Risk Based Capital – Life Insurers and Fraternal Benefit Societies

2021 Bond Factor Changes

May 21, 2021

Disclosure

This paper was developed to provide a general overview of the issues related to its subject matter. The comments and recommendations contained in this paper are not intended to provide specific consulting advice or a statement of actuarial opinion. The unique situation of an individual company should always be considered in determining an appropriate response.

Introduction

It is anticipated that the National Association of Insurance Commissioners (NAIC) will finalize updates to the bond factors within the Risk Based Capital (RBC) calculation in June 2021. The intent of these factor changes is to increase the granularity by credit quality. Thus, carriers that are holding bonds concentrated toward the bottom of the NAIC bond quality categories are going to see an increase in their C1 asset risk within the RBC formula. This paper provides a brief description of RBC, a comparison of the existing and proposed factors, and examples of the impact to a hypothetical carrier's RBC Ratio.

Background

As a result of the numerous insurance company insolvencies that occurred during the late 1980s and early 1990s, the NAIC developed RBC and a subsequent Model Act for states to adopt into their regulations. Prior to the implementation of RBC, carriers were monitored by regulators under fixed capital standards where required capital levels were the same for all regardless of financial condition. The level of capital required varied by state and lines of business written while the minimum amounts had to be maintained to continue writing business in that state. As insurance carriers grew and became more complex, it became evident that the fixed capital standards were no longer adequate for monitoring the industry.

The NAIC RBC was developed and put into use in the early 1990s. It created an effective tool for regulators to monitor carriers and if they were appropriately capitalized given the risks specific to their business. RBC was developed to provide a capital standard that was related to the specific risk profiles of carriers, ensure that carriers are holding appropriate capital, consistent across states, and provide appropriate authority for regulators to take prompt action if evidence exists a carrier is not properly capitalized. The RBC calculation utilizes a formula to generate the minimum capital requirement for a carrier. The RBC calculation varies by type of carrier – Life/Fraternal Benefit Society, Property/Casualty, and Health – and is designed to capture the major areas of risk including asset and underwriting.

The RBC formula for Life insurance carriers and Fraternal Benefit Societies is as follows:

Company Action Level (CAL) = $C0 + C4_a + \sqrt{[(C1_0 + C3_a)^2+(C1_{cs} + C3_c)^2+(C2)^2+(C3_b)^2+(C4_b)^2]}$

Authorized Control Level (ACL) = 50% of CAL

where:
C0: affiliate asset risk
$C1_0$: asset risk for other investments

$C1_{cs}$: common stock risk
C2: insurance risk
$C3_a$: interest rate risk
$C3_b$: health provider credit risk
$C3_c$: market risk
$C4_a$: guaranty fund assessment and separate account risk
$C4_b$: health administrative expense risk
The RBC ratio for Life insurance carriers and Fraternal Benefit Societies is as follows:

RBC ratio = Total Adjusted Capital (TAC) / Authorized Control Level (ACL), where

TAC = unassigned surplus + Asset Valuation Reserve (AVR) + (dividend liability/2) and
ACL = 50% of CAL

If a carrier's RBC ratio falls below 200%, the following actions are triggered:

1) A ratio of 150-200% triggers a Company Action Level Event. Additionally, this Event can be triggered with a ratio less than 300% and a negative ratio trend.

