Reinsurance Overview

Mary Bahna-Nolan, MAAA, FSA, CERA
Leslie Jones, MAAA, ASA
Jason Kehrberg, MAAA, FSA
Donna Megregian, MAAA, FSA
Sheldon Summers, MAAA, FSA

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Reinsurance Overview

- Treatment of Reinsurance in PBR/Risk Transfer Rules (Sheldon)
- YRT Reinsurance APFs and Field Study (Leslie & Jason)
- Assets Held by Another Party/Use of Counter-Party Reserves and Data (Donna)

Treatment of Reinsurance in PBR/Risk Transfer Rules

Sheldon Summers, MAAA, FSA

Treatment of Reinsurance in PBR

- Minimum reserve is the post-reinsurance-ceded reserve.
  - For Net Premium Reserve (NPR), deduct reserve credit.
  - For Deterministic Reserve (DR) and Stochastic Reserve (SR), reflect projected cash flows between Company and Reinsurer.
  - Model cash flows for independent treaties first, and then model cash flows for dependent treaties.

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Treatment of Reinsurance in PBR

- Pre-reinsurance-ceded reserve must be calculated.
  - Must calculate DR and/or SR if doesn't meet exclusion tests.
  - Reserve credit is pre-reinsurance-ceded reserve minus minimum reserve.
  - Process for allocating reinsurance credit may result in a credit for policies that are not reinsured.
    - VM allows exception to allocation by NPR to minimize allocation of excess modeled reserves to policies that did not produce the excess.

Treatment of Reinsurance in PBR

- When to include a reinsurance agreement in the calculation of the minimum reserve:
  - If reinsurance agreement meets applicable risk transfer rules, or
  - If reinsurance agreement does not meet risk transfer rules, but including the agreement results in lower surplus.

Risk Transfer Rules: Applicable Documents

- Statement of Statutory Accounting Principles (SSAP) No. 61R
- Appendix A-791 of the Accounting Practices and Procedures Manual (APPM) (similar to Life and Health Reinsurance Agreements Model Regulation)

Risk Transfer Rules: Key Points

- All liability for all significant risks must be transferred
- Surplus enhancement should not be temporary

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Risk Transfer Rules: Surplus Enhancement

- Sufficient renewal expense allowances
- No possible deprivation of ceding company surplus or assets at reinsurer's option or upon event occurrence
- No repayment by ceding company for negative experience
- No payment to reinsurer from amounts other than income of ceded business
- No representations/warranties regarding ceded business future performance

Risk Transfer Rules

- Only some of the rules apply to yearly renewable term (YRT) reinsurance that is exempt from Appendix A-791, per SSAP 61R paragraph 19.
- Exemption applies to YRT reinsurance agreements that do not provide more than a specified amount of surplus relief.

Treatment of Reinsurance in PBR

- Modeling YRT Reinsurance Cash Flows
  - The deterministic and stochastic reserves reflect mortality assumptions that include margins (including that from not assuming mortality improvement beyond the valuation date).
  - Assumptions as to future non-guaranteed YRT reinsurance premium rates should be consistent with the scenario mortality assumption (per VM-20 section 8.C.3.c).

Treatment of Reinsurance in PBR

- Modeling YRT Reinsurance Cash Flows
  - What assumptions should be included with respect to future non-guaranteed YRT reinsurance premium rates?
  - Several proposals are under consideration by the Life Actuarial Task Force (LATF).
  - Some may require a change to the Risk Transfer Rules in order to be implemented.

Treatment of Reinsurance in PBR (cont.)

- Coinsurance with experience refund
  - Modeled (deterministic and stochastic) reserves of ceding company may reflect a reduction in reserves due to an experience refund feature.
  - Since a change in prudent estimates of the reinsured business could result in a decrease in the experience refund and therefore a decrease in surplus, reflecting the experience refund may be inconsistent with Risk Transfer Rules.

Treatment of Reinsurance in PBR (CONT.)

- Inclusion of non-compliant treaties
  - Intent is for additional reserves to be set up, based on the results of treating a reinsurance agreement as compliant, so that risks and obligations transferred are reflected.
  - Consider all accounting items, not just reserves.
  - Most likely will impact assuming company reserves.

