Life PBR Update

SEAC Spring Meeting, 6/25/2020

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Topics for today

- PBR reinvestment in today's environment
- Building a framework for fixed annuity PBR
- VM amendments and other LATF activity

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PBR reinvestment in today's environment

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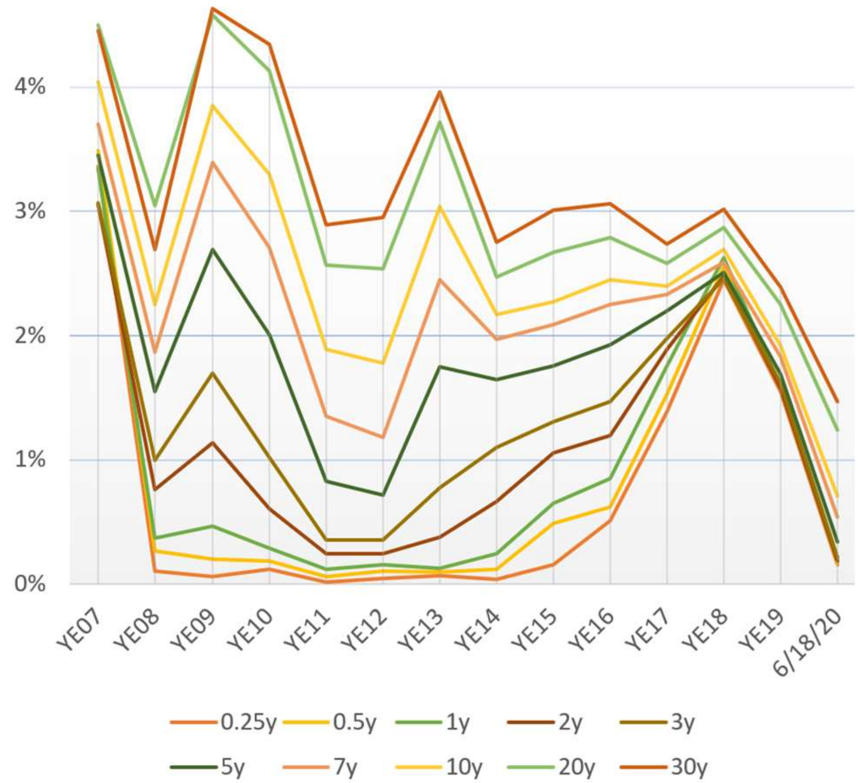
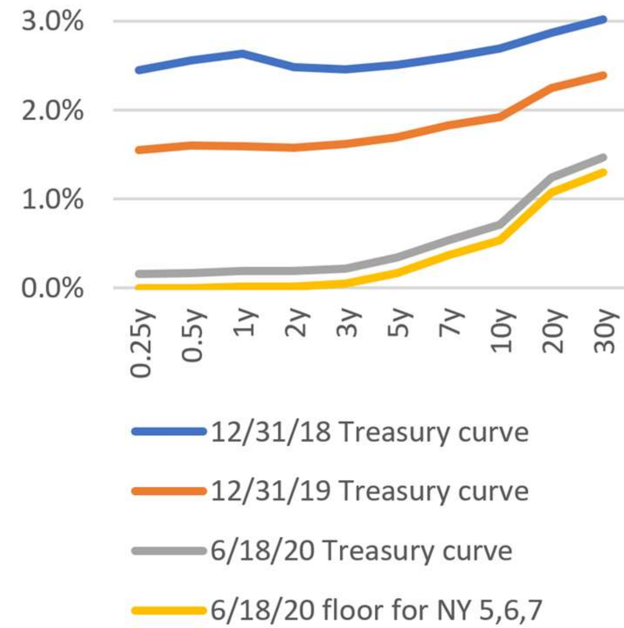
Specifically, today's interest rate environment





