NATIONAL ASSOCIATION OF INSURANCE COMMISSIONERS

Date: 4/13/21

LIFE RISK-BASED CAPITAL (E) WORKING GROUP
Thursday, April 15, 2021
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	Rhonda Ahrens	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
John Robinson	Minnesota		

NAIC Support Staff: Dave Fleming

AGENDA

1. Discuss Comment Letters on the American Academy of Actuaries' (Academy) Proposed Bond Factors—*Philip Barlow (DC)*

    - National Alliance of Life Companies — Attachment 1
    - American Council of Life Insurers (ACLI) — Attachment 2

2. Discuss the Moody's Analytics Updated Report on Bonds—*Philip Barlow (DC)* — Attachment 3

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

4. Adjournment

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NATIONAL ALLIANCE OF LIFE COMPANIES *An Association of Life and Health Insurance Companies*

April 8, 2021

Mr. Philip Barlow
Chair, Life Risked Based Capital E Working Group
National Association of Insurance Commissioners
Kansas City, Missouri

Re: Bond Factors and Companion Portfolio Adjustment Formulas

Dear Mr. Barlow:

I am the Executive Director of the National Alliance of Life Companies (the NALC), a trade group of more than fifty (50) members and associates that represents the interests of small life insurance companies in the United States. We have closely followed the work of the American Academy of Actuaries regarding proposed changes in the bond factors and the portfolio adjustment factors (herein new bond factors) for investments held by life insurance companies. We have also read the preliminary report of Moody's Analytics commissioned by the American Council of Life Insurers (the ACLI) on the impact of such changes.

We felt it would be helpful for the Working Group to hear real-world examples of the impact of these proposed bond factor changes, so we surveyed a number of small life insurance companies around the country to better assess the impact. In our survey, we looked at the Required Change in Company Capital Level based on new bond factors, as well as the RBC Ratio Percentage Change using the new bond factors. The survey was done prior to the Academy update for the decrease in the corporate tax rate.

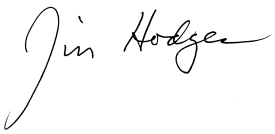
Of the twelve companies responding to the survey, all but one reported the new factors would require a change of company capital between 7% and 17%. Those same companies reported a negative impact on their RBC Ratio of between 6.6% and 11.14%. This clearly demonstrates that the proposed bond factor changes would have a significant adverse impact on the capital position of smaller life insurance companies without any change in portfolio or risk.

One other important point is worth making - it does not appear that the impact of these proposed changes on commercial transactions for life insurance companies has been adequately explored. Many commercial transactions, such as loan documents, reinsurance agreements and other agreements, contain RBC covenants which provide for defaults to be declared if RBC covenants are violated. Of course, those provisions were negotiated and agreed to under current bond factors and RBC calculations. We are very concerned that the proposed changes would force some companies into non-compliance with those covenants, triggering a material and adverse impact on these companies. We would note further that this an issue for companies of all sizes with such covenants in place.

Based upon these and other considerations, the NALC urges the Task Force to closely examine the potential adverse business consequences of the proposed changes on small life insurance companies and their policyholders. We appreciate the positive comments that have been made about regulatory discretion as a means to mitigate the adverse effects of these changes. That approach could reduce the negative impact of the changes on a company by company basis. An additional approach would be to allow a generous phase in period that would allow companies sufficient time to make the necessary adjustments to their bond portfolios.

Thank you for allowing us to comment. We are happy to provide summary details regarding our surveys if helpful.

Sincerely,



Jim Hodges
Executive Director
NALC

Steven Clayburn
Senior Actuary, Health Insurance & Reinsurance
steveclayburn@acli.com

April 9, 2021
Mr. Philip Barlow
Chair
NAIC Life Risk-Based Capital Working Group

Sent via email: dfleming@naic.org

RE: Updated Corporate Bond Risk-Based Capital (RBC) Factors with 21% Tax Rate

Dear Philip:

The American Council of Life Insurers (ACLI) appreciates the opportunity to comment on the most recent RBC C-1 factors and portfolio adjustment factors provided by the American Academy of Actuaries ("Academy") dated March 11, 2021, which were updated to reflect the current corporate tax rate of 21%.

As stated in several previous comment letters[1], ACLI has concerns with the underlying model and are not supportive of the implementation of the proposed factors. Of greatest concern are the following:

1. *Default correlations and the resulting portfolio adjustment.* The Academy's economic state model implies very low default correlations, leading to a portfolio adjustment factor that is overly punitive to portfolios with a small number of holdings and overly lenient to portfolios with a large number of holdings. A near-zero assumption of default correlations runs counter to historical observations and may tend to overstate diversification benefits.
2. *Modeling approach and the resulting slope of factors.* The proposed factors are based on a projection of defaults for each rating category, leading to a misstated assessment of risk for bond portfolios as a whole. This modeling choice leads to an overestimation of projected losses on investment-grade bonds relative to below-investment-grade bonds.

