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VA GAAP Reserving Practices—Survey Highlights

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The views expressed in this article are those of the survey participants (on an anonymous basis) and do not necessarily reflect the views of KPMG nor are they intended as methods of regulatory or tax compliance.

In 2014 the Financial Accounting Standards Board (FASB) changed direction on the Insurance Contracts project and decided to pursue “targeted changes” to current US GAAP rather than continue efforts toward a joint standard with the IASB. As decided by the board in September, 2015, one of the anticipated targeted changes would require that all variable annuity (VA) guarantee riders (i.e., those with “other than nominal” capital market risk) be recorded at fair value.

Current practice for valuing GMxB riders varies primarily by rider type, but also by a particular company’s specific rider features as applied to certain requirements of FAS 133¹, such as how the rider can be “net settled.” Typically, riders such as GMDBs, GMIBs and some GMWBs are accounted for using insurance accounting under SOP 03-1. Other riders, such as GMABs and some GMWBs, are currently accounted for as embedded derivatives under FAS 133. Note that FAS 133 requires embedded derivatives to be valued under fair value while FAS 157 in turn defines “fair value” principles.

While timing for these proposed changes is still uncertain, if passed, the requirement to apply fair value concepts and principles as outlined in FAS 157 will certainly bring greater attention and scrutiny to the inputs and assumptions used by companies in developing their liability estimates. (Additional and enhanced disclosures around fair value estimates are also under discussion.) Because FAS 157 presents principles rather than prescriptive rules, there is currently a good deal of diversity in terms of specific assumptions and techniques used.

With these potential changes in store for the industry, and in order to benchmark current industry practice, KPMG performed a survey of 19 companies in October and November of 2015. The survey covered industry practices relating to the valuation

of variable annuities under FAS 133/157 including implied volatility parameters used in the FAS 133/157 liability scenario generator, non-performance risk and liquidity premium adjustments to discount rates, as well as the determination of risk margins. This article will summarize the findings of the survey that highlighted the range of practices in the following key areas:

- Approaches used to calculate the reserve for lifetime GMWB guarantees: split between FAS 133, SOP 03-1 and bifurcation between FAS 133 and SOP 03-1.
- Implied volatility methodology: most survey participants use an at-the-money volatility assumption that varies by contract duration; a minority use a volatility assumption that varies by both contract duration and the “in-the-moneyness” of the contract.
- While most companies do not reflect an explicit liquidity premium in addition to the non-performance risk, for those that do, there is a wide range of variability in the level and in the assessment approach.

The main areas where practice is similar are:

- Drivers of reserve movement are primarily risk-free rate and fund performance.
- Not including an explicit margin in the long-term realized volatility.
- Not explicitly reflecting liquidity premium in the non-performance risk calculation.
- Determining risk margins by individual risk component.

Also, at the time of the survey, the majority of participants indicated either neutral or uncertain views to the FASB’s decision to account for GMxBs at fair value.

GENERAL TOPICS

The industry is split in its current approach to reserving for lifetime GMWB guarantees (an optional living benefit guarantee under which the policyholder can withdraw a fixed percentage of the total benefit base each year over the lifetime of the policy, even after the benefit base balance has been exhausted). Forty-one percent of the companies surveyed use FAS 133, 21 percent bifurcate between FAS 133 and SOP 03-1, 16 percent use SOP 03-1 and another 16 percent use a combination of FAS 133, SOP 03-1 and bifurcation. There is also a split in the use

- 19 companies
- Represent over 75 percent of premium written by top 10 sellers of VA with guarantees in 2014
- Majority of companies surveyed have VA block greater than \$20 billion

of stochastic interest rates, with only about half the companies using stochastic interest rates to value liabilities.

There were, however, some points of commonality. For most of the companies the two largest drivers of reserve movement are risk-free rates and fund performance. In addition, the majority calculate the FAS 157 reserve quarterly or monthly, while the remaining companies calculate it daily. None of the survey participants calculate the base contract using an FAS 159 (later codified under ASC 825) fair value election.

Most companies use the LIBOR swap curve or the U.S. Treasury curve for the risk-free rate curve in the valuation calculation. Few companies use the OIS curve; the OIS curve is commonly used for the valuation of assets, but the survey shows that it is not commonly used for the valuation of insurance liabilities.

Perhaps surprisingly, few of the companies surveyed had a strong view of the FASB vote to account for GMxBs with “other than nominal” equity risk at fair value: one company had a positive view, four had a negative view and the remainder were uncertain or neutral.

IMPLIED VOLATILITY

Overall, the survey results showed that companies adopted diverse practices around implied volatility parameters. About half of the companies indicated that they use an at-the-money volatility assumption that varies by durations only, while others indicated that they use a volatility assumption that varies by du-

