



SOCIETY OF ACTUARIES

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Reflections of a Regulatory Actuary

by Larry Gorski

Editor's note: the author wrote this article upon retiring after several decades of service at the Illinois Department of Insurance. The section's Statutory Issues listserve would be an appropriate forum for discussing concepts in this article.

One of the interesting aspects of retirement is being given the opportunity to reflect on one's career. I believe that many people retiring today would feel the same way that I feel. We all would comment on the magnitude of the changes that had taken place since the start of our career.

PRODUCTS

Changes have occurred in the products that life insurers market. I didn't see many universal life products when I started work with the Illinois Department of Insurance nearly 30 years ago. Life insurance products contain non-guaranteed elements, while variable annuities contain guarantees. Similarly, the investments purchased by life insurers have changed dramatically over the years. Yes, they are still called bonds and mortgages and common stock, but the cash flows from some instruments treated as bonds, such as collateralized mortgage obligations and equity linked securities, are driven by the performance of residential mortgages and common stock, respectively.

CARVM AND 1980 CSO

The nature of insurance regulation has also changed over the years. While the topics under discussion in insurance departments and at NAIC meetings are pretty much the same, the issues are different. Some of the first projects in which I got involved were the adoption of the Commissioners Annuity Reserve

Valuation Method (CARVM) and the 1980 CSO Mortality Tables. Looking back at these projects, one can see a hint of the actions and activity that occurred from 1980 through 2002. CARVM recognizes elective policyholder behavior, a revolutionary idea in 1976. The legislative changes implementing the adoption of the 1980 CSO Mortality Table introduced the idea of dynamic maximum valuation and nonforfeiture interest rates and a process for adopting new mortality tables that did not require legislative action.

ASSET ADEQUACY ANALYSIS

The ink was barely dry on the legislative changes implementing the 1980 CSO Mortality Tables when actuaries like John Montgomery (former chief actuary of the California Department of Insurance), Bob Callahan (former chief actuary of the New York Department of Insurance), Walter Rugland and many others began to shape the tools regulatory actuaries use today. Of course I'm talking about Asset Adequacy Analysis testing of reserves. This tool has changed the relationship between insurers, regulators and the actuarial profession. The appointed actuary is being asked to opine on the adequacy of reserves. Does the appointed actuary work for the insurer or the regulator? The appointed actuary and the regulatory actuary have to understand liability cash flows and asset cash flows. How do regulators acquire the expertise to understand and critique the work of the appointed actuary?

RBC

Following the adoption by the NAIC of the amendments to the Standard Valuation Law and Actuarial Opinion and Memorandum Regulation that implement Asset Adequacy Analysis testing of reserves, my career as a regulatory actuary began to change. From a regulatory perspective, I felt that the success of Asset Adequacy Analysis was dependent on becoming much more knowledgeable in the area of investments. I jumped at every opportunity to get involved in projects involving investments. I became the chair of the NAIC Invested Asset Working Group (IAWG). The IAWG helped change the regulatory framework with respect to the accounting, reporting and analyzing of collateralized mortgage loans and derivative instruments. I wish that more actuaries had been involved in these projects. Some of the people instrumental in bringing these projects to completion were Chris Anderson of Merrill Lynch and Alan Routhenstein of Risk-Solutions Life. The IAWG is still very busy at work. One of the current projects is evaluating the possibility of recognizing effective hedging of credit



risk in the Risk Based Capital (RBC) formula.

While the IAWG has not seen the level of actuarial involvement I would have liked, the NAIC RBC process has benefited from active involvement of the actuarial profession through the American Academy of Actuaries. I can only mention a few of the many actuaries who have helped make the RBC formula. The ones that immediately come to mind are Bob Brown (CIGNA), Joe Dunn (MetLife), Jim Reisktyl (Northwestern Mutual), Mike Zurcher (Lincoln National), Blaine Shepherd (Minnesota Department of Insurance), Bill Weller (Omega Squared) and Cande Olsen (New York Life).

One of the significant projects currently on the agenda of the NAIC Life RBC Working Group deals with Risk-Based Capital requirements for guarantees on variable annuities. This project follows the earlier work on capital requirements for interest rate risk. Both projects are premised on the belief that certain risks can't be properly quantified by a single factor or even a table of factors applied to balance amounts. Proper quantification can be achieved only through a modeling approach.

