

NAIC Actuarial Modeling Support for Regulators

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11/17/2017

Agenda

- Background on Life Principle Based Reserves
 - Applicability and State Adoption Status
 - Elements/Complexity of PBR
- The Need to Provide Support to Regulators
- Role of NAIC Actuarial Modeling Support Team
- NAIC Support Tools and Staffing

PBR Applicability and State Adoption Status

- Legislation enabling PBR has been passed in all states except MA, NY, DC, AK, and PR
- PBR applies to all individual life policies issued on or after 1/1/17 that fall within the scope of VM-20.
- During a 3-year transition period ending 12/31/19, companies may elect to establish minimum reserves using VM-A and VM-C for business otherwise subject to VM-20

Elements/Complexity of PBR

Reserve Methodology

- Minimum Reserve is greatest of:
 - Net Premium Reserve
 - Deterministic Reserve
 - Stochastic Reserve

Exemption and Exclusion Tests

- Life PBR Exemption
- Stochastic Exclusion Test
- Deterministic Exclusion Test

Assumption Types

- Prescribed
- Anticipated Experience
- Prudent Estimate
- Stochastic

Elements/Complexity of PBR

Modeling

- Asset and Liability Cash Flow Projections
- Deterministic and Stochastic Economic Scenarios

Governance

- VM-G Corporate Governance Guidance for the Board, Senior Management, and Qualified Actuaries

Reporting

- VM-20 Reserve Supplement
- VM-31 PBR Actuarial Report
- VM-50 and 51 Experience Reporting Requirements and Formats

The Need to Provide Support to Regulators

- PBR is new and complex.
- Many insurance departments have limited or no actuarial valuation staff.
- Approximately 135 companies are expected to be subject to PBR.
- Timely review of PBR results and reporting is desired to ensure consistency between companies and states.

Role of NAIC Actuarial Modeling Support

Role #1

Provide assistance to State Insurance Departments on examination of a company's Principle-Based Valuations

Role of NAIC Actuarial Modeling Support

Role #2

Assist in the review of PBR model assumptions and verify and validate individual company experience including credibility to ensure model assumptions are supported by company experience when reserves are based wholly or in part on company experience.

Role of NAIC Actuarial Modeling Support

Role #3

Calculate modeled reserves on a random sample of company policies valued under PBR using NAIC modeling software and compare results to company model results run on the same random sample of policies.

Role of NAIC Actuarial Modeling Support

Role #4

Calibrate company model with NAIC model using the NAIC's Standard Portfolio of assets and liabilities and prescribed set of assumptions.

Role #5

Use the NAIC modeling software and Standard Portfolio Model to develop benchmarks to assist regulators in understanding the level of modeled reserves to specific risk driver assumptions.

NAIC Term Standard Portfolio Model

- Products: 10, 20, and 30-yr level term with ART to age 95
- Distributions across age, gender, and underwriting class based on recent SOA Experience Mortality Study
- Starting assets based on industry mix of Schedule D assets
- All assumptions defined in model specifications
- NAIC staff has calculated Net Premium Reserve, Deterministic Reserve, Stochastic Exclusion Ratio Test, Stochastic Reserve, and Sensitivity Tests for calibration and benchmarking purposes

Role of NAIC Actuarial Modeling Support

Role #6

Support the Valuation Analysis Working Group (VAWG) in the understanding of specific modeled reserves for a company under review.

Valuation Analysis Working Group

- Purpose of VAWG: To ensure uniform and consistent application of PBR across all states for companies performing PBR valuations, and to address any PBR issues within a state regarding a company's PBR valuation
- *Financial Analysis Handbook* states that questions or requests for assistance regarding PBR may be made to the NAIC actuarial resources and refers to the NAIC website for VAWG on contact information regarding use of NAIC actuarial resources and VAWG if needed.

Valuation Analysis Working Group

- VAWG membership currently consists of 16 members
 - Texas – Chair & Minnesota – Vice Chair
 - Member States:

California	Nebraska
Connecticut	New Jersey
Florida	New York
Iowa	Ohio
Illinois	Utah
Michigan	Virginia
Missouri	Wisconsin

Role of NAIC Actuarial Modeling Support

Role #7

Support the Life Actuarial Task Force (LATF) when considering changes to the Valuation Manual that may impact the level of modeled reserves or the net premium reserve (NPR).

NAIC Support Tools

- NAIC staff has selected and installed an actuarial modeling software package owned by Moody's Analytics called GGY Axis
- NAIC has developed an on-line software application that allows companies to submit their experience data to the NAIC on behalf of the states
- NAIC has evaluated BI tools and selected Tableau as an analytic tool to be used in conjunction with the on-line company experience submission software application to report company experience analysis to regulators

Collection of Company Experience Data

- Section 13 of the Standard Valuation Law (SVL) & Sections 50 and 51 of the Valuation Manual (VM)
 - Section 13 of SVL states: “A company shall submit mortality, morbidity, policyholder behavior, or expense experience and other data as prescribed in the Valuation Manual.”
 - VM-50 describes the data collection process, agent, and requirements
 - VM-51 contains the experience data elements to be collected

Experience Data Collection Timeline

- Calendar Years 2017 –2019
 - Under examination authority, NAIC to collect experience data from companies participating in Kansas experience data call (27 companies) and from any other companies as directed by states wishing to join the process
 - 2-year lag in data collection
- Calendar Years 2020 and beyond
 - Under SVL authority, NAIC to collect data from companies that represent at least 80% of industry direct life premium
 - Currently approximately 135 companies make up 80% of direct life premium

NAIC Actuarial Modeling Support Staff

- NAIC will have 4 FSAs and 1 ASA on staff by year end 2017
- NAIC will re-evaluate modeling staff levels based on actual number of companies who valued business under PBR in 2017 and the anticipated number of companies electing to value business under PBR in 2018
- NAIC has 4 Quality Assurance staff that will work on the Company Experience data submission application

Questions