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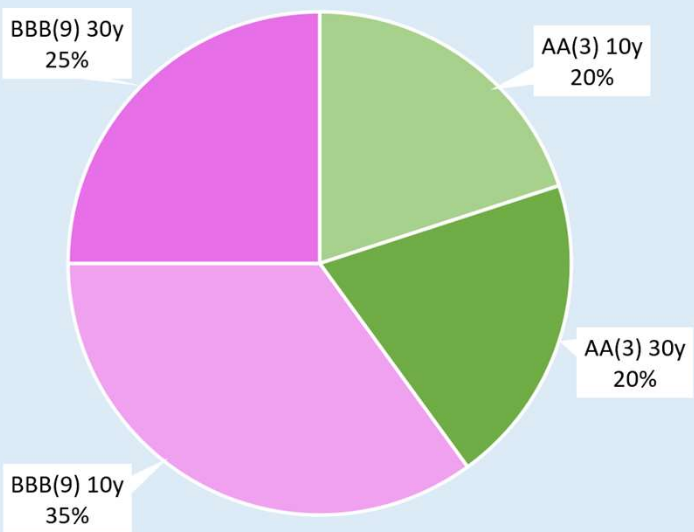
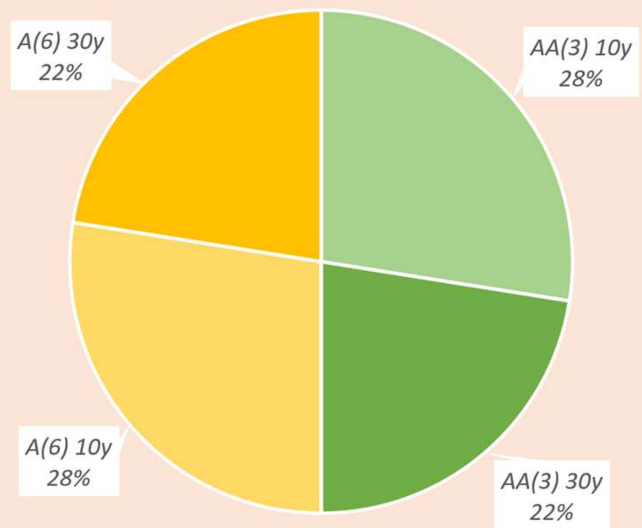
Illustrating the PBR reinvestment guardrail

PBR Reinvestment Strategy



- *Average PBR Rating of 6.6*
- *Average Maturity of 19 years*

PBR Reinvestment Guardrail



- *Average PBR Rating of 4.5 (must be 50% AA, 50% A)*
- *Average Maturity of 19 years (must match Strategy)*

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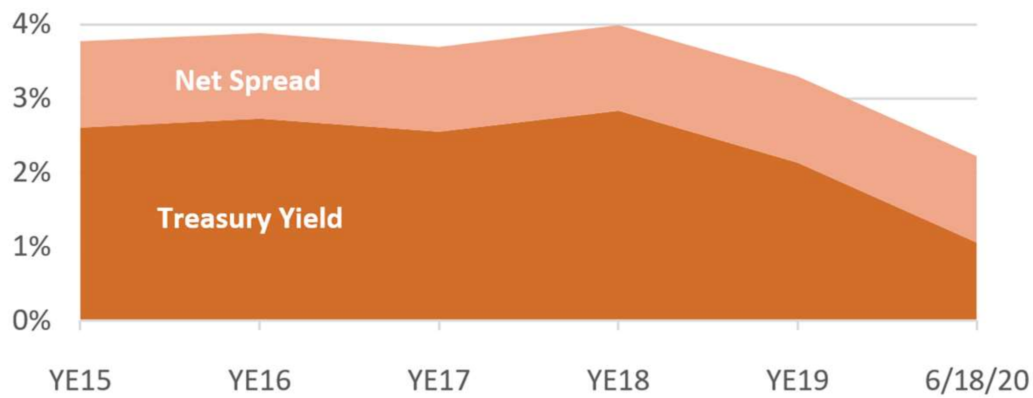
PBR reinvestment yields at 6/18/20 (illustrative)

6/18/20 Strategy	Credit Spread			Def Cost		Net Spread		Net Yield		
	Cur	Ult	.25Δ	Cur	Ult	Cur	Ult	Treas	Cur	Ult
20% AA(3) 10y	115	110	1	4	3	101	97	0.7%	1.7%	1.7%
20% AA(3) 30y	173	146	6	9	3	155	133	1.5%	3.0%	2.8%
35% BBB(9) 10y	249	197	13	60	47	179	140	0.7%	2.5%	2.1%
25% BBB(9) 30y	303	235	17	64	47	229	178	1.5%	3.8%	3.3%
Avg A-(7) 19y	**221**	**179**	**10**	**40**	**29**	**171**	**140**	**1.1%**	**2.8%**	**2.4%**

6/18/20 Guardrail	Credit Spread			Def Cost		Net Spread		Net Yield		
	Cur	Ult	.25Δ	Cur	Ult	Cur	Ult	Treas	Cur	Ult
28% AA(3) 10y	115	110	1	4	3	101	97	0.7%	1.7%	1.7%
23% AA(3) 30y	173	146	6	9	3	155	133	1.5%	3.0%	2.8%
28% A(6) 10y	160	136	6	23	17	127	109	0.7%	2.0%	1.8%
23% A(6) 30y	203	164	10	27	17	166	136	1.5%	3.1%	2.8%
Avg A+(5) 19y	**160**	**137**	**5**	**16**	**10**	**135**	**117**	**1.1%**	**2.4%**	**2.2%**

Historical ultimate net yields under the guardrail (illustrative)

