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Editor's Notes

by G. Thomas Mitchell

This issue emphasizes a number of U.S. statutory valuation and tax issues for individual life insurance. The new XXX rules on valuation techniques and mortality rates are discussed by Veeta Ewan and Andrew Boyer from the viewpoint of universal life, particularly with secondary guarantees. I summarize various discussions that took place since the last issue on Larry Gorski's article on selection of the "X" factor, for mortality, the ratio of mortality used in reserves to a tabular standard.

Universal life gets more discussion in a letter from David Hippen, suggesting that the guaranteed maturity premium (the valuation net premium, if you will) for flexible premium contracts should be capped by the U.S. tax premium limits. Allan Ryan and I comment with two differing views.

Speaking of taxes further, Cherri Divin and Arthur Schneider outline a complex new IRS rule allowing remedies for companies that have inadvertently subjected U.S. life policies to become Modified Endowment Contracts subject to stricter taxation.

Jim Reiskytl brings us up-to-date on developments in Dynamic Financial Condition Analysis in the U.S. and Canada.

As fair value accounting looms up on the U.S. GAAP and international IASC fronts, Mike McLaughlin and Joan Lamm-Tennant summarize in amazingly succinct fashion the Fair Value Seminar earlier this year sponsored by the Section and New York University. Read this one slowly; it is chock full of insight, varying viewpoints, and condensed wisdom.

Your Section continues to be quite active. Shirley Shao covers much of the Section's activities and hope for the future in her Chair's comments. We are very thankful for her active and imaginative leadership this last year. Ed Robbins updates us on the money (plenty of it in the till) and also the Mexico City seminar, part of an ambitious and well received series of seminars around the world. Thanks to Ed, Shirley and many others for their efforts in this area.

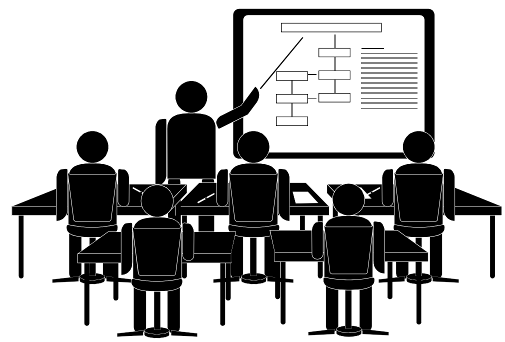
Finally, thanks for the opportunity to be your editor. Thanks to all the authors, editorial review board, Joe Adduci at the Society, and Section officers and Council members for all the support. Best wishes to Tom Nace, the new editor.

***G. Thomas Mitchell, FSA, is President, Aurora Consulting, Inc. in St. Louis, Missouri, and is editor of* The Financial Reporter.**

Canterbury Tales of Fair Value (Fair Value of Life Insurance Seminar—March 1999)

by Mike McLaughlin & Joan Lamm-Tennant, Ph.D.

Members of the POG (project oversight group) for this conference, wondered aloud, in a planning conference call, whether there had been enough new developments in fair value reporting of life insurance business to justify another conference. After all, SFAS 115 had been around since May 1993. Stock company analysts and management had come to terms with the idiosyncrasies of mixed (fair value and book value) accounting. One survey concluded that SFAS 115 was a "non-event."



Nonetheless, it had been over three years since the previous Society of Actuaries conference on fair values of insurance business was held in December 1995. Despite some uncertainty as to the likely quality and quantity of conference content, the POG decided to carry on regardless.

The conference, presented by New York University Salomon Center and the Society of Actuaries and sponsored by Deloitte & Touche LLP, Ernst & Young LLP, and Milliman & Robertson, Inc., was held in New York on March 18-19, 1999, at the NYU Stern School of Business.

With over 110 registrants from several countries including the United States, Canada, the UK, Japan, and the Netherlands, participants enjoyed a detailed and diverse review of the subject. Speakers included actuaries, accountants, academics, investment bankers, rating agencies, analysts, and senior company management. Five refereed papers were presented by their authors; 16 other invited presenters gave views based on their own specialized perspectives.

