Capital Adequacy (E) Task Force

RBC Proposal Form

[ ] Capital Adequacy (E) Task Force	[ ] Health RBC (E) Working Group	[ ] Life RBC (E) Working Group
[ ] Catastrophe Risk (E) Subgroup	[ ] Investment RBC (E) Working Group	[ ] Operational Risk (E) Subgroup
[ ] C3 Phase II/ AG43 (E/A) Subgroup	[ ] P/C RBC (E) Working Group	[ ] Longevity Risk (A/E) Subgroup

DATE: February 26, 2021(mod)	**FOR NAIC USE ONLY**
CONTACT PERSON: Steve Clayburn	Agenda Item # 2021-06-L
TELEPHONE: (202) 624-2197	Year 2021
EMAIL ADDRESS: steveclayburn@acli.com	**DISPOSITION**
ON BEHALF OF: American Council of Life Insurers (ACLI)	[X] ADOPTED 6/30/21
NAME: Steve Clayburn	[ ] REJECTED
TITLE: Senior Actuary, Health Insurance & Reinsurance	[ ] DEFERRED TO
AFFILIATION: ACLI	[ ] REFERRED TO OTHER NAIC GROUP
ADDRESS:	[ ] EXPOSED 4/6/21, 4/29/21
	[ ] OTHER (SPECIFY)

IDENTIFICATION OF SOURCE AND FORM(S)/INSTRUCTIONS TO BE CHANGED

[ ] Health RBC Blanks [ ] Property/Casualty RBC Blanks [X] Life and Fraternal RBC Instructions

[ ] Health RBC Instructions [ ] Property/Casualty RBC Instructions [X] Life and Fraternal RBC Blanks

[ ] OTHER _____

DESCRIPTION OF CHANGE(S)

To update the RBC calculation for Real Estate to reflect updated experience and analysis since RBC was first developed. This proposal presents the instructions and factors for the structure in proposal 2021-01-L.

REASON OR JUSTIFICATION FOR CHANGE **

When RBC was developed, there was limited experience on the default and loss for commercial real estate. Since then data sources have been compiled and tracked in the industry, and can now be accessed to provide more meaningful analysis and information for development of capital standards.

Additional Staff Comments:

This proposal was adopted by the Working Group on 5/27/21. The fair value adjustment is set to zero for yearend 2021 RBC filings.

6/30/21- jdb Factors were adopted by the Task Force.

**** This section must be completed on all forms.** **Revised 2-2019**

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1. REAL ESTATE

LR007

Basis of Factors

The base factor for equity real estate of **11%** was developed by adding a margin for conservatism to the results of an analysis of real estate performance over the period of 1978 – 2020. The analysis was conducted by a group of life insurance company real estate investment professionals coordinated by the ACLI. The data used was a national database of real property owned by investment fiduciaries and supplemented by data on real estate backing mortgage securities. The analysis is documented in a report to the NAIC dated March 29, 2021. In addition to modifying the factor for company owned and investment real estate, this updated factor will also be used for real estate acquired in satisfaction of debt (Foreclosed real estate). Foreclosed real estate is recognized in the statutory statements as having acquisition cost equal to market value at time of foreclosure. For assets with the characteristics of real held estate (partnership or other structure) reported on Schedule BA, a higher factor of **13%** is used to account for the lower transparency involved with these structures. Schedule BA real estate was originally given a higher factor under a presumption that it was more highly levered. Analysis has shown these assets to have experience very similar to directly held and will therefore use a modestly higher factor.

While the experience analysis was done based on analysis of fair value impacts, Real Estate is reported at depreciated cost in the Statutory statements. The difference in values impacts the risk to statutory surplus. Therefore, an adjustment is made to the factor based on the difference between fair value and statutory carrying value on a property by property basis. The adjustment is defined as

Adj Factor = *RE Factor*(1 – [factor] * (MV-BVg)/BVg)}*

factor is [0] This zero factor for the fair value adjustment is for yearend 2021 RBC filings.

The resulting adjusted RBC factor is subject to a minimum of zero. In the RBC calculation, see Figure 7, fair value is taken from Schedule A Column 10 plus encumbrances, or from Schedule BA column 11 plus encumbrances, respectively, while BVg is the net Book Adjusted Carrying Value plus the encumbrance.
Encumbrances have been included in the real estate base since the value of the property is held net of the encumbrance, but the entire value is subject to loss. Encumbrances receive the base real estate factor of 11% reduced by the average factor for commercial mortgages of 1.75 percent pre-tax. In the past this was computed as a base factor applied to the net real estate value plus a separate factor applied to the amount of the encumbrance. Beginning in 2021, the equivalent result will be obtained by applying a base factor to the gross statutory value of the property, and a credit provided for the amount of the encumbrance.

The final RBC amount is subject to a minimum of the Baa bond factor 1.30% applied to the BACV, and a maximum of 45% of the BACV.

Specific Instructions for Application of the Formula

Column (1)
Calculations are done on an individual property or joint venture basis in the worksheets and then the summary amounts are entered in this column for each class of real estate investment. Refer to the real estate calculation worksheet (Figure 7) for how the individual property or joint venture calculations are completed.

Line (1) should equal Page 2, Column 3, Line 4.1.
Line (2) should equal Page 2, inside amount, Line 4.1.
Line (4) should equal AVR Equity Component Column 1 Line 20.
Line (5) should equal AVR Equity Component Column 3 Line 20.
Line (7) should equal AVR Equity Component Column 1 Line 19.
Line (8) should equal AVR Equity Component Column 3 Line 19.
Line (14) should equal Schedule BA, Part 1, Column 12, Line 2199999 plus Line 2299999, in part.
Line (15) should equal Schedule BA, Part 1, Column 12, Line 1799999 plus Line 1899999, in part.
Line (17) should equal AVR Equity Component Column 1 Line 75.
Line (18) should equal AVR Equity Component Column 1 Line 76.
Line (19) should equal AVR Equity Component Column 1 Line 77.
Line (20) should equal AVR Equity Component Column 1 Line 78.

