Reinsurance Section News

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WHERE HAVE YOU GONE, FORMULA RESERVES?

UPDATE ON PRINCIPLES-BASED RESERVES FOR LIFE INSURANCE

by Richard Daillak

The life insurance industry, the actuarial profession and regulators are working together to fashion a new valuation approach, *Principles-Based Reserving (or PBR)*. All hope that the new approach will be better and more sustainable than current valuation methods. PBR lays out broader principles for reserving, in place of fixed formulas, and then makes it the valuation actuary's professional responsibility to apply those principles fairly, in each case, to determine the policy reserve. Under PBR, actuaries will model the future cash flows of a product, using their training and judgment to create the model and set assumptions and explicit margins.

The principles-based approach will probably also be extended to capital requirements. (Recent C3 Phase II changes to RBC are already one step there.) The principles-based approach is expected to better align reserve and capital requirements with the true financial risks of insurance products. From that, we can expect important benefits for both consumers and industry.

Who are the Players?

The NAIC's actuarial arm, the Life and Health Actuarial Task Force (LHATF), is working with the American Academy of Actuaries (AAA) to design a suitable principles-based structure.

To do the job, the AAA has formed a large number of PBR working groups. Over 10,000 volunteer-hours are reported to have been spent on the project thus far. The Reinsurance Working Group, chaired by Sheldon Summers of the California Insurance Department, is considering the reinsurance issues. That work group, and the others, are eager for skilled volunteers willing to help.

Industry is also very much involved, both by enabling the actuarial volunteers to give their time to the professional work groups, and in an advocacy role, via the ACLI.

Where Does the Work Stand?

Work is proceeding quickly. The AAA has targeted delivery of a full life PBR framework by the end of 2006. However, that could mark only the "end of the beginning," with a long road remaining to final adoption. Some speculate that it may be 2009 or later before the life valuation changes become effective.

The latest working drafts of a PBR model regulation for life insurance and three supporting actuarial guidelines were presented at the June 2006 NAIC meeting and have been posted on the Academy's PBR Web pages (*www.actuary.org/risk.asp*). Work on these documents by the volunteer groups continues actively.

Here are a few highlights as of June, 2006.

The life PBR reserve is to be the greater of a "Deterministic Reserve" and a "Stochastic Reserve" calculated for the life business.

- The Deterministic Reserve is a seriatim gross premium valuation, with a policy cash value floor. This reserve is deterministic mostly in the sense that only *one* path of interest rates and asset returns will be modeled, not several. Beyond that, actuarial judgment is very much at play. The cash flow model will be designed by the actuary; assumptions may reflect company experience, if credible; and explicit margins are set using professional actuarial judgment.

- Stochastic results are determined by running a similar model over multiple, stochastically-generated scenarios. However, at this time, *only* variation in interest rates and asset performance need be reflected through such stochastic analysis.

- Each scenario is to be valued using a "greatest present value of accumulated deficiency" approach, rather than a gross premium valuation (per LHATF instructions).

- Stochastic modeling may use grouped data, rather than seriatim.

- A final Stochastic Reserve value is determined by taking a *conditional tail expectation, or CTE,* that averages the tail of the stochastic distribution.

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- Chance variation outside of interest rates and asset performance—for example, random fluctuations in lapse or mortality—will likely be handled non-stochastically, by applying a margin to best estimates. (But *systematic* variation correlating with the economic scenarios—for example, dynamic lapse rates—is to be reflected in the stochastic modeling.)

- Reserve assumptions will no longer "lock in" at issue, but will be revisited, and potentially unlocked, year by year.

- Reinsurance cash flows are among those to be modeled in both deterministic and stochastic reserves.

Because of the broader scope for actuarial judgment in PBR, guidance, review and governance are all being strengthened. New ASOPs are being developed; the actuary's work will be subject to independent peer review; and detailed documentation will be required. To assemble better industry data for judging assumptions and margins, a requirement for companies to submit experience data has been proposed.

Many issues remain. Here are a few that are mentioned frequently:

- Tax considerations. Statutory valuation references are embedded in Internal Revenue Code sections dealing with company and product taxation. A variety of complications might arise from PBR, depending on its final form.

- Retroactive or prospective application. Most expect that principles-based reserving will be applied only prospectively, at least initially. But principles-based required capital is also in view, and changes to required capital are often applied to all business in force.

- Levels of margins and conservatism. Caps, floors and other limits will all be subject to actuarial judgment. These items are likely to be debated even more hotly when final adoption nears.

Implications for Reinsurance

Because reinsurance is a somewhat specialized field within the larger life insurance industry, it is possible that other working groups might create documents that have unintended effects on reinsurers. Industry guidance on such topics as appropriate margins, the use of experience data, the level of aggregation allowed in the Stochastic Reserve calculation, and many other topics need to be considered from a reinsurance perspective. The PBR Reinsurance Working Group monitors activities of the other groups, and comments on the implications of these other work products on reinsurance.

In addition, the PBR Reinsurance Working Group is considering specific reinsurance issues. Examples include:

- In theory, PBR could allow the accurate valuation of reinsurance arrangements not generally allowed reserve credit under current risk transfer rules. Should the reserve credit rules be revisited now that the valuation technology will be more robust?

- Information exchange can be imperfect, and less than timely, in reinsurance. Reinsurer and cedant will have to bridge that gap as they set assumptions for their respective PBR valuations.

- Counterparty behavior becomes a consideration in the reserve cash flow modeling. This could include dramatic actions, like recapture, but also more subtle matters, like the counterparty's setting of policy or treaty elements it may control—premium rates, COIs, crediting rates, etc.

- Even the determination of the appropriate level of reserve credit for reinsurance and the use of collateral is being considered in light of a principles-based framework.

Finally, by altering product reserve and capital costs, the principles-based approach could result in a variety of marketplace and product design changes for consumers, direct writers and reinsurers. As PBR takes firmer shape, those broader effects will likely be an important topic of discussion in these pages.

Stay tuned. The PBR story is just beginning. ✺

Richard H. Daillak, FSA, MAAA, is vice president and corporate actuary with Swiss Re Life & Health America in Armonk, N.Y. He can be reached at *richard_daillak@swissre.com.*