Updated Principles for Structured Securities RBC

Presentation to NAIC's RBCIRE

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Executive Summary: C-1 Asset Modeling

The American Academy of Actuaries proposes a flowchart to determine whether
- An asset class needs to be modeled, and
- Securities within an asset class need to be modeled individually to determine C-1 factors.

Simpler solutions are preferred—if an existing factor can be used, it should be used.

Individual security modeling for C-1 determination is a last resort.

Executive Summary: Principles-Based Approach for Structured Securities

If the result of the flowchart is that an asset class requires modeling, we would support a principles-based approach to the derivation of C-1 factors

- A principles-based approach to RBC for structured securities (referred to as "ABS" throughout this presentation) allows flexibility when adapting to new structures as they emerge in the marketplace

This presentation proposes several candidate-principles, all of which the Academy supports. However, reasonable and informed people may disagree.

REQUEST: Regulators identify <u>which</u> candidate-principles accurately reflect their views, in order to incorporate them into a structured securities RBC principles-based approach.

Discussion Topics

I.   C-1 Modeling Flowchart

II. Structured Securities C-1 Principles

III. Appendices
   a) Appendix A—RBC Arbitrage
   b) Appendix B—Definitions of Terms

C-1 Modeling Flowchart

Threshold Questions

For an asset class to be considered using this flowchart, it should first be verified as having all of the following attributes:

1. Materiality or likely materiality in the future across the industry. Allocations from a small handful of companies would not justify changes to the RBC formula.

2. The risk that would be modeled needs to be incorporated in C-1. For example, illiquidity alone would not be a sufficient justification because C-1 does not measure illiquidity risk.

3. The expected benefits of a more precise calculation should outweigh the expected costs of building and using a new model. Costs include both time and energy spent to build the model as well as the negative effect of added complexity within the RBC formula.

The burden to verify these attributes falls on the party asking for a more exact determination of RBC.

C-1 Modeling Flowchart
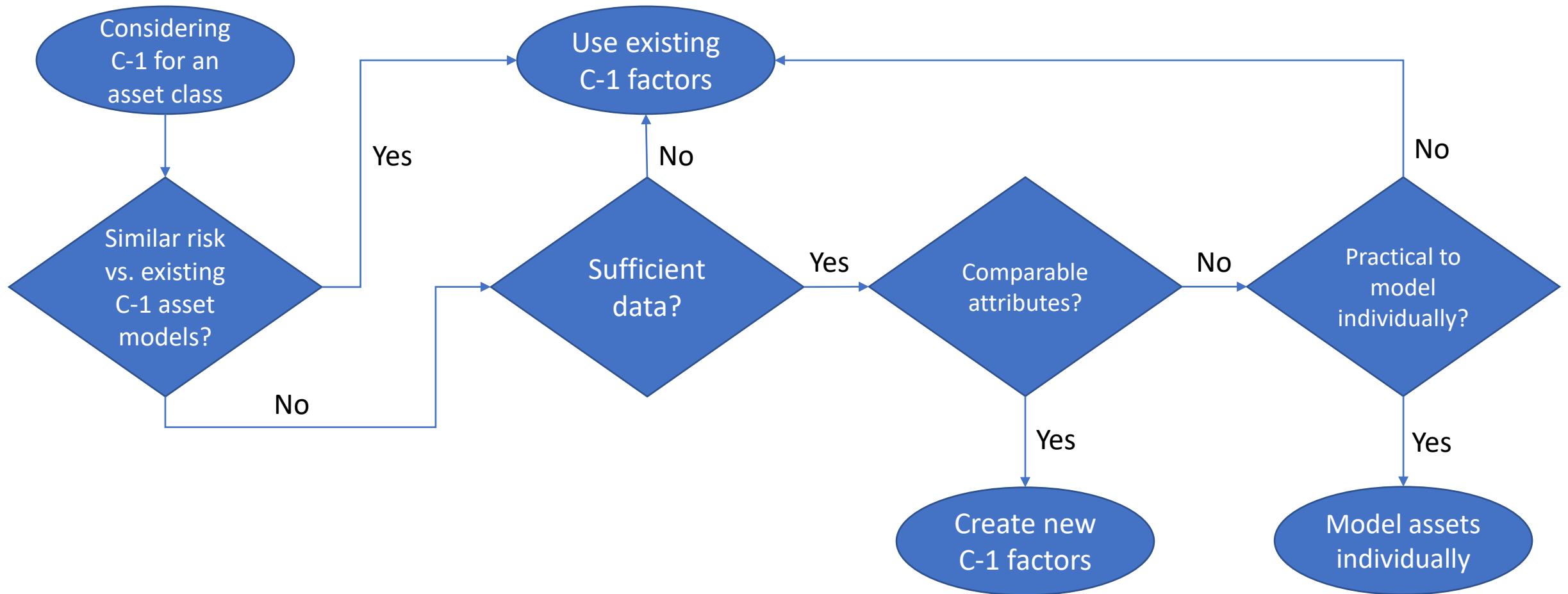
Decision—similar risk vs. existing C-1 asset models
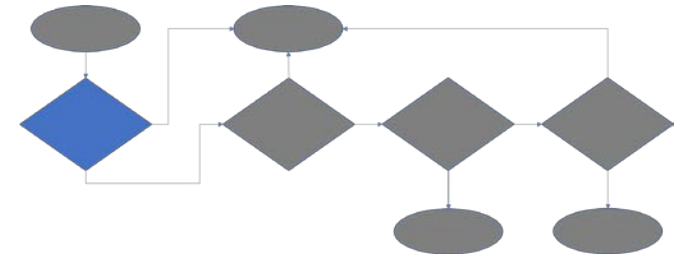
Answer "yes" if the relative risk differences between risk categories (usually ratings or designations for fixed income) is similar to that of an existing set of C-1 factors.

