



the Edge

Start Preparing Now for Principles-Based Reserves

Howie Heidorn Jr., FCA, MAAA, ASA
Consulting Actuary
Heidorn Consulting, Inc.
howie@heidornconsulting.com, 847-296-8890

The Standard Valuation Law (SVL) set the methodology and assumptions used to generate reserves for traditional life industry products. As these products digressed from their historical norms, more laws and regulations were passed to address newer “nonnormal” products.

The regulatory arena became concerned with some newer products, such as the so-called “cheap” term and universal life (UL) with secondary guarantees. Regulators worried that the reserves calculated by existing methodologies and assumptions were not adequate to protect a company’s solvency.

New methods demand higher reserves

Regulators’ concern for protecting insurers’ solvency led them to develop revised methods, which produced somewhat higher reserves. However, much of the industry considered these reserves inappropriately high.

Other new products, like variable life, UL and annuities, as well as their equity-indexed counterparts, promised values such as guaranteed minimum death benefits based on stock funds or stock market indices. The volatility of the stock market made it quite difficult to determine reserves for such products that were adequate, yet not excessive.

Because of these industry and regulatory concerns, a better reserve mechanism was thought to be needed to generate proper reserves for life industry products. This mechanism has been introduced as the principles-based approach (PBA) and the reserves produced under this approach are called principles-based reserves (PBR).

What is the Principles-Based Approach?

According to the American Academy of Actuaries, the PBA is an approach that determines reserves and capital using specific model-based processes that use the company’s own experience, among other things. PBA’s stated goal is to develop reserves and risk-based capital that are reasonably conservative, but not high enough to stifle competitiveness.

Which products might be covered by PBR?

The PBR approach is currently being targeted to life insurance products with significant “tail risk,” such as cheap term and UL with secondary guarantees, as well as equity-indexed and variable products. However, some health products, such as long-term care, might also come under the PBR purview, as might some casualty products.

When PBRs are introduced in 2010 or 2011, they will apply only to new business issues. Most likely, they will become applicable to all products and all in-force business at some later date as experience with new business unfolds.

How is the PBA different?

The SVL defines the current methodology (CRVM for life and CARVM for annuity) used to calculate the reserves as well as the minimum standards for assumptions. Mortality (for life and annuity products) and morbidity (for health products) assumptions are used to determine the probabilities of dying and of needing health care, respectively. Industry tables for such probabilities are in use.

For example, the new 2001 CSO mortality tables will be mandated for use in calculating minimum life insurance reserves as of Jan. 1, 2009. An assumed maximum rate of interest is specified for calculating such reserves. For so-called “long life” products, this rate is 4%. Thus, the method, the mortality or morbidity tables, and the interest rates are the only three parameters currently used to determine reserves.

The mortality or morbidity tables are general in nature and have been calculated to cover the expected experience of most companies that use them. Thus, they are intended to be conservative. The interest rate used to discount reserve values is also meant to be conservative. There is no explicit assumption for industry-based or company-specific expenses. Instead, the current reserve calculation mechanism implicitly addresses the expense issue by means of the methodology, such as CRVM.

In contrast, the PBA will be based on company-specific assumptions of:

- The interest rate to use;
- The mortality, lapse and premium persistency rates to use, as well as any other policyholder behavior characteristics; and
- The expense experience to use

Such experience will need to be credible, or it must be blended with industry experience. In addition to the experience on the liability side, the company's experience on the asset side of the balance sheet will also be required.

This experience relates to probabilities of asset defaults, the level of investment expenses or how a company handles its derivatives and hedging programs. Once anticipated experience assumptions are determined, appropriate margins need to be added to produce a degree of conservatism in the resulting reserves.

PBA demands more complex calculations

The PBA's calculation methodology is much more complex than that for CRVM. At least two different kinds of reserves must be calculated. For one, only a single scenario is required in the calculation process, but for the other type, several scenarios are needed to capture the tail risk. Such reserve calculations are performed for given blocks of business—or, in the one-scenario case, for each policy—and are then aggregated over these blocks.

Aggregated reserves for each scenario are ranked to form a distribution. The reported reserve is then determined at a level that covers the anticipated tail risk at a pre-defined level based on rules set by the regulators.

Instead of looking up a factor and multiplying it by an appropriate base, as is done for traditional life products, the PBA will look more like a CFT approach, which projects assets and liabilities. However, the PBA will require a significant number of additional scenarios and thus more computing resources.

What additional costs are expected?

The PBA will require each company to determine and document its own experience in setting assumptions for mortality, morbidity, policyholder behavior, expenses, asset purchases and sales and investment earnings. Although experience studies have most likely been performed to back similar assumptions in the current CFT process, the rigor and extent of the documentation under the PBA appear to be significantly more onerous and costly.

There are no, or perhaps only a few, software vendors that now perform all calculations and summaries needed for the PBA. Because of the complexity of the calculations and the possible need to use distributed processing, the



software is likely to be quite expensive. Due to the large number of scenarios and the short reporting time frames, there will surely be additional hardware costs as well.

The IRS currently accepts the CRVM methodology as the primary method for determining tax reserves for life companies subject to its rules. But will the IRS accept PBR for determining life companies' federal income taxes? Several reinsurance issues also remain unresolved.

On Jan. 14, 2008, the IRS issued Notice 2008-18, which intended to alert the life insurance industry about the federal income tax issues applicable to both the companies and the individual life insurance purchasers. The IRS is concerned about this notice in regard to the potential adoption of a PBA for statutory reserves.

How will the regulatory arena react to the PBA? Will using the PBA allow regulators to consistently determine the true solvency stance of a life insurance company under their domain? Will regulators of selected states be willing to give up their extraterritorial influence on the industry?

The PBA for calculating reserves for life insurance companies is still in a state of flux. It is in management's best interest to follow this process as it develops. Companies can prepare by starting to generate their experience studies, determining appropriate margins and documenting the work done so they'll be ready when the PBA becomes law. ■

Howie Heidorn Jr. has been an actuary for more than 33 years. His career has encompassed statutory, GAAP and tax valuations, illustration actuary work, and the design and pricing of life and annuity products.