An Overview of Principle-Based Reserving, and What It Means for Your Organization

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Principle-Based Reserving
Overview

The following is a brief outline of Principle-Based Reserving, which takes effect January 1, 2017. A more detailed explanation of the approach and its impact on insurers follows this page.

- Principle-based reserving (PBR) will take effect for most U.S. Life Insurers for their statutory financial statements on January 1, 2017
  - It will apply to direct ordinary business issued on or after January 1, 2017.
  - It must be implemented no later than January 1, 2020 (but still applicable to January 1, 2017 and later issues)
  - An exemption after this date is available to smaller, well-capitalized life insurers not selling universal life policies with longer-term secondary guarantees (i.e., no lapse provisions)

- PBR is a completely new approach
  - Reserves based much more on each insurer’s risk profile
  - In some cases, it can provide for dramatically lower reserves
    - Particularly with ULSG and renewable term products
  - In some cases, however, it can provide for higher reserves
  - Results depend heavily on an insurer having credible and favorable experience

- New mortality tables (2017 CSO) have been developed
  - Will be available for use, on a product-by-product basis, effective January 1, 2017
  - May be used under the current reserve and nonforfeiture laws and regulations, regardless of whether the company has implemented PBR
  - Generally provide for lower reserves and nonforfeiture values versus 2001 CSO, and may provide some life insurance product pricing relief

- PBR implementation will be a significant and expensive effort, involving actuarial, accounting and management resources
  - Expanded reserve calculations are required
    - Net Premium Reserve, similar to (and, in some cases, the same as) current CRVM reserve requirements
    - Deterministic Reserve, based upon a single, somewhat conservative forecast, designed to assure that premiums are adequate to provide for all future obligations.
    - Stochastic Reserve, based upon a large number (in the thousands) of economic scenarios, for business subject to economic volatility risk
  - Prescribed exclusion tests for each of the forecast-based reserves are provided
  - New financial statement governance rules are mandated
    - The Board of Directors and senior management must review all PBR reports provided by the appointed actuary
    - They must also report to the insurance regulators

- PBR planning should begin immediately
  - Many decisions need to be contemplated/addressed now, even if 3-year transition option (to 2020) is expected to be elected
  - Some product designs should perhaps be discontinued
    - e.g., longer period no-lapse ULSG products are most impacted by new rules
  - Coming months provide a good time to review the current life insurance portfolio, particularly under the new mortality basis
INTRODUCTION
After a long incubation period, the methodology for principle-based reserving (“PBR”) has finally hatched, and now the real “heavy lifting” begins.

The threshold for formal adoption of PBR—passage by at least 42 state legislatures, together representing at least 75% of aggregate nationwide life premium income—was met earlier this year. The effective date of the new law is January 1, 2017, and applies only to business issued on or after that date (i.e., prospectively). All other business issued through the end of 2016 will be reserved according to current methods.

However, the law also provides for a three-year transition period (until 1/1/2020), during which time any life insurer may continue to apply current reserve valuation rules (e.g., Commissioner’s Reserve Valuation Method, or “CRVM,” for life insurance) to the affected business.

The legal framework is as follows: The revised Standard Valuation Law formally establishes the Valuation Manual (“VM”), consolidating existing model laws and regulations, as well as outlining several new valuation methods and supporting assumptions. Included in this all-encompassing VM are requirements for minimum reserves for all life insurance lines of business, actuarial opinions, PBR reporting, and corporate governance related to the valuation and certification of reserves. The operative section relating specifically to PBR for life products is VM-20.

WHY WAS PBR DEVELOPED?
For a larger insurance company—one with a sufficiently large qualifying inforce to meet credibility thresholds—PBR would produce reserves more in line with the insurer’s risk profile, as actual company experience can be utilized as an input instead of prescribed assumptions. As such, an insurer with, say, demonstrably excellent mortality experience may see a significant drop in its reserve liability, thus justifying the effort and expense of PBR implementation.