- For example, municipal bonds and bank loans would each likely have an answer of "yes," because relative increase in risk as ratings decrease is similar to that of corporate bonds.

CLOs and some other structured securities would likely have an answer of "no," because tail risk increases more quickly as the rating decreases compared to corporate bonds.

CLO = collateralized loan obligation.
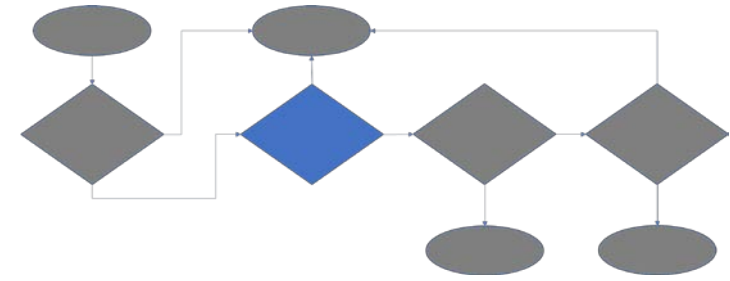
Decision—sufficient data

Answer "yes" if data exist to enable risk modeling, and in particular tail risk modeling.

- For example, CLOs would likely have an answer of "yes," because their bank loan collateral has ample historical loss data and the waterfall structure is well documented.

Some esoteric ABS, especially residual tranches, may have an answer of "no" if insufficient data are available.

Decision—comparable attributes
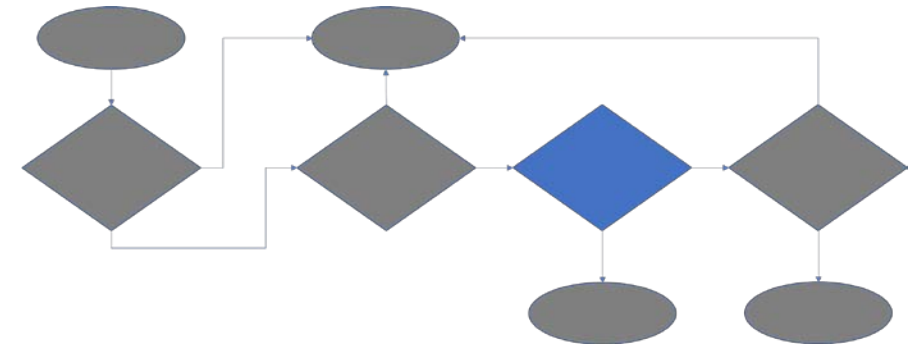
Answer "yes" if most individual assets within this asset class have an easily identifiable attribute that can be used to sort the assets into risk buckets.

- For example, CLOs would likely have an answer of "yes," because most CLOs are rated by CRPs and those ratings can reasonably sort each individual CLO security into a risk bucket.

Asset classes that are typically not rated by CRPs may have an answer of "no" here, but don't automatically. For example, commercial mortgage loans are also a likely "yes" because DSCR and LTV substitute for CRP ratings as comparable attributes.

CRP = credit rating provider. DSCR = debt service coverage ratio. LTV = loan-to-value.