This Event requires the carrier to submit an RBC Plan to the insurance commissioner in their state of domicile that includes the following elements:

a) identify the conditions contributing to the Event
b) list of corrective action items that carrier intends to implement to eliminate the Event
c) provide business projections (including assumptions and sensitivities) for the current year and 4 subsequent years both with and without proposed corrective actions
d) identify the quality of and problems associated with the carrier's business (e.g. assets, growth, use of reinsurance)

2) A ratio of 100-150% triggers a Regulatory Action Level Event

This Event allows for the insurance commissioner of the carrier's state of domicile to perform the following:

a) Require the carrier to submit an RBC Plan based on the requirements of the Company Action Level Event
b) Examine the carrier's assets, liabilities, and operations
c) Issue an order with required corrective actions based on their examination

3) A ratio of 70-100% triggers an Authorized Control Level Event

This Event allows for the insurance commissioner of the carrier's state of domicile to perform the following:

a) All tasks identified within the Regulatory Action Level Event
b) If deemed in the best interest of policyholders, place the carrier under regulatory control

4) A ratio of <70% triggers Mandatory Control Level Event

This Event requires the insurance commissioner of the carrier's state of domicile to place the carrier under regulatory control.

Bond Factor Changes

The NAIC is currently considering two factor proposals. One proposal was put forth by the American Council of Life Insurers (ACLI) based on the work of Moody's Analytics. The second proposal is based on the work completed by the American Academy of Actuaries (Academy). The impact to the factors can be viewed through the various pages of the annual RBC statement required to be submitted annually by carriers, which breaks down the various components of the RBC calculation.

LR002

The first factors impacted within the LR002 section are those applied to the book/adjusted carrying value of all bonds and related fixed-income investments. The bond categories are related to the Asset Valuation Reserve Default Component section of the Annual Statement. The following compares the current factors as of 12/31/2020 with the proposed factors of the ACLI and the Academy:

				Change from Current	
Category	Current Factors	Proposed ACLI	Proposed Academy	Proposed ACLI	Proposed Academy
Exempt Obligations	0	0	0	0.0%	0.0%
NAIC Designation Category 1.A	0.00390	0.00158	0.00290	-59.5%	-25.6%
NAIC Designation Category 1.B	0.00390	0.00271	0.00420	-30.5%	7.7%
NAIC Designation Category 1.C	0.00390	0.00419	0.00550	7.4%	41.0%
NAIC Designation Category 1.D	0.00390	0.00523	0.00700	34.1%	79.5%
NAIC Designation Category 1.E	0.00390	0.00657	0.00840	68.5%	115.4%
NAIC Designation Category 1.F	0.00390	0.00816	0.01020	109.2%	161.5%
NAIC Designation Category 1.G	0.00390	0.01016	0.01190	160.5%	205.1%
NAIC Designation Category 2.A	0.01260	0.01261	0.01370	0.1%	8.7%
NAIC Designation Category 2.B	0.01260	0.01523	0.01630	20.9%	29.4%
NAIC Designation Category 2.C	0.01260	0.02168	0.01940	72.1%	54.0%
NAIC Designation Category 3.A	0.04460	0.03151	0.03650	-29.3%	-18.2%
NAIC Designation Category 3.B	0.04460	0.04537	0.04660	1.7%	4.5%
NAIC Designation Category 3.C	0.04460	0.06017	0.05970	34.9%	33.9%
NAIC Designation Category 4.A	0.09700	0.07386	0.06150	-23.9%	-36.6%
NAIC Designation Category 4.B	0.09700	0.09535	0.08320	-1.7%	-14.2%
NAIC Designation Category 4.C	0.09700	0.12428	0.11480	28.1%	18.4%
NAIC Designation Category 5.A	0.22310	0.16942	0.16830	-24.1%	-24.6%
NAIC Designation Category 5.B	0.22310	0.23798	0.22800	6.7%	2.2%
NAIC Designation Category 5.C	0.22310	0.30000	0.30000	34.5%	34.5%
NAIC 6	0.30000	0.30000	0.30000	0.0%	0.0%

The second set of factors impacted within the LR002 section are the bond size factors. The overall factor for a carrier is calculated based on the number of issuers within the bond portfolio. The overall size factor is designed to reflect the higher risk of a bond portfolio that contains a fewer number of bonds. The overall factor is multiplied by the pre-tax RBC requirement above to determine the final LR002 value included in the ACL calculation.