Guardrail	Credit Spread	Def Cost	Inv Exp	Net Spread	Treas Rate	Net Yield
12/31/15	+1.4%	-0.1%	-0.1%	1.2%	2.6%	**3.8%**
12/31/16	+1.4%	-0.1%	-0.1%	1.2%	2.7%	**3.9%**
12/31/17	+1.3%	-0.1%	-0.1%	1.1%	2.6%	**3.7%**
12/31/18	+1.4%	-0.1%	-0.1%	1.2%	2.8%	**4.0%**
12/31/19	+1.4%	-0.1%	-0.1%	1.2%	2.1%	**3.3%**
6/18/20	+1.4%	-0.1%	-0.1%	1.2%	1.1%	**2.2%**



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Building a framework for fixed annuity PBR

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The ARWG shared their objective, vision, preliminary timeline, and five key topics on 5/20 and 6/11 NAIC VM-22 Subgroup calls

- Objective
  - Propose a new statutory reserve methodology for fixed annuities that uses an actuarial framework to determine reserves based on the level and type of risk inherent in the contract.
- Vision
  - Provide Academy framework on PBR methodology for fixed annuity products and promote consistency with existing PBR frameworks, by:
    - Proposing a PBR Approach—The ARWG plans to propose a CTE70 stochastic reserve calculation.
    - Developing a Framework Deck—Develop a set of slides laying out various elements of methodology.
    - Recommending Consistency With VM-21 (and VM-20) Where Appropriate—Start with VM-21 methodology

Preliminary timeline

Fall 2019–Spring 2020	• Develop proposed fixed annuity PBR framework deck • Begin initial modeling sensitivities for generic FIA w/guarantee
Summer 2020	• ARWG to present framework deck proposal to LATF
Fall 2020	• Seek LATF endorsement of PBR framework deck (w/feedback addressed) • Valuation Manual language drafting efforts
Spring 2021	• Begin industry field testing using draft (specifics TBD)
Spring 2022	• Target adoption of fixed annuity PBR (potentially VM-22) • Target 1/1/2023 effective date (monitor as progress develops)

Key topics: scope, and exclusion test methodology

1) Product Scope

- ***Question***: Apply PBR to both deferred annuity and payout annuity contracts?
- ***VM-20/VM-21 Treatment***: VM-20 applies PBR to all individual life products (including an exclusion test) and VM-21 applies PBR to all variable annuity products.
- ***ARWG Perspective:*** Recommend applying the PBR framework to both deferred and payout contracts. Not applying to immediate annuities allows companies to avoid principle-based reserves and creates possible advantages for some products over others, even if they share the same risks. That said, the recommendation is to hold off applying to Guaranteed Investment Contracts (GICs), funding agreements, and stable value contracts for the first round of fixed annuity PBR and revisit these at a later point in time.

2) Exclusion Test Methodology

- ***Question***: Allow for exclusion test on new business that follows a similar framework to the VM-20?
- ***VM-20/VM-21 Treatment***: VM-20 uses an exclusion test and VM-21 uses an Alternative Methodology.
- ***ARWG Perspective:*** Recommend following an exclusion test similar to the framework outlined in VM-20, which includes following a stochastic exclusion ratio test or certification method test. Products that pass the exclusion test are deemed to have lower levels of market risk and policyholder optionality risk and, therefore, may elect to use the pre-PBR Commissioners' Annuity Reserve Valuation Method (CARVM) reserve standards (i.e., AG33, current VM-22, AG35, etc.).

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Key topic: asset reinvestment assumptions

3) Asset Reinvestment Assumptions

- ***Question***: What assumptions should be used for reinvestment strategy?
- ***VM-20/VM-21 Treatment*:** Use fixed-income reinvestment limits of 50% A / 50% AA and prescribed defaults and reinvestment spreads for fixed-income general account assets.
- ***ARWG Perspective***:
  - General account investment risk has a proportionately large impact on fixed annuity modeled reserves relative to other risks, whereas this may not necessarily be the case to the same extent for variable annuities and life insurance (mortality-dependent).
  - If requiring prescribed default/reinvestment spread assumptions, then given the emphasis on general account spread for fixed annuity products, we suggest revisiting the reinvestment 50% AA / 50% A fixed-income guardrail, which does not reflect industry experience.
  - Propose same default/reinvestment spread assumptions as VM-21 but instead use a reinvestment consistent with the current VM-22 credit quality percentage allocation of 5% Treasury, 15% AA, 40% A, 40% BBB.[i]
  - This credit quality mix is already used in the current fixed annuity valuation requirements and is more representative of average industry investment portfolio holdings → Eventually consider updating allocations based on more recent industry experience.

(i) Changes to other VM sections are beyond the scope of this effort, but to achieve consistency across the Valuation Manual (i.e., life, variable annuities), VM-20 ad VM-21 may also warrant review for considering similar modifications.

