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WHAT THE REGULATORS NEED

By John O. Montgomery

These are excerpts from a paper presented to the Actuarial Research Conference in October 1986 and to be published in full in the Actuarial Research Clearing House (ARCH) record of that meeting. These are my personal views and do not necessarily express the views of the California Department of Insurance.

The Need

The regulators need to be aware of a deteriorating financial condition of an insurer in time to protect its policyholders from the consequences of insolvency. Certainly a large portion of insolvencies are the result of unfortunate management decisions. Eras of great competitive action are followed by eras of retrenchment, when margins thinned by competitive forces become inadequate to cope with fluctuations in claims experience, economic conditions, tax rulings and internal operating inefficiencies.

The Standard Valuation Law

The advent of universal life and related plans involving a deposit fund approach indicates a need to completely overhaul the present standard valuation laws which are currently in two parts, life insurance versus individual annuities. Premium deposit funds such as group deposit administration funds are not currently governed by standard valuation laws excepting for valuation interest requirements for the determination of minimum reserves.

The Standard Valuation Law for Life Insurance is based on the premise that the terminal reserve at the end of a particular policy year is equal to the excess of the present value of the future benefits payable over the present value of the future valuation net premiums, such present values being determined on assumptions of interest and mortality only. The Commissioner's Valuation Reserve Method also incorporates a limited assumption for initial expenses and their amortization over the renewal years. Controversy has arisen over what is meant by "present value of future benefits". Some regulators insist that

this is the present value of future guaranteed benefits including non-forfeiture benefits, thus requiring the greatest of the present values of future guaranteed benefits to be used in the above formula. This is analogous to the Commissioner's Annuity Reserve Value Method for specified annuity and endowment contracts.

In practice regulators have required mortality and interest assumptions for minimum basic policy reserves to be either those stated in the policy or, if not stated in the policy, those in effect for the calculation of minimum policy reserves at the time the policy form or series was first issued. However, for the purpose of calculating gross premium deficiency reserves or high cash value reserves, minimum reserve assumptions for mortality and interest in effect at the time the policy was actually issued are generally required.

The New York Insurance Department in recent years for Guaranteed Interest Contracts (GIC's) has allowed an insurer to value such contracts at a less conservative basis (lower reserves) if it demonstrated satisfactorily that the cash flow from the assets supporting such contract reserves matched reasonably the cash flow required by the payments of benefits anticipated and interest to be credited to such accounts. This is possibly a prelude to the future course of regulation.

The NAIC has assigned its Life & Health Actuarial Task Force the project of revising the Standard Valuation and the Standard Nonforfeiture Laws starting with basic principles and developing a practical approach to the valuation of life insurance policies, annuity contracts and health insurance policies and the determination of the nonforfeiture values on such policies and contracts. What is needed is a Standard Valuation Law which will define basic concepts and distinguish between reasonable and plausible assumptions as to the determination of reserves and the margins in surplus which should be held for plausible contingencies. In other words the Valuation Law should not only define the basis for policy reserves but also define the bases for determining the minimum surplus a company should hold for the risks assumed.

For competitive reasons most insurers are not willing at this time to lay their souls bare to a determination publicly of such a minimum surplus requirement. It is suspected that most prudent managements conduct such analyses privately, even expanding such projections for various scenarios of new business to determine if they can afford a more rapid expansion. This has been a problem in other countries as well, resulting in the solvency surveillance benchmarks used in Britain and in the European Common Market Countries. Canada is also exploring this route.

It is possible that solvency surveillance, in the United States could also develop into a benchmark process. However, it does not appear that the British, European or Canadian approaches would yield reliable results from what little testing has been done by the NAIC Life & Health IRIS Working Group. Companies operating in the United States are considerably more voluminous and varied. This is an area crying for research and new ideas.

Returning to the discussion of the revision of the Standard Valuation Law, it will probably include general rules for determining reserves offering both a net level premium and a deposit fund approach depending on the nature of the plan. Only the more traditional plans of ordinary life insurance, individual disability income insurance and individual medical indemnity could be valued on this basis. All other lines of life and health insurance would use the deposit fund approach. This would require a redefinition of the lines of business by valuation method as well as by risk structure. For larger insurers segregation of assets by various valuation groups might be required.

Each segment or group of plans valued might require a separate actuarial report supported by certain statutorily required documentations. Supporting regulations would define specific requirements for such documentation including interest, mortality, morbidity, persistency and expense limitations. However, the actuary would be permitted to depart from such limitations if supported by actual ex-

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What the Regulators Need

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perience demonstrations acceptable to the regulator. This is somewhat analogous to the procedure now allowed by the New York Department for the Guaranteed Interest Contracts.

