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May 22, 2019

Ms. Rhonda Ahrens
Chair, Longevity Risk (A/E) Subgroup
National Association of Insurance Commissioners

Via email: Dave Fleming (dfleming@naic.org)

Re: Exposure of proposed approach to incorporating an RBC charge for longevity risk

Dear Rhonda,

On behalf of the Longevity Risk Task Force of the American Academy of Actuaries,[1] I am
providing additional comments and clarifications in response to the questions from the Longevity
Risk Subgroup included with the exposure of the preliminary proposal on a longevity risk factor
made by the Task Force.

1. Is the Academy's proposed approach appropriate if the covariance factor with mortality is not adopted?

We believe it is necessary to consider covariance between longevity and mortality concurrent
with the implementation of a C-2 Longevity factor and that it would not be appropriate to adopt a
proposed C-2 Longevity factor without also reflecting covariance with mortality risk.

If the longevity factor were adopted and applied additively to existing mortality C-2, it would
represent an implicit 100% correlation between longevity and mortality risks. This would
express the view that a stress 95th percentile longevity outcome where annuitants are living
longer than expected would, with 100% certainty, occur concurrent with a stress 95th percentile
mortality outcome where insureds are dying sooner than expected. We do not believe this to be a
plausible view of how longevity and mortality risk are related.

From a practical perspective, an implicit 100% correlation would result in a total C-2 amount
that does not represent a consistent level of statistical safety across companies. This implicit
100% correlation would result in a much more stringent level of statistical safety for companies
with a mix of both longevity and mortality risk relative to companies concentrated in either

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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.

mortality or longevity risk. This inconsistency may reduce the value of RBC as a tool to identify potentially weakly capitalized companies.

The sample company impacts included on page 8 of the exposure showed a range of correlation between 0% and -50% where 0% correlation reflects the covariance benefit if mortality and longevity risk are assumed to be independent. For clarity, below are the same examples with an additional sensitivity showing the result under 100% correlation between mortality and longevity, which reflects the absence of any covariance benefit. Consistent with page 8 of the exposure, three sample company impacts are shown corresponding to companies with concentrated, balanced, and low levels of longevity risk exposure.

	Baseline	Concentrated Longevity Exposure Company				
C2a Mortality/Other Insurance Risk		25.1	25.1	25.1	25.1	25.1
C2b Longevity Insurance Risk	n/a	75.4	75.4	75.4	75.4	75.4
Longevity - Mortality Correlation	n/a	100%	0%	-25%	-50%	-75%
C-2 Insurance Risk	25.1	100.6	79.5	73.3	66.5	59.0
Calculated CAL RBC Ratio	**517%**	**349%**	**393%**	**407%**	**423%**	**441%**
Change vs Baseline	-	*-168%*	*-124%*	*-110%*	*-94%*	*-76%*

	Baseline	Balanced Longevity Exposure Company				
C2a Mortality/Other Insurance Risk		25.1	25.1	25.1	25.1	25.1
C2b Longevity Insurance Risk	n/a	25.1	25.1	25.1	25.1	25.1
Longevity - Mortality Correlation	n/a	100%	0%	-25%	-50%	-75%
C-2 Insurance Risk	25.1	50.3	35.6	30.8	25.1	17.8
Calculated CAL RBC Ratio	**517%**	**462%**	**496%**	**506%**	**517%**	**529%**
Change vs Baseline	-	*-55%*	*-21%*	*-11%*	*0%*	*11%*

	Baseline	Low Longevity Exposure Company Example				
C2a Mortality/Other Insurance Risk		25.1	25.1	25.1	25.1	25.1
C2b Longevity Insurance Risk	n/a	5.0	5.0	5.0	5.0	5.0
Longevity - Mortality Correlation	n/a	100%	0%	-25%	-50%	-75%
C-2 Insurance Risk	25.1	30.2	25.6	24.4	23.0	21.6
Calculated CAL RBC Ratio	**517%**	**508%**	**516%**	**518%**	**521%**	**523%**
Change vs Baseline	-	*-9%*	*-1%*	*1%*	*4%*	*6%*

We recognize the gap in RBC from the absence of a longevity risk charge and support the 2020 targeted timeline for implementation. The Longevity Risk Task Force is working on an analysis with the goal of a proposal in 2019 on the correlation between mortality and longevity risk. We believe that a reasonable approach to correlation can be considered in that targeted 2020 timeline, even if further review of correlation becomes necessary once mortality C-2 updates are more certain or to more broadly consider correlation with other risks beyond mortality and longevity.

2. Would it be feasible to adopt or consider an adjustment to the C-2 factors presented based on the potential that some issue years of past business have reserves that may not meet the 85th percentile risk coverage assumed by the Academy field study?

We do not believe it is necessary to adjust capital factors to compensate for circumstances where prescribed statutory reserves may not be consistent with the 85th percentile assumption for reserve level.

