

2022 Principle-Based Reserves (PBR) Review Report

From: Valuation Analysis (E) Working Group
To: Life Insurance Companies Subject to VM-20 and/or VM-21
Interested Regulators
RE: Findings from Review of 2022 PBR Actuarial Reports

I. Executive Summary

The Valuation Analysis (E) Working Group (VAWG) reviewed the 2022 PBR Actuarial Reports. The review of the PBR Actuarial Reports covered life insurance and variable annuities. This report provides a summary of the main findings, high-level feedback, and additional VM-31 reporting considerations.

This report is intended to provide general feedback to assist companies with future PBR valuations and filings, and to aid state insurance regulators in their PBR reviews.

II. Background

The Valuation Analysis (E) Working Group of the Financial Condition (E) Committee (VAWG) was formed to work with the NAIC Resources to support states in the review of PBR and uniformly address questions and issues arising from application of PBR. The term “NAIC Resources” refers to NAIC actuaries responsible for reviewing PBR Actuarial Reports and supporting states and the VAWG as requested.

This report provides a summary of the main findings from the VAWG’s review of the 2022 VM-20 Reserves Supplement and Variable Annuities Supplement in the Annual Supplement Blanks, and the 2022 PBR Actuarial Reports. The review of the PBR Actuarial Reports covered life insurance and variable annuities. **The PBR Actuarial Reports are considered to be confidential information under Section 14A of the Standard Valuation Law (Model #820), and may only be disclosed by a commissioner pursuant to Section 14B of Model #820.**

This report does not contain any company-specific or other company-identifiable information. The purpose of this report is to provide findings to aid state insurance regulators in their PBR reviews, and provide companies with feedback intended to assist with the preparation of future PBR Actuarial Reports, VM-20 Reserves Supplements, and Variable Annuities Supplements.

III. Limitations

The analysis presented relies on the information submitted by companies in their VM-20 Reserves Supplement, Variable Annuities Supplement, and PBR Actuarial Reports. Review of the PBR Actuarial Reports required actuarial judgment. Although the analysis is intended to be based on a clear read of the reports, there is some risk of misinterpretation. Many reports had sections that were not completely clear to the reviewers, and in some cases, relevant information could not be easily found. This report summarizes many, but not all observations and findings from the PBR Actuarial Reports.

IV. Applicable Findings from Prior VAWG PBR Review Reports

There were many findings from the review of the 2022 VM-20 Reserves Supplements and PBR Actuarial Reports that were similar to those from prior years. Please find the reports for [2017](#), [2018](#), [2019](#), [2020](#), and [2021](#) on the [VAWG webpage](#) of the NAIC website to see additional details.

V. Overall Feedback

Reviewers have observed several positive improvements in company submissions over the past year, with multiple reports completed at a particularly high-level of quality. Upon receiving feedback and forming best practices in prior years, it is clear that companies have made strong efforts to address past areas of inquiry/concern from regulators. In light of these positive developments, reviewers have made a conscientious effort to provide fewer follow-up questions to companies following year-end submissions. We encourage companies to continue monitoring regulatory feedback and making associated enhancements to their submissions as needed to address such items.

VI. Common Issues and Opportunities for Improvement

Rather than providing a full list of the main findings regarding VM-20 and VM-21 issues, a short summary of comments for 2022 year-end reports is provided below. Note some of the issues in prior year VAWG PBR Review Reports still apply, but will not necessarily be repeated here to avoid redundancy.

1. Non-Guaranteed Elements (VM-20 & VM-21) – Non-guaranteed elements have continued to be a point of focus during the 2022 year-end reviews. There are companies who are not including margins on assumptions related to investment spreads in excess of crediting rates (e.g., caps for fixed-indexed annuities and RILAs) and cost-of-insurance (COI) charges. In addition to margins, companies are encouraged to provide additional sensitivity tests to illustrate the impact of such assumptions. For example, if a margin is included on COI charges but the company still assumes an increase to COI charges net of such margins, the expectation is that companies would also include a sensitivity test on the impact of keeping COI charges at the current scale throughout the projection. Companies should also make sure to include historical changes made to past non-guaranteed elements.
2. IUL Crediting Rates (VM-20) – VM-31 PBR Actuarial Reports should address crediting rate assumptions in the deterministic reserve and stochastic reserve separately. In particular, VM-20 Section 7.F.4 specifies an alternative return on the option budget for the deterministic reserve, but this does not extend to the stochastic reserve. So disclosing the assumption on one reserve component does not necessarily cover the other. Such disclosures should be discussed in VM-31 Section 3.D.6.f (risk management & hedging) and Section 3.D.9.f (interest crediting) parts of the report.
3. Exclusion Testing Results (VM-20) – Although many companies show products passing the stochastic exclusion ratio test (including whole life, universal life, indexed universal life, and variable universal life), there is typically little explanation on why companies pass or why certain scenarios result in higher adjusted deterministic reserves

than others. Further, when companies are asked these questions, in many instances it was clear the company did not understand the results themselves and, therefore, were unable to explain to regulators. Going forward, when stochastic exclusion ratio test is passed for a block of permanent life policies, companies should include an explanation of why the result is reasonable. Such explanations could touch on the hedging impact, contract holder population characteristics, and whether unfavorable experience is passed to the contract holder through non-guaranteed elements.

