

Casualty Actuarial Society Researcher(s) Wanted for Research Project

Practical Implications of Fair Value of P&C Liabilities

1 CASUALTY ACTUARIAL SOCIETY (CAS)

The CAS was organized in 1914 as a professional society with the purpose of advancing the body of knowledge of actuarial science applied to property, casualty and similar risk exposures. This is accomplished through communication with the publics affected by insurance, the presentation and discussion of papers, attendance at seminars and workshops, collection of a library, research, and other means. The membership of the CAS includes over 3,000 actuaries employed by insurance companies, industry advisory organizations, national brokers, accounting firms, educational institutions, state insurance departments, the federal government, and independent consultants.

2 CAS INTEREST IN THE SUBJECT

A core actuarial function is estimating the value of insurance liabilities. Under current United States GAAP and statutory accounting, the estimate for property/casualty insurance liabilities is usually the undiscounted value of all future payments under the insurance contract, with no allowance for the time value of money or any explicit risk provision. Lately, however, a change to a “fair value” approach has been discussed by various accounting standard-setters. The topic of the appropriate methods for estimating the fair value of insurance liabilities has been the subject of investigation and discussion in the actuarial profession in recent years. In 2000, the CAS Fair Valuation Task Force produced a white paper discussing the issues associated with fair value accounting and presenting methods for valuing insurance liabilities using fair value principles. Some of the proposed procedures are controversial.

Fair valuation represents an important departure from current methods of accounting for insurance liabilities. With significant and controversial changes being proposed by the accounting standards organizations, FASB and the IASB, the topic of Fair Valuation is of special interest to the CAS. An investigation into the impact of Fair Value Accounting on insurance company financial statements would be an important step in providing guidance to actuaries, accountants, and regulators.

3 STATEMENT OF THE PROBLEM

Fair value accounting represents a major change in the accounting of insurance company liabilities. A straightforward definition of fair value is presented in the white paper of the CAS Task Force on Fair Value Liabilities:

- a. *the market value, if a sufficiently active market exists, OR*
- b. *an estimated market value, otherwise.*

The IASB has yet to develop a final set of principles and/or standards for estimating fair values for insurance liabilities, but has included the following statements in its recent exposure draft for Phase I of its insurance contract standard:

As implied by the definition of fair value:

- (a) *an undiscounted measure is inconsistent with fair value.*

- (b) *the measurement of fair value should include an adjustment for the premium that marketplace participants would demand for risks and mark-up in addition to the expected cash flows.*

- (c) *fair value measurement should reflect the credit characteristics of that contract, including the effect of policyholder protections and insurance provided by governmental bodies or other guarantors.*

The proposed changes are further detailed in the CAS Fair Value White paper cited above, and the IASB Insurance project exposure draft of Phase I released July 31, 2003.

To investigate the impact of proposed accounting changes on life companies, the International Actuarial Association (IAA) partnered with the ACLI (a U.S. life insurance trade association) to develop a real-world analysis of fair value and several alternatives. To simplify things, they took a standard annuity product sold in the U.S., assumed such a product was sold in 1970 to a 65-year-old male, and showed the resulting financial results under various accounting paradigms over the following 30 years. They chose the environment of the U.S. over the past 30 years rather than a hypothetical situation as it showed what had happened, not what might theoretically happen, and because the past 30 years in the U.S. has seen every type of yield curve imaginable.

4 PROJECT OUTLINE

Scope: The CAS is seeking qualified researchers to conduct a research project, similar in its goals to the ACLI project, but with a focus on property and casualty insurance. However, there is not a directly parallel analysis of P&C insurance products that would illustrate the impact of the fair value. Consequently, a different approach will be needed to investigate how fair value might work for P&C insurance and the issues it raises.

This research project is intended to address the following questions: How would a typical U.S. property and casualty (P&C) insurance company's financial statements be impacted by the change from current U.S. GAAP accounting to a new GAAP accounting paradigm based

on fair value? What issues might arise from such a change as to the usefulness of fair values presented in insurance financial statements? Particular concerns are with the relative reliability of the estimates under the current U.S. GAAP accounting rules versus a fair value approach, as well as the relevance and transparency of the income statement impacts that result. The following are specific differences between current U.S. GAAP and the fair value approach being discussed by the IASB that should be addressed.

Time value of money (versus not reflecting the time value of money, which is the most common U.S. GAAP practice). The casualty actuarial literature indicates a risk free rate be used for discounting, with the selected rate matching the duration of the liabilities. An appropriate alternative would be to apply a schedule of risk free rates matching the projected future cash flows (i.e., yield curve).