Line (21) should equal AVR Equity Component Column 1 Line 79.

Low income housing tax credit investments are reported in Column (1) in accordance with *SSAP No. 93—Low Income Housing Tax Credit Property Investments*.

Column (2)
The average factor column is calculated as Column (3) divided by Column (1).

Column (3)
Summary amounts are entered for Column (3) based on calculations done on an individual property or joint venture basis. Refer to Column (8) of the real estate calculation worksheet (Figure 7).

Line (17)
Guaranteed federal low-income housing tax credit (LIHTC) investments are to be included in Line (17). There must be an all-inclusive guarantee from an ARO-rated entity that guarantees the yield on the investment.

Line (18)
Non-guaranteed federal LIHTC investments with the following risk mitigation factors are to be included in Line (18):

a) A level of leverage below 50 percent. For a LIHTC Fund, the level of leverage is measured at the fund level.
b) There is a tax credit guarantee agreement from general partner or managing member. This agreement requires the general partner or managing member to reimburse investors for any shortfalls in tax credits due to errors of compliance, for the life of the partnership. For an LIHTC fund, a tax credit guarantee is required from the developers of the lower-tier LIHTC properties to the upper-tier partnership.

Line (19)
State LIHTC investments that at a minimum meet the federal requirements for guaranteed LIHTC investments.

Line (20)
State LIHTC investments that at a minimum meet the federal requirements for non-guaranteed LIHTC investments.

Line (21)
State and federal LIHTC investments that do not meet the requirements of lines (17) through (20) would be reported on Line (21).

(Figure 7)

Real Estate Worksheet
Fair value adjustment factor [*factor*]

	(1) Description	(2) Book/Adjusted Carrying Value	(3) Encumbrances	(4) Fair Value	(5) Base Factor	(6) Encumbrance credit Factor	(7) Adjusted RBC Factor&	(8) Gross RBC Requirement‡	(9) Encumbrances Credit	(10) RBC Requirement*
	Company Occupied Real Estate									
	All Properties Without Encumbrances†		XXX		0.110	XXX			XXX	
(1)										
(2)										
	All Properties With Encumbrances:									
(3)					0.110	0.0175				
(4)					0.110	0.0175				
(199)	Total Company Occupied Real Estate									
	Foreclosed Real Estate									
	All Properties Without Encumbrances†		XXX		0.110	XXX			XXX	
(1)										
(2)										
	All Properties With Encumbrances:									
(3)					0.110	0.0175				
(4)					0.110	0.0175				
(299)	Total Foreclosed Real Estate									
	Investment Real Estate									
	All Properties Without Encumbrances†		XXX		0.110	XXX			XXX	
(1)										
(2)										
	All Properties With Encumbrances:									
(3)					0.110	0.0175				
(4)					0.110	0.0175				
(399)	Total Investment Real Estate									
(499)	Total Real Estate (Line (199) + Line (299) + Line (399))									
	Schedule BA Assets with characteristics of Real Estate									
	All Assets Without Encumbrances†		XXX		0.130	XXX			XXX	

(1)								
(2)								
	All Assets With Encumbrances:							
(3)			0.130	0.0175				
(4)			0.130	0.0175				
(899)	Total Schedule BA Real Estate							

Note that column (2) is the book/adjusted carrying value net of any encumbrances, while column (4) is the fair value of the property not reduced for any encumbrances.

† For each category, each property should be listed individually, including those for which there is no encumbrance.

& Column (7) is Column (5) times (1-(*factor*) * (Column (4) – (Column (2) + Column (3))) / (Column (2) + Column (3))), but not less than zero.

‡ Column (8) is calculated as (Column (2) plus Column (3)) multiplied by Column (7).

§ Column (9) is calculated as Column (3) multiplied by Column (6).

* Column (10) is calculated as Column (8) minus Column (9), but not less than 1.3% nor more than 45% of column (2), and not less than zero.

ASSET CONCENTRATION FACTOR

LR010

Basis of Factors

The purpose of the concentration factor is to reflect the additional risk of high concentrations in single exposures (represented by an individual issuer of a security or a holder of a mortgage, etc.) The concentration factor doubles the risk-based capital pre-tax factor (with a maximum of 45 percent pre-tax) of the 10 largest asset exposures excluding various low-risk categories or categories that already have a maximum factor. Since the risk-based capital of the assets included in the concentration factor has already been counted once in the basic formula, the asset concentration factor only serves to add in the additional risk-based capital required. The calculation is completed on a consolidated basis; however, the concentration factor is reduced by amounts already included in the concentration factors of subsidiaries to avoid double-counting.

Specific Instructions for Application of the Formula

The 10 largest asset exposures should be developed by consolidating the assets of the parent with the assets of the company's insurance and investment subsidiaries. The concentration factor component on any asset already reflected in the subsidiary's RBC for the concentration factor should be deducted from Column (4). This consolidation process affects higher tiered companies only. Companies on the lowest tier of the organizational chart will prepare the asset concentration on a "stand alone" basis.

The 10 largest exposures should exclude the following: affiliated and non-affiliated common stock, affiliated preferred stock, home office properties, policy loans, bonds for which AVR and RBC are zero, NAIC 1 bonds, NAIC 1 unaffiliated preferred stock, NAIC 1 Hybrids, CM 1 Commercial and Farm Mortgages and any other asset categories with RBC factors less than 0.8 percent post-tax (this includes residential mortgages in good standing, insured or guaranteed mortgages, and cash and short-term investments).

In determining the assets subject to the concentration factor for both C-1o and C-1cs, the ceding company should exclude any asset whose performance inures primarily (>50 percent) to one reinsurer under modified coinsurance or funds withheld arrangements. The reinsurer should include 100 percent of such asset. Any asset where no one reinsurer receives more than 50 percent of its performance should remain with the ceding company.