As to content, no one was disappointed.

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Theoretical limits, academic studies, and practical, down-to-earth experience were all covered. Computer simulations were conducted live, on-the-spot, and in color. While the speakers did not all agree, each ex-pressed their views forthrightly and with conviction. This was not a conference marred by hemming and hawing! Inter-active sessions were lengthy and outspoken. The last session of this lively conference was a debate, which surprised everyone with an unex-pected turn. The diversity was labeled a Canterbury Tales by one of your authors (Lamm-Tennant).

For more details, see the speaker summary following.

The conference made a significant contribution to the study of this topic, reflecting advancing thinking on the subject. The POG is delighted with the level of interest and participation. Pro-ceedings may be ordered from the NYU Stern School of Business at 212-998-0700.

Irwin Vanderhoof (New York University) began the Fair Value of Insurance Business Symposium by high-lighting many critical issues in need of further research and deliberation. A few of these issues are the appropriateness of the alternate fair valuation methodolo-gies, the use of a risk-free versus risk-adjusted discount rates and the recognition of cash value as a minimum value.

Paul McCrossan (Eckler Partners Ltd.) defined fair values by noting that the fair value of liabilities exceed the "best esti-mate" by the "market value margin" which reflects the reward for risk. Paul cited three interesting observations regard-ing fair valuations: (1) a lock in is in-consistent with fair valuations, (2) C3 mismatch is important to disclose, and (3) information on net expected cash flow is easier to understand than bouncing fair value assets and liabilities. Paul developed a case study comparing "Aggressive Life" to "Giant Life," and clearly articulates the importance of reporting value-at-risk, a priori. If the VaR of "Giant Life" had been reported, then we may have anticipated its dismal outcome sooner.

Wayne Upton (FASB), after singing the FASB disclaimer hymn, reported on the status of fair valuation. It was encouraging to learn that the FASB believes instru-ments should be carried at fair values when conceptual and measurement issues are resolved. Wayne defined fair value as a price that settles the insurer's obliga-tions. He noted that reinsurance does not provide a fair value for liabilities since the insurer's obligations are not totally settled. The various methods for deriving fair value were reviewed—cash surrender value, replicating portfolios, embedded value and present value. The cash surren-der value method is not popular in spite of its attractive simplicity. Replicating port-folios are debatable since typically the portfolio does not, in fact, replicate. Embedded value is dependent on the asset base and therefore introduces complexity, although Wayne acknowledged that there was gold in them thar (embedded value) hills. The present value approach intro-duces the debate surrounding the appro-priate discount rate.

Bob Wilcox (Deloitte & Touche LLP) reported that the objective of the NAIC is to agree on a single system meeting all needs holistically. Bob reported on the chronology of the NAIC's efforts in defin-ing fair valuation. In 1999 the NAIC accepted the 1998 report and agreed to set priorities to complete the development. Bob reviewed the Probability S-Curve, which evaluated the relationship between the probability of survival and resources/

Financial Reporting Seminar Was Held in Mexico City

by Edward L. Robbins

The Financial Reporting Section sponsored a full-day seminar in Mexico City on October 5, 1999 to the Mexican College of Actuaries on recent developments in actuarial practice in the United States. Subjects included cash flow testing, mergers and acquisi-tions, and capital management.

The faculty was Jim Bridgeman, Carl Harris, John Nigh, Ed Robbins, Roger Smith, and Jim Toole. Financial Reporting Section members were invited to attend, and simultaneous translation facilities were arranged.

Space for our Section members was limited to 25 attendees.

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obligations. The NAIC's approach is to look at the cash flows and if you can derive the future value of assets then you have the future value of liabilities by default. Concerns surrounding further developments of fair valuations is that knowledge/understanding is not widespread, therefore a need exists for broad exposure and discussion. Also, a significant amount of time is needed to implement fair valuations.

Martin Ruby (ARM Financial Group, Inc.) currently reports fair valuation of liabilities and is clearly a front runner in his practice. Martin indicated he used the appraisal method with sensitivity/ stress testing. Fair valuation calculations are problematic due to embedded options throughout the balance sheet, assumption setting and the degree of conservatism. After inquiring among analysts, Martin concluded that the FAS 115 adjustment is not recognized.