[1] https://content.naic.org/sites/default/files/inline-files/Academy%27s%20August%202015%20Report_Comment%20Letters.pdf (p 1-7); https://content.naic.org/sites/default/files/inline-files/Academy%27s%20June%202017%20Report_Comment%20Letters.pdf (p 5-12); https://content.naic.org/sites/default/files/inline-files/Academy%27s%20October%202017%20Report_Comment%20Letters.pdf

3. *LGD approach and resulting misestimated factors.* The underlying model's approach to loss given default (LGD) uses issue-level data, which tends to overweight outlier data points. This approach gives undue influence to defaulted issuers that had many issues.
4. *Risk premium assumption.* The underlying model's assumed risk premium, which is set equal to the expected loss, is inconsistent with the statutory reserving framework. The risk premium assumption should reflect the fact that reserves make provision for more than mean expected loss. This is explicit at a CTE 70 level in Principle-Based Reserves (PBR) and is implicitly evident in pre-PBR reserves. As the Academy stated in its 2015 report on its proposal, "The general consensus in the actuarial community is that statutory policy reserves (tabular plus additional reserves due to cash flow testing) at least cover credit losses up to one standard deviation (approximately 67th percentile)."[2] We note that one standard deviation above the mean is actually closer to the 83rd percentile in a Normal distribution, as all of the losses below the mean are covered (rather than just being within one standard deviation both below and above the mean).
5. *Omission of recent historical data*. The underlying model does not include historical default and recovery data more recent than 2012. As the Academy states in the exposed letter, "While we have not modeled any assumption changes, we are concerned that the factors in this letter may be lower than what an analysis of updated data would produce." It is important to include as much recent and relevant experience as possible.

Aside from these direct model limitations, the underlying model has characteristics that may not produce valid factors for certain asset classes.

ACLI has consistently conveyed its concerns with the modeling for the proposed factors. Corporate bonds are the largest life industry asset class (over $3 trillion), and it is important for the regulatory capital requirements to reflect the risk appropriately. We appreciate the willingness of the Financial Condition (E) Committee and the Life RBC Working Group to consider an alternative set of factors currently being developed by Moody's Analytics. We look forward to discussing the Moody's Analytics proposal with the Working Group in the near future.

Sincerely,

Steven Clayburn

cc: Dave Fleming, NAIC Senior Insurance Reporting Analyst
Paul Graham, Senior Vice President, Policy Development

[2] Model Construction and Development of RBC Factors for Fixed Income Securities for the NAIC's Life Risk-Based Capital Formula, American Academy of Actuaries C1 Work Group, August 3. 2015

Attachment 3

Moody's Analytics

Better Faster Decisions

Preliminary Proposed Updates to RBC C1 Bond Factors

For Discussion with Life Risk-Based Capital (E) Working Group

April 15, 2021

Moody's (NYSE:MCO) is a global integrated risk assessment firm that empowers organizations to make better decisions. Its data, analytical solutions and insights help decision-makers identify opportunities and manage the risks of doing business with others. We believe that greater transparency, more informed decisions, and fair access to information open the door to shared progress. With over 11,400 employees in more than 40 countries, Moody's combines an international presence with local expertise and more than a century of experience in financial markets. Learn more at moodys.com/about.

Moody's Corporation is comprised of two separate companies: Moody's Investors Service (MIS) and Moody's Analytics (MA).

Moody's Investors Service (MIS) provides investors with a comprehensive view of global debt markets through credit ratings and research. Moody's Analytics (MA) provides data, analytics, and insights to equip leaders of financial, non-financial, and government organizations with effective tools to understand a range of risks.

Throughout this document, "MIS rating" refers to a MIS credit rating. And while references to MIS are made, **the views and opinions in this document are solely of MA.**

Agenda

1. Executive Summary
2. Comparison of C1 Factors and C1 RBC Industry Impact
3. Impact of Proposed Targeted Improvements

1 Executive Summary

Executive Summary

Scope

What We're Doing

Proposing RBC C1 bond factors using data and methodologies that better reflect economic risks to better assess insolvency risk and help identify potentially weakly capitalized life insurers.

- Methodologies and data rely entirely on public sources that are accessible and reproducible by NAIC and industry
- Articulated limitations
- NAIC to use at its discretion in setting the final C1 factors
- While the ACLI, the industry, the NAIC, and commissioners have been engaged extensively, the views are solely those of MA and based on an objective assessment of supporting documentation, and data and modeling approaches that in MA's experience viewed as best practice.

Heuristic Performance Criteria

How We're Doing It

Proposing C1 factors to align insolvency risks with capital requirements across NAIC ratings and across number of issuers in portfolio, allowing for better identification of weakly capitalized firms; the C1 factors should not incentivize poor business decisions that can adversely impact solvency.

