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VALUATION METHODOLOGY OR MYTHOLOGY?

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At the Dec. 6, 1986 meeting of the Life and Health Actuarial Task Force of the National Association of Insurance Commissioners, I made a slip of the tongue and used the word "mythology" instead of "methodology". Later others asked me if in fact I meant to use "mythology" in view of the primitive and subjective state of the art as to the valuation actuary choosing assumptions deemed most appropriate to value the liabilities.

In past years valuation actuaries felt safe, secure and satisfied in calculating reserve factors on prescribed mortality tables, interest rates and valuation methods and applying such factors to year-end in force. Now the valuation actuary is asked to take other factors into account, including some factors many actuaries have felt to be outside their realm of expertise and/or responsibility, but on which they may need to seek advice.

In 1982 the New York legislature enacted the 1980 NAIC amendments to the Standard Valuation Law including the dynamic valuation interest rate. The New York law differed by requiring an actuarial opinion and memorandum as to the adequacy of reserves and the supporting assets for annuities, annuity benefits and guaranteed benefit contracts for use of the higher set of valuation interest rates (based on the formula using 100% of the weighting factor above 9%). In 1985 the legislature amended the requirement and called for the opinion and memorandum regardless of the valuation interest rate. The Superintendent promulgated Regulation No. 126 Valuation of Annuity on Dec. 17, 1986 to implement the law.

For a summary of the valuation actuary in other countries and the development of this concept in this country, we suggest the August 1986 Report of the Valuation Actuary Task Force to the Board of Directors of the American Council of Life Insurance.

While much has been written as to the risk of changing interest rates on

guaranteed interest contracts with cash values and on contracts without cash values, this article uses the structured settlement area to illustrate some of the problems, the need for further research and development and the need to interface with others and to seek advice. This paper does not discuss tax and reinsurance.

There is also risk in the case of immediate annuities even where there is no right to a lump sum of the future payments at a guaranteed rate of discount. If high yielding assets without call protection are backing such annuities, there is the danger of call in event of declining rates. Low grade, high yield assets may be subject to a higher rate of default, particularly in time of declining rates. There is far less risk in event of increasing interest rates.

For many years prior to the enactment of interest rates of the 1980 amendments to the NAIC SVL, the fixed valuation interest rates in the law did not keep pace with the rising interest rates. Single premium immediate annuity business was generally not a large segment for most insurers. Insurers absorbed the surplus strain of having to value business written at more conservative valuation rates of interest than the rates insurers could realistically expect to earn on new investments and assume in pricing as initial reserves were greater than gross considerations received. Following the 1974 Employees Retirement Income Security Act, many non-insured pension plans terminated and both deferred and immediate annuities were purchased from insurance companies. Today structured settlements (periodic payments in settlement of tort claims) have become a fairly large market.

In the 1970's the surplus strain was great. The valuation interest rate for group annuities and individual single premium immediate annuities was first updated from 3.5% to 6%, then to 7½% and then indexed according to the average for a 12-month period, ending June 30 of the calendar year of issue or of purchase, of Moody's Corporate Bond Yield Average - Monthly Average Corporates. Effectively this appears to assume the segmentation of assets for various blocks of issue years prior to

1981 (or such later date as adopted by a given state, 1982 in case of New York) and by each calendar year of issue thereafter. However, the law does not specifically require such segmentation.

With the advent of the dynamic valuation interest rate, one could no longer say that the valuation interest rate for single premium immediate annuities was conservative. The valuation rate for a given year of issue is 3% plus 80% of excess of the 12-month Moody's average over 3%. In case of rising interest rates, the 12-month average may be said to be somewhat conservative, lagging behind the rates current at issue, but since 1982 we have been experiencing a decline in rates such that the lag infers the valuation rate is higher than it should be. For example, with opinion and memorandum in New York and regardless in other states, the valuation interest rates are 13.25% for 1982, 11.25% for 1983, 11.25% for 1984, 11.00% for 1985 and 9.25% for 1986. In case of the first nine months of 1986—the Moody's monthly averages have ranged from a high of 10.75% for January to a low of 9.44% for August. Lest anyone think that insurers can do better than Moody's, a review of a survey of the top 25 insurers licensed in New York and a more extensive survey by the American Council of Life Insurance indicate that new investments by life insurance companies are not as high as Moody's for each calendar year from 1982 through 1985.

If the company management should decide to take capital gains by selling high yielding assets and replacing them with lower yielding assets, the valuation actuary in calculating statutory formulae reserves should ascertain whether the yields of the new supporting assets can still justify the valuation interest rate or whether he should lower the rate. The cash flow analysis of assets and liabilities might indicate a need for a greater amount of assets to support the liabilities.

