impacts in the original proposal described above.

In addition, we would recommend the NAIC Life RBC Working Group's consideration of using an exposure period of 30 years for even longer guarantees, as the Academy C-2 Mortality Working Group has already calculated the factors associated with 30 years, which is disclosed in the exposed report.

Experience Pass-Through

One challenge with proposing factor differentiation, whether by other product line (as initially proposed) or guarantee duration (as described in this letter), is how to reflect the reduction in mortality risk for policies that are able to pass mortality experience to the policyholder through a non-guaranteed element. Examples include dividends on a participating whole life policies and cost of insurance charges on universal life policies without a secondary guarantee, where unfavorable company mortality experience could be offset by modifying these features on inforce policies. The Academy C-2 Morality Working Group attempts to address this issue by assigning policies with these non-guaranteed elements to proposed factors based on a 5-year exposure period (i.e., "other" category).

We would be interested in analysis to support why participating whole life or universal life without secondary guarantees should be assigned to a 5-year exposure period. If this was only intended to be a simplistic

conceptual adjustment to reflect less mortality risk in light of non-guarantee elements, then we would be interested if the Academy C-2 Mortality Working Group has any additional thoughts on how to more accurately quantify the decrease in mortality risk due to the presence of such features. For example, running a participating vs. non-participating whole life policy, or universal life with a secondary guarantee vs. without a secondary guarantee.

In the absence of this type of analysis, we think that assigning factors associated with a 5-year exposure may be too low (as this is about half of a 20-year exposure period). Instead, we would suggest determining the C-2 mortality component based on the underlying guarantee duration in the policy, and then subsequently adjusting the C-2 component downward for certain types of policies. For example, allow participating whole life policies and universal life policies with no or short secondary guarantees (e.g., 10 years or less) to receive a reduction factor that is closer to -20% (rather than -50%). Although non-guaranteed elements can offset some of the company mortality experience volatility, permanent policies still contain long-term death benefit guarantees that may have material mortality risk (even if lower than policyholder behavior risk on a relative basis).

Conclusion

We believe the Academy C-2 Mortality Work Group has a great proposal, and that the adjustments described in this letter for catastrophe risk and guarantee duration will only make it stronger. Regardless, we are pleased to see the proposed updates to C-2, which would serve as a significant and more update-to-date improvement over the current factors. As always, we appreciate the Academy's hard work and intellectual rigor on this project, as well as the NAIC Life RBC Working Group providing us with the opportunity to comment.

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Submitted via email:

We have the following comments regarding the C-2 mortality factor proposal:

1. The proposal replaces the 1% mortality improvement factor in the current model with the 2017 improvement scale from VM-20. We do not support the inclusion of any mortality improvement in the C-2 mortality factors.
2. The proposal for pandemic risk seems rather low given that we are currently in a pandemic with much higher mortality.

William B. Carmello, Jr., FSA, MAAA

Chief Life Actuary

New York State Department of Financial Services

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December 21, 2021

Ms. Seong-Min Eom,
Chair, Longevity Risk (A/E) Subgroup
National Association of Insurance Commissioners

Via email: Dave Fleming (dfleming@naic.org)
Re: Longevity Risk Subgroup working agenda item on Longevity Reinsurance

Dear Seong-Min,

The American Academy of Actuaries[1] (Academy) Annuity Reserves and Capital Work Group
(ARCWG) recently shared with the Valuation Manual (VM)-22 (A) Subgroup an initial draft of
NAIC Valuation Manual Section II and recommended VM-22 requirements associated with the
ARCWG proposal on a principle-based reserving (PBR) framework for fixed annuities.[2] The
Academy's C-2 Longevity Risk Work Group is providing its observations on implications this
reserve proposal may have on the expansion of the scope for C-2 Longevity capital to include
longevity reinsurance contracts. To summarize:

1. Longevity reinsurance is explicitly included in the scope of the ARCWG VM-22 draft;
2. Reserve aggregation, as included in the VM-22 draft, could facilitate a simple approach
   to including longevity reinsurance in C-2 using the same factors that currently apply to
   other fixed annuities; and
3. The C-2 capital approach for longevity reinsurance business written prior to the VM-22
   effective date will require further study and recommendation by the Longevity Risk
   (E/A) Subgroup.

