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Auditing Defined Benefit Plan Valuations

By Corwin Zass

This article gives you a glimpse into the thought process of an actuary involved in the review of a defined benefit plan valuation.

The objective of the valuation is to compute the present value of all the employees' future pension payments. Just like in other valuations, the assumptions used in the calculations should reflect the nature of the pension plan and be the best estimate of the plan's future experience. Akin to life insurance reserves, where the actuary requires certain knowledge about the insurance product purchased and the attributes of the insured; the pension valuation requires knowledge about the employees covered under such a pension plan.

The reviewing actuary would at least review, discuss and document the reasonableness and consistency of the discount rate and the plan asset yields. A discussion with the employer's actuary is very helpful in understanding the rationale for assumption choices. It is also important to know if the assumptions were discussed with the employer prior to use in the valuation.

Again analogous to an actuarial appraisal report on an insurance enterprise, it is sometimes what the valuation report does not mention that provides insight into the aggressiveness or conservatism of the actuary's computations. The reviewer should consider the effect on the valuation of employee persistency within the plan (whether they leave from turnover, early retirement, disability, or death) and the type of pension payment (i.e. lump sum versus annuity type payout).

Since actuaries play a critical role in pension administration, some actuarial consultants hired by a plan trustee believe they should not be held liable for errors that are the fault of the retirement system or its other vendors, or that are made under time constraints that do not permit adequate attention to accuracy. It is generally accepted that actuaries should qualify their results in writing if they believe they have been given inadequate time to conduct their review.

One last comment is to note that under FAS 158 and effective for all fiscal years ending after December 15, 2008, the pension valuation date must be the same as the company's fiscal year end. Previously FAS 87 permitted the valuation date to be three months prior to the end of the fiscal year.

On page 5 we provide sample questions that we ask when auditing a defined benefit plan valuation.

If you would like to learn more or have one of our pension actuaries provide some additional insight, please call our office.

Events

April 7–9

The Life Insurance
Conference
Las Vegas, NV

April 9–11

The Retirement Industry
Conference
Las Vegas, NV

April 14–16

Enterprise Risk
Management
Symposium
Chicago, IL

April 21–22

IASB/FASB Joint Board
Meeting
London, UK

May 5–6

8th Annual Product
Development Actuary
Symposium
Tampa, FL

May 15–16

Advanced Financial
Reporting
New York, NY

May 28–30

Health Spring Meeting
Los Angeles, CA



ARM: Who We Are

Actuarial Risk Management (ARM) is an independent member of the BDO Seidman Alliance. ARM's staff, along with the expert actuaries from ARM's Actuarial Consulting Network, provides all necessary actuarial expertise and tools to ensure we can cover all actuarial disciplines.

All ARM representatives must comply with strict ethics and standards. We have access to the latest technological tools, ranging from modeling software of TAS and AXIS for our life clients to proprietary claims analysis tools for our health clients.

Our fees are aggressively competitive and our experienced actuaries provide you with objective, independent, and responsive actuarial consulting services.

Actuarial services include:

- Valuation and Financial Reporting
- Predictive Modeling & Loss Forecasting
- Corporate Modeling
- Reinsurance Expertise
- Expense Allocations and Analysis
- Capital Management
- Mergers and Acquisitions, Due Diligence
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- Data Management
- Product Development and Competitor Analysis
- Sarbanes-Oxley Assistance
- Retirement and Pension design and valuations
- Alternative risk management solutions, including captive and self-insurance



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Around the Actuarial World in 2 Minutes...

This month's highlights

By Corwin Zass



1. Some Practice Guidance for the Actuary

Recently, the American Academy of Actuaries produced three new practice notes to assist the actuaries involved with valuations.

- **Health:** a practice note about evaluating the impact of a disease management program on the cost and utilization of medical services.
- **Life:** a practice note on applying FASB's DIG 36, concerning embedded derivatives in modified coinsurance arrangements and similar insurance arrangements.
- **Life:** a practice note on anticipated common practices concerning AICPA SOP 05-1, which deals with deferred acquisition cost assets affected by replacement, or exchange of an insurance contract.

2. How Will the Proposed FASB Rule impact an Actuary's Pension Valuation?

A new pension accounting proposed rule might drive corporate pension funds away from illiquid and risky investments such as hedge funds, some experts believe. The Financial Accounting Standards Board last week approved issuing a proposal to require a more detailed breakout of corporate pension fund asset allocations, including derivatives, hedge funds and other alternative investments, to obtain a better assessment of concentrations of risk. FASB officials expect to issue the proposal, an amendment to Financial Accounting Standard 132 (revised), by March 7, followed by a 45-day public comment period.

3. The Start of 2008 Is Not Looking Too Good For US Pension Funding

According to Mercer, large U.S. pension plans have seen their funded status decrease by 7% to 8% in the first three weeks of 2008. Mercer also estimates that the recent downturn in global stock markets left U.S. plans with a combined loss of nearly \$110 billion since December 31. The funded status of pension plans generally improved in 2007. Returns met expectations in the 7% to 9% range and discount rates used to value liabilities rose 25 to 50 basis points. For a typical U.S. plan, that meant a decrease in liabilities of 2% to 8%. Given the rocky start of 2008, many are waiting to see how the Fed will react to the slowing economy in their decision whether to lower rates and how that will play on the bond market (thus corporate bond yields).

4. PBGC Proposes to Amend Annual Financial and Actuarial Information Reporting Rules

On February 20, the Pension Benefit Guaranty Corporation (PBGC) proposed to amend its regulation on annual financial and actuarial information reporting under ERISA section 4010 in order to implement the provisions of the Pension Protection Act of 2006 (PPA). Under prior law, reporting to the PBGC was generally required for those controlled groups with over \$50 million in unfunded pension liability. PPA modified that rule to generally require reporting for controlled groups with plans that are less than 80 percent funded.

Survival of the fittest

By Corwin Zass

Ernst & Young recently released their 2008 crystal ball outlook for the P&C insurance industry. The phrase “survival of the fittest” appears to be a recurring theme in their outlook for this sector due to shrinking margins and pricing pressures. Below is a summary of the six key issues to watch out for in 2008:

1. The challenge will be to sustain growth when margins likely shrink in '08. Those with strong balance sheets will look for other ways to help the bottom line, including stock buybacks and growth thru non-organic means, i.e. