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ULSG SOP 03-1 Reserving Practices—Survey Highlights

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Universal life with secondary guarantees (ULSG) are a portfolio staple for many life insurers and have been for many years. The secondary guarantee generally takes the form of a required minimum premium or a shadow account. The guarantee serves to keep the policy in-force when the account value is zero if requirements outlined in the policy form have been met. These products are an attractive option for policyholders as they are guaranteed a minimum, albeit low, crediting rate with the potential for increased interest credits if interest rates rise without the higher mortality and expense charges and rider fees often associated with separate account products such as variable annuities.

Under US GAAP for these products, the base policy is classified as an insurance contract under ASC 944 (previously FAS 97) and reserves are equal to account value. However, the presence of the secondary guarantee leads to some complexity in the valuation process as these benefits typically fall under SOP 03-1 because the guarantees can lead to benefits being paid while the account value (AV) is zero or produce a pattern of earnings that can have profits followed by losses. SOP 03-1 values the excess benefit by accruing assessments for those benefits based on the ratio of excess benefits to assessments (commonly referred to as the benefit ratio). The change in SOP 03-1 reserves is subsequently reflected in estimated gross profits for the ASC 944 deferred acquisition cost (DAC) asset which requires an iterative valuation process since the DAC cash flows are needed to calculate the SOP 03-1 cash flows.

The guidance of SOP 03-1 is more principle-based than prescriptive which has led to a range of interpretations and applications of the requirements. The ultimate reserve formula is fairly standard across the industry, i.e., $SOP_t = SOP_{t-1}*(1+i) + \text{benefit ratio}*\text{assessments}_t - \text{excess benefits}_t$, but there are various practices for projecting and discounting the charges and benefits. In order to benchmark current industry practice, KPMG performed a survey of 14 companies in June 2017. The survey questions were broken down into four broad categories: (1) scenarios, (2) process, (3) output and (4) miscellaneous. This article summarizes the key findings of the survey.

SCENARIOS

A key element of the SOP 03-1 calculation process is the scenario(s) used to project liability cash flows. The guidance references the use of a "range of scenarios" to reflect expected experience. This could be interpreted to mean that a stochastic approach is required. However, the survey results highlighted that there is variation in practice with about 70 percent of respondents using a deterministic approach.

The respondents that use a deterministic scenario most commonly use the same best estimate scenario that is used to amortize DAC. Many respondents took the view that the best estimate scenario would represent the average of a set of stochastic scenarios and thus fulfills the requirement to consider experience over a "range of scenarios." For respondents using a stochastic approach, the number of scenarios ranged from 50 to 250 with scenarios being updated on a quarterly or annual basis.

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PROCESS

The combination of tight reporting timelines and the iterative nature of the SOP 03-1 and DAC calculations leads to some challenges in executing the process in a timely manner with sufficient analysis of results. One method to address such challenges is to use a simplified methodology such as rules of thumb or roll-forward approach where a full valuation is performed once per year and the result rolled forward in other periods.

However, approximately 85 percent of respondents indicated that they perform a complete valuation in each reporting period with only a few companies indicating that any simplified approaches were employed. The reporting timelines varied across companies but most were able to have results by business day seven and on average the ledger was closed by business day eight. A key challenge to meeting these timeframes is obtaining data necessary to complete the reserve estimate, with actual assessments being the most challenging element for a slight majority of respondents. To address this challenge and meet the reporting timelines, using data with a one quarter lag is a common approach.

Not surprisingly, companies perform their SOP 03-1 valuation on a quarterly or monthly basis. All respondents indicated that assumption unlocking occurs on an annual basis with some variance in timing although second quarter and third quarter were the most common responses.

OUTPUT

The nature of the SOP 03-1 calculation and its relationship to the account value generally means that these reserves are a small percentage of the overall US GAAP reserve. Most respondents indicated that their SOP 03-1 reserve was 5 percent or less of total life US GAAP reserves. Only a few stated that it was greater than 10 percent of life US GAAP reserves. The basis for response was year-end 2016 reporting.

The SOP 03-1 calculation uses a variety of assumptions such as crediting rates, mortality and lapse which affect the reserve estimate to varying degrees. Changes in long-term interest rates was the most common response as the assumption that was most impactful to financial results. Lapse rates were also noted as a highly impactful assumption.

MISCELLANEOUS

The use of stochastic scenarios in the valuation opens the door for the possibility of using a dynamic lapse assumption as commonly seen in variable annuity valuation. However, over half of the respondents indicated that they do not use a dynamic assumption and simply lower the lapse rate when the secondary guarantee is in-the-money.

As mentioned above, there is some inherent circularity in the nature of the SOP 03-1 and DAC calculations. There are a variety of approaches used to address this including iterating up to 1,000 times. Practices include using a methodology that is built into the valuation system, using an internally developed methodology, and calculating SOP 03-1 reserves first and then directly reducing EGPs.

Two other differences in methodology that arose from the survey relate to the projection period and definition of an excess benefit. Projection periods ranged from 30 to 100 years, with most companies indicating that no terminal value is used as it is assumed to be immaterial at the end of the projection period. Excess claims were most commonly defined as a benefit paid when the account value is 0 or a benefit paid when the no lapse guarantee is in-the-money (ITM). Some additional responses included uncollected charges when the no lapse guarantee is ITM or death benefits paid less charges collected while the no lapse guarantee is ITM.

SUMMARY

Based on the results of the survey, we observed the following key findings:

- There are a variety of approaches for calculating SOP 03-1 reserves including both stochastic and deterministic approaches. The number of stochastic scenarios is generally smaller than that seen in other applications (e.g., 100–200 scenarios as opposed to 1,000 scenarios for Actuarial Guideline 43). A full asset liability management approach (integrated asset and liability modeling) is not common.
- There was no consensus approach for setting crediting rates and discount rates, but the majority of participants were using some sort of simplified approach to setting these assumptions.
- Most respondents are performing a full SOP 03-1 valuation in each reporting period (i.e., projecting cash flows to calculate reserves) and are not using a roll-forward or other simplified methodology.
- The key challenge facing companies is getting data within tight reporting timelines. Most companies indicated that they aim to record reserves by business day five to eight of the reporting calendar and close the ledger by day 10.

Universal life insurance has been an industry staple for many years and is offered by most companies with a full suite of products. Since the financial crisis, low interest rates have become the new normal and tighter spreads have led to low guaranteed interest rates. Secondary guarantee benefits are a key design feature that companies can use to differentiate themselves from the competition in this low interest rate environment. The inclusion of these features raises the need for an SOP 03-1 reserve to account for the guarantees. The survey results showed that there is a range of practice in the application of this guidance and a single method has not yet emerged as the clear leader. ■

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