As you may recall, longevity reinsurance contracts were excluded from the scope of the year-end
2021 implementation of C-2 Longevity within Life Risk-Based Capital (LRBC) given the need
for further discussion on appropriate capital methodology given product differences compared to
payout annuities. Longevity reinsurance is explicitly included in the scope of ARCWG's VM-22
draft. Progress on these reserve requirements may provide an opportunity to concurrently
advance the discussion on C-2 capital.

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[1] The American Academy of Actuaries is a 19,500-member professional association whose mission is to serve the
public and the U.S. actuarial profession. For more than 50 years, the Academy has assisted public policymakers on
all levels by providing leadership, objective expertise, and actuarial advice on risk and financial security issues. The
Academy also sets qualification, practice, and professionalism standards for actuaries in the United States.
[2] https://www.actuary.org/sites/default/files/2021-07/ARCWG_VM_22_Draft_Proposal_July_2021_Combined.pdf

As described in the VM-22 product definition, the reinsurer assumes the longevity risk associated with the periodic payments of the reinsured annuity contract(s). In general, the reinsurer is responsible for paying the periodic annuity payments based on actual longevity experience of the underlying population in exchange for a fixed schedule of periodic payments over the expected lifetime of the underlying annuitants. Such contracts may include net settlement provisions such that only one party makes a payment in any particular period.

The field study, which was conducted in 2018 and used to calibrate the current C-2 Longevity factors, did not include results for longevity reinsurance since there were not enough responses for companies reporting results for the product to allow for aggregated data. As a result, the Academy's C-2 Longevity Risk Work Group is not currently able to calibrate a capital factor based on results specific to the reinsurance product. Because this reinsurance transfers the longevity risk associated with immediate and/or deferred payout annuity products that are already in scope for C-2 Longevity, it seems reasonable to postulate that the longevity risk of a longevity reinsurance contract would be consistent with the longevity risk of the underlying annuity contract prior to reinsurance.

The periodic premium payments drive important differences in reserves compared to single premium payout annuity products. On a stand-alone product basis, the VM-22 stochastic reserve for longevity reinsurance could be quite low because the present value of annuity payments under prudent estimate mortality may not materially exceed the present value of premiums. If longevity reinsurance is aggregated with other products in calculating the stochastic reserve as permitted under the VM-22 draft, the inclusion of longevity reinsurance in the aggregation could in some cases act to reduce the aggregate reserve if the longevity reinsurance premiums exceed the annuity benefits under the prudent estimate reserve assumptions. The Academy's C-2 Longevity Risk Work Group believes this is an appropriate though potentially surprising result that should be clearly understood. Listed below is a hypothetical illustration of reserve results under aggregation.

	Present Value of Future Premium	Present Value of Future Benefits	Reserve
Immediate Annuities	N/A	1,500	
Longevity Reinsurance Assumed	1,010	1,000	
	1,010	**2,500**	**1,490**

In this hypothetical illustration, the future longevity reinsurance premiums exceed future benefit payments, so the aggregate reserve—1,490—is less than the reserve that would have been calculated for the immediate annuities on a stand-alone basis—1,500. (The subsequent allocation of the 1,490 aggregate reserve to the contract level is not shown in this illustration.)