Decision—practical to model individually
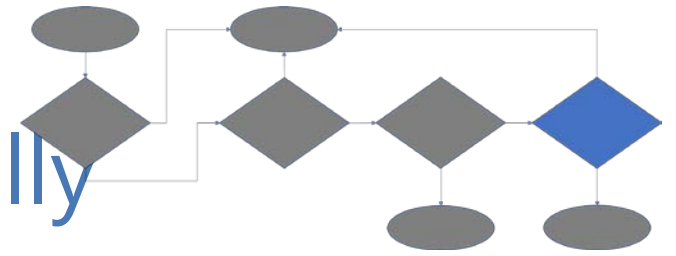
Answer "yes" if individual assets within the asset class have several attributes that differentiate individual assets and can be used for risk modeling or if existing modeling software can be used.

- For example, CLOs would likely have an answer of "yes" because off-the-shelf software exists that can model individual CLOs (however, CLOs may never have arrived at this decision point if they were deemed to have comparable attributes).

If modeling cannot reasonably be done in a timely and cost-effective manner for RBC filing, then the answer here must be "no."

Some esoteric ABS may have an answer of "no" if the relevant risk is so specific to each deal that a common modeling framework does not apply across a reasonably large share of securities.

Outcome—use existing C-1 factors
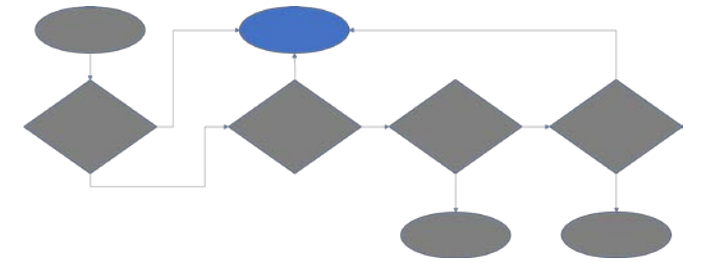
This outcome can either mean to use existing C-1 factors directly, without adjustment, or it can mean to make slight adjustments to existing C-1 factors.

- For example, municipal bonds and bank loans currently use corporate bond C-1 factors without adjustment.

Schedule BA real estate currently uses Schedule A real estate C-1 factors, but with an upward adjustment resulting in a proportionately higher C-1 factor for BA real estate.

Outcome—create new C-1 factors
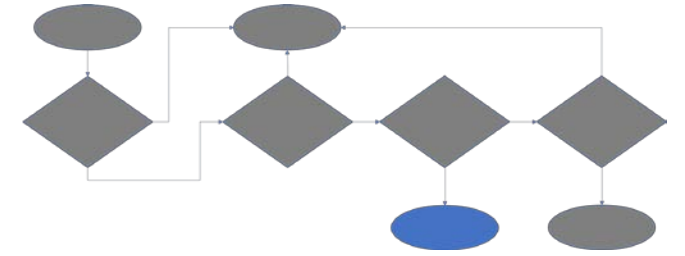
This outcome means that a new set of C-1 factors should be developed for this asset class.

- For example, CLOs may retain the 20 possible designations that they are currently mapped into. But instead of those 20 designations corresponding to the 20 corporate bond C-1 factors, CLOs may instead have their own set of 20 C-1 factors.

Instead of just a slight adjustment to existing C-1 factors, this outcome requires fundamental modeling work to derive new factors.

Outcome—model asset individually
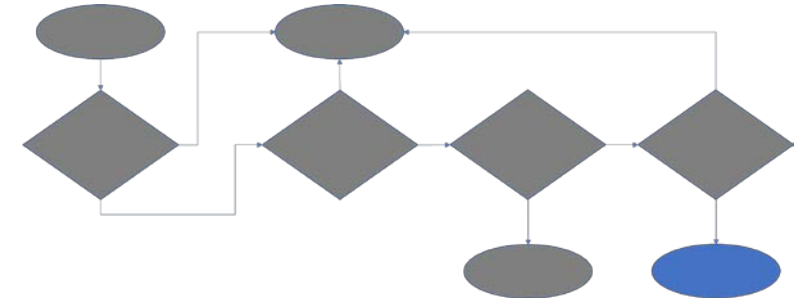
This outcome means that each asset within this asset class needs to be modeled individually in order to generate a C-1 factor.