YRT Reinsurance APFs and Field Study

Jason Kehrberg, MAAA, FSA
Leslie Jones, MAAA, ASA

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Summary of Issue and Need for Field Study

- Different interpretations of VM-20 requirements led to a variety of methods for projecting future YRT premium rates with the potential for inconsistent results and irrational reserve differences between companies.
- The potential for this issue was first identified by the Academy's Reinsurance Work Group (RWG), which sent a letter to LATF on 11-7-17 outlining different methods for projecting YRT premium rates.

https://www.actuary.org/sites/default/files/files/publications/Academy_Reinsurance_WG_YRT_Comments_to_LATF_110717.pdf

Summary of Issue and Need for Field Study

The methods focus on adjustments to the YRT premium to reflect the fact that the YRT current premium is typically only guaranteed for one-year and based on a "best-estimate" mortality assumption, which includes future mortality improvement, whereas the VM-20 "prudent estimate mortality" is used in the DR and SR projections.

Summary of Issue and Need for Field Study: RWG Alternative Approaches

- Adjust YRT premiums immediately (after the current rate guarantee expires)
  - Approach (1): Adjust so that the relationship of future YRT premiums to prudent estimate death benefits is the same as the relationship between current YRT premium scale rates and best-estimate.
  - Approach (2): Adjust to achieve a breakeven result thereafter, so that future YRT premiums are equal to prudent estimate death benefits.

Summary of Issue and Need for Field Study: RWG Alternative Approaches

- Adjust YRT Premiums with a delay (after a few years)
  - Approach (3): Adjust so that the relationship of future YRT premiums to prudent estimate death benefits thereafter is the same as the relationship between current YRT premium scale rates and best-estimate.
  - Approach (4): Adjust the reinsurance premium rate scale after a few years to achieve a breakeven result from that point forward, so that future YRT premiums are equal to prudent estimate death benefits.

Summary of Issue and Need for Field Study: RWG Alternative Approaches

- Hold current scale constant
  - Approach (5): Continue using the current YRT rate scale, unchanged.
- Use current scale with a margin for change
  - Approach (6): Use the current YRT rate scale with a margin.

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Summary of Issue and Need for Field Study: Regulatory Response

- LATF discussed the issue on a call on 6-21-18; support expressed for remedy proposals.
- The NAIC Valuation Analysis (E) Working Group (VAWG) raised concerns about the modeling of YRT reinsurance cash flows based on its review of 2017 PBR Actuarial Reports (Item #26 in VAWG PBR Recommendations and Referrals to LATF, dated 10-24-18).

Summary of Issue and Need for Field Study: Proposals to Address the Issue

- A variety of APFs were proposed to address the issue. APFs generally follow one of the approaches outlined in the RWG letter.
- APF 2019-39 was adopted as an interim solution
  - A simple ½ cx approach for non-guaranteed reinsurance reserve credits, which is consistent with current risk transfer rules
  - Mandatory for 2020/2021 valuations, optional for 2019 valuations

YRT Field Test

- LATF requested a near-term field study to support its decision of which, if any, of the methodologies to adopt as a long-term solution
- Academy formed a multi-organizational Project Oversight Group (POG) to oversee the project.
- POG formed a Design Subgroup, which selected and refined the APFs to be included in the study and developed testing instructions for each APF in the study.
- POG engaged a consultant (Oliver Wyman) to assist with field test execution and supplement field test results with additional model office analysis.

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Workstreams

	2019						2020							
	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug+
Academy, ACLI, Regulators	(DG) Planning, refine APFs, develop field test instructions for refined APFs, select consultant, recruit participants, develop model prep instructions			(DG) Support model office analysis, solution vetting, industry survey								(LATF) Post final report	(LATF) Hear results and comments, adopt solution	
					(Academy) Support field testing, collect and anonymize results							Academy/others comment		
Consultant (Oliver Wyman)				Model office analysis, solution vetting, industry survey, develop results template		Present to LATF at NAIC Fall Mtg							Present results to LATF at NAIC summer meeting	
					Support field testing, review/analyze results					Report drafting, review, delivery				
Field Test Participants				Model prep	Field testing									

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APFs Related to YRT Reinsurance