The Need For Specific Guidelines Or Instructions

Some actuaries have often expressed the view that actuaries should have little or no restrictions on their activities so as to take advantage of all of the most current practices and expand them into new areas of activity. To some extent actuaries in Britain, because of their close communication with the Government Actuary and because of the limited number of companies operating in Britain as compared with the United States, have had that freedom. In Canada, with some 200 or so companies, again there has been a much closer relationship between the company actuaries and the regulators than in the United States with its 1,600 life companies and an equal number of casualty companies. Thus in Canada actuaries are also given more freedom of choice than in the United States.

Less than one-third of the U.S. companies even have a company actuary, and the others must rely on the advice of consulting actuaries if such advice is required. When a U.S. insurer has not operated with actuarial advice, this fact is revealed at the time of a state insurance examination. If the insurance examiners believe that actuarial analysis is required, it is done at that time, usually by a consulting actuary, and the expense is charged to the company examined. For consistency of regulation in the U.S. it is therefore mandatory that a body of specific instructions be prepared which is in a form readily understood by persons with little or no actuarial training. Actuaries would be required for analyses where the guidelines need further interpretation, where a situation arises which is not contemplated by the guidelines, or where the nature of the valuation requires documentation in the form of cash flow projections using various scenarios or using some form of direct probabilistic approach.

MAIL ALERT

The First Ballots for the Society's 1987 Elections were mailed to Fellows on March 31, and should have been received prior to the arrival of this issue. To be valid, ballots must be returned to the Society office by May 4.

Summary

In summary what do the regulators need?

1. Practical procedures for projecting the development of reserves and the effect of such development on the production of surplus.

2. Practical procedures for probabilistic multivariate analyses of the various factors contributing to the development of surplus and verifying the adequacy of reserves.

3. Readily verifiable systems for testing the credibility of projections.

4. If procedures for projecting surplus generation are not practically attainable for political reasons, a system of credible surplus benchmark criteria.

5. A financial reporting system that more clearly shows the financial progress of an insurance company, but retains sufficient information to validate the proper accounting of insurance transactions and to verify projections made with respect to the adequacy of reserves and surplus margins for plausible deviations from the assumptions used in determining the reserves.

6. Revision of financial accounting procedures in conflict with the concepts of analysis developed for the projection of cash flows and surplus generation.

You will note that nearly all of these needs are expressed in plural form. There probably never will be universal solution to all the problems involving the development of surplus. Each insurer must be treated individually unless it is an exact image of another insurer. That event has not yet occurred.

Because of the large volume of companies to be reviewed, surveillance procedures are needed to distinguish those insurers requiring detailed individual company analysis from those requiring only a perfunctory monitoring. □

SIGHTINGS

From a book entitled "Women in Mathematics" — by Lynn M. Osen:

Sophie Picard was born at St. Petersburg and educated at the University of Smolensk, where her father was a professor of natural sciences. She was surrounded by a literate and intellectual family, and both her parents helped her to prepare for a scientific career.

The Picards left post-revolutionary Russia in the 1920s and migrated to Switzerland, where Sophie studied and earned her doctorate at the University of Lausanne. Her father's death and the consequent financial problems forced her to take a job as an actuary, but her free hours were spent in study and research. She was eventually able to move into an academic position of distinction and came in time to occupy the chair of higher geometry and probability theory at the University of Neuchatel. The modern student of statistics and probability theory encounters her name frequently in discussions of group theory, function theory, the theory of relations, and so on.

Submitted by Donald Sondergeld

From a Star Trek novel "Black Fire" — by Sonni Cooper:

Kirk's meeting with McCoy was private. "Just what condition are we likely to find Spock in, if we are lucky enough to find him at all?" he asked.

"I'll be blunt. There are three possibilities: one, he's fine."

"Odds?"

"I'm not Spock, Jim, but I'd say eighty or ninety to one — against."

"That bad?"

The doctor nodded. "Two: the sliver's moved and he's paralyzed. Odds: I'd say an eighty percent probability. Three: He's dead; probability of the injury killing him, twenty percent. All this is conjecture, Jim I'm a doctor, not an actuary!"

Submitted by Ellen Torrance

From the Wall Street Journal:

LAWYERS' LAMENT: According to a survey of young lawyers for the American Bar Association's *ABA Jour-*

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