Assets should be aggregated by issuer before determining the 10 largest exposures. Aggregations should be done separately for bonds and preferred stock (the first six digits of the CUSIP number can be used as a starting point) (please note that the same issuer may have more than one unique series of the first six digits of the CUSIP), mortgages and real estate. Securities held within Schedule BA partnerships should be aggregated by issuer as if the securities are held directly. Likewise, where joint venture real estate is mortgaged by the insurer, both the mortgage and the joint venture real estate should be considered as part of a single exposure. Tenant exposure is not included. For bonds and unaffiliated preferred stock, aggregations should be done first for classes 2 through 6. After the 10 largest issuer exposures are chosen, any NAIC 1 bonds, NAIC 1 unaffiliated preferred stock or NAIC 1 hybrids from any of these issuers should be included before doubling the risk-based capital. For some companies, following the above steps may generate less than 10 "issuer" exposures. These companies should list all available exposures.

Replicated assets other than synthetically created indices should be included in the asset concentration calculation in the same manner as other assets.

The book/adjusted carrying value of each asset is listed in Column (2).

The RBC factor will correspond to the risk-based capital category of the asset reported previously in the formula before application of the size factor for bonds. The RBC filing software automatically allows for an overall 45 percent RBC cap.

Lines (17) through (22)

The Asset Concentration RBC Requirement for a particular property plus the Real Estate RBC Requirement for a particular property cannot exceed the book/adjusted carrying value of the property. Any properties exceeding the book/adjusted carrying value must be adjusted down to the book/adjusted carrying value in Column (6) of the Asset Concentration.

Line (18), Column (4) is calculated as Line (17), Column (2) multiplied by 0.1100 plus Line (18), Column (2) multiplied by 0.092500, but not greater than Line (17), Column (2). Line (20), Column (4) is calculated as Line (19), Column (2) multiplied by 0.1100 plus Line (20), Column (2) multiplied by 0.0925, but not greater than Line (19), Column (2). Line (22), Column (4) is calculated as Line (21), Column (2) multiplied by 0.1300 plus Line (22), Column (2) multiplied by 0.1125, but not greater than Line (21), Column (2).

Proposal
Risk Based Capital for
Real Estate Assets
March 29, 2021

Executive Summary

The following recommendations are the product of analyses conducted or sponsored by the ACLI, the NAIC, and industry real estate specialists. These recommendations represent the final product of discussions and deliberations that began in 2012 and are inclusive of changes meant to address questions and recommendations posed by members of the Investments Risk Based Capital (IRBC) and Life Risk Based Capital (LRBC) NAIC working groups, the American Academy of Actuaries (AAA) and other interested parties.

Implementation of the recommendations described below will ensure that the RBC assessment methodology and charges for the real estate sector more accurately reflect the sector's underlying risks and will promote consistency with the methodology used in other asset sectors.

A. Schedule A Real Estate Factor. Update the C-1 factor for real estate assets held on Schedule A to be a base factor of ***11%***. This recommended factor is based on an estimated worst cumulative loss at a 95^{th} – 96^{th} percentile confidence level based on historical experience, which suggested a base factor of 9.5%. As was done with common stock, we used values at 2 years loss horizon. An additional 1.5% charge is recommended to account for potential disparity in individual life company real estate portfolio composition and uncertainty surrounding the longer-term implications of the COVID-19 pandemic on the commercial real estate sector. The proposed factor would be applicable for all categories of real estate reported in Schedule A of the Life and Health Annual Statement. (See Section A)

B. Unrealized Capital Gains/Losses. Recognize that the factors are based on analysis of market values while the statutory accounting basis is depreciated cost. Since RBC is to account for possible loss of statutory capital, when the statutory asset value is lower than market value, the risk of loss from that lower value is lower than the factors developed using market value performance data. To adjust for this discrepancy within RBC, reflect the impact of the margin from unrealized gains and losses on the potential for loss of statutory surplus. (See Section B)

C. Encumbrances. Revise the RBC factor for real estate encumbrances following the principles of the current RBC with factors to be consistent with the commercial mortgage RBC framework adopted in 2013. (See Section C)

D. Schedule BA Real Estate Factor. Revise the factor for Schedule BA real estate to **13*%,*** equivalent to the proposed factor for Schedule A plus a premium of about 20% over the Schedule A factor. All other mechanics would parallel the proposal for Schedule A Real Estate. (See Section D)

Scope

This proposal is developed for the Life and Fraternal Risk Based Capital formulas. This proposal does not address possible adjustment to the Asset Valuation Reserve (AVR) or tax adjustments for these assets. Finally, this proposal does not directly address the factors for the Health Risk Based Capital or for the Property & Casualty Risk Based Capital.

Background

RBC is used to measure potential future excess losses and their effect on statutory capital. The goal is to help regulators identify weakly capitalized companies, given risks that individual companies are taking. This proposal is consistent in methodology with recent RBC development work for common stock and bonds in areas such as the confidence levels for statistical analyses, while recognizing real estate's unique characteristics.

There is limited historical perspective available on the original construction methodology supporting the currently applied RBC factors for real estate investments. The following general description is taken from a 1991 report covering RBC C-1 (default) factors:

> "There is little data upon which to base requirements for this asset group. Company practice, as shown by the 1990 intercompany survey, indicates factors in the range of 5 percent to 20 percent. An article in the May-June 1991 Financial Analysts Journal (Ennis and Burk) proposes that real estate volatility is about 60 percent of that for common stock, suggesting a factor in the range of 18 percent. If one assumes full tax credit for losses, this converts to a factor of about 10 percent which is the Subcommittee's recommendation for all real estate subcategories, except real estate acquired by foreclosure for which the factor is 15 percent. This is one of several asset groups which deserve continuing study to assure that risk-based capital requirements are adequate and appropriate."

Since the original real estate factor estimation, which was based on the somewhat rudimentary analysis described above, there has been a very significant improvement in the availability of performance data for the sector. While there have been additional analyses conducted for this sector since the initial methodology and factor adoption (i.e., AAA proposals in September and December 2000), to date there have been no significant changes made to the C-1 factor for real estate.

