



NATIONAL ASSOCIATION OF INSURANCE COMMISSIONERS

MEMORANDUM

TO: Life Risk-Based Capital Members, Interested Regulators, and Interested Parties

FROM: Philip Barlow (DC), Chair, Life Risk-Based Capital (E) Working Group
Rhonda Ahrens (NE), Chair Longevity Risk (E/A) Subgroup

DATE: April 30, 2021

RE: Request for Comment on Longevity Risk Factors and Instructions

As requested by Life Risk-Based Capital (E) Working Group chair, the following is a history of the current proposals and options being considered by the Working Group and originally presented by the Longevity Risk (E/A) Subgroup in order to implement structure changes to life risk-based capital (RBC) for eventual implementation of C-2 longevity risk factors.

The factors presented by the Subgroup were proposed by the American Academy of Actuaries' (Academy) C2 Longevity Risk Work Group and are tiered to represent that companies with a larger pool of longevity risk are likely more diversified and also in a better position to test their longevity assumptions while setting reserves (including any necessary AAT reserves) related to their longevity risk. The factors are:

- First \$250m at 1.35%
- Next \$250m at 0.85%
- Next \$500m at 0.75%
- Over \$1b at 0.70%

The Academy recommendation were based on the assumption that reserve adequacy is not an issue and that if reserve requirements are maintained over time by regulators and continue to be subject to AAT, the capital factors should not carry a punitive charge related to a reserve level that is viewed as troubling. Their premise was that if reserve levels are troubling, that is a different issue. Therefore, they made the assumption that reserves are consistent with a commonly held understanding that regulators will work to require reserves to be at that level.

The Subgroup did receive input from the Academy as to the factors that would be recommended if the reserves were assumed to be lower. The resulting factors would have been increased to 1.71%, 1.08%, 0.95% and 0.89% accordingly. Although it was not unanimous, the Subgroup included the lower factors as part of its recommendation.

The Subgroup was charged with consideration of longevity and suggested it was the Working Group's role to consider whether to allow covariance as it also impacts mortality and total C-2 and is not limited to longevity.

The Academy-proposed framework included a suggestion to delay implementation of C-2 longevity until the Academy has completed a review of C-2 mortality factors so that C-2 longevity and C-2 mortality are calibrated/consistent upon introduction of the longevity factor.

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The Academy proposal also suggested that companies with both mortality and longevity risk exposure have diversification against systemic adverse development in mortality and mortality improvement assumptions. They proposed a covariance factor of negative 0.33 and provided justification for the factor. Ultimately, the Subgroup rounded down to negative 0.30 and also suggested a covariance of negative 0.25 is conservative, reasonably consistent with the Academy proposal and also consistent with the covariance between mortality and longevity in other jurisdictions. If there are concerns about the reasonableness of this, the Subgroup asked that the Working Group provide direction to further consider other alternatives. However, as noted, the Subgroup is not charged with mortality risk, so the covariance consideration is actually outside of the scope of its current charge. Additionally, the Subgroup chair does not feel that the justification and materials shared in the past need to be reconsidered by the Subgroup as there was nothing materially flawed in the way the Academy justified the relationship. The Subgroup decided to present a structure/formula that allows the Working Group to consider covariance but also allows them to reject it by setting the covariance to positive 1.0.

Members of the Subgroup agreed that introducing a new C-2 factor on exposures that were previously not measured by required capital should generally increase required capital. There was a concern that a large number of companies would actually introduce the C-2 longevity factor and see their required capital go down if the negative covariance factor is allowed. Therefore, the Subgroup proposed structure later adopted by Working Group that included a guardrail factor that can be set between 0 and 1. If set at zero, the guardrail is essentially not being used and the pure covariance formula always wins. If set to one, the guardrail ensures that no company will have a reduction in required capital at the initial implementation of the C-2 longevity factor. The guardrail of 1 compares C-2 mortality, C-2 longevity and the combined C-2 mortality/longevity including covariance impact and uses the largest of the three, so companies can benefit from the covariance but only if the combined calculation is higher than either C-2 mortality alone or C-2 longevity alone. This prevents companies with material longevity exposure from major decreases in required capital earned from the diversification discount. It also causes companies with significant longevity exposure but material mortality exposure to have potentially detrimental increases in required capital upon implementation.

The Working Group is asking for comments on the factors, the covariance level and the guardrail, so the exposure includes a grouping of potential finalists for the factors that would be inserted into the 2021 year-end RBC instructions and make C-2 longevity effective for year-end. Comments received will hopefully allow the Working Group to narrow down the choices for consideration and have another short exposure before the final vote. The requested exposure is:

- Consider the tiered Academy-proposed factors of 1.35% for the first \$250m of exposure, 0.85 for the next \$250m, 0.8 for the next \$500m and 0.7 for anything over \$1B.
- Consider Covariance of negative 0.25 with a Guardrail of 1.
- Consider Covariance of negative 0.30 with a Guardrail of 1.
- Consider Covariance of positive 1(making C-2 mortality and C-2 longevity purely additive) with a Guardrail of 1(the Guardrail will not alter the result since the calculation is additive).
- Consider Covariance of negative 0.25 with no Guardrail (Guardrail = 0).
- Consider Covariance of negative 0.30 with no Guardrail (Guardrail =0).