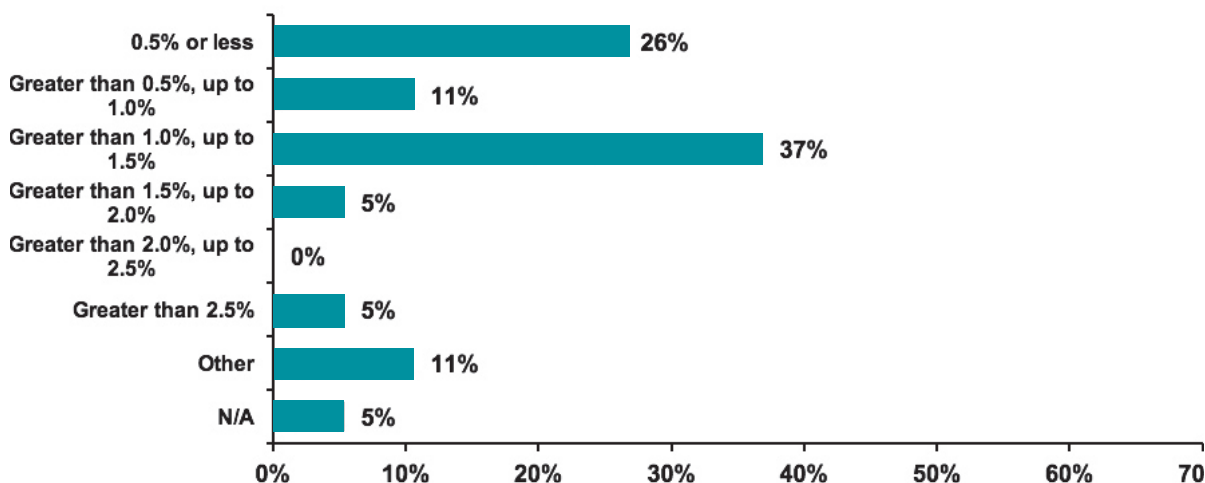
rations and other factors (primarily liability moneyness). When using available market implied volatilities, various durations are used, with most being under 10 years. Twenty-six percent of the companies use a duration up to five years, and 31 percent use durations over five and up to 10 years.

However, there are some areas where practice is similar between companies. The majority of the companies use vendor systems (such as Bloomberg, Markit, and Murex) as the source of implied volatility data. Most companies surveyed use the same equity volatility model for all underlying equity indices. Long-term volatilities are mostly estimated by grading from the last market observable volatility based on average of realized volatility; more than one-third of companies use a five-year grading period. Around half of the participants do not include an explicit risk margin in the long-term realized volatility.

NON-PERFORMANCE RISK AND LIQUIDITY PREMIUM

The survey results indicated that although there is less diversity in how the non-performance risk is applied in the calculation, there is a wide variety of data sources used in practice to determine non-performance risk. Nearly all the companies reflect non-performance risk in the calculation. Most of these use an increase in the discount rate to reflect non-performance risk. The factors most often considered when determining non-performance risk include the rating of the company, debt issued by the company (their own debt or the debt of similar companies), and credit default swaps with adjustments.

Chart 1: Average level of non-performance risk



As shown in Chart 1, the average level of non-performance risk varies, but is below 1.5 percent for most companies.

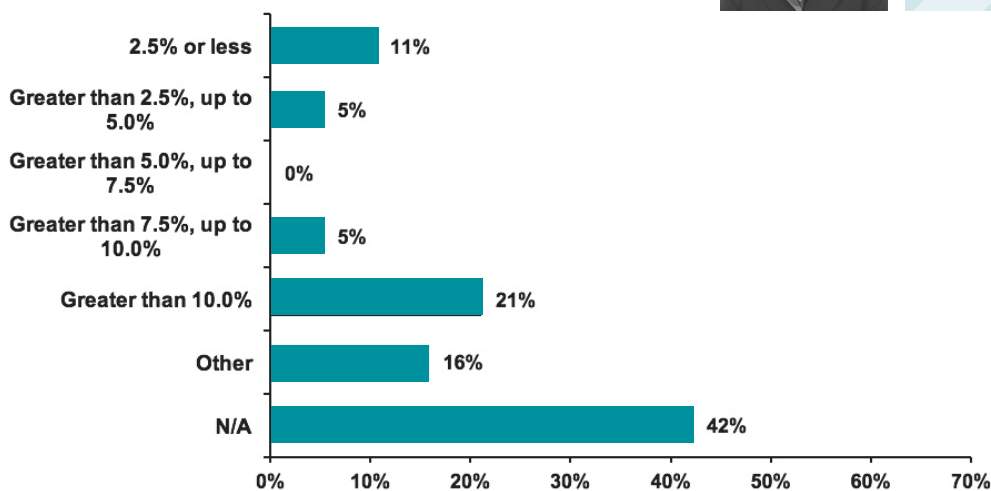
About half of the companies vary the risk adjustment rates by duration. Also, the majority of the companies do not explicitly include a liquidity premium in the calculation. Among those companies that do explicitly include a liquidity premium, the methodology for determining the liquidity premium varies: one-third determine liquidity premium by reference to spreads included in company debt, one-third use observable spreads between public and private bonds, and the remainder use another method. The magnitude of the liquidity adjustment varies, but is under 70 basis points for all companies surveyed.

RISK MARGINS

There are some similarities between companies in the use of risk margins. For about two-thirds of the companies surveyed, the overall risk margin is determined by individual risk component. Most use judgment based on experience studies to determine/calibrate the level of risk margins. The assumptions which most often include risk margins to reflect uncertainties are surrenders, mortality and GMxB utilization. Also, a significant majority of companies did not report making any simplifications to risk margins for ease of implementation.

Despite these similarities, a large range of risk margins is seen, as shown in Chart 2, from less than 2.5 percent to more than 10 percent (measured as the percentage of the liability without the risk margin).

Chart 2: Range of Risk Margins



SUMMARY

As discussed above, the survey results showed a range of practice between companies in reserving for VA guarantees. As companies move toward both a broader implementation of FAS 157 for all VA riders as well as more detailed disclosures, we expect to see some convergence in practice, and additional refinements of methodology and assumptions. ■

ENDNOTES

¹ Within this article we use “FAS 133” (later codified under FASB ASC 815-15), “SOP 03-1” (later codified under ASC 944) and “FAS 157” (later codified under ASC 820) to describe the approaches and inputs used in connection with these VA liabilities.



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