

# Principle-Based Reserves Discussion

June 6, 2019



**Act**  
*The power to decide*

# *Agenda*

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- **PBR Audit and Observations**
- **Regulatory Discussion**
  - Revisions to VM
  - CA DOI and NY DFS
- **Implementation Issues and Discussion**
- **Q&A**

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# *PBR Audit and Observations*

# Common Observations

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- **Mortality Assumption**

- The use of alternative credibility formulas for Limited Fluctuation
- For credibility, seeing a 50/50 split between Limited Fluctuation and Bühlmann credibility

- **ULSG NPR**

- Not including surrender benefits in the VNPR calculation
- Not including lapses in the actuarial present value calculations

- **Assumptions**

- Difficulty in setting a margin for premium persistency for ULSG
- Not increasing expense assumption for inflation in modelled reserve calculation
- Margins must be defined separately for each risk factor regardless of correlation between risk factors

# Common Observations (contd)

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- **Modeling of Reinsurance**

- YRT rates are usually not guaranteed, therefore, consideration has to be made to comply with Section 8.C.7 around counterparties being knowledgeable and exercising the options within the contracts
- Consideration of a margin on YRT rates given flexibility from reinsurer
- Consequently, direct writers have asked (and received) guarantees on the YRT rates
- Consideration of assumption margins for both gross and net of reinsurance as margins set on one may not increase reserves for the other

- **Documentation**

- Not enough support/rationale for margins
- Not enough support/rationale for not modelling riders in the modeled reserve and other approximations
- Not enough support/rationale for using alternative to the UCS tool (will be named Relative Risk Tool (RRT) in 2019 manual)

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# *Regulatory Discussion*

# ***Notable LATF Adoptions – For 2020 Manual***

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- Mortality - The grading criteria from company experience table to industry table is more granular (smaller ranges of credibility %'s) for 1/1/2020 valuation with option to use for 1/1/2019
- ULSG NPR
  - If multiple secondary guarantees, must look at the one producing the largest NPR versus just the longest guarantee.
  - Dynamic lapse formula is calculated at valuation date and constant for all durations
- ULSG lapses for modeled reserves – now reference the 2015 CIA term-100 study versus the 2007 study
- GI mortality table adoption - 2017 GI table with 75% loading
- Clarification that margin adjustments for less than 100% correlation can not be based on implicit or prescribed margins

# ***Notable Regulators***

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- CA DOI
  - Many companies received a lengthy letter with questions from the CA DOI
  - Questions included
    - Description of governance process (e.g. board minutes, assumption approvals, model controls, etc)
    - Mortality experience, Underwriting, specific files calculating credibility
    - More support and rationale for all other assumptions and margins as well
    - Model validation, model documentation, and model training
- NY DFS
  - VM passed in House and Senate; awaiting governor approval
  - DFS is allowed to deviate from VM for up to 10 years
  - Work proceeding on new minimum reserves including continuation of XXX/AXXX methodology



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# *PBR Implementation Issues and Discussion*

# ***Common issues for PBR Implementers***

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1. Product aggregation under PBR and how this fits within a company's risk management framework
2. Companies are still evaluating what experience to use for their simplified underwriting mortality experience
3. Companies struggling with modelling reinsurance contracts under existing PBR regulation
4. Forecasting of deterministic and stochastic reserves is proving more challenging than expected
5. Governance needs to be modified to include PBR assumptions, models, and results – Link to LDTI assumption review process
6. Model building/refinements and how they fit within LDTI adoption
7. Margin setting has been a focus for many clients as management finalizes PBR
8. Indexed products and whether to capture dynamic hedging prospectively

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# Q&A