A simple approach to including longevity reinsurance within the scope of C-2 Longevity capital is to apply the existing capital factors to the present value of benefits for longevity reinsurance in addition to the existing reserve basis for products in scope. The ARCWG VM-22 draft as written would reflect the entire longevity reinsurance gross premium in the aggregated reserve calculation so no adjustment for premiums would be required in capital. Continuing the hypothetical illustration above, this would result in a total company basis for C-2 Longevity of 2,490:

Reserve for Products In Scope for Longevity C-2	1,490
Present Value of Benefits for Longevity Reinsurance	1,000
Total Basis for C-2 Longevity	**2,490**

The ARCWG VM-22 draft is written to apply prospectively to contracts issued after Jan. 1, 2024, so it does not address reserving for longevity reinsurance contracts issued before this date. The capital approach above may need to be reconsidered depending on the reserving method for these existing contracts. This retrospective issue may only apply to a small number of companies based on the low response rate for the product in the 2018 field study but will also need to be considered by the Longevity Risk Subgroup as part of the expansion of scope for C-2 Longevity.

The Academy's C-2 Longevity Risk Work Group supports the proposal of the ARCWG, which includes an aggregate calculation of reserves. However, if aggregation of longevity reinsurance with other jointly managed annuity business is ultimately not included in the final VM-22 language (or when considering the retrospective application to contracts issued prior to Jan. 1, 2024, which may use different reserve methods), then it seems likely that a portion of the gross premium under the longevity reinsurance contracts could be excluded from the reserve calculation in order to ensure a reserve greater than zero. In that situation there would be two broad paths forward for C-2 capital:

A) **Continue to use present value of benefits as the basis for longevity reinsurance along with the same C-2 capital factor.** This approach could result in a portion of the gross reinsurance premium being excluded from both the reserve and capital calculations. This could be deemed acceptable within the context of RBC as a simple factor-based calculation for regulatory capital carried out independent of reserves. However, it would be inconsistent with a Total Asset Requirement (TAR) view of reserves and capital together achieving a consistent outcome (such as 95th percentile) across products and could result in the TAR for longevity reinsurance being overstated by the amount of any gross premium that is excluded.

B) **Consider an adjusted capital factor specific to longevity reinsurance that takes into account premium amounts not included in reserves.** It might not be possible to calibrate a single factor that would be appropriate to apply to all longevity reinsurance contracts written at different times with different premium levels and with different emerging experience. It could be possible to include a calculation of a more appropriate adjusted factor within the C-2 Longevity calculation at a company level; however, this would be more complicated than the factor times reserve approach currently used for C-2 Longevity.

Life insurance is an example of a product that also includes recurring premium payments. Under a net premium reserving methodology, a portion of the gross premium is excluded from reserves, yet no adjustment for this is required in capital. There are several key differences for longevity reinsurance that could merit consideration of the gross premium in reserves and/or capital:

- Future premium payments for longevity reinsurance are a contractual obligation that in some cases may be supported by collateral posted as security against default. Future life

insurance premiums by contrast are voluntary with a contract holder right to lapse at any time.

- In a mortality risk event for life insurance (premature death), premium payments for a contract cease and are not received by the insurer. By contrast, under a longevity reinsurance risk event (extended longevity), premium payments for a contract continue in their entirety and are netted in full against future benefit obligations.

The impact on C-2 Longevity for companies ceding risk through longevity reinsurance should also be addressed. This could be achieved by clarifying the existing adjustment for modified coinsurance (Modco) reserves ceded to also include reserves for which longevity risk is ceded via longevity reinsurance contracts.

It may not be appropriate to exclude longevity risk transferred by reinsurance from scope of C-2 Longevity while including in scope payout annuity products having the same longevity risk. The Academy's C-2 Longevity Risk Work Group looks forward to supporting the Longevity Risk Subgroup in completing the implementation of C-2 Longevity to include longevity reinsurance.

<center>*****</center>

Should you have any questions or comments regarding this letter, please contact Khloe Greenwood, life policy analyst at the Academy (greenwood@actuary.org).

Sincerely,

Paul Navratil, MAAA, FSA
Chairperson, C-2 Longevity Risk Work Group
American Academy of Actuaries