Since 2000, the pre-tax base C-1 factor for real estate applied in the sector has been 15%. The derivation of this factor, as described above, was based on 60% of the common stock factor, adjusted for taxes. The logic at the time was that the volatility of real estate was assumed to be around 60% of common stock volatility[1]. This assumption was reportedly based on inferences made from historical real estate investment trust (REIT) performance, as a robust private market performance history was not available at that time. REITs are companies that use debt in owning and managing properties and have performance characteristics different from that of the underlying commercial real estate[2]. The same 15% C-1 factor currently applies to virtually all directly held real estate, including company occupied properties, investment properties for long-term hold, and properties held for sale, but excludes properties acquired through foreclosure which were perceived to be riskier.

It is also important to note, that while real estate is considered an equity asset, statutory accounting requires it to be valued at depreciated cost. Any capital improvements are added to the statutory book value, and then depreciated from that time. If and when there is an other-than-temporary impairment, the book value is revised down to then market value, if lower, and depreciated going forward. Throughout this document this is referred to as depreciated cost.

The real estate sector has matured significantly in the last 30 plus years, as institutional investment has become prevalent and public capital markets have become more developed. Information transparency has increased materially and the market has become much more "efficient". Valuation and accounting policies and standards,

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[1] Various studies have since shown that equity real estate in general has volatility well less than 60% of that of the S&P 500.

[2] The volatility of REIT performance is higher than the volatility of direct property performance primarily because REITs are leveraged investments, which results in greater volatility of results. Further, privately held property is not marked-to-market daily, trades infrequently, and tends to exhibit price changes rather slowly.

and increased regulation, have also increased standardization and invest ability. Ownership of commercial real estate is now much more widespread across institutions, including pension funds, than in the earlier period.

A. Review of Base C-1 RBC Factor – Support for Change to 11%

Analyses conducted or sponsored by the ACLI, the NAIC, and industry specialists suggest that the base C-1 RBC factor applicable to Schedule A real estate (including investment, foreclosed and held for sale real estate) should be set at 9.5%. An additional 1.5% cushion is recommended to account for potential disparities between the composition of the index used and individual life insurance company real estate portfolios, plus uncertainty surrounding the impact of COVID-19 on the longer term performance of commercial real estate. This recommendation is based primarily upon the NCREIF National Property Index (NPI) Price Variation Analysis presented below.[3] Note that the support presented in this Section A represents an updated methodology meant to address certain concerns expressed by the American Academy of Actuaries regarding representation of the Global Financial Crisis in the data set.

The primary methodology employed to determine the recommended charge is analyses based on actual historical real estate investment performance data from the NCREIF Property Index (NPI), appended by data from FRC/Kelleher to extend the series through earlier years of 1961-1977.[4] This data set is collectively referred to as "NPI" in this analysis.

Results of Price Variation Model of NCREIF Property Index ("NPI")

	1 YR HP Cumulative Loss	2 YR HP Cumulative Loss	3 YR HP Cumulative Loss	4 YR HP Cumulative Loss
95-PCT	4.3	**9.3**	10.1	10.1
96-PCT	5.6	**9.7**	10.6	10.6

The above table presents the results of analyses of historical NPI total return data. The table presents the results of analyses based on both 95th percentile (PCT) and 96th PCT worst results in the historical data set. Further, the table presents cumulative losses at varying periods ranging from 1 to 4 years. Historically, downturns in real estate tend to last less than 3 years, so this period also represents the worst cumulative decline that would be observed even if the assumed period was extended further. The "cumulative" observations represent the largest cumulative loss experienced at any point in the period.

The recommendation of 9.5% is based on consideration of the maximum cumulative losses at both the 95th and 96th percentiles ("PCT") during the observed period. This assumed period of loss is consistent with the assumption used for common stock. Importantly, based on historical performance data for the sector, the 11% recommended base factor would cover cumulative losses during a 2-year period at a 96.8% confidence level.

We also note that in using cumulative losses over time, there is no discounting for time value of money, and all analysis are conducted without any consideration of the federal income tax impact of the losses.

The use of actual historic quarterly returns across 60 years of industry experience provides for the incorporation of the impact of several economic cycles on supply and demand for commercial real estate and the impact on market

[3] See Appendix 1 for a detailed description of NCREIF and the NPI.

[4] Kaiser, Ronald W., The Long Cycle in Real Estate, Journal of Real Estate Research, Volume 14, Number 3, 1997.

values. This lengthy time period also allows for incorporation of the effects from earlier governmental impact on prices, such as from changes in the tax code in the 1980s.

Considerations

1. *Applicability of Index to Individual Life Company Portfolios*

   The recommended decrease in the RBC factor for Real Estate is based on the performance of a large and well diversified commercial real estate benchmark performance index (i.e., NCREIF-National Property Index, NPI). The index includes quarterly data from all the major property types (office, retail, industrial, multifamily and hotel) across all regions of the US, which makes it broadly applicable to all of these major property types nationwide. Additionally, we compared the distribution of properties by type and by geographical region in the NCREIF database to the distribution of those held by the life insurance companies and found the distributions to be quite similar.

   The question of the potential need for increased granularity for the RBC factor was considered thoroughly. In particular, we considered a different factor for company occupied as a class with lower risk than investment properties. However, granularity beyond the single factor representative of all US commercial real estate was deemed inappropriate due to 1) the relatively small size of the asset class, 2) the alignment of composition between the NPI and the life industry portfolio, and 3) regulations separate from RBC factors that address concentration risks and assure diversification of life company real estate portfolios.

   Additionally, segmenting the NPI dataset into smaller granularities can be problematic. The NPI as of Q4-2020 consisted of just over 9,000 properties but roughly 30,000 properties have been in the index at some point during its 30+ year history. Over that history, the geographic and property type distribution of NPI has been constantly evolving. While the database of properties is large in total, segmenting it into more granular levels can produce sample sizes too small to be statistically sound. Beyond this, segmenting can add only limited additional value. The primary driver of real estate property performance is the national real estate cycle[5] as portrayed in the NPI. The pattern of real estate losses for both the industry and for individual companies is aligned with that cycle. In other words, the overall real estate cycle tends to dominate other effects including geography and property type. The strength of that national real estate cycle has been found in academic research to explain roughly 50% of the variation in property performance across all properties in the index.