PRODUCTS AFFECTED
While VM-20 establishes the minimum reserve requirements for all life contracts except preneed life, the more complex and time-consuming calculation approaches may not necessarily be required for a given product design. We do know that both universal life with secondary guarantee (“ULSG”) and term products will see reserving changes and, depending on their design, can be subject to some of the more labor-intensive PBR requirements. In contrast, for other types of insurance (including, for example, accumulating UL products which have no secondary guarantees and traditional permanent life plans), assuming certain VM-20-prescribed exclusion tests are passed, the process would produce the same CRVM reserves as are currently used.
MINIMUM RESERVE UNDER PBR

PBR sets forth three types of reserve calculations, listed in increasing order of complexity:

1) Net Premium Reserve
2) Deterministic Reserve
3) Stochastic Reserve

The Net Premium Reserve is a newly established formula reserve, and is valued at the contract level (i.e., seriatim). It also serves as the reserve floor for a given contract (notwithstanding cash value minimums). Note, for all products other than term and ULSG, the Net Premium Reserve will be the same as the existing CRVM reserve.

The Deterministic Reserve is generated using a single forecast of anticipated income and expenses, with considerable adverse deviation margins. It is designed to test whether premiums are sufficient to cover all anticipated benefit and expense costs. It is calculated by product group, based upon models similar to those currently used in asset adequacy cash flow testing.

The Stochastic Reserve is generated using a much larger number of forecasts (based upon various economic scenarios—numbering in the thousands). It is designed to measure the insurer’s exposure to tail risk, and is also calculated by product group.

The PBR reserve is defined as the largest of the above reserves, for those required to be calculated based on the failure of exclusion tests.

The exclusion test provided for bypassing the calculation of the Stochastic Reserve is based upon the volatility of a particular product group. If this is passed, an additional exclusion test is provided for bypassing the Deterministic Reserve, with it being structured like a stress test. While passing one or both of the exclusion tests would reduce the overall workload, the effort necessary just to meet the requirements of each of the exclusion tests is still significant, with the Stochastic Reserve exclusion test being notably rigorous.

ULSG may be excluded from the Stochastic Reserve, based on the results of its exclusion test, but not from the Deterministic Reserve unless the guarantee is “non-material.” It is also possible, based upon recent NAIC activity, that certain (and possibly all) types of term business will likewise not be allowed to bypass calculation of the Deterministic Reserve, effective as early as January 1, 2018.

COMPANYWIDE EXEMPTION

Due to the effort and expense associated with the implementation and ongoing maintenance associated with PBR, combined with the potential difficulty in establishing credible own-company experience factors, VM-20 provides for a Companywide Exemption for smaller, but well-capitalized companies. The Exemption allows an insurer to continue using current (pre-VM-20) statutory reserving methodology even after the final (post-transition) implementation date of January 1, 2020.
COMPANYWIDE EXEMPTION (continued)

In order to qualify for the Exemption, however, an insurer must meet the following conditions:

1. Have less than $300 million of direct ordinary life premium in a calendar year; and

2. Report Total Adjusted Capital of at least 450% of the authorized control level RBC in the most recent RBC report; and

3. Not sell any ULSG products after the effective date (January 1, 2017) whose secondary guarantees do not meet the definition of being “non-material” (i.e., a secondary guarantee with a duration no longer than 20 years for issue ages up to 60, grading down to 5 years for issue ages 83 and higher).

Evaluation as to whether an insurer meets the conditions of the Companywide Exemption must be performed annually based on prior year-end financials, as well as filed with the state of domicile by July 1 in order to be exempt for the current calendar year. If failure to meet all conditions should occur, VM-20 reserving becomes operative for all of the insurer’s ordinary life business issued on and after January 1, 2017. Furthermore, the valuation manual states that the Commissioner is allowed to reject the Companywide Exemption—though at this point it is not clear whether this means only the Commissioner in the insurer’s state of domicile, or of any state in which the insurer is licensed.