We do not believe it is appropriate or consistent with the RBC framework for changes in capital requirements to be made to compensate for perceived inadequacy of reserves for the following reasons:
- Existing Asset Adequacy Testing requirements are the mechanism for ensuring that aggregate statutory reserves are held at an appropriate level even in circumstances where the prescribed reserving basis is no longer current. The fact that asset adequacy testing is conducted at an aggregate rather than product level does not diminish its efficacy in ensuring overall reserves are appropriate.
- We do not believe increasing capital requirements to compensate for any perceived deficiency in prescribed statutory reserves is appropriate. Any concerns with reserving should be addressed directly in the reserve requirements.

We continue to believe that longevity C-2 capital requirements, calculated as a percentage of prescribed reserves, result in a reasonable capital amount.
- We considered varying the factor by a number of variables including product type and average policyholder age, but ultimately recommend varying the factor only by size. The nature of a factor-based calculation inherently requires approximations, and field study results suggest that the overall accuracy factor when applied to any particular company block of business is within 20%. Adjusting the capital factor by reserve era would increase complexity without meaningfully impacting the overall accuracy of the factor.
- There is an existing capital factor (within C-3) applied to Asset Adequacy Reserves

3. Are the break points in the proposed approach appropriate and should they have been based on a proxy for size of individual exposure rather than an assumption of number of deaths through an average size of 50,000?

We believe that the number of individual exposures is a better proxy for scaling longevity risk than the dollar size of reserves and would support such an approach if it is judged to be feasible to implement within RBC.

We developed our preliminary proposal, which is scaled to the dollar size of reserves, as a simplification to more easily align to existing statutory reported values. We believe that a $50,000 reserve per policy is a reasonable assumption, though do expect that this average reserve would vary significantly across companies and blocks of business.

We used two key data points to establish $50,000 as a reasonable assumption:

i. Individual Payout Annuities
   - Based on SOA Individual Payout Annuity Mortality Experience Report
   - For experience years 2009-2013, average annual exposure benefit amount was $4,621
   - Average benefit-weighted age of ~79 supports a 10x rule of thumb for reserve/annual benefit
   - **Indicates an average reserve per policy in the range of $46,000**

ii. Pension Benefits
   - Based on 2017 PBGC Annual Report
   - PBGC reportedly insures almost 40 million people with nearly $3 trillion in PV Benefits
   - **Indicates an average PV of Benefits per person of roughly $75,000**
   - Much of the Pension Risk Transfer activity has been associated with either older age retirees or small benefit plan carve-outs, so average reserve per policy for life insurer pension risk transfer amounts are likely to be smaller than this PGBC figure, so we believe $50k to be a reasonable assumption for PRT as well

4. These factors could be adopted in 2019 (or early in 2020 at the latest) and be effective for all inforce business as of 2020 year-end. To the extent C-2 factors are needed sooner rather than later for the current longevity risk exposure which currently has no C-2 factor, what are the merits of fine tuning this proposed approach versus contemplating a maintenance plan every 5 years in order to address whether these factors continue to be appropriate and whether new product innovation needs to additionally be addressed?

In developing the preliminary factor proposal, we have balanced accuracy, simplicity, and consistency with the existing RBC framework to result in a practical approach to incorporating longevity risk in RBC. We have made simplifications and limitations to product scope with the objective of arriving more quickly at a proposal that can address the most immediate concerns around the growth of longevity risk in payout annuities and pension risk transfers.

The key risk of pursuing further work to fine-tune the proposal before implementation is continued delay and extended regulatory uncertainty in a growing market for products with longevity risk.

Risks of moving to implement quickly include:

- Implementing a simplified factor that overstates the risk and is subsequently lowered with future refinement creating unnecessary volatility in regulatory capital levels, especially if correlation between longevity and mortality is excluded.
- Inconsistency created between products in scope for this proposal, and other products that contain some longevity risk and are not in currently in scope.

We believe periodic review of the longevity risk factors is appropriate under either path. We suggest that review and possible revision of the Longevity C-2 factor should be undertaken in the following situations:

A. When review of C-2 Mortality Factors is completed
   - To ensure consistency between mortality and longevity risk and their correlation to ensure final C-2 mortality recommendation does not depart materially from the preliminary analysis.
B. To expand scope to other products with Longevity Risk
   - We believe it would be appropriate to consider expanding the scope of longevity C-2 to other products with longevity risk such as VA, FIA and LTC.
C. When key assumptions or approach change
   - Tax rate changes
   - Long term view of interest rates changes materially
   - Historical volatility in mortality improvement no longer seen as adequately representative of possible future volatility of improvement
   - Better information becomes available on volatility or distribution of mortality outcomes, such as between the insured vs general populations
   - We begin to see material older age (90+) mortality improvements where there has been minimal improvement in the past
D. New products become prevalent with different longevity risk profile
   - Contingent Deferred Annuities, which we expect will have greater longevity risk as a percentage of reserves relative to immediate payout annuities
E. Change to structure or purpose of RBC framework which would require a different overall approach

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

Sincerely,

Paul Navratil, MAAA, FSA
Chairperson, Longevity Risk Task Force
American Academy of Actuaries