Challenges:

- C1 factors are cardinal, and a function of MA's default rates estimated for each MIS ratings that are opinions of ordinal, horizon-free credit risk, rather than cardinal
- C1 factors are static while risks and spreads change over time, across ratings and asset classes, resulting in a potential misalignment between the C1 factors and the underlying risks of varied holdings in insurers' portfolios.
- Applied to range of credit assets, based on the second lowest NRSRO rating with statistical properties that can be different from MIS ratings

Executive Summary

Findings

What We Found

MA proposed C1 factors result in a general overall C1 RBC increase across the industry:

- C1 base factors are more differentiated across ratings (i.e., steeper slope) than the current C1 base factors or those proposed by the Academy
- Portfolio adjustment factors (PAF) for portfolios with small number of issuers are significantly less punitive than those under the Academy's proposal, and sit between the current PAFs and those proposed by the Academy

C1 Base Factors

MIS Rating	Current Factors	Academy's Proposed Factors [2021]	MA Preliminary Proposed Base Factors
Aaa	0.390%	0.290%	0.153%
Aa1	0.390%	0.420%	0.260%
Aa2	0.390%	0.550%	0.406%
Aa3	0.390%	0.700%	0.503%
A1	0.390%	0.840%	0.635%
A2	0.390%	1.020%	0.790%
A3	0.390%	1.190%	0.977%
Baa1	1.260%	1.370%	1.208%
Baa2	1.260%	1.630%	1.464%
Baa3	1.260%	1.940%	2.090%
Ba1	4.460%	3.650%	3.070%
Ba2	4.460%	4.660%	4.399%
Ba3	4.460%	5.970%	5.849%
B1	9.700%	6.150%	7.176%
B2	9.700%	8.320%	9.291%
B3	9.700%	11.480%	12.131%
Caa1	22.310%	16.830%	16.590%
Caa2	22.310%	22.800%	23.320%
Caa3	22.310%	33.860%	32.284%

Portfolio Adjustment Factors

Thresholds in Step Function Form	Current Factors	Academy Proposed [2021]	MA Preliminary Proposed PAF
(Up to) 10	2.50	7.50	5.87
(Next) 90	1.83	1.75	1.54
(Next) 100	1.00	0.90	0.85
(Next) 300	0.86	0.85	0.85
(Above) 500	0.90	0.75	0.82

Next

Immediate Next Steps

Ongoing NAIC and Industry Focus Groups

- Achieve consensus on data and methodology
- Provide transparency on approaches and resulting impact
- Provide guidance on limitations of use and best practice

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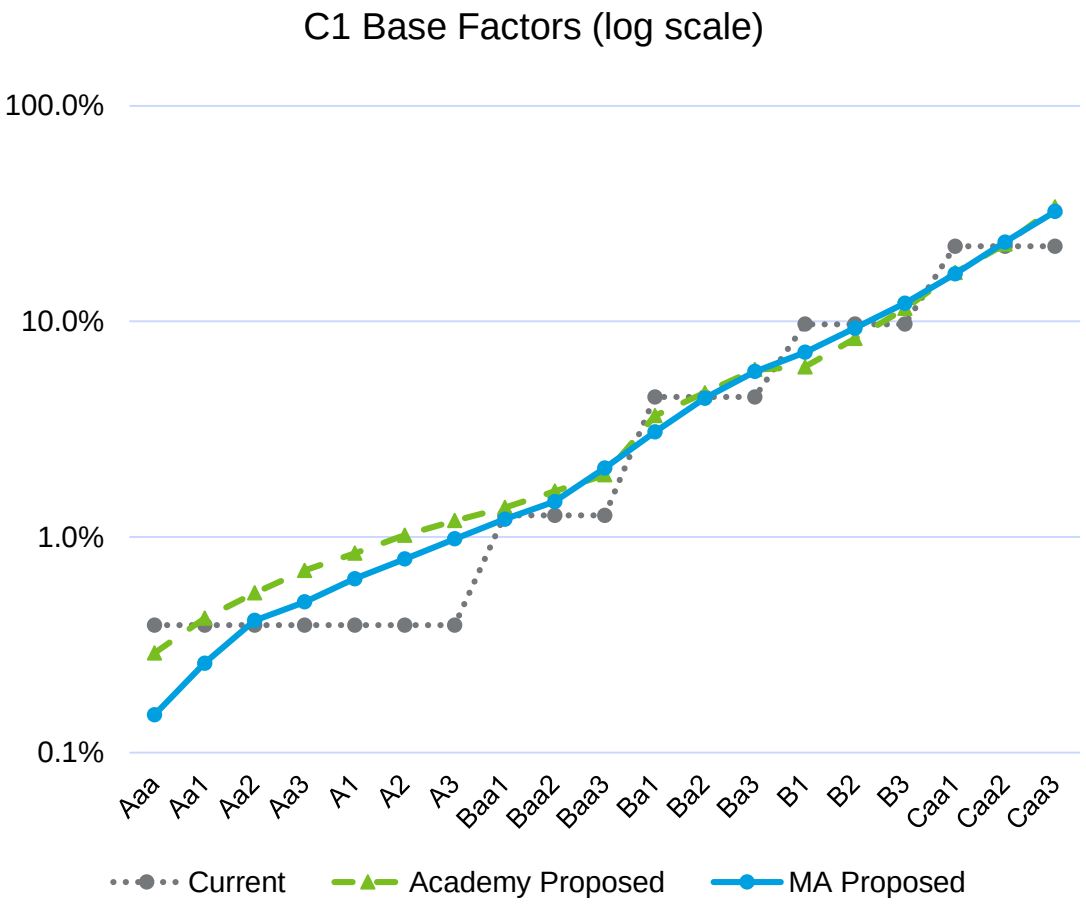
Comparison of C1 Factors and C1 RBC Industry Impact