2. *Impact of Select Key Assumptions*

   - **Loss Horizon:** The period of time assumed for the accumulation of losses in the analysis (loss horizon) plays an important role in determining the appropriate amount of required capital. In this updated proposal, we suggest an 11% RBC factor, which is based on cumulative losses over 2 years. Real estate assets are typically held longer-term, often five years or greater. As the assets are more illiquid than publicly traded bonds or other securities, they are often used to back surplus, or longer-term liabilities. Liquidity is managed such that the timing of sale of real estate assets can often be strategically determined, thus avoiding realization of the larger maximum potential losses. The key focus is the length of economic cycles with losses. In past real estate cycles, the duration of losses typically spans a 2 to 3-year period, with the majority of losses during past downturns being materially concentrated within one year. Average holding periods for real estate assets are typically much longer than one year, averaging 10 years or longer, based on analysis periods and investment targets for most institutional investors. Given the statutory accounting for the asset class with declining book value and rigorous impairment requirements, it is normal for the

[5] Risk and Returns of Commercial Real Estate: A Property Level Analysis, Liang Peng, Leeds School of Business, April, 2010, http://www.reri.org/research/article_pdf/wp173.pdf

actual recognized impairment rates by insurance companies to be lower in both frequency and severity than market averages. This is primarily related to the existence of unrealized gains that must be exhausted prior to any recognition of losses.

- **Confidence Level:** The confidence level also plays an important role in determining the appropriate amount of required capital. The 9.5% suggested base factor generally corresponds to the losses modeled at between the 95th and 96th percentiles (PCT) over a worst cumulative period. The recommended 11% factor covers losses at a 96.8% confidence level, assuming maximum cumulative losses during a 2-year period.

- **Reserve Offset:** The development of the bond factors includes an offset for expected losses based on the principle that expected losses are covered by reserves. Real estate and common stock are both treated as equity assets which are generally viewed as supporting surplus and not reserves, and for which expected loss is not considered. The current RBC methodology for real estate equity does not include an offset for expected loss, as the basic contribution to AVR used as a proxy for expected loss is zero. Similarly, this proposal does not include an offset for expected loss[6]. The rationale for excluding the mitigating effects of the expected loss include:
    - There is no basic contribution to AVR for real estate investments.
    - Real estate is a small asset class, and analyses required to develop appropriate offsets for expected loss are deemed unnecessary.
    - Discussions around the appropriate relationship between expected loss, AVR, and RBC are ongoing. In the future, as precedent is set in the other larger asset classes where the effects are likely even more important, the potential integration of an offset in the real estate equity sector should be reconsidered.

- **Income**: In the development of RBC factors for bonds, income in excess of the expected loss offset discussed above is not included in the modeling and is assumed to be used for policyholder liabilities and not available as a loss offset. For common stock, and for real estate as equity investments, the total return is used. First, since the equity assets are generally presumed to back surplus and not policyholder reserves, the policyholder does not have claim to the income. Consistent with the lack of offset for expected loss, the income is available. When bonds default there is no subsequent income available to the investor. Real estate does not default, and even if subject to impairment, continues to produce income. The Real Estate values were therefore developed consistent with common stock using a total return view of the assets.

- **Taxes:** All of the modeling discussed in this project was done on a "cash" basis. No consideration has been given to the effect of these losses on the tax liability of the investor. Since losses reduce taxes that otherwise would be paid by the investor, this will result in a lower post-tax RBC factor than the recommended level.

- **Property acquired through foreclosure:** Property acquired through foreclosure should be treated the same as any other real estate. If the insurer forecloses on a mortgage and obtains the property, statutory accounting requires the property to be brought onto the company's books at then current market value. As a result, the value is no different than any other property purchased in the course of business. If the property has low income potential, that will be reflected in its market value.

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[6] There are currently discussions at the NAIC regarding whether RBC assessments should be adjusted to remove the expected losses for sectors. In real estate equity's case, we are uncertain as to the materiality of adjusting for expected losses. The same could be said for common stock, as expected loss is a fixed income concept and would be difficult to apply to equities.

3. **Application of stochastic approaches:** While we considered stochastic approaches, a fully stochastic model was deemed inappropriate by the working group due in large part to the limited amount of quarterly historical observations (limited when compared to the amount of daily transaction data available for public stocks and bonds). It is possible that a stochastic analysis could be performed wherein an algorithm would be built and calibrated to actual history. However, if the algorithm is calibrated to historical performance, we believe that the results of such an analysis would be consistent with our work, which includes periods of very significant market stress in the sector. Note that the work performed in both common stocks and bonds excluded significant periods of stress in those markets, given changes in the economy from the advent of the creation of the Federal Reserve. Both asset classes have public data going back to early in the 19th century, though of varying quality. We used the full historic track record for commercial real estate (CRE) that is available and includes the downturn in CRE from the S&L crisis in the 1990s, the effects of the dot-com bubble, the global financial crisis and the most recent effects of COVID-19 pandemic in 2020.

B. Adjust RBC to recognize risk impact of unrealized gains and losses

We also recommend implementation of an adjustment to individual property RBC that will account for the cushion against statutory losses that is often created in real estate assets as they are held through time. The RBC factor that is recommended in Section A is calibrated based on volatility of market values through time. However, real estate assets are reported for statutory accounting using depreciated cost. In real estate, the assets depreciate annually, so each year the asset's statutory value will be adjusted downward, even though the actual market value of the asset is more likely to be increasing. Annual depreciation rates in real estate are often 2% or higher. This creates an "unrealized gain" that serves as a cushion that must be completely eroded as market values fall before there would be any risk of loss of statutory capital. Since risk to statutory capital varies based on the size of this margin, a single factor applied to the statutory value does not appropriately measure the risk. This adjustment reflects the varying amount of risk resulting from this margin.

