On August 9, 2011, SCOR SE, a global reinsurer with offices in more than 31 countries, acquired substantially all of the life reinsurance business, operations and staff of Transamerica Reinsurance, the life reinsurance division of the AEGON companies. The business of Transamerica Reinsurance will now be conducted through the SCOR Global Life companies, and Transamerica Reinsurance is no longer affiliated with the AEGON companies.

While articles, treaties and some historic materials may continue to bear the name Transamerica, AEGON is no longer producing new reinsurance business.

Archive Materials

Lapse Rates in a Principles-Based World
Reprinted from the June 2007 Messenger newsletter

Principles-based regulations (PBR) are continuing to take form, and as we get closer to implementation, companies must determine how they are going to develop their assumptions underlying both principles-based reserves and principles-based capital requirements. One important assumption excluded from traditional XXX reserving is policy lapse. This article presents issues which reveal the difficulty in creating stochastic models for lapse rates and raises questions that need to be considered when setting lapse rate assumptions.

The Significance of Lapse Rate Assumptions
For term insurance, lapse rates typically receive less attention than mortality in most modeling exercises. However, the relevance of lapse rates becomes clearer when considering the timing of profits within a given product. For example, lowering late duration lapse rates on products containing lucrative tail margins may decrease reserves as the resulting increase in present value of premiums would be greater than the corresponding increase in expenses. In this case, it may be conservative to increase (or shock) lapse rates to reduce the reliance upon such lucrative tail profits.

But even if reserves explicitly exclude tail profits, there are still other profit variances by policy duration and these durational cash flow variances will impact reserves as lapse assumptions change. In order to assess lapse rate experience and to forecast “best estimate” rates, it helps to first identify some of the factors impacting lapse rates.

Factors Affecting Lapse Rates
Lapse rates may be impacted by many different factors; some are at an industry level, while others are specific to a given company. Table 1 lists just a few examples of these factors.
Industry-level items affect every company; company-specific issues have a unique effect on a given company’s lapse experience and future trends. Both categories should be assessed by the independent auditor investigating the company’s PBR process and corresponding assumption setting.

**Stochastic Lapse Modeling**
When calculating reserves or capital requirements, it may be preferable to use the most robust modeling available. Following this mindset, some may desire to model lapse rates stochastically. However, this would require selection of a distribution function for lapses (or the underlying factors affecting lapse rates).

Considering all of the different factors affecting lapse rates, it would be difficult to develop reasonable probability distributions needed for such a model. For example, changes in product offerings and sales objectives are sporadic, and the resulting impact on existing policy lapse rates may be hard to quantify. Even if an industry-wide probability function were developed, it may still need to be modified to account for the company-specific factors mentioned above. Therefore, probability distributions on lapse rates may be unattainable, which would prohibit the development of stochastic lapse variables.

**Deterministic Lapse Modeling**
The latest proposed PBR framework, presented at the Society of Actuaries Life 2007 Spring Meeting, is for lapse rates to be set deterministically. While this may be a reasonable accommodation given the problems with stochastic models, there will still be questions to consider when setting lapse assumptions:

- How should lapse rates on term policies be reduced to account for the possibility of an impending secondary market?
- How should lapse rates on new non-return of premium (ROP) policies reflect ROP growth?
- What kind of a lapse pattern should be used for ROP products themselves?
- What level of sensitivity testing will be required?
- How will provisions for adverse deviations be applied?

Some of these questions are salient regardless of PBR implementation. However, when merged into the PBR framework, we must also consider potential swings in reserves and capital requirements as assumptions are updated.

**Conclusions**
Based on the issues presented above, it is clear that we cannot simply apply a “one-size-fits-all” approach to PBR when it comes to lapse rates. And whether company experience or industry experience is used, it cannot be trended without also considering the impact of secondary markets and other hard-to-quantify changes in customer behavior.

Any confidence intervals that may be desired for PBR would also be hard to develop, considering the unknown and potentially unquantifiable events that can impact lapsation. Therefore, our confidence will ultimately be placed with the actuarial opinion – which is exactly where it should be.