Comparison of C1 Base Factors

MA proposed base factors have a steeper slope



Targeted improvements with largest impact on C1 base factors

- **Economic state model**, initially outside scope, limitations viewed to be sufficiently material that MA recommends replacing with correlation model parameterized to default correlations observed empirically
  - Economic state scalars in the economic state model are generally more punitive for higher MIS ratings, resulting in a counterfactual flattening of risk across MIS ratings, and possible non-monotonic C1 base factors
  - MA proposed correlation model results in C1 base factors that are more conservative and differentiated across MIS ratings, while also correcting for PAF issues described subsequently under PAF section.
- **Corporate default rate term structures** are estimated to represent the historical experience of life insurance holdings
  - Life holdings differ from overall issuance; e.g., life portfolio holdings have less weight on financial institutions that tend to issue shorter term debt
  - MA proposed default rates tend to have a steeper slope (more separated across MIS ratings) than those proposed by the Academy, with separation more closely aligning with benchmarks
- **Risk Premium** conservatively set at expected loss plus 0.5 standard deviation recognizing variation in industry reserving standards and to closer align with PBR and reserving standards generally aiming to cover moderately adverse conditions. A higher Risk Premium lowers the C1 base factors and mildly increases the cross-sectional variation (or slope) and should be set to better identify of weakly capitalized firms identify and mitigate risk shifting incentives with new bond purchases.

Proposed Portfolio Adjustment Factor (PAF)

Most impacted by replacing the economic state model with MA correlation model

Initially outside scope, economic state model limitations viewed to be sufficiently material that MA recommends replacing with correlation model that reflects diversification benefits observed empirically.

The economic state model:

- While calibrated to the level of defaults observed in economic contractions and recessions
- Implies more issuer diversification benefits (i.e., lower default correlations) than observed empirically
- Implies PAFs that are overly punitive (lenient) to portfolios with small (larger) number of issuers

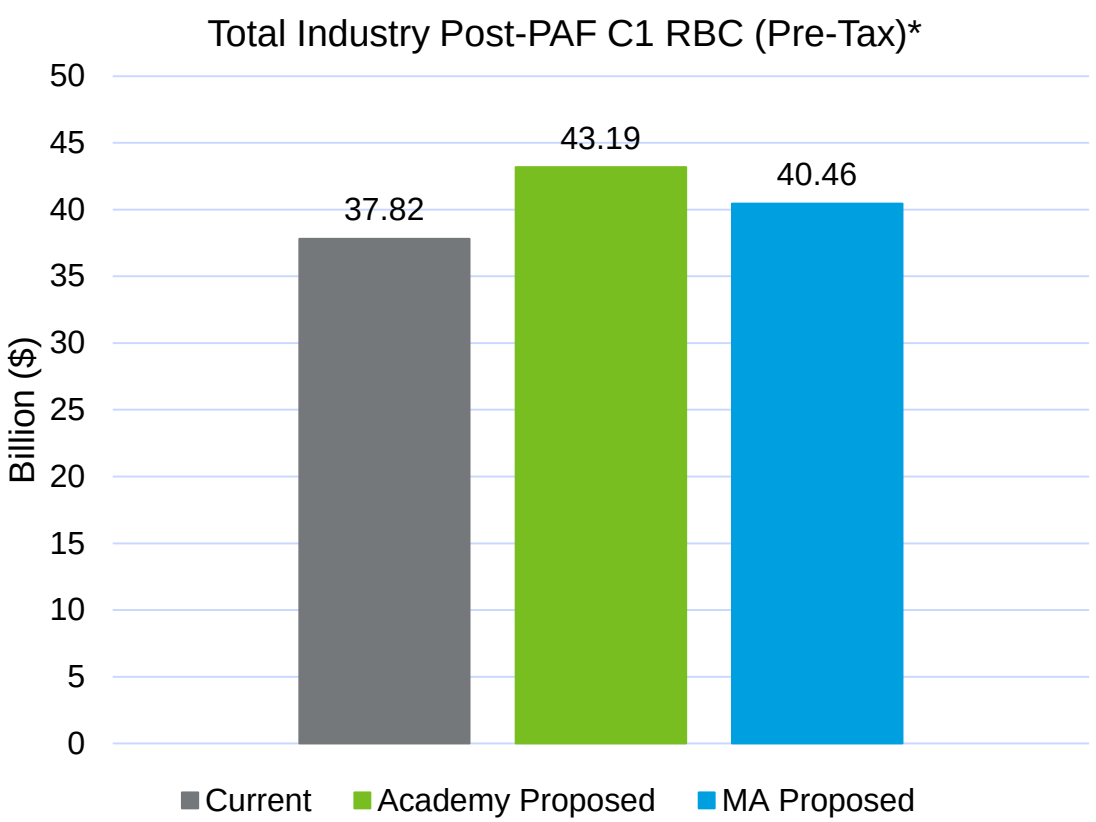
MA proposes a correlation model calibrated to default correlations observed empirically allowing for a more accurate and conservative reflection of issuer diversification benefits