Market value margins to reflect the market charge for risk and uncertainty. As discussed in the 2002 CAS white paper, the casualty actuarial literature contains multiple approaches to estimating risk margins. The IASB's preliminary discussion to date on the concept of market value margins as applied to insurance liabilities has focused on the market view of the cost of transferring a portfolio of insurance liabilities. Market value margins do not include the default risk of the "holder" of the liability, as discussed below. Two simple approaches should be selected and applied by the researcher(s). The market value margin methodologies should be based on (but are not limited to) percentile(s) (such as the 75th) of an aggregate probability distribution or the mean plus a margin proportional to the standard deviation (such as one standard deviation). Additional methods or variants of these methods can also be included.

Reflection of the liability "holder's" credit standing. Methods for reflecting credit standing are described in the Fair Value of Liabilities white paper. Given the limited funding available for this research and the requested time frame, this aspect of fair value is not included in the research at this time. However, the project may be extended with additional funding at a later date to include investigation of this or other topics. The researcher will not be obligated to perform such additional research.

The analysis would illustrate these concepts for:

- Short tail business where the claims are paid quickly versus long tail business where the claims are paid out over a number of years.
- Low volatility in estimated claim runoff versus high volatility. (e.g., workers compensation first dollar coverage is frequently viewed as a long tail line with relatively low claim runoff volatility.)

The analysis would rely on actual historical data as much as possible, so that the resulting analysis would be as illustrative as possible as to what "would have or will" happen versus what "theoretically should or might" happen. Possible sources of data are Thompson Financial and A.M. Best.

Requirements: In order to better define the expected deliverables for this research, the following items include elements to be included in or excluded from the research. Excluded or "not required" items (such as the use of more sophisticated methods for determining market value margins) may be included by the researcher on a supplemental basis provided

that the results using supplemental information are separated and this additional research does not imperil in any way the delivery of required items below in the indicated timeframes. The CAS is not obligated to provide any additional funds for such supplemental research.

- Data used should be currently publicly available, e.g. US statutory annual statement data.
- Data is not required to be more frequent than annual.
- Extensive data cleansing is not required, but removal of problem data is acceptable.
- Analyses by individual company/group are not required.
- lines of business should be included – workers compensation, auto liability (personal auto only) and medical malpractice (claims made).
- Use of accident year level of detail is required.
- Analyses should be on an individual line of business basis. Adjustments for diversification and correlation across lines or accident years should be excluded.
- Analysis should be based on a cross section of companies.
- Use of loss ratios is acceptable and should be used where appropriate..
- Data should be gross of reinsurance, if possible, otherwise net data will be acceptable.
- Adjustments for change in definition of loss adjustment expenses is not required.
- Adjustments for trend, rate changes, market cycles, etc. are not required.
- Use of curve fitting, simulations, fitted distributions, or models are not required.
- Use of simple methods, such as averages, standard deviation and percentiles from empirical distributions, are required for loss development, payout schedules, and fair value estimates.
- Market value margins should include the risk of adverse development, but loss reserve deficiency estimates as of the latest statement date (12/31/2002) are not required.
- Market value margins should include the risk of variation in payout pattern.
- The market value margin portion of the fair value estimates should be identified.
- Market value margins should be computed for total reserves, all accident years, for each line of business analyzed.
- Market value margins should reflect the company specific level of risk for a given line of business. Market value margins should reflect a market cost of risk rather than a company (entity-specific) cost of risk.
- Market value margins should not include the risk of future changes in interest rates.
- “Risk free” discount rates should be used for computing discounted values. For the purposes of this project, these will be based on US Treasury securities and the associated yield curve at each annual 12/31 valuation date. (The CAS is aware of

arguments that Treasury rates may understate the true time value of money, but does not want to address that issue in this project.)

- Only valuations of liabilities for unpaid losses and loss adjustment expenses are required. It is acceptable to limit loss adjustment expenses to defense and cost containment expenses. Valuations of assets or other liabilities are not required. (The CAS is aware of potential fair value issues relative to the current unearned premium reserves, but does not want to address those issues with this project.)
- Comparisons of the financial statement impact of calendar changes in actual historical results vs. restated impact under the various fair value estimates are required. These comparisons should include both the average impact and measures of the variability of results across companies, e.g. percentiles and standard deviation. Also, the comparisons should measure variability across companies by calendar year and over several calendar years. Where relevant, there should also be a discussion of the main drivers of these observations.

Target audience is the International Accounting Standards Board (IASB) and staff along with the Financial Accounting Standards Board (FASB) and staff, with secondary audiences including CAS members and their employers/clients, actuaries practicing outside the US, plus those involved with property/casualty insurer valuations.