X FACTORS

The last major development on which I will comment is the introduction of actuarial judgment in setting the mortality assumption for the calculation of deficiency reserves. I don't think that any of the actuaries that I worked with for 25 years thought that we would ever see something like the X factor in statutory valuations. Changes in underwriting practices and confidence in the appointed actuary made the idea acceptable to regulators. It is now the regulators' task to develop procedures to evaluate the work done by the valuation actuary relative to setting X factors.

ACTUARIAL JUDGMENT

The common thread in these projects is a movement away from assumptions mandated by law or regulation and based on industry-wide experience to company-specific assumptions based on actuarial judgment. The remainder of my comments will extrapolate this trend into the future. One of the major initiatives at the NAIC is the "Risk Assessment Based" financial examination process. The basic idea is for the regulator to identify the risks associated with an insurer's business, analyze the manner in which an insurer manages and/or mitigates its risks and focus the examination process on the residual risks of the company. Unfortunately the project has not been given much attention by actuaries, even though I believe that actuaries should be leading the charge. The project seems to be

geared more towards reducing the time and cost of financial examinations and not a better understanding of the risk position of insurers.

I feel strongly that actuaries should be leading the charge because of my experience with reviewing actuarial memorandums that support Asset Adequacy Analysis actuarial opinions. I don't know of any other regulatory tool that gives the same insights into an insurer's operations, but unfortunately, it is virtually unknown outside of actuarial circles. One of my personal goals over the past year was to get as many people (actuaries and non-actuaries) within the Illinois Insurance Department familiar with the actuarial memorandum and internal risk position reports used by insurers. The report produced by the Society of Actuary's Investment and Finance Section concerning risk position reporting has been a gold mine of information for me when discussing risk assessment with department co-workers.

UPDATING ASSUMPTIONS BY BAYESIAN ANALYSIS

The one thing that needs a lot of work from both industry and regulatory actuaries is formalization of the process for updating assumptions used in Asset Adequacy Analysis and formulaic reserving using X factors. Some actuaries talk about the "feedback loop." I prefer to talk in terms Bayesian statistical techniques. One of the most interesting projects that I have worked on the last year was to develop a Bayesian statistical model to evaluate the X factors used by insurers. Model input comes from an insurer's internal mortality studies with expected claims and benefits based on the 1980 CSO Mortality Table with 20 year Selection Factors. The item of interest is the X factor(s). Being a Bayesian style analysis, the output from the model is not a point estimate but a distribution. This allows the user of the model to consider not only best estimates (median) but also estimates with specific margins. I believe this approach can be used in other areas. For example, there is no recognized regulatory standard for claim costs or continuance tables for long term care insurance. Experience, coupled with actuarial judgment, is the accepted standard. A Bayesian style approach for updating assumptions used in Asset Adequacy Analysis and the X factors used to calculate deficiency reserves makes sense to me.

THE FUTURE

A look into the future is incomplete without some mention of the challenges that face regulatory

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continued on page 20

actuaries and industry actuaries. With the financial world becoming ever more complex, specialized and competitive, regulatory actuaries will be hard-pressed to keep up with all of the new developments in products, investments and technology. Regulatory actuaries will need to develop new skills to assess risk. How will they find the time and financial resources to do this? No matter how hard regulatory actuaries struggle to keep on top of everything, they will have to place reliance on the work of the appointed actuary and other actuaries that perform work required by law or regulation. This, in turn, puts industry actuaries in the difficult position of, at times, disagreeing with management. It may be that a well-informed regulatory community could provide regulatory

support for the industry actuary in a difficult position with management.

Will actuaries be the “blacksmiths” of the 21st century, or can we harness the strength, initiative and courage to shape our destiny? I believe that any group of people who can persevere through a rigorous and demanding educational system like the one that we all did, can meet any challenge the future might hold.

In closing, I would like to thank everyone that I have worked with on actuarial projects. It has been a privilege to work with so many dedicated, professional people. ☺

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Financial Reporting Section Photos

“Old and New” section council members meeting in Boston –



Thanks Barry!

John Bevacqua, incoming section chairperson, presents retiring chairperson, Barry Shemin, with a gift of appreciation for his leadership and support during the past year.



Left to Right – Jerry Enoch (newsletter editor), Mark Freedman, Bob Wilson, Barbara Snyder, Barry Shemin (section chairperson (2001-2002), Jim Greaton and Tom Nace.

Other Council members: John Bevacqua, Ted Kitsos, Dan Kunesh, Mark Peavy and Deb Poorman.