4. Reports upon Passing Exclusion Testing (VM-20) – If a group of contracts pass both the deterministic exclusion test and stochastic exclusion test, in which the stochastic exclusion test relies on cash flow testing results, the question has been asked, “What sections do we need to include in the VM-31 PBR Actuarial Report”? Higher-level sections (e.g., assumptions, overall results, product descriptions) should be included, as well as the exclusion testing section. In sections where the report refers directly to cash flow testing assumptions, any related disclosures from the Actuarial Opinion Memorandum should be included as an appendix to the VM-31 PBR Actuarial Report. For some disclosures that only relate to PBR-specific requirements (e.g., reinvestment strategy guardrail, max net spread adjustment, mortality grading, creditability, asset collar, etc.), companies may be able to submit “N/A” for a group of policies that passed exclusion tests without the use of a PBR model (i.e., used a cash flow testing model).
5. Margins for Lack of Relevance (VM-20 & VM-21) – Companies frequently include higher margins when experience data contains lower credibility. However, the NAIC Valuation Manual also requires higher margins upon less relevance in an experience data set. So even if a company uses an experience data set that is fully credible, the margin should still be higher if not fully relevant. Examples include using third party data sources or experience from older products with different features, which may be fully credible, but not necessarily fully relevant.
6. Liability Lag Adjustments (VM-20 & VM-21) – The Valuation Manual permits lagging liabilities for the stochastic reserves and deterministic reserves by up to 3 months, but requires companies to provide a method to adjust reserves to the valuation date. Therefore, companies are not allowed to lag liabilities without an adjustment to the valuation date, something that we observed in a few cases at 2022 year-end. In addition, appropriate justification must be provided that reserves are not materially understated. For VM-20, the Valuation Manual also only permits using an earlier valuation date for the deterministic and stochastic reserves, whereas it does not allow such flexibility to extend to the net premium reserve.
7. Mortality Margin on Substandard/Converted Policies (VM-20) – At 2022 year-end, there were a number of companies that provided an additional margin for higher uncertainty on accelerated underwritten policies, but did not provide an additional margin on substandard or converted policies. If mortality assumptions for substandard or converted policies are determined based on limited data, an additional margin should be applied due to uncertainty. In some cases, adding a margin beyond the margins used for medically underwritten policies may be appropriate. In absence of a method to develop such a margin, companies can consider referring to the additional margins used for accelerated underwritten policies.
8. COVID Impacts to Assumptions (VM-20 & VM-21) – Various approaches were observed regarding the treatment of assumptions in light of the impact from COVID. Note this is not limited to mortality and morbidity assumptions, but also includes policyholder behavior assumptions. Some common approaches included explicit margins that grade down over time and adjustments to the final modeled reserve. Regardless of the method, regulators continue to encourage companies to provide explanation, justification, and support of the approach used in PBR

valuation. This is especially important as long-term experience from COVID emerges, in addition to the impact of Long COVID.

9. Expense Inflation (VM-20 & VM-21) – Given the economic environment over the past year, we expect that companies recognize short-term inflation rates, which can be graded off over time. In addition, we do not believe a static inflation assumption in a stochastic calculation is actuarially appropriate. Therefore, we expect companies to develop assumptions that are dynamically linked to interest rates, as well as the current environment, in stochastic calculations. For example, assuming a static 2% in all years and in all interest rate scenarios is not appropriate.
10. Future Mortality Improvement (VM-20) – Around half of companies are applying future mortality improvement to the deterministic and stochastic reserves, whereas around half of companies are not applying future mortality improvement. However, for companies that do not apply future mortality improvement, this is not necessarily conservative, as there is some deterioration included in SOA factors. If a company’s mortality improvement assumption is more conservative than SOA factors, the company is expected to reflect such anticipated experience. Therefore, justification must be provided if a company does not use future mortality improvement. Lastly, the factors should not be used for simplified issued or guaranteed issued business (which have zero mortality improvement), as specified on the SOA website.
11. Validation (VM-20 & VM-21) – The report should include numerical static and dynamic validation results. The expectation is that there is at least one year of overlap shown for actual vs. modeled results. Such demonstrations should also include all cash flow categories with separate reporting for each Reserving Category in the Valuation Manual, as applicable. Please feel free to refer to the [Academy’s PBR Template “Model validation for reporting purposes”](#).
12. Accelerated Underwriting (AUW) Margins (VM-20) – The disclosures should delineate the type and level of each AUW differential in the mortality assumptions between (A) the level of known or expected mortality slippage for AUW, and (B) the level of additional margin on mortality slippage for uncertainty or lack of experience data for AUW. While the company discloses a “best estimate” assumption for mortality slippage, the company is also expected to disclose a separate margin for the greater uncertainty for such policies.