In practice, this is currently how non-agency RMBS and CMBS are treated. The modeling work is done by the Structured Securities Group to determine the NAIC designation, after which point corporate bond factors are used. This is functionally similar to modeling each RMBS and CMBS security individually to determine its C-1 factor.

Because of the significant operational complexity involved, this outcome is a last resort.

Structured Securities C-1 Principles

Glossary of Terms

- **ABS**: bonds falling within the emerging definition of ABS in SSAP 26, most recently exposed November 16, 2022

- **Vertical Slice**: an investment in all tranches of an ABS in equal proportion to the total outstanding

- **RBC-transformative ABS**[1]: ABS where a vertical slice draws a lower aggregate C-1 requirement, considering only base factors (before portfolio adjustment and covariance adjustment), than its underlying collateral would draw if held directly by a life insurer

- **RBC Arbitrage (narrower)**: holding a vertical slice of an RBC-transformative ABS

- **RBC Arbitrage (broad)**: holding any part of an RBC-transformative ABS

1. Conversely, one could then define RBC-neutral ABS as ABS where a vertical slice draws aggregate C1 equal to that which would be drawn by its underlying collateral.

Candidate-Principle #1.
The RBC Formula Is a Blunt Filtering Tool

<u>The purpose of RBC is to help regulators identify potentially weakly capitalized insurers, therefore changes that have a small impact on RBC ratios may not justify a change to the RBC formula</u>

The frequency of changes to the RBC formula is practically limited by NAIC processes and stakeholders' available time, therefore it is important to prioritize the most material potential changes to the RBC formula.

Small allocations to RBC-transformative ABS by a limited number of insurers may not require a change in C-1 requirements across the entire industry.

Candidate-Principle #2.
Emerging Risks Require Regulatory Scrutiny

Emerging investment risks create concerns for regulators, and existing regulatory tools can be considered alongside RBC for addressing these newer risks—but RBC needs to be considered when there are material solvency issues.

RBC should address solvency issues, but not every risk will create a material solvency concern.

Modifications to RBC may be necessary, but complementary regulatory tools should also be considered (e.g., ORSA, AAT/AG53, disclosures, examinations, etc.).

RBC-transformative ABS that are held by a small but growing number of insurers or with increased allocation may justify changes to the RBC formula.

More responsive refinements to RBC may be justified in areas where an insurer can more easily adjust its business model to optimize around the RBC formula.
- Refinements that are made should generally be principal-driven and agnostic to specific market conditions.
- Temporary relief may be warranted on occasion, even though it has the effect of contributing anti-cyclicality into RBC.

Candidate-Principle #3.
RBC Is Based on Statutory Accounting

C-1 requirements reflect the impact of risk on statutory surplus. Changes in accounting treatment will affect RBC.

All else equal, assets that are marked to market ("MTM") may have higher C-1 requirements because C-1 on MTM assets incorporates price fluctuations in addition to credit losses.

In practice, this means that C-1 for residual tranches would consider price fluctuations, whereas C-1 for unimpaired rated debt tranches only considers credit losses.

Impaired rated debt tranches are part of a broader issue that applies beyond just structured securities and are therefore outside the scope of this candidate-principle.

Candidate-Principle #4.
C-1 Aligns With Risk

C-1 requirements for a given tranche should align with that tranche's risk, to the extent practical.

If an ABS has unrated collateral, the unrated status has no bearing on how to determine the ABS' appropriate C-1 requirement

- The existence of unrated collateral does not automatically imply that an ABS should have a higher C-1 requirement.

- The existence of unrated collateral also does not automatically imply that an ABS should not have a higher C-1 requirement.

Candidate-Principle #5.
C-1 Requirements Reflect Likely Future Trading Activity

<u>C-1 requirements on ABS should treat the collateral as a dynamic pool of assets, incorporating future trading activities that are reasonable and vary appropriately by economic scenario.</u>

C-1 requirements should not be reduced by any amount due to an assumption of credit alpha.

This candidate-principle refers to the trading activity that is subject to or mandated by the structure's legal documents.

If C-1 requirements on ABS acknowledge the evolving nature of the collateral pool, the total C-1 of the structure may not equal the C-1 of a snapshot of the collateral pool at any one point in time.

If designations are based on CRP ratings, then explicit recognition of trading activity may not be required to the extent CRP ratings account for this.

Candidate-Principle #6.
Appropriate Risk Measures

Each C-1 factor is based on the asset class's risk profile. However, the risk profile for ABS differs from the risk profile for bonds. Therefore, C-1 requirements for ABS should be calibrated to different risk measures where appropriate.