Note that, in order to qualify for the Companywide Exemption, no ULSG policies with material secondary guarantees may be sold on or after January 1, 2017. This means that issuing even one such policy after the end of 2016 automatically and permanently disqualifies the insurer from ever electing the Companywide Exemption.

Also, in the near term, it will be necessary for companies interested in qualifying for the companywide exemption to gauge and manage their RBC ratio to levels above 450%, to the extent possible. This is because it is expected that, in 2017 or 2018, new asset-default risk factors used in the RBC calculation will be implemented by the NAIC—factors which a number of our clients have tested, the results indicating these new risk factors could potentially reduce their RBC ratios by as much as 100%, depending upon the make-up of the insurer’s bond portfolio.

2017 CSO MORTALITY TABLE

VM Appendix M (“VM-M”) sets forth the valuation mortality tables to be used under PBR, with reference to the recently released 2017 Commissioner’s Standard Ordinary (“2017 CSO”) Mortality Tables.

Specifically, 2017 CSO may be used for issues on and after January 1, 2017, but must be used for issues on or after January 1, 2020. It also becomes the basis for nonforfeiture values, with accompanying guidance implying the tables must be the basis for both reserves and cash values of a given plan of insurance, if they are to be used at all.
2017 CSO MORTALITY TABLE (continued)

Note that these mortality tables may be used as of that January 1, 2017 date, even if the insurer is still reserving according to current (i.e., non-PBR) methods. Furthermore, the insurer may elect to implement the 2017 CSO tables on a product-by-product basis, selectively.

Regardless of the impact PBR might have on your organization, preparing for 2017 CSO re-pricing should begin as soon as possible, since the new tables may provide some help with profitability, particularly in these times of continued very low market investment yields. Initial testing might utilize current reserving methods with the new mortality basis, but ultimately any re-pricing should contemplate how the designs will address PBR requirements—particularly each of the exclusion tests related to the Stochastic and Deterministic Reserves. This will require new contract forms, filing and approval. The Interstate Insurance Compact has already issued guidelines for this process.

We have performed comparisons of 2001 CSO Mortality Tables to 2017 CSO for certain plan designs, using the prevailing CRVM reserving methodology. Please see the APPENDIX to this document for more detail.

CORPORATE GOVERNANCE

In the current environment, reserves are based on formulas prescribed by state regulators. However, under PBR, individual insurance companies are charged with the responsibility for setting assumptions for the determination of a sufficient reserve. Under PBR the Board of Directors, senior management and the appointed actuary all have specific oversight responsibilities in this regard.

VM Appendix G (“VM-G”) provides guidance for these company entities. The appointed actuary will be responsible for assembling reserves for products, as is the case currently, but under PBR this will now specifically include approving assumptions, methodology, models, internal controls and proper documentation. The appointed actuary will still prepare an actuarial opinion, but, in the instances where the Deterministic and/or Stochastic Reserves are required to be calculated, the appointed actuary must provide an additional PBR report. The actuary will also prepare a PBR summary report for the Board of Directors and senior management which will speak to the PBR valuation processes, the level of conservatism, materiality of PBR reserves, and any unusual findings.

Senior management’s responsibilities under PBR are extensive, including complete oversight of the entire PBR process (review of assumptions, methods, models, risk assessment, adequacy of reserves, to name a few). Senior management is also required to prepare, at least annually, a report speaking to the results of PBR, for review by the Board of Directors to help facilitate their oversight duties. The Standard Valuation Law also requires senior management to provide to the state Insurance Commissioner and Board of Directors an annual certification of the effectiveness of PBR valuation internal controls—certifying that all material risks are included in the valuation and that the valuation is made in accordance with the VM.
CORPORATE GOVERNANCE (continued)

As noted above, the Board of Directors now has the responsibility of reviewing the PBR report and certification prepared by senior management. Board minutes are required to explicitly include reference of this review.