	APF #	Proposed By	Comments	Test?
APF	**2018-39**	**CA OPBR NAIC PBR**	**½ cx approach. LATF adopted as interim solution on 6/20/19.**	**Yes, this is needed as a baseline to compare against.**
	2019-17	CA OPBR NAIC PBR	Set YRT margin proportional to prescribed mortality margin and implicit mortality margin related to future mortality improvement (FMI).	This APF will be considered with other APFs which build on this APF. Testing will include different FMI periods (5, 10, 15 and 20 years) and disclosures related to recapture, differences for treatment under VM-20 8.C.18.c., credibility, comparison to CFT assumptions, modeling simplifications, etc.
	2019-24	John Hancock Transamerica Prudential	Set YRT margin proportional to prescribed mortality margin (not including implicit mortality margin related to FMI).	Same treatment for testing as 2019-17.

APFs Related to YRT Reinsurance (cont'd.)

	APF #	Proposed By	Comments	Test?
APF	**2019-42**	**John Hancock Transamerica Prudential**	**50/50 compromise between 2019-17 and 2019-24. Increase premiums by backing out FMI.**	**Yes, this is being considered together with 2019-17 and 2019-24. But, it is the APF that will actually be included in the Field Study. Testing will follow the approach described above for 2019-17.**
	2019-40	**Lincoln Financial Group**	**Clarify Principles while leaving the projection of the reinsurance cash flows as actuarial judgment.**	**Yes, the principles in the original APF have been clarified. Testing will include four counterparty action scenarios, which apply equally to the ceding company and the assuming company: model current YRT rates for all projection years; model a prudent estimate for all counterparty actions; model prudent estimate of rate changes only after reaching a loss ratio trigger (115%); model prudent estimate of rate changes after a consecutive years of loss trigger (5 years); and various disclosures.**

APFs Related to YRT Reinsurance (cont'd.)

	APF #	Proposed By	Comments	Test?
APF	**2018-41**	**Global Atlantic**	**Assume no margins on both YRT reinsurance premiums and YRT reinsurance claims (unless related to counterparty impairment/default risk), e.g. decrease benefits by reflecting FMI.**	**Yes, testing includes three mortality improvement scenarios (0%, .5% and 1% FMI, for 15 years). FMI should only be applied for projected reinsurance claims settlements (not the actual pre-reinsurance death claims). Companies instructed to follow principles in 2019-40 for recapture and as to whether reinsurance premiums are modeled or expected. Results for low credibility companies will be considered; and various disclosures are specified.**
	2018-58	New York Life Northwestern Mutual	Assume immediate increase in non-guaranteed YRT premium rates to achieve breakeven point in aggregate (not treaty by treaty). Based on cedant perspective.	No, simply calculate as the Min (2019-39 and 2019-40).

APFs Related to YRT Reinsurance (cont'd.)

	APF #	Proposed By	Comments	Test?
APF	2019-30	MN Department of Commerce	Use actuarial judgment in projecting cash flows but cap reserve credit at ½ cx.	No, simply calculate as the Min (2019-39, 2019-40)
	2019-JR	John Robinson, MN Department of Commerce	Proposes a new framework for YRT reinsurance reserve credit based on the principle that the reserve credit taken by the cedant should bear a reasonable relationship to the reserve established by the assuming insurer and not exceed the NPR established by the assuming company. Proposes a new formula for the NPR for YRT Reinsurance based on existing guidance for the Term VM-20 Reserving Category.	No, results can be derived from other APFs being tested.

Final Field Test Report: Key Takeaways

Delivered to LATF in mid-June: https://content.naic.org/cmte_a_latf.htm. New items highlighted.

