

To: NAIC Risk-Based Capital (RBC) Model Governance (EX) Task Force
From: American Academy of Actuaries, RBC Impairment Research Work Group,
Risk Management and Financial Reporting Council

Update on RBC Ratios and Impairment Risk Research Initiative

In the [September 2025 letter](#) from the American Academy of Actuaries' (Academy) RBC Impairment Research Work Group to the NAIC's RBC Model Governance (EX) Task Force (Task Force), we outlined a crosspractice research initiative to update and expand prior work assessing the relationship between insurers' RBC ratios and subsequent insolvency or impairment outcomes across the life, health, and property/casualty sectors.

As described previously, the purpose of this project is to provide an objective, datadriven view of how RBC levels relate to emerging financial distress, recognizing that many factors beyond formulabased capital contribute to impairment.

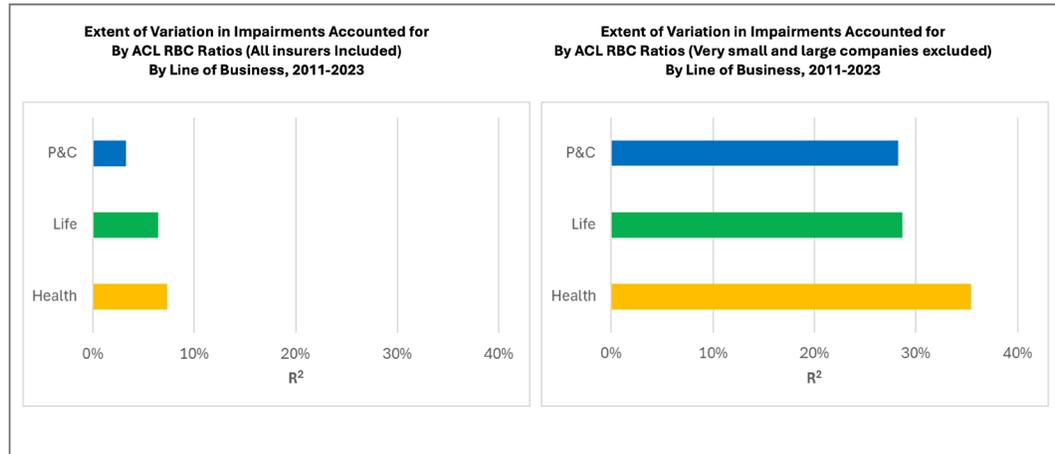
Since September, the Academy has undertaken a comprehensive analysis of impairments from 2000–2023, incorporating improved sample selection and multiyear probability modeling. This update is meant to provide an overview of key results from this work, following up on the September letter that had requested NAIC input and sharing initial analysis with the Task Force.



Key Research Objective

Assess whether a meaningful relationship exists between RBC ratios and impairment by looking at how closely differences in RBC ratios align with differences in the likelihood of impairment. The following analysis focuses on the 2011-2023 time period.

Graph 1: Extent of Variation in Impairments Accounted for by ACL RBC Ratios



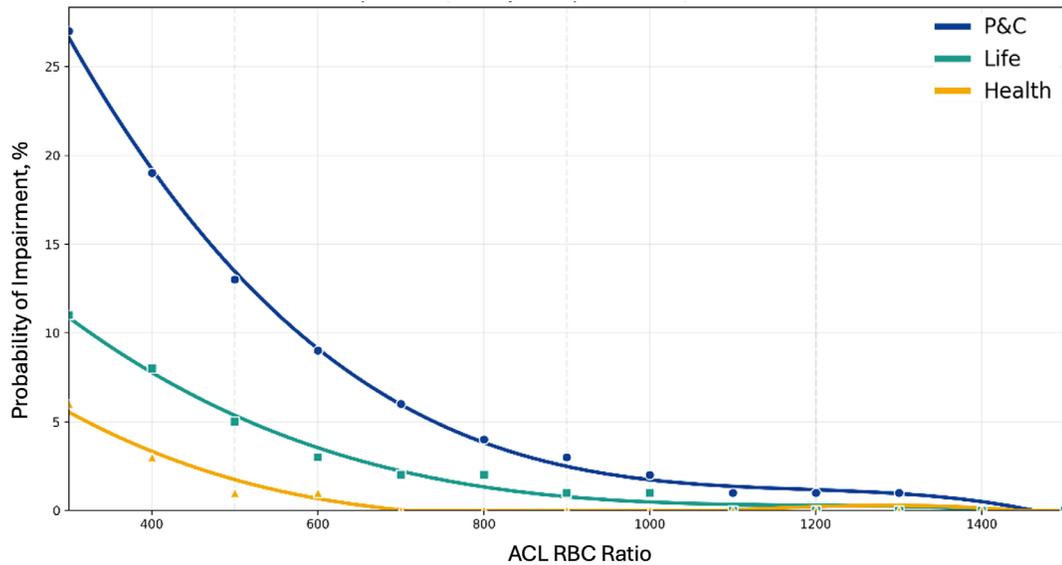
- Across all insurers and all lines, **RBC ratios alone show little to no relationship with impairment experience** (Graph 1, left). This holds consistently for life, health, and P&C companies.
- When the analysis excludes very small companies (bottom 10% by size) and companies with extremely high RBC ratios (above roughly 1200%–1500%), a clear relationship emerges (Graph 1, right). **RBC becomes meaningfully predictive of impairment risk one to five years ahead.**

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Graph 2: Probability of Impairment, % vs ACL RBC Ratio



- Within the analyzed samples, impairment probabilities fall toward zero once RBC ratios reach the 10–15 ACL range (1000%-1500%), indicating that additional capital above those levels adds little incremental predictive value (Graph 2).

Takeaways¹

RBC ratios, on their own and across the full industry (P&C, Life, and Health) show little meaningful relationship with impairment experience. However, once we remove very small insurers and companies with extremely high capital levels, a much clearer and more stable predictive pattern emerges. In these filtered samples, RBC levels become materially less informative of impairment risk when ACL RBC ratios exceed 1000%-1500%.

Next Steps

In addition to sensitivity testing of the results presented here, we will be examining the relationship between the RBC ratios and impairment risk when we account for other factors that are very likely also related.

The Academy anticipates providing a more complete analysis of this research by the Summer National Meeting. In the interim, we are happy to discuss the work completed thus far and are interested in the Task Force’s feedback. Please feel free to contact Steve Jackson, Director of Research (sjackson@actuary.org), if you have any questions or would like to discuss the project further.

¹ In performing the analysis, we assessed whether a meaningful relationship exists by looking at how closely differences in RBC ratios align with differences in the likelihood of impairment. This was done by analyzing max rescaled R-squared (RSQ) values from logistic regressions as an indicator of goodness of fit. We selected the “best” sample for each line of insurance by optimizing RSQ and the number of impaired companies in the filtered sample. We calculated the estimated probability of impairment by applying the parameters estimated in the logistic regression on the “best” sample to various levels of RBC ratios.