Tim Roff (Ernst & Young UK) reported on the embedded value method endorsed in the United Kingdom. The embedded value is composed of two parts—the operating component and the adjustments due to such issues as investments and exchange rates. Embedded value profit will be volatile, hence key assumptions must be disclosed and subject to external review. The challenge is that embedded values result in too much profit in the beginning and future year's profit become mechanical. After surveying European analysts, Tim reported that the usefulness of embedded value versus U.S. GAAP versus U.K. GAAP. Generally, analysts liked embedded values more than U.S. GAAP but wanted more sensitivity testing. Also analysts tend to agree that embedded values are better indicators of economic value added.

Colin Devine (Salomon Smith Barney) rained on our parade by articulating that "FAS 115 does nothing for analysts." He cited one exception whereby the analysts recognized the unrealized gains in an equity portfolio when valuing a recent acquisition due to the magnitude of the unrealized gains. Colin did clarify that his role as an analyst is to choose good stocks, not good companies. The analyst community begins by assuming that management has hedged the liability risk with the asset portfolio. Consequently they focus on (1) how fast the company can grow earnings, and (2) how fast the company can grow product.

Luke Girard (Lincoln Investment Management) reconciled two methods for determining fair valuation—the option pricing methodology and the actuarial appraisal methodology. In the prior symposium, the actuarial community appeared at odds with the financial community in terms of methodology and in terms of the appropriate discount rate. David Babbel, a very well-regarded financial economist, indicated that the appropriate discount rate is the risk free rate plus the debt spread less the adjustment for taxes. Luke brilliantly derived the same discount rate by using the appraisal method thus bridging the gap between the actuarial and financial professions.

Thomas Ho (BARRA) began by asking the participants to imagine a symposium whereby we were deliberating the methodologies for deriving market values for assets. We would not begin by focusing on accounting issues, rather we would begin by agreeing on a framework. Tom then demonstrated an approach where the link between assets and liabilities becomes the transfer-pricing curve. In his paper, Thomas actually values a SPDA product and illustrated that the assumptions are the only differences in the dueling methods for fair valuation. Tom also described the components of the spread, as arising due to profit targets plus credit and market risks.

Marsha Wallace (Transamerica Occidental Life) reported on their asset liability initiative and the inconsistencies between asset liability measures and accounting measures. Marsha made five observations. Market values are preferred as opposed to book values for both assets and liabilities (book values overstate value and this is particularly true when interest rates are volatile). If management focuses on market value measures, then the total return on assets and total return on liabilities become paramount. Current accounting does not capture all components of the change in value. Alternative performance measurement systems need be considered. The pilot test resulted in clear benefits from the alternate performance measurement system but also resulted in inconsistencies with accounting.

Mary Michel (Manhattan College) examined the role of earnings, historical book value and fair value disclosures in the valuation of stock life insurance companies. Her statistical analysis indicated that historical cost book values and earnings before security gains were significant in explaining market-to-book ratios. Unrealized gains on fixed income securities were not priced. Her conclusions support observations made by many, namely that market valuations of companies discount the effect of unrealized gains in equity.

"Simulation techniques are based on models, and all models are inadequate in one or more important respects."

Peter Duran (Ernst & Young LLP) reported results from an investigation of fair valuation financial reporting as it applies to SPDA products. Peter discussed alternate approaches but had an explicit preference for discounted cash flows consistent with product price structure. Numerous issues were discussed—gain or loss on sale, how to reflect risk, refreshing assumptions, discount rates, impact of asset portfolios, the insurer's credit standing and stochastic versus deterministic modeling. Of interest to many was the very short observed duration of the liabilities.