Fair value of real estate assets held by Life Companies is reported in Schedule A for each individual property. This fair value includes the changing market value of the asset and the impact of any improvements that have been capitalized. This excess of market value over the statutory value is a cushion against loss of statutory capital.

We propose that the applied base RBC factor be adjusted using a ratio of 1/2 of the difference between the reported fair value and statutory book value, to the statutory book value. Note that in situations where fair value is less than statutory, the RBC factor will be increased. We recommend that the final RBC for any property not be less than the amount determined using the factor for a Baa bond applied to the BACV.

Examples of the application of the adjustment are presented in the below table and are hypothetical. If a market value were lower than book value, that property would be reviewed for possible impairment. If the value were down temporarily, this adjustment would provide a short-term increase in RBC. If the value is down on a permanent basis, this may provide an early increase in RBC prior to taking an impairment.

The specific formula including adjustment would be:

RBC% = *Max [NAIC2% , 11.0%*(1 - 1/2*(MV-BVg)/BVg)]*

BV	MV	RBC
100	50	13.75%
100	100	11.0%
100	150	8.75%
100	200	5.50%
100	250	2.75%
100	300	0.00%*

* There is an overall minimum of 1.30%
BVg is the book value gross (prior to netting the encumbrances)
NAIC2 is the NAIC2 corporate bond RBC charge

In an effort to assess the effects of statutory accounting on actual life insurance company experience, a simulation was constructed to analyze hypothetical life company portfolio performance given statutory accounting. The results of this study demonstrate the materially lower statutory losses as compared to market value losses during downturns, and thus provide support for the proposed adjustment.

In 2013 the ACLI, NAIC, and Industry real estate specialists engaged Jeff Fisher (Academic Consultant), who is a special academic consultant to NCREIF, to use the historical property level performance data in the NPI to construct simulated historical performance under statutory accounting rules. The analysis leveraged all available NPI data history at the required level of granularity at that time, which included the period of 1978Q2 through 2013Q1. This analysis was performed to provide additional insight around the impact of statutory accounting (recognition of depreciation, impairment rules, etc.) on the historical performance and risk to capital for insurance companies.

The simulation used the actual historical market experience of the NPI at the individual property level, wherein estimates of statutory accounting were applied. This hypothetical exercise was not intended to serve as the primary basis for determination of an appropriate RBC factor. Rather, the results of this hypothetical exercise illustrate the effect that statutory accounting (i.e., with depreciating book values and impairment rules/requirements) can have on the timing and severity of loss recognition relative to market value changes and provide additional evidence that the primary analysis is reasonable, if not conservative, given the effect of statutory accounting.

The simulation made the following assumptions:

4. Beginning Book Value for statutory accounting when properties enter the data set is set equal to then current market value.
5. For Book Value projections, depreciation is over 20 years (5% per year) for all properties.
6. Properties are tested for impairment quarterly, with impaired properties removed from index after recognizing the loss from the impairment. Any income received to that point is retained in the modeling.
7. As in statutory accounting, there is no accounting for property value increases, only losses are recognized in the analysis.
8. There is no offset related to expected loss (i.e., there is no accounting for AVR).

***Example of Simulated Statutory Property Performance**: In the simulation, individual asset market values are recorded in the quarter a property enters the index. At this beginning quarter, book value is set equal to market value, which is assumed to be the cost to acquire and is therefore consistent with statutory accounting. Every quarter forward, NCREIF has updated estimates of market value for the asset.[7] Future statutory carrying value of the asset (depreciated book value) is estimated using the generic depreciation assumptions listed above. In every quarter, we estimate whether an impairment would have been recognized using statutory accounting rules, the then current market value, anticipated future property cash flows as implied from that market value, and then current statutory carrying value. Aggregate impairment rates by quarter are tracked through time, which are useful for comparison to actual market value losses reported for the index.*

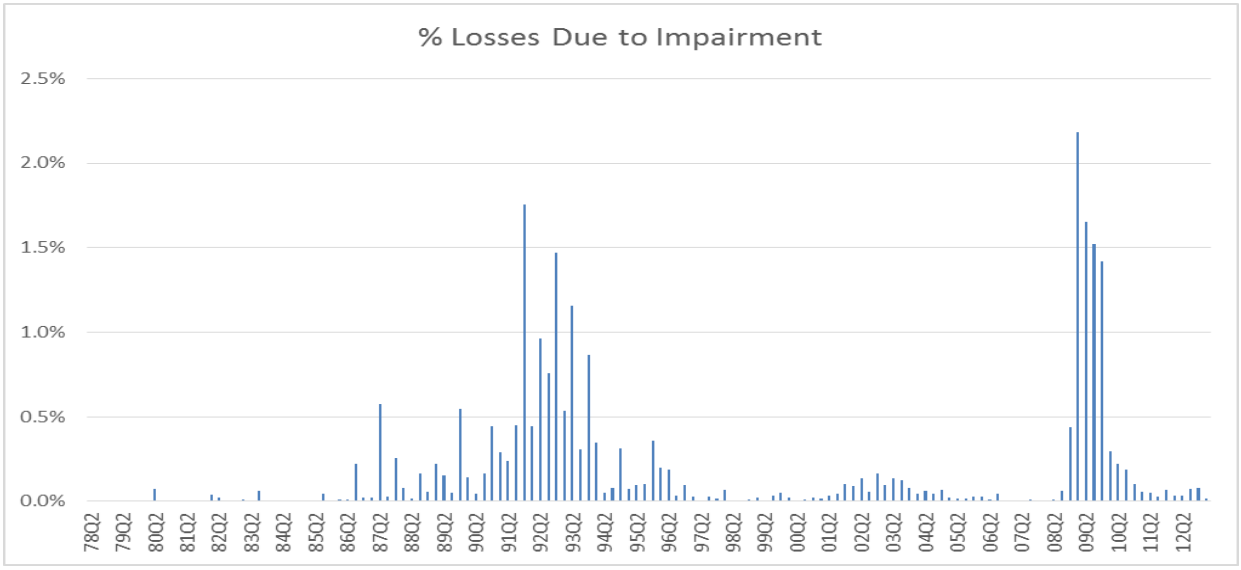
Using the above assumptions in the simulation model and including all properties over the entire history of the NPI, the following chart presents quarterly total losses as a percent of market value. As the chart below illustrates, the largest quarterly loss rate for the simulated index performance was just slightly over 2% during the recent Great Recession. Further, over this entire simulated history there are only a few quarters with significant simulated statutory losses. Losses were concentrated in the real estate market downturns of the early 1990s and in 2009 following the Great Recession.