1	Reinsurer reaction scenarios can produce reserve credits in excess of ½ Cx
2	It is important to look at long-term projections of reserves when evaluating the impact of reinsurance modeling approaches
3	Differences in reserve credits and assumed reserves under PBR are likely to occur for multiple reasons
4	Differences in modeled reserves are primarily driven by the relationship between the current scale of YRT premiums and PBR mortality (anticipated experience and the level of margin)
5	Variation in surveyed approaches points to several considerations including level of prescription, modeling complexity, variation in results and others in a long-term solution
6	Differences in ceded "reserve credits" and assumed reserves are minimized when a mechanical approach to reinsurance is used by both parties

YRT Field Test—Next steps

- June–August
  - The report containing results of the industry field test and associated analysis will be shared with LATF members during an upcoming meeting
  - Additional analysis (if requested by LATF members) may be performed using the representative PBR model
  - Industry groups, regulators, and other interested parties may provide comments and proposed edits to field tested proposals for LATF consideration
- TBD
  - LATF will vote on changes to PBR requirements for inclusion in the 2022 Valuation Manual
    - Note, while the timing of LATF discussions will not allow for changes to be reflected in the 2021 Valuation Manual, most of the discussion is expected to take place this year

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Treatment of Reinsurance in PBR

Assets Held by Another Party

Donna Megregian, MAAA, FSA

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Assets Held by Another Party

- Should assets backing the reserve that are held by another party be modeled? If so, how?
- §8.C.14.a: In deciding, the company should consider:
  - degree of linkage between portfolio performance and calculation of the reinsurance cash flows
  - sensitivity of the valuation result to asset portfolio performance
- §8.C.14.b: If the decision is that such assets need *not* be modeled, one must document the testing and logic

Assets Held by Another Party

- §8.C.14.c: If the decision is to model those assets, comply with 7.E (reinvestment and disinvestment), 7.F* (cash flows from invested assets), and §9.F (asset assumptions) taking into account: [*VM, §8.C.14.c does not cite 7.F.]
  - investment strategy for the assets, as specified in the reinsurance agreement or other current documentation of the holder
  - actions that may be taken by either party that would affect the net reinsurance cash flows, for example, change in strategy within the agreed guidelines

Assets Held by Another Party

- Under modified coinsurance (ModCo), it may not be necessary to model the ModCo reserve itself
- … but the ModCo cash flows (ModCo interest and ModCo adjustment) should be modeled, and that may require modeling assets held by a counterparty
- See §8.C.14.c guidance note

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Determining the Minimum Reserve

Making Use of Counterparty’s Reserve Calculations or Data

Donna Megregian, MAAA, FSA

VM-20 References

- Section 8.A.1
- Section 8.C.1
- Section 9.A.2
- Section 9.A.6
- Section 9.B.2
- Section 9.C.2
- Section 9.D.1.c
- Section 9.D.3.c

Emphasis has been added throughout to show reference within VM-20 to the use of other party's data or calculations and is highlighted in red.

Making Use of Calculations of the Other Reinsurance Party

- §8.A.1 – Guidance Note:

  In determining reserves, one party to a reinsurance transaction may make use of reserve calculations of the other party. In this situation, if the company chooses assumptions that differ from those used by the other party, the company must either rerun the reserve calculation or be prepared to demonstrate that appropriate adjustments to the other party's calculations have been made.

Making Use of Calculations of the Other Reinsurance Party (cont'd.)

- Mirror reserving concept not outlined in VM-20 (§8.C.1)
- Will reinsurer provide reserves specific for a particular treaty?
  - Reinsurer's model segments or unit of account could be from a single treaty or group of similar treaties from multiple carriers
  - Direct carrier's model segments or unit of account can be from a policy form or groups of policy forms that might or might not all be reinsured with same carrier

Making Use of Calculations of the Other Reinsurance Party (cont'd.)

- What if same policy form and/or policy is split between multiple reinsurers?
  - Unlikely assumptions will be the same for all parties
- What level of demonstration is needed to show "adjustments to other parties' calculations" are appropriate?

Making Use of Data of the Other Reinsurance Party

- §9.A.6: The company shall use its own experience, if relevant and credible, to establish an anticipated experience assumption for any risk factor
- To the extent that company experience is not available or credible:
  - Company may use industry experience or
  - May use other data to establish the anticipated experience assumption
    - If other data used, make modifications as needed to reflect the circumstances of the company

Making Use of Data of the Other Reinsurance Party (cont'd.)

- §9.A.6.a.: For risk factors to which statistical credibility theory may be appropriately applied (such as mortality)
  - the company shall establish anticipated experience assumptions for the risk factor by combining relevant company experience with industry experience data, tables, or other applicable data in a manner that is consistent with credibility theory and accepted actuarial practice

Making Use of Data of the Other Reinsurance Party (cont'd.)