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Key topics: aggregation, and inforce application

4) Aggregation

- ***Question***: Permit aggregation across various fixed annuity and payout contracts?
- ***VM-20/VM-21 Treatment***: VM-21 permits aggregation across contracts; VM-20 permits aggregation within term vs. ULSG vs. other buckets.
- ***ARWG Perspective:*** Aggregate across fixed annuity contracts, whether payouts or deferred, based on a set of outlined principles (including whether policies are part of the same integrated risk management system, managed/administered together, same or similar asset portfolios, etc.), but with no pre-defined buckets restricting aggregation.

5) Inforce Application

- ***Question***: Make fixed annuity PBR retrospective to inforce policies? This includes policies issued not only back to the NAIC Valuation Manual Operative Date (1/1/2017), but also to pre-2017-issued contracts.
- ***VM-20/VM-21 Treatment***: VM-21 applies to inforce and VM-20 applies only to business issued after the implementation date (1/1/2017 to 1/1/2020 depending on company election).
- ***ARWG Perspective***: Still need to investigate further before forming recommendation, but believe there may be merits to exploring eventual inforce application (consistency across risks and products and more principle-based).

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VM amendments and other LATF activity

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There were 65 amendments adopted for the 2020 VM

- Many were focused making clarifications, both methodology and disclosures.
- Option budget method for hedge returns (IUL DR).
- 135% test clarifications when > 1 shock lapse.
- Non-guaranteed YRT reserve credits fixed at 1/2 cx.
- Revised framework for VA reserving (VM-21).
- Several changes related to mortality, both NPR and prudent estimate.
- Life PBR exemption.

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VAWG's 12/6/2019 PBR Review Report

- VAWG's PBR Review Report available at https://www.naic.org/cmte_e_valuation_analysis_wg.htm outlines the review approach used for 2018 PBR filings, summarizes review findings, and suggests items companies should consider for 2020 filings.

Table 1: 2018 Life Insurance PBR Statistics (Reserves Shown are Post-Reinsurance Ceded)

Product Category	Number of Companies	Number of Policies	Face Amount (in millions)	Post-Reins Reported Reserve (in millions)	Average Policy Size ($)	Average Reserve per Policy ($)	Average Reserve per $1,000 ($)
Term	33	2,022,892	466,692	165	230,709	82	0.35
ULSG	8	28,513	21,428	692	751,522	24,283	32.31
Other	11	1,258,883	17,317	47	13,756	37	2.72
Total	37*	3,310,288	505,437	904	152,687	273	1.79

*Some companies implemented PBR for several product categories.

Some issues with PBR Actuarial Reports, and guidance for 2020

- Mortality assumptions
  - Unclear or incorrectly determined mortality segments
  - Aggregating policies with different underwriting criteria
  - Unclear analysis of actual to expected mortality ratios for each mortality segment
  - Inappropriate or unclear mortality improvement factors
- Other
  - Missing demonstrations that simplifications do not understate reserves
  - Reasons for assumption changes (second year filers)
  - SERT must be performed annually and within 12 months before the valuation date
  - Inappropriate application/testing of alternative (guardrail) investment strategy
  - Insufficient controls governing the NPR calculation.
- 2020 guidance
  - Appropriate use of graphs and tables, and assumptions and other info in Excel
  - Attribution analysis showing how the NPR, DR, and SR changed from prior period
  - Chart reconciling VM-20 Reserve Supplement reserves with Exhibit 5 amounts

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Modeling non-guaranteed YRT reinsurance premiums for VM-20

- Reserve credits are fixed at 1/2 cx until LATF adopts a long-term solution.
- There is a lot of information in the final field test report which is now available at https://content.naic.org/cmte_a_latf.htm, including new key takeaways:

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

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Some amendments and changes considered for 2021

- APF 2019-60 allows companies to use more than one credibility method.
- APF 2019-61 clarifies UL with SG is “ULSG” whether embedded or rider.
- APF 2019-62 adds disclosures on how conversions are handled.
- APF 2020-05 clarifies continuous deaths and immediate payment of claims.
- APF 2020-06 makes modifications to handle the pending cessation of LIBOR.
- APF 2020-07 Modifies SNFL for low interest rates and potential Heroes Act.
- Model 805 (SNF for DA) – proposal to change floor from 1% to 0%.
- 2020 VM-51 data call – delayed to 2021 (both 2018 and 2019 data in 2021).
- Much time spent discussing potential AG 49A changes (IUL Illustrations)
- And some proposals for 2022+:
  - VM-20 treatment of foreign business of U.S. companies.
  - VM-20 treatment of individually underwritten business on a group chassis.
  - New vendor-based ESG to replace currently prescribed AIRG.

Time for Q&A?

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