The largest one-year loss for the full history of the simulated data occurred during the Great Recession, when the simulated one-year cumulative statutory loss was approximately 7% during the year 2009.[8] During 2009, the actual recorded total return for properties in the NPI was a cumulative loss of 17%. This decline occurred amid the most severe downturn in history, based on its intensity. However, the value decline during this period was relatively short-lived, as the negative quarterly total returns persisted for only six quarters.

Given the event was an extreme outlier in the history of real estate performance, the probability of it reoccurring is extremely low within the modeled random sampling. In simple terms, since the 17% decline in one year occurred once in the 36-year exposure, the implied frequency is 2.8% probability (i.e., one year out of 36) while RBC is set to a 5% (or 95% confidence) level. In addition, this temporary reduction in market value would not necessarily have led to equal statutory impairments both since market value is typically in excess of book value, and requirements for statutory impairments do not immediately recognize all changes to market price. Thus, statutory accounting can lessen the severity of recognized losses during market downturns.

[7] The NCREIF database relies on appraisals to establish value where there has not been a transaction. The simulation projected MV could be viewed as projected appraised value. Various studies of CRE appraisals have been performed and show that the appraisals are good estimates of MV, though they may lag actual market changes. This assumption does not affect the validity or applicability of the results.

[8] While the 7% maximum simulated loss should provide a degree of comfort in the reasonableness of the proposed factor, it is not directly comparable in concept to either the proposed factor or the cited actual historic market value based index returns.



As further evidence of the impact of statutory accounting, we examined actual losses incurred during the Global Financial Crisis, which is the most severe real estate market downturn within the 60-year data analysis period. The ACLI conducted an analysis of the life insurance industry's actual performance during 2008 through 2012. The analysis examined all impairments of real estate investments, along with recognized losses on sale of real estate investments, during the period using data from Annual Statement exhibits Schedule A Parts 1 and 2. The industry reported cumulative losses of about 3.5% over that 5-year period, significantly lower than the 9.5% recommended factor. These reported industry losses include Other-Than-Temporary Impairments and losses on sale as reported in the Annual Statement schedule. Note that the analyses did not account for the declines in value of assets that are reported at fair value for statutory purposes.

C. Update RBC charge on real estate encumbrances

Under Statutory Accounting rules, real estate is held at depreciated cost net of encumbrances. Under the current proposal, RBC will be assessed by estimating the risk on the total property, then providing a credit for the value of the encumbrance based on the equivalent risk of the mortgage. The rationale for this is that the total underlying risk of loss on the property is the same whether or not there is an encumbrance, but the holder of the encumbrance bears part of the risk and the holder of the property bears the balance. Therefore, the risk is split effectively by developing the risk for the entire real estate value, then subtracting the amount of risk ascribed to the mortgage. We chose the approach of a reduced factor based on the average factor for mortgages in light of the small size of the real estate asset class, and the even smaller amount of encumbrances. For implementation, we recommend changing the RBC worksheet to show the RBC for the entire real estate, then a credit for the amount of the encumbrance.

The current encumbrance factors were based on the current RE factor of 15% reduced by the average RBC for commercial mortgages, which was 3.00% under the prior RBC formula. The proposed factor for Real Estate is 11.0%, and the average commercial mortgage factor that was developed as part of the commercial mortgage RBC proposal in 2013 was 1.75%. As an example, consider the following:

Property Value	Amount	RBC factor	$RBC
No encumbrance	100	11.0%	11.0
With 60% LTV mortgage			
- Property Value	100	11.0%	11.0
- Equity value	40		
- Encumbrance	60	- 1.75%	-1.05
- Real Estate RBC	40	24.9%*	9.95
- Mortgage RBC[1]	60	1.75%	1.05
- Total	100		11.0

* Equals the RBC value (9.95) divided by the real estate equity value (40).

[1] This is an estimate of the value of the risk attributable to the mortgage by assuming that the mortgage was held by a life insurance company and estimating the resulting RBC.

This table illustrates our suggestion that the same amount of total capital be held whether a property is held with no encumbrance, or if it has an encumbrance, to reflect the constant level of risk of loss at the property irrespective of the capital stack. The RBC calculated on the encumbrance derives from the price risk of the property. It is to reflect that there is more risk as a percent of the equity investment, though not in total risk, to the equity investment of an investor in a property when leverage is used compared to when there is no leverage and a property is owned outright. In the case of having an encumbrance, the RBC held by the lender, when added to the RBC held by the owner on its equity and its encumbrance, sum to the same amount as if the property was held with no encumbrance.

In the current RBC, the result of this formula on encumbrances includes a maximum amount equal to 100% of the book adjusted carrying value of the real estate. While recognizing that the loss is generally limited to 100% of the carrying value, we believe that an RBC factor of 100% is excessive, and that the limit should be set at 45% of the carrying value. We note that for common stock, the combined factor at the maximum Beta is 45%.