- §9.A.6.b.: For risk factors that:
  - Do not lend themselves to the use of statistical credibility theory (such as policyholder behavior)
  - Where statistical credibility theory could be applied but cannot be due to lack of industry data
  - Company shall establish anticipated experience assumptions in a manner that is consistent with accepted actuarial practice and that reflects:
    - Any available relevant company experience—must first consider;
    - Any available relevant industry experience; or
    - Any other experience data that are available and relevant

Making Use of Data of the Other Reinsurance Party (cont'd.)

- Techniques listed for use of data other than relevant company experience include:
  - Adopting standard assumptions published by professional, industry, or regulatory organizations;
  - Applying factors to relevant industry experience tables or other relevant data;
  - Blending any available relevant company experience with any available relevant industry experience and/or other applicable data
    - Use weightings established in a manner consistent with accepted actuarial practice;
    - Reflects the risk characteristics of the underlying policies; and/or
    - Reflects company practices

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Making Use of Data of the Other Reinsurance Party (cont'd.)

- §9.B.2.: Requires that the greater the uncertainty in the anticipated experience assumption, the larger the required margin
- The company shall use a larger margin when:

  a. Experience data has less relevance or lower credibility

  b. Experience data is of lower quality

  e.g., incomplete, internally inconsistent, or not current

  c. There is doubt about the reliability of the anticipated experience assumption

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Making Use of Data of the Other Reinsurance Party—Mortality

- §9.C.2: For determining company experience mortality, company should first consider its actual experience
- Company may consider experience data from other sources, if available and appropriate
  - Includes actual experience data of one or more mortality pools in which the policies participate under the term of a reinsurance agreement
  - Data from other sources is appropriate if the source has underwriting and expected mortality experience characteristics that are similar to policies in the mortality segment
- APF 2018-17 clarifies what is meant by "underwriting processes" for both directly written and assumed policies

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Making Use of Data of the Other Reinsurance Party—Mortality (cont'd.)

- APF 2018-17, by virtue of clarifying the aggregation rules for inclusion of third party (including reinsurer) data, clarifies reinsurer data included in the aggregation of mortality experience, can be utilized for determining credibility and sufficient data periods.
  - Reinsurer often blends experience from various companies with different average sizes, age distributions, etc.—how representative is this?
  - Does reinsurer have consistent pool of experience over a consistent period of time?
  - Even with similar underwriting processes, it is unlikely expected mortality is same between companies

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Making Use of Data of the Other Reinsurance Party—Mortality (cont'd.)

- If reinsurer data or proprietary studies are used for developing the prudent estimate mortality assumption, APF 2018-17 adds documentation requirements to VM31 §3.C.3
  - demonstration of the study relevance, similarity in underwriting and expected mortality mortality characteristics for the mortality segment
  - adjustments made for distributional and other differences
  - a description, summary and citation of the third-party proprietary studies and that the full reports and analysis must be available upon request.
    - What level of detail can and will reinsurers be able to provide in their report to support the above requirements ?

Making Use of Data of the Other Reinsurance Party—Policyholder Behavior

- Related to assumptions and margins on said assumptions for:
  - Premium funding patterns
  - Premium payment patterns
  - Premium persistency, surrenders, withdrawals
  - Allocations between available investment and crediting options, benefit utilization, and other option elections

Making Use of Data of the Other Reinsurance Party—Policyholder Behavior (cont'd.)

- §9.D.1.c: Absent directly applicable data:
  - Use available data from any other block of business
    - Similar to the block of business being valued
    - Similar block of business does not need to be directly written by the company
  - If data from a similar block of business is used
    - Adjust anticipated experience assumption to reflect material differences between the business being valued and the similar block of business
- Per §9.D.3.c: For margins, must reflect the data uncertainty associated with using data from a similar but not identical block of business

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Making Use of Data of the Other Reinsurance Party—Policyholder Behavior (cont'd.)

- More likely that assuming company will utilize assumptions from ceding company than vice versa
- Reinsurers are more likely to rely on ceding company's funding/premium patterns and net amount at risk projections for universal life plans
- The party using other reinsurance party data needs to have enough information to support the comparison and differences between the similar and modeled block to adjust assumptions and reflect in margins

Questions?