CONSIDERATIONS GOING FORWARD

PBR will impact every company which issues life insurance on or after January 1, 2017. However, given the three-year transition period, an insurer won’t necessarily see the impact until January 1, 2020, at the latest.

PBR will likely be of considerable benefit to insurers expecting to issue large blocks of renewable term or lifetime no-lapse universal life, and who have sufficiently credible experience to be able to support favorable assumptions, in order to justify the large expense of implementation. However, for most small- to medium-sized insurers, the implementation and ongoing maintenance cost will likely not be worth the effort.

For those companies, assurance that the Companywide Exemption conditions can be met should be of paramount importance. If possible, then:

1. Assure that the $300 million direct life insurance premium limit will not be breached
2. Manage the Risk Based Capital ratio to well in excess of 450%, in anticipation that the new asset risk factors expected to be introduced in the next two years will negatively impact that ratio
3. Stop issuing, effective January 1, 2017, any universal life policy with a secondary (no-lapse) guarantee longer than the immateriality levels described above. Ideally, find a replacement for this market, like a low premium whole life plan, if possible

For those insurers who are not likely to meet the conditions of the Companywide Exemption, it is advisable to leave both the ULSG and term markets entirely, as to avoid the new—and in many cases, more rigorous—reserve calculations.
APPENDIX: EARLY COMPARISON TESTING OF 2017 CSO MORTALITY TABLES

Comparisons of 2017 CSO versus 2001 CSO indicates that the “slope”—or rate of change between durations—of the seriatim reserves for permanent life plans is slightly lower using 2017 CSO, although the overall levels of reserve values, per $1,000 face, are still relatively similar. For term business, on the other hand, the slope is much flatter using 2017 CSO (i.e., the level of reserves emerging in the middle of the level term period using 2017 CSO are much lower, as compared to 2001 CSO reserves). These results, however, are not consistent across risk classes and issue ages.

Our sample tests have yielded the following chart of results, showing the range of ratios across issue ages and durations, by subset. Note, a ratio under 100% represents an improvement over the value calculated using the prevailing mortality basis:

<table>
<thead>
<tr>
<th>Product</th>
<th>Sex</th>
<th>Risk Class</th>
<th>Ratio: 2017 CSO to 2001 CSO</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Net Premium</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Single Premium Life</td>
<td>Male</td>
<td>Standard Nontobacco</td>
<td>85% to 92%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Standard Tobacco</td>
<td>90% to 97%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Best Preferred NT</td>
<td>91% to 99%</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>Standard Nontobacco</td>
<td>85% to 95%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Standard Tobacco</td>
<td>91% to 102%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Best Preferred NT</td>
<td>92% to 102%</td>
</tr>
<tr>
<td>Whole Life</td>
<td>Male</td>
<td>Standard Nontobacco</td>
<td>81% to 83%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Standard Tobacco</td>
<td>88% to 92%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Best Preferred NT</td>
<td>89% to 98%</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>Standard Nontobacco</td>
<td>83% to 90%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Standard Tobacco</td>
<td>89% to 104%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Best Preferred NT</td>
<td>91% to 105%</td>
</tr>
<tr>
<td>20 Year Term</td>
<td>Male</td>
<td>Standard Nontobacco</td>
<td>51% to 57%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Standard Tobacco</td>
<td>68% to 71%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Best Preferred NT</td>
<td>67% to 81%</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>Standard Nontobacco</td>
<td>47% to 57%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Standard Tobacco</td>
<td>68% to 72%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Best Preferred NT</td>
<td>62% to 79%</td>
</tr>
</tbody>
</table>

Note: The “Best Preferred NT” comparisons are based on a three-nontobacco-class structure; the mortality rates for this class are actually higher than their 2001 CSO counterparts for younger insureds and females.

Overall, these relationships indicate that re-pricing existing or new product designs using 2017 CSO (for reserves and nonforfeiture values) make sense independent of the impact of PBR, and companies should factor this into any evaluation of their product portfolios heading into 2017.