D. Update Schedule BA Real Estate Factor

Real Estate held in joint ventures (JVs), limited liability companies (LLCs) or similar structures are recorded in Schedule BA, on lines 2199999 and 2299999. Currently, these assets are assessed RBC with a factor (23%) that is 50% higher than the factor for wholly owned real estate reported in Schedule A. The documentation for Schedule BA assets from the original RBC development articulates a premium over the RBC for Schedule A assets to account for additional risk associated with potentially lower transparency and control within the structures. However, since that time, data availability and industry experience has provided evidence that this premium is overly conservative, if not altogether unnecessary for the assets classified as real estate. We propose that the factor for Schedule BA real estate be adjusted to ***13%***, equivalent to the proposed factor for Real Estate recorded on Schedule A plus a premium of about 20% of the Schedule A factor for conservatism. All of the other mechanics and components described above for Schedule A real estate would also apply consistently for the real estate recorded on Schedule BA. This proposal is supported by the following:

- Real estate investments today are very often executed through corporate structures such as LLCs simply to mitigate risks. Institutional investors regularly use these structures to reduce the risk of loss from contingent liabilities. Contingent liabilities could be associated with the operations of the property (e.g.,

slip-and-falls), disputes with vendors or tenants, or debt. LLCs insulate investors from losses above the value of the net equity in an individual investment. Institutional investors also often use LLCs as holding companies for a series of single-asset LLCs, in order to better organize a portfolio in a manner that limits liabilities along each level of the corporate ownership structure.

- The NAIC recently approved the reclassification of certain wholly owned single owner, single asset LLCs to be reported on Schedule A. This was due to the recognition that the LLC structure itself did not produce additional risk. In this approval, the NAIC also agreed that additional reclassification could be proposed and approved when additional supporting materials were submitted. Rather than seeking a change in the accounting, we are proposing to adjust the RBC to reflect the risk.

- Partnership structures are often used to align interests between the life insurance company and local partners who have superior access to the market and property development, asset management and property management skills, while still maintaining control of significant investment decisions, especially around liquidity. This better execution and alignment of interest can result in better investment performance and even lower market risk.

- Partnership structures reduce the capital commitment of the life insurance company to an individual transaction, and thus can add portfolio diversification.

- A study was performed to compare the actual realized risk of institutional real estate investments held through JV's to those of directly-held real estate investments. Jeffrey Fisher, a Ph.D. and consultant for NCREIF, broke down all properties in the NCREIF Property Index into joint venture and wholly owned properties to compare the performance since 1983. Mr. Fisher's analysis found as follows:
    - Since 1983, the average quarterly return for JV properties was 2.35% versus wholly owned properties at 1.97%. This performance gap widened over time.
    - The standard deviation of returns for JV properties (2.4%) was only modestly higher than the standard deviation of wholly owned properties (2.2%).
    - Values of the wholly owned properties fell more than the values of JV properties from peak-to-trough during the Global Financial Crisis (GFC).
    - In terms of return dispersion during the GFC's worst quarter, wholly owned properties had the largest negative return and JV properties had the highest positive return.
    - JV properties were found to have shorter average holding periods than wholly owned properties, suggesting potentially higher liquidity in JV structures.

In summary, real estate held through joint ventures has performed consistently with and perhaps even slightly better than, wholly owned real estate. Based on this research, and in recognition of the several legitimate risk/return benefits of ownership through structures, we propose that real estate held on schedule BA use a factor of 13%, which is the factor for wholly owned real estate held on schedule A with a modest premium.

Appendix 1

The historical National Council of Real Estate Investment Fiduciaries (NCREIF) database goes back to December 31, 1977, and as of Q4-2020 consisted of approximately 9,000 properties. NCREIF collects 67 data fields each quarter that consist of financial information such as Market Value, NOI, Debt, and Cap Ex, as well as descriptor data such as Property Type and Subtype, Number of Floors, Square Footage, Number of Units, and Location.

The flagship index of NCREIF is the NCREIF Property Index (NPI), which is a quarterly index tracking the performance of core institutional property markets in the U.S. The objective of the NPI is to provide a historical measurement of property-level returns to increase the understanding of, and lend credibility to, real estate as an institutional investment asset class. The NPI is comprised exclusively of operating properties acquired, at least in part, on behalf of tax-exempt institutions and held in a fiduciary environment. Each property's return is weighted by its market value. The NPI includes properties with leverage, but all returns are reported on an unleveraged basis. The NPI includes Apartment, Hotel, Industrial, Office and Retail properties, and sub-types within each type. The index covers all regions of the US, which makes it broadly applicable to all of these major property types nationwide. Additionally, we have also done a comparison of the distribution of properties by type and by geographical region between those in the NCREIF database and those held by the life insurance companies and found them to be quite similar.

Over the history of the NPI data, there have been two severe downturns, in the 1990s and the recent GFC; as well as a shallow recession corresponding to the 2001 economic recession that did not produce negative total returns for real estate. Given the time series of the data, the index does reflect 'tail events' such as the Great Recession thus appropriately capturing the downturn in the employed primary methodology for estimation of the appropriate RBC charge.

Additional information on NCREIF and the NCREIF Property Index (NPI) can be found here:
https://www.ncreif.org/data-products/property/

Appendix 2

The difference between market value and statutory value (depreciated cost) is not included in surplus within statutory accounting. As a result, the risk of future impairments of statutory value would be much less for a company where the current market value of its portfolio of properties is well in excess of statutory carrying value, especially compared to one where market value is much closer to statutory carrying value.

Our primary analysis was based on market values, and therefore overstates the risk relative to statutory accounting. We are not proposing that statutory accounting for commercial real estate should change, but rather partially leveling the playing field for properties that have been held for extended periods with market value well in excess of statutory carrying value, versus recent acquisitions with no such unrealized gains. And we are proposing a floor charge equal to that for an NAIC 2 bond (currently 1.30%) so that capital will never be lower.

The following provides a numerical example. Assume a property held at a book value of $100 with a market value of $150. The NCREIF data measures changes in market value, and the ***11%*** proposed factor would make provision for a loss of value to a value down to $133.50. Under the RBC process, factors are applied to the book value and normally do not recognize that unrealized gain. Since real estate is held at book value which in this case is $100, and is below this market value, effectively there an increased margin against the loss of statutory capital in excess of the amount of RBC.

For an asset with a market value well in excess of the carrying value, the reduction in RBC is minimal compared to the large-implied reserve. Similarly, in those relatively few circumstances where an asset will have a market value less than book value, the RBC amount would increase, to reflect the increased likelihood of a loss to carrying value. This increase in RBC would likely be in advance of an actual impairment, which would provide earlier visibility and recognition of weakening market conditions.