Sam Gutterman (PricewaterhouseCoopers) discussed his paper which gave an excellent overview of concepts under-

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Canterbury Tales of Fair Value
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lying valuation of future cash flows. He discussed valuation models, the estimations and adjustments involved, and related issues. He highlighted the differences in perspectives between a company's own measure of value versus the market value, which reflects the aggregation of many investors' expectations. Sam also elaborated on the difficulty of defining risk: there are many types of risk, and they can be reflected in cash flows, the discount rate, or both.

David Babbel (Wharton School, University of Pennsylvania) described the "ultimate" black box, as created by Fischer Black, in a paper published only after his death. The black box is a set of equations that solve for the term structure and distribution of interest rates and allows the prices of instruments to be determined. Dave emphasized the differences between solving a set of equations (closed form approaches) and simulation. Simulation techniques are based on models, and all models are inadequate in one or more important respects. For example, simulated interest rate models can be used to validate prices only at limited points in time. Dave also provided an interesting graphic showing the term structure of interest rates: a sort of Mandelbrot set among the Canterbury tales.

Tom Herget (PolySystems) would have won the prize, if there was one, for the best multimedia presentation. Tom described work he had performed relative to the Numeric Example sub-group of the Unified Valuation System group. He built a model of a 20-year term contract issued to 1,000 lives. Each year, individuals would lapse or die in accordance with a Monte Carlo simulation. A gross premium valuation was performed on the cash flows in each scenario. Tom not only summarized his work but also ran live simulations for the audience, thus showing not only the range of liability values at different points in time, but also his versatility as an actuarial entertainer. He also presented balance sheets and income statements and showed how different levels of risk (e.g., S-curve at 80% versus 95%) would affect the emergence of profits.

Jim Reiskytl (Northwestern Mutual), speaking first in a debate against Dave Becker, declared that there was no one answer to fair value methods. The "right" method would depend on what one is trying to accomplish. Jim described the Rip van Winkle method as the approach in which, 20 years later, it is clear what the value of the business was. Other than that, there may be no way to agree on the right value. Until the objectives are clear, perhaps a rush to judgment on fair value methods may be inappropriate.

Dave Becker (Lincoln National Life) had been set up against Jim in a debate, with the expectation that while Jim might oppose fair value as a concept for liabilities, Dave would provide an eloquent rebuttal. Such is the devious nature of the POG. After all, Dave had eloquently explained the option adjusted method for fair valuation of liabilities at the previous conference. In a surprise statement, Dave suggested that it was premature to move to fair value. Needs of users of financial statements were diverse and the challenges of implementing methods and defining the concepts were too great. Dave suggested that a well-defined function, first of all, had to exist to be measured. And it had to be independent of its representation. And, of course, the question is, does a fair or market value of insurance liabilities exist?

Mike McLaughlin (Ernst & Young LLP) summarized the proceedings of the conference, relying in part on the summary of the first day by Joan Lamm-Tennant. But he took the opportunity to reemphasize points made in his paper, the Indexed Discount Rate Method for Fair Valuation of Liabilities, part of the prior conference. The IDR method relies on multiple scenarios of cash flows, reflecting variability (i.e. risk) from mortality, persistency, earned interest rates, and other assumptions. The multiple cash flows are to be discounted for valuation purposes at a risk-free rate, because cash flow risk is expressed explicitly rather than indirectly through an interest rate spread. Tools are becoming available that would permit this approach to be used on a practical basis.

Has the state of the art in Fair Value advanced? The accomplishments of the conference include (a) reconciliation of direct and indirect methods (i.e. option pricing with discounted cash flows and appraisal methods); (b) examination of alternatives used in other countries; (c) rigorous academic demonstrations of our impressions about company value; (d) deeper understanding of spread and risk and the need to define level of risk; and last but not least, (e) discussion of real world practical experience with fair value of liabilities. The POG was very pleased with the outcome.

In conclusion, McLaughlin suggested an old aphorism, let the perfect not be the enemy of the good. Let us not reject good methods while we search for a perfection that does not exist.

The POG included Shirley Shao (chair), Paul Hekman, Mike McLaughlin, Georgene Palacky, Wayne Upton and Irwin Vanderhoof. Thanks also go to Barb Choyke and Zain Mohey-Deen of the Society of Actuaries.

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