In our December 2022 report to RBCIRE WG, the Academy recommended adopting a different risk measure for CLOs—Conditional Tail Expectation ("CTE")—because CTE may better capture tail risk inherent in CLOs.

While different risk *measures* may be appropriate, each asset's C-1 factor aims for a similar *magnitude* or *level of risk*.

This candidate-principle implies that not all ABS structures are necessarily RBC-neutral, because the collateral and the ABS would have C-1 requirements set to different statistical safety levels.

Summary of Candidate-Principles

1. The purpose of RBC is to help regulators identify potentially weakly capitalized insurers, therefore changes that have a small impact on RBC ratios may not justify a change to the RBC formula.

2. Emerging risks require regulatory scrutiny.

3. C-1 requirements reflect the impact of risk on statutory surplus. Changes in accounting treatment will affect RBC.

4. C-1 requirements on a given tranche align with that tranche's risk.

5. C-1 requirements on ABS should treat the collateral as a dynamic pool of assets.

6. C-1 requirements for ABS should be calibrated to different risk measures where appropriate.

Key Questions for Regulators

Which candidate-principles do regulators support?

Are there additional principles not currently outlined that should be incorporated into RBC for ABS?

Appendix A: RBC Arbitrage

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Impact of Principles on Definition of RBC Arbitrage

- By discussing broader principles, this presentation seeks to spark conversation on the definition of Risk-Based Capital (RBC) arbitrage in Asset Backed Securities (ABS) and clarify the implications of conflicting RBC arbitrage definitions.

- The NAIC's Investment Analysis Office (IAO) has proposed a constraint in the model used to determine designations, and therefore RBC requirements, for CLOs. This constraint would eliminate RBC arbitrage, as defined by the IAO, that the IAO believes is present in CLOs.

- Competing definitions among interested parties and regulators have been used in some formal and informal discussions, so far without a forum for being discussed directly.

- This presentation attributes differences in RBC arbitrage definitions to underlying principles of RBC. The Academy is requesting guidance from regulators on which principles should be followed. Once the principles have been identified, RBC arbitrage can be more clearly defined and more effectively mitigated. These principles will also guide a broader effort around improving the C-1 framework for all ABS.

Asset Classes With Greatest Potential for RBC Arbitrage

	Tranched	Pass-Through
Established asset-class-specific C-1	CLO Non-Agency RMBS/CMO CMBS CFO	Agency RMBS
No established asset-class-specific C-1	Consumer Finance Asset-based Lending Credit feeder fund	

- Quantifying RBC arbitrage is most direct when the underlying collateral has an explicit C-1 factor

- Tranched structures are more likely to produce RBC arbitrage than pass-through structures because tranching transforms risk

- RBC arbitrage discussions should focus on tranched structures with established asset-class-specific C-1

Definitions of RBC Arbitrage

- IAO has expressed its view that holding **any tranche** of a securitization whose vertical slice carries a different aggregate C-1 requirement compared to the underlying collateral constitutes RBC arbitrage—we term this the **broad**[1] definition of RBC arbitrage

- An alternative, **narrower**[1] definition of RBC arbitrage includes only instances where an insurer holds a **vertical slice**[1]

- Many other possible definitions lie somewhere in between

1. Please see Appendix B—Definitions of Terms for precise definitions of technical terms.

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IAO Usage of the Term "RBC Arbitrage"

- A [letter from IAO to VOSTF](#) dated May 25, 2022, introduces the concept of RBC arbitrage within the context of CLOs: "The aggregate RBC factor for owning all of the CLO tranches should be the same as that required for owning all of the underlying loan collateral. If it is less, it means there is RBC arbitrage."

- SVO's Structured Equity & Funds Proposal dated November 28, 2022, also uses the term "RBC arbitrage" with effectively the same meaning but expanding the scope from CLOs to include certain feeder fund structures.