During 1986 much attention and concern have been expressed over the much higher rate of default on junk bond (low grade high yield high risk obligations with yields 3, 4 and 5% greater than high grade investments.)

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On Sept. 25, 1986 we had a public hearing on then proposed Regulation 126. The proposal stated, "The actuary should take account of the quality of assets in the projection of investment cash flows". The written statement by the ACLI restated its Task Force comments on the quality of assets that ultimately the effect needs to be considered, that methodology and techniques need to be developed but until then the actuary should not be required to comment on the effect of the quality of assets. In our reply of Oct. 30, 1986, we stated it would be wrong for the actuary to ignore the higher default rate on junk bonds and we suggested a simple procedure of lowering the projected investment income. The ACLI letter of Nov. 11, 1986 agreed that "the possibility of asset default has to be taken into account in some manner, explicitly or implicitly, in projecting investment income", but requested we not look for uniformity but "permit any reasonable method."

In the final version of the regulation, we expanded on this area. Regulation 126 does allow the actuary to rely on the investment officer to some extent, but notes that either the investment officer or the actuary make an adjustment for low grade obligations and suggests adjusting the cash flow of assets by a reduction in annual income of 2.5% of principal of junk bonds. It allows other methods and procedures and states the actuary should justify whatever procedures he uses.

This also affects the pricing actuary. While it may be customary for the pricing actuary to rely on the insurer's investment officer to advise as to the return on new investments and on the portfolio in general, in light of the recent focus on junk bonds it would appear that the actuary should be advised as to the rate of return, the type of investments, the repayment of principal and of interest, the term to maturity, the call features and the quality of assets, and as to any adjustment made by the investment officer for quality of assets. If an insignificant or no adjust-

ment has been made and if the rate of return is significantly greater than the Moody's monthly average current for the period of new investment, then the actuary should seek advice as necessary from investment managers and make an appropriate adjustment in his pricing assumptions. The valuation actuary's work may serve as an audit of pricing.

A Nov. 1, 1986 report of a New York University study of junk bonds noted that there was a much higher rate of default associated with junk bonds. While it did not advocate specific limits, it did recommend use of the prudent man rule and spread of investments both over different industries as well as over different companies within an industry. With such a spread, the default on some investments might be able to be absorbed, but such would tend to bring the aggregate net return down closer to the Moody's average for high grade investments. This study also indicated that the rate of default increases by year since acquired, thus suggesting the need for a reserve. Based on this, I feel the current Mandatory Securities Valuation Reserve is insufficient for junk bonds. It is my opinion that such reserve should be considered as a liability rather than earmarked surplus. The New York Insurance Department prefers to place specific limits as to the portion of total assets which may be invested into junk bonds.

The implementation of the valuation actuary concept in the limited area of annuities and GIC's by one state is expected to spread to life insurance and accident and health insurance and to all companies in the United States. Various industry experts have recommended a change in the valuation laws. An advisory group to the NAIC Life and Health Actuarial Task Force is studying the reconstitution of the valuation laws for life insurance, annuities, and accident and health insurance.

As we gain more experience, some of the parameters may be more clearly defined. Some actuaries may not like the added responsibility, but the actuary cannot make any judgement as to the adequacy of assets and future premiums to meet future obligations without considering underwriting, marketing, contractual provisions and investments. Actuaries need to coordinate with

DEATHS

Edward C. Benham	ASA 1956
David E. Phillips	FSA 1977
G. Frank Waites	FSA 1940
Robert W. Walker	FSA 1944

FOR YOUR READING

"Measurement of the Actuarial Status of the Social Security System" — a Report of the Committee on Social Insurance, American Academy of Actuaries, January 1987. Available through the Academy's Washington office.

"Retirement Forecasting — Evaluation of Models, Volume 1; Technical Descriptions, Volume 2". United States General Accounting Office (GAO) December 1986. Available through US GAO, PO Box 6015, Gaithersburg, MD 20877. First five copies are free. □

others, at times relying on others and at times advising others. The actuary needs not only to be tactful but also ready to justify his judgements and to be prepared for malpractice lawsuits. The American Academy of Actuaries' Standards of Practice may or may not provide sufficient safe harbor. I feel that the AAA standards need to be updated and that the effect of the quality of assets cannot be ignored until standards are developed. If the actuary ignores an important element in forming his opinion, then we have actuarial mythology rather than methodology.

From a regulators' standpoint, I prefer an objective standard for reserves. I feel the present statutory formulae standard is obsolete. Perhaps some version of market value of assets and market values of liabilities using factors current as of the valuation date can be developed. I envision retention of some objective standard along with the requirement for a judgement based on the actuary's analysis of assets and liabilities of his company, and using his choice of assumptions within prescribed parameters. The statement reserves should be the higher of the formulae reserves and of those indicated as necessary by the valuation actuary's tests. □