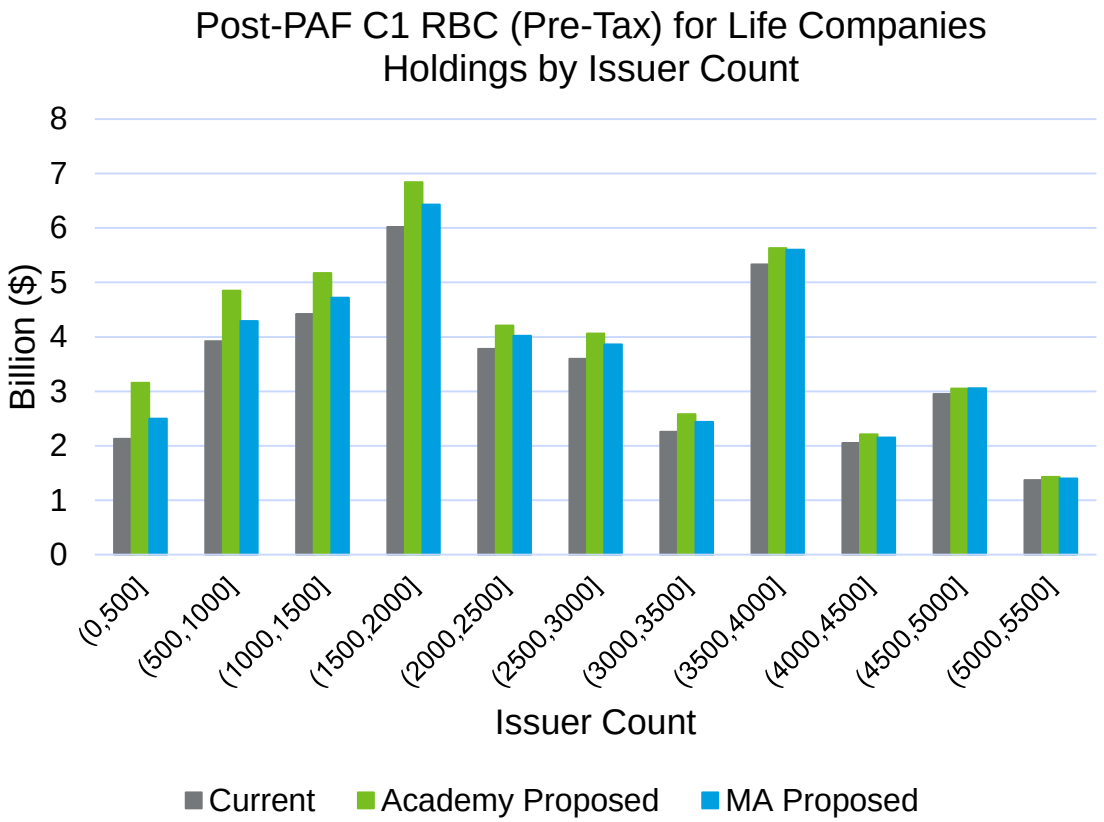
Thresholds* in Step Function Form	Current*	Academy Proposed [2021]	Academy Proposed [2017]	MA Replication of Academy's Model Using Academy [2017] Parameters	MA Preliminary Proposed PAF
(Up to) 10	2.50	7.50	7.80	7.37	5.87
(Next) 90	1.83	1.75	1.75	1.76	1.54
(Next) 100	1.00	0.90	1.00	0.87	0.85
(Next) 300	0.86	0.85	0.80	0.82	0.85
(Above) 500	0.90	0.75	0.75	0.72	0.82

*Current PAF converted to Academy's proposed thresholds for better comparison.

Post-PAF C1 RBC Industry Impact – Complete Portfolio Holdings

Post-PAF RBC proposed by MA is higher than the current level

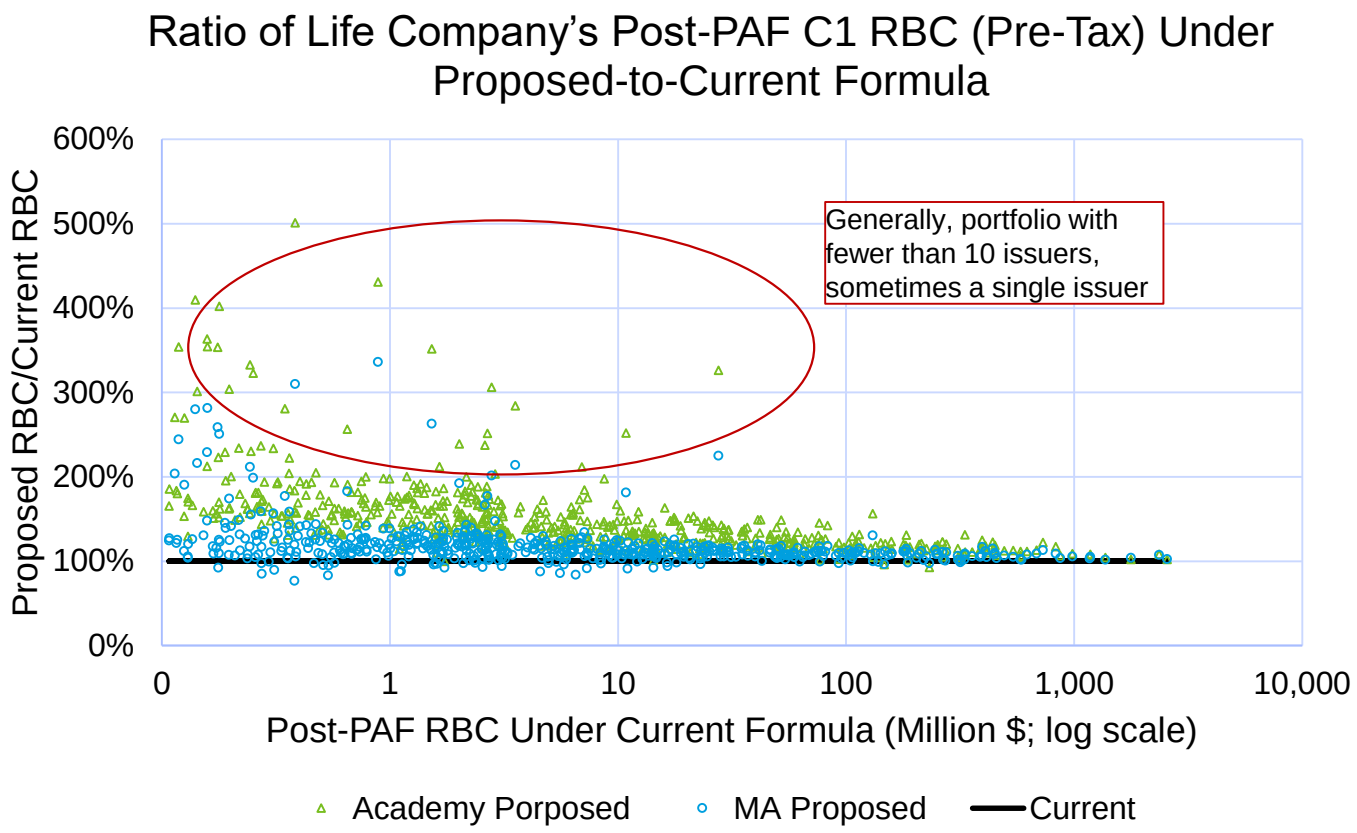




*Data on ~85% life companies in US that have reported as of 03/19/2021

Post-PAF C1 RBC Impact by Life Company

Complete portfolio holdings



- MA proposed correlation model is parameterized to default correlations observed empirically allowing for a more accurate and conservative reflection of issuer diversification benefits
- MA's proposal are generally higher than current. The difference is relatively constant across life companies of different sizes.
- Academy's proposal are generally higher for portfolios with a small or medium number of issuers, often several times higher than under the current formula, driven largely by the economic state model implying more issuer diversification benefits (i.e., lower default correlations) than observed empirically

Note: Life companies with Current Post-PAF RBC below $100K are not displayed in this figure

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Summary of Proposed Targeted Improvements to the C1 Factors

Part 1 of 2: Most Impactful Targeted Improvements

Stakeholder Agreed-on Targeted Improvements	Current Formula	Academy Proposal	MA Proposal
Economic State Model	Five-state model; affects both default and LGD; MA did not analyze extensively, but likely similar properties to Academy proposal	A combination of two and four-state model; affects both default and LGD; Model results in C1 base factors that are not sufficiently differentiated across MIS ratings and may be non-monotonic, and a PAF that provides more diversification benefits than observed empirically	Initially outside scope, economic state model limitations viewed to be sufficiently material that MA proposes replacing with correlation model that reflects default correlations and diversification benefits observed empirically. Resulting C1 base factors are more differentiated and conservative, and PAF is more accurate and conservative reflection of diversification benefits.
Default Rates	Based on data from, Moody's 1991 Special Comment: Corporate Default and Recovery Rates, 1970-1990". Documentation on data smoothing and filtering is limited	Smoothed corporate default rate term structures grouped by MIS alphanumeric rating using Academy's algorithm.	Smoothed corporate default rate term structures representing the historical experience of life insurance holdings using default data grouped by MIS alphanumeric rating using MA's DRD. MA proposed default rates tend to have a steeper slope (more separated across MIS ratings) than those proposed by the Academy, with separation more closely aligning with benchmarks.
Risk Premium	Set equal to expected loss	Set equal to expected loss	Conservatively set at expected loss plus 0.5 standard deviation recognizing variation in industry reserving standards and to closer align with PBR and reserving standards generally aiming to cover moderately adverse conditions. A higher Risk Premium lowers the C1 base factors and mildly increases their cross-sectional variation (or slope) and should be set to better identify of weakly capitalized firms identify and mitigate risk shifting incentives with new bond purchases.
Portfolio Adjustment Factor (PAF)	Documentation is limited	Based on economic state model that implies more benefits to diversification across issuers than observed empirically, resulting in a PAF that is overly punitive (lenient) to portfolios with a small (larger) number of issuers	Initially outside scope, economic state model limitations viewed to be sufficiently material that MA proposes replacing the economic state model with a correlation model calibrated to default correlations and diversification benefits observed empirically allowing for a more accurate and conservative reflection of issuer diversification benefits.

Part 2 of 2: Remaining Targeted Improvements

Stakeholder Agreed-on Targeted Improvements	Current Formula	Academy Proposal	MA Proposal
Fix errors in engine that replicates Academy's factors	Limited documentation	Replicated code suggests default rates and LGD were drawn from separate economic states for Baa-Caa	Error fix for Baa-Caa MIS ratings, where default rates and LGD can be drawn from separate economic states in simulation
Discount Rate & Tax Rate	Limited documentation (2002) Tax rate: 35% Discount rate: 9.23% (6% after tax) Recovery of tax loss benefit: 75% Tax recovery on default: 26.25%	Tax rate: 21% (2021) Discount rate (1993-2013 window): 5% (3.95% after tax) Recovery of tax loss benefit: 80% Tax recovery on default: 16.8%	Tax rate: 21% Discount rate (1993-2020 window): 4.32% (3.41% after tax) Recovery of tax loss benefit: 80% Tax recovery on default: 16.8% While an alternative window start date can be justified, the discount rate enters the RBC C-1 framework as a single static rate and not as impactful as some other targeted improvements, reinforced by updated tax rate offset. Potentially important term structure dynamics that interplay with credit risk are not captured within the current framework.
Loss Given Default (LGD)	Limited documentation Average LGD by NAIC designation 37.25% (NAIC 1), 52.17% (NAIC 2), 56.67% (NAIC 3-5).	Does not align with the date of default. This deviation can result in bias with recovery rate levels, as well as their relationships with default rates. Average value of LGD = 53%	Use MA's Default & Recovery Database (DRD) over 1987−2019 window, reflects the loss experience of life insurance U.S. corporate holdings across sectors, reflect issuer-level LGD to avoid overweighting outliers, align ultimate recovery with default date and DRD reported MIS' recommended recovery data source for each default. Average value of LGD = 52%
Bounds on Base Factors	Upper bound set at 30% unaffiliated common stock factor	Upper bound set at 30% unaffiliated common stock factor	Upper bound set at 30% unaffiliated common stock factor. Consider alignment of C1 factors with values falling below those of other assets to avoid unintended risk-shifting incentives.
Concentration Factors	Doubling C1 factor of top ten holdings	Doubling C1 factor of top ten holdings	Further explore changes to the identification of top concentration risk contributors, and to the measurement of their contribution to concentration risk.

Pre-Tax Proposed Base Factors

Incremental effects of targeted improvements; last column includes impact of full MA proposal

MIS Rating	Current Factors	Academy's Proposed Factors [March 2021]	Academy's Proposed Factors [2017]	MA's Replication Under Academy Parameters and Settings	MA's Replication Under Academy Parameters with Corrected Simulation Engine	+ MA's Discount Rate, Tax Rate	+ MA's LGD	+ Risk Premium at EL + ½ SD	+ Economic State Model Replaced with Correlation Model	+ MA's Default Rates [Preliminary Base Factors]
Aaa	0.390%	0.290%	0.310%	0.319%	0.313%	0.310%	(3) 0.292%	0.245%	0.278%	0.153%
Aa1	0.390%	0.420%	0.430%	0.444%	0.444%	0.441%	0.426%	0.360%	0.397%	0.260%
Aa2	0.390%	0.550%	0.570%	0.602%	0.572%	0.567%	0.552%	0.460%	0.532%	0.406%
Aa3	0.390%	0.700%	0.720%	0.739%	0.722%	0.716%	0.690%	0.577%	0.695%	0.503%
A1	0.390%	0.840%	0.860%	0.901%	0.870%	0.865%	0.828%	0.674%	0.865%	0.635%
A2	0.390%	1.020%	1.060%	1.044%	1.001%	0.993%	0.970%	0.789%	(2) 1.015%	0.790%
A3	0.390%	1.190%	1.240%	1.194%	1.161%	1.150%	1.108%	0.896%	1.208%	0.977%
Baa1	1.260%	1.370%	1.420%	1.445%	1.410%	1.396%	1.344%	1.094%	1.343%	1.208%
Baa2	1.260%	1.630%	1.690%	1.710%	1.593%	1.579%	1.555%	1.250%	1.587%	1.464%
Baa3	1.260%	1.940%	2.000%	2.017%	1.910%	1.898%	1.866%	1.487%	1.891%	2.090%
Ba1	4.460%	3.650%	3.750%	3.716%	3.475%	3.446%	3.301%	2.738%	3.822%	3.070%
Ba2	4.460%	4.660%	4.760%	4.710%	4.393%	4.363%	4.385%	3.634%	4.681%	4.399%
Ba3	(1) 4.460%	5.970%	6.160%	6.258%	5.744%	5.693%	5.758%	(1) 4.794%	5.812%	5.849%
B1	9.700%	6.150%	6.350%	6.287%	5.909%	5.867%	5.847%	4.778%	7.672%	7.176%
B2	9.700%	8.320%	8.540%	8.544%	7.814%	7.759%	7.705%	6.412%	9.631%	9.291%
B3	9.700%	11.480%	11.820%	11.461%	10.739%	10.691%	10.769%	9.163%	12.329%	12.131%
Caa1	22.310%	16.830%	17.310%	16.563%	14.932%	14.847%	15.151%	13.180%	15.753%	16.590%
Caa2	22.310%	22.800%	23.220%	22.637%	20.283%	20.167%	20.579%	18.492%	19.535%	23.320%
Caa3	22.310%	33.860%	34.110%	34.046%	32.431%	32.373%	32.336%	31.140%	28.583%	32.284%
					Moderate difference for lower MIS ratings	**Minor difference**	**Moderate decrease**	**General decrease, with slope Increase**	**General increase, with slope increase**	**General decrease with life holdings sector weighted default rates**

(1) The economic state scalars are generally more punitive for higher MIS ratings, resulting in a counterfactual flattening of risk across MIS ratings.
(2) Default rate term structures representing experience of life insurance holdings tend to be more separated across MIS ratings than Academy proposed, and closer aligned to benchmarks.
(3) A higher Risk Premium lowers the C1 base factors and mildly increases their cross-sectional variation (or slope)

Summary of MA Proposed C1 Factors and their Impact

Data and methodologies to better capture economic risks → More accurate C1 base factors and PAF → Improved solvency; Better identified weakly capitalized firms; Reduce risk shifting

» **Impact on post-PAF C1 RBC**

– Higher post-PAF RBC, on average, across the life industry compared to current

– Larger post-PAF RBC increase compared to current, on average, for insurance companies with small and medium number of issuers, but much less so than that under Academy's proposal

» **Identification of weakly capitalized firms**

– **MA's proposed C1 base factors** are more differentiated across MIS ratings (i.e., have a steeper slope) compared to both the current and Academy proposed, in the investment grade range in particular, more accurately reflecting the underlying economic risks

› Correlation model overcomes an undesirable property of the economic state model resulting in C1 base factors not sufficiently differentiated across MIS ratings and may even result in non-monotonic factors (higher for higher MIS rating categories)

– **MA's proposed PAFs** are more conservative than the Academy proposed

› Sit between the current PAFs and the Academy proposed

› MA proposed correlation model

- calibrated to default correlations and diversification benefits observed empirically allowing for a more accurate and conservative reflection of issuer diversification benefits
- overcomes an undesirable property of the economic state model resulting in more issuer diversification benefits (i.e., lower default correlations) than observed empirically. The economic state model implies PAFs that are overly punitive (lenient) to portfolios with small (larger) number of issuers

Timeline

Phase 1

» By March 31

- V1 proposed factors, iterating with NAIC and ACLI
  - Consensus on methodology, data, and performance criteria
  - Consensus on target probability
- V1 light documentation
- V1 initial industry impact analysis
- Focus group discussions

» By April 30

- Proposed factors for public comment
- Initial documentation and validation
- Impact analysis, iterating with NAIC and ACLI
  - Consensus on methodology, data, and limitations
  - Consensus on target probability
- Continued focus group discussions

» By mid-June - June 30

- Iterating with NAIC and ACLI as needed
  - Final proposed factors
  - Final documentation and validation of factors that meet financial industry standards
- Continued focus group discussions

» Through August

- Continued focus group discussions

Moody's ANALYTICS

Better Faster Decisions

Amnon Levy
Managing Director, Portfolio and Balance Sheet Research
+1 (415) 874-6279
Amnon.Levy@moodys.com

Pierre Xu
Director, Portfolio and Balance Sheet Research
+1 (415) 874-6290
Pierre.Xu@moodys.com

Andy Zhang
Assistant Director, Portfolio and Balance Sheet Research
+1 (415) 874-6035
Andy.Zhang@moodys.com

Akshay Gupta
Assistant Director, Portfolio and Balance Sheet Research
Akshay.Gupta@moodys.com

Libor Pospisil
Director, Portfolio and Balance Sheet Research
Libor.Pospisil@moodys.com

Mark Li
Assistant Director, Portfolio and Balance Sheet Research
Mark.Li@moodys.com