Timeframe is designed to meet the schedule of the IASB's work in developing Phase II of their insurance accounting standard. As reported by the IASB in their Phase I exposure draft, the IASB had developed tentative conclusions for Phase II by January 2003, but had to suspend this work for a period of time. They have stated an intent to return to work on Phase II in the 3rd quarter of 2003, with a desire to complete Phase II "without delay once [the IASB] has thoroughly investigated all conceptual and practical questions and completed a full and extensive due process." The CAS believes that preliminary findings by October 31, 2003, with a final product in early 2004 would help meet the needs of the P&C actuarial profession in providing useful input to the IASB.

Qualifications:

Familiarity with Relevant Literature: The researcher(s) should be familiar with the literature on fair valuation from accounting, actuarial, as well as financial and any other relevant sources, for any research relating to this issue. This would include draft proposals of FASB and the IASB, the American Academy of Actuaries 2002 public policy monograph, the ACLI project and the 2003 Geneva Papers Special Report to the Task Force on Accountancy.

Interested researchers can also review the reference section of the Fair Value of Liabilities white paper. The paper can be downloaded from the CAS Web Site at <http://www.casact.org/research/tffvl/index.htm>.

5 RESEARCH FUNDING

Funding for this research is principally through the CAS but may include other research funding organizations. The amount of funds available for this project is \$25,000. The CAS understands that this amount may only fund a portion of the expected cost. It is expected that the funds available may not be sufficient to cover the selected firm's normal fees. In

recognition of this contribution to CAS efforts, the selected firm will be publicly recognized in the press by the CAS as part of the communication for the study results.

The CAS is seeking other organizations to assist in funding additional research. To the extent that further research is needed and more funding is available, follow-up research may be requested. The selected researcher will not be obligated to perform such additional research work.

6 RESEARCHER PROPOSALS

Due to the tight timeframe, this project will require expedited action. The RFP itself is only being sent to consulting firms that employ ten or more CAS members (Tillinghast, Milliman, PWC, D&T, E&Y, KPMG, Mercer Oliver Wyman, EPIC, Pinnacle, Perr and Knight). The CAS Executive Council selected this criteria based on the perceived critical mass needed to both handle the tight time frames and absorb the costs.

Interested firms should submit their resumes (if a firm, of the principal individual(s) performing or directing the work), indicating how their background, education, and experience bear on their qualifications to undertake this research. Specifically, researchers should specify their qualifications and expertise to perform research in the application of accounting, finance, statistics, and actuarial theories to insurance problems. Researchers should indicate their relevant work or research experience and professional accomplishments (e.g., papers published).

In addition, researchers should supply a brief discussion of their proposed approach to the problem and indicate the data they will use for the project. This discussion should address the project goals presented in Section 4. If any of said goals cannot be achieved, the researcher should state that explicitly. Any cost of obtaining data will need to be paid for by the researcher out of the available research funds. The CAS will cooperate fully to obtain any discounts that may be available to reduce the cost of the data.

A subset of the CAS Executive Council will select the researchers who, in its judgment and on the basis of qualifications and expertise, is best able to perform the research project as outlined above in the timeframe demanded.

Interested researchers should submit their qualifications and any questions to:

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Receipt of submissions will be acknowledged. (Due to the tight timeframe, the CAS reserves the right to streamline the researcher selection process at any time.)

7 SCHEDULE

September 5, 2003	Researcher qualification submitted to the CAS
September 12, 2003	Selection of research team by CAS task force
September 30, 2003	Progress Report due to Oversight Committee
October 31, 2003	Preliminary findings delivered to Oversight Committee
Mid- 2004	Final report delivered with actual timing negotiable and potentially subject to modification based on IASB developments

8 PRESENTATION, OWNERSHIP AND PUBLICATION OF REPORT

If asked, the researcher(s) agree to be available to present the report at a CAS meeting or seminar. If travel is required, reasonable expenses will be paid in addition to the compensation provided in the research contract.

As a condition of selection, the CAS requires that all right, title, and interest, including copyright and patent, in and to the report be owned by the CAS. The selected researcher(s) must sign a formal Agreement (attached) that assigns all such rights to the CAS. Of course, in any publication of the report, the researcher(s) will be given appropriate credit. The CAS intends to submit the report to the CAS Committee on Review of Papers for consideration as a CAS *Proceedings* paper. Alternately, the CAS may publish the research in the CAS *Forum*.

Guidelines for submitting papers for publishing in the [CAS Proceedings](#) are as stated on the CAS Web Site at <http://www.casact.org/aboutcas/guides.htm>, and in the CAS *Yearbook*.