				Change from Current	
Number of Issuers	Current Factor	Proposed ACLI	Proposed Academy	Proposed ACLI	Proposed Academy
First 10	2.50	5.87	7.50	134.8%	200.0%
Next 40	2.50	1.54	1.75	-38.4%	-30.0%
Next 50	1.30	1.54	1.75	18.5%	34.6%
Next 100	1.00	0.85	0.90	-15.0%	-10.0%
Next 200	1.00	0.85	0.85	-15.0%	-15.0%
Next 100	0.90	0.85	0.85	-5.6%	-5.6%
Over 500	0.90	0.82	0.75	-8.9%	-16.7%

LR010

The factor impacted in the LR010 section is the Asset Concentration Factor. The purpose of this factor is to reflect the additional risk of high concentrations in single exposures within a carrier's asset portfolio. This factor doubles the pre-tax RBC factor (maximum of .45) for the 10 largest asset exposures excluding various low risk categories or categories that already have a maximum factor.

				Change from Current	
Category	Current Factors	Proposed ACLI	Proposed Academy	Proposed ACLI	Proposed Academy
NAIC Designation Category 1.A	0.00390	0.00158	0.00290	0.0%	0.0%
NAIC Designation Category 1.B	0.00390	0.00271	0.00420	-30.5%	7.7%
NAIC Designation Category 1.C	0.00390	0.00419	0.00550	7.4%	41.0%
NAIC Designation Category 1.D	0.00390	0.00523	0.00700	34.1%	79.5%
NAIC Designation Category 1.E	0.00390	0.00657	0.00840	68.5%	115.4%
NAIC Designation Category 1.F	0.00390	0.00816	0.01020	109.2%	161.5%
NAIC Designation Category 1.G	0.00390	0.01016	0.01190	160.5%	205.1%
NAIC Designation Category 2.A	0.01260	0.01261	0.01370	0.1%	8.7%
NAIC Designation Category 2.B	0.01260	0.01523	0.01630	20.9%	29.4%
NAIC Designation Category 2.C	0.01260	0.02168	0.01940	72.1%	54.0%
NAIC Designation Category 3.A	0.04460	0.03151	0.03650	-29.3%	-18.2%
NAIC Designation Category 3.B	0.04460	0.04537	0.04660	1.7%	4.5%
NAIC Designation Category 3.C	0.04460	0.06017	0.05970	34.9%	33.9%
NAIC Designation Category 4.A	0.09700	0.07386	0.06150	-23.9%	-36.6%
NAIC Designation Category 4.B	0.09700	0.09535	0.08320	-1.7%	-14.2%
NAIC Designation Category 4.C	0.09700	0.12428	0.11480	28.1%	18.4%
NAIC Designation Category 5.A	0.22310	0.16942	0.16830	-24.1%	-24.6%
NAIC Designation Category 5.B	0.22310	0.21202	0.22200	-5.0%	-0.5%
NAIC Designation Category 5.C	0.22310	0.15000	0.15000	-32.8%	-32.8%
NAIC 6	0.15000	0.15000	0.15000	0.0%	0.0%

Given the significant increases to the factors at the bottom of the categories (e.g. NAIC 2.C), it is prudent that large positions are chosen categories are chosen carefully to optimize the concentration impact.

Examples

In Examples #1a and #1b, it is assumed that the carrier's only risk within the RBC formula is $C1_0$ and the $100MM asset portfolio only contains bonds as follows:

Category	LR002	LR010
NAIC Designation Category 1.A	4,500,000	
NAIC Designation Category 1.B	1,200,000	
NAIC Designation Category 1.C	5,400,000	
NAIC Designation Category 1.D	1,000,000	
NAIC Designation Category 1.E	4,750,000	
NAIC Designation Category 1.F	12,650,000	
NAIC Designation Category 1.G	4,250,000	
NAIC Designation Category 2.A	5,500,000	3,150,000
NAIC Designation Category 2.B	8,250,000	3,000,000
NAIC Designation Category 2.C	43,000,000	16,500,000
NAIC Designation Category 3.A	5,000,000	4,500,000
NAIC Designation Category 3.B	3,000,000	
NAIC Designation Category 3.C	1,500,000	