Academy Usage of "RBC Arbitrage"

- In [our presentation to RBCIRE WG](#) dated December 14, 2022, the Academy disagreed with the concept that the existence of RBC arbitrage, as defined by IAO, necessarily implied an incorrect C-1 requirement

- The Academy believes dialogue among all parties will be improved if we first collectively agree on a definition of RBC arbitrage before discussing its implications for C-1 requirements

Related Regulatory Concerns

- IAO has also pointed out the possibility of RBC-transformative ABS being used to reclassify investments to technically comply with investment limits set forth in state insurance law, for example converting equity to debt for statutory purposes

- RBC-transformative ABS may also be used to reclassify investment returns or losses from an accounting perspective

- While we acknowledge these related potential issues, this presentation focuses only on C-1 implications of RBC-transformative ABS

Appendix B: Definitions of Terms
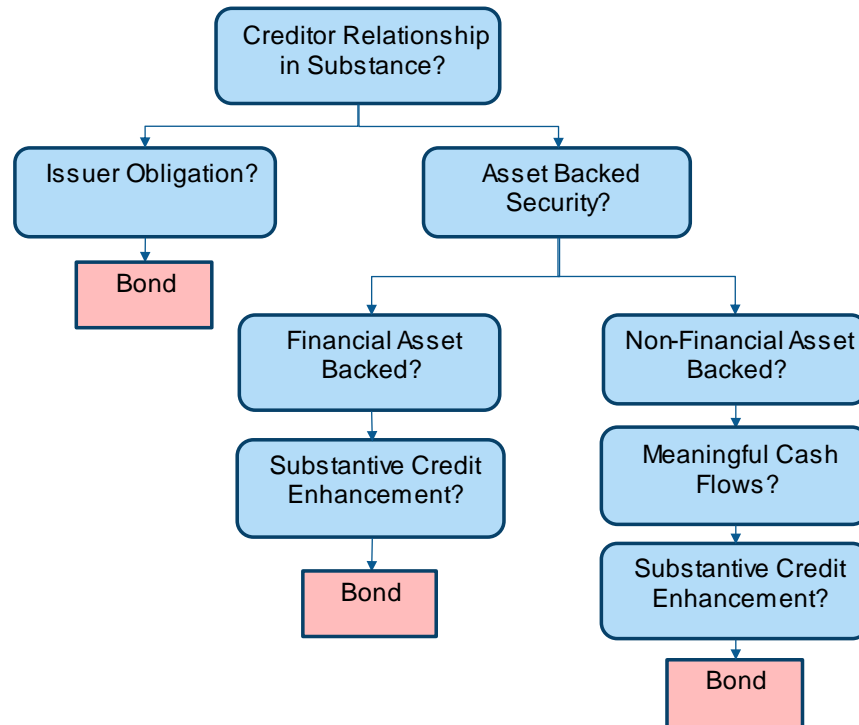
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ABS Definition

- RBC arbitrage discussions typically involve structured securities, for example CLOs and rated note feeder fund structures.

- Within this presentation, we refer to all such structured securities as **ABS**, and we intend for the definition of ABS to align with the emerging definition of ABS in **SSAP 26**, most recently exposed November 16, 2022. Under this definition, ABS has a primary purpose of raising debt capital backed by collateral that provides the cash flows to service the debt.

ABS Definition, Continued

Bond Principles Flowchart

- Exposed principles-based definition of ABS is illustrated here

- Image taken from "Assets: Regulatory Updates in Life Insurance" April 4, 2023, webinar by the American Academy of Actuaries

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Vertical Slice Definition

A vertical slice is an investment in all tranches of an ABS in equal proportion to the total outstanding. A vertical slice is economically equivalent to a direct investment in the underlying collateral at any one point in time.

RBC-Transformative ABS Definition

An RBC-transformative ABS is any ABS where a vertical slice draws a lower aggregate C-1 requirement than its underlying collateral would draw if held directly by a life insurer.

Narrowly Defined RBC Arbitrage

<u>Holding a vertical slice of an RBC-transformative ABS</u> constitutes RBC arbitrage under the narrow definition.

In this case, it is unambiguously true that absent the structure of the ABS, a life insurer would be required to hold a higher level of C-1 capital.

Even under the narrow definition of RBC arbitrage, C-1 requirements for the collateral may be inappropriately high rather than the ABS C-1 requirements being inappropriately low. Also, C-1 for the ABS and its collateral may be calibrated precisely to the prescribed risk measures despite the ABS being RBC-transformative. Regardless, in such cases holding a vertical slice of an RBC-transformative ABS would still constitute RBC arbitrage.

Broadly Defined RBC Arbitrage

<u>Holding any part of an RBC-transformative ABS</u> constitutes RBC arbitrage under the broad definition.

For example, any CLO holdings would constitute RBC arbitrage under this definition, because CLOs are an RBC-transformative ABS (as discussed in the Academy's December 2022 presentation to RBCIRE WG).

IAO letters written to VOSTF during 2022 employ the broad definition of RBC arbitrage.

QUESTIONS

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