Additionally, the carrier's Total Adjusted Capital is assumed to be $7,875,000

The purpose of these examples is to present a portfolio tending toward the lower quality end of the NAIC bond scale with 33.75% NAIC1, 56.75% NAIC2, and 9.50% NAIC3. Additionally, they contain two different levels of bond issuers to demonstrate the impact of the bond size factor.

Example #1a

It is assumed the carrier has 125 bond issuers for purposes of calculating the size factor, which generates the following results:

				Change from Current	
Measurement	Current Factors	Proposed ACLI	Proposed Academy	Proposed ACLI	Proposed Academy
Bond Size Factor	1.72	1.75	1.70	1.7%	-1.2%
ACL Capital	1,125,216	1,518,350	1,481,829	34.9%	31.7%
RBC Ratio	700%	519%	531%	-181.0%	-169.0%

Example #1b

It is assumed the carrier has 25 bond issuers for purposes of calculating the size factor, which generates the following results:

				Change from Current	
Measurement	Current Factors	Proposed ACLI	Proposed Academy	Proposed ACLI	Proposed Academy
Bond Size Factor	2.50	3.27	4.05	30.8%	62.0%
ACL Capital	1,542,629	2,626,758	3,194,589	70.3%	107.1%
RBC Ratio	510%	300%	247%	-210.0%	-263.0%

Example #2a assumes that the bond portfolio consists of entirely 100% NAIC1. The purpose of this example is to demonstrate that a high-quality focused bond portfolio may experience improvement in the RBC ratio under both proposals.

Category	LR002	LR010
NAIC Designation Category 1.A	55,000,000	31,500,000
NAIC Designation Category 1.B	25,000,000	9,150,000
NAIC Designation Category 1.C	15,000,000	5,850,000
NAIC Designation Category 1.D	3,000,000	2,750,000
NAIC Designation Category 1.E	1,500,000	
NAIC Designation Category 1.F	500,000	

Additionally, the carrier's Total Adjusted Capital is assumed to be $7,875,000

Example #2a

It is assumed the carrier has 125 bond issuers for purposes of calculating the size factor, which generates the following results:

				Change from Current	
Measurement	Current Factors	Proposed ACLI	Proposed Academy	Proposed ACLI	Proposed Academy
Bond Size Factor	1.72	1.75	1.70	1.7%	-1.2%
ACL Capital	363,486	229,806	352,542	-36.8%	-3.0%
RBC Ratio	2167%	3427%	2234%	1260.0%	67.0%

Commentary

While these examples are overly simplified, it demonstrates that the RBC impact is going to vary wildly between carriers depending on the proposal adopted, quality of the carrier's bond portfolio, bond concentration, and number of bond issuers. Due to this, it is imperative that carriers perform an analysis of their own business to determine the potential impact and understand the ramifications ahead of year-end 2021.

Trilogy Actuarial Solutions LLC will provide you with a complimentary report that shows the impact of the two proposals on your company's 2020 RBC statement. This report will assist you in assessing which proposal your company prefers and prepare for the likely impact.

Trilogy Actuarial Solutions LLC

Our actuaries have nearly a half century of combined experience providing exceptional service to insurance companies, fraternal benefit societies, and marketing organizations. We can support your existing actuarial staff or serve as your entire in-house actuarial department. We understand the value of a dedicated in-house team and we will endeavor to replicate this experience for you. Our goal is to seamlessly integrate into your organization and culture. This mindset results in a holistic approach that considers all aspects of your business and the interrelatedness of various actuarial work products. No project is too big or small. If it is important to you, it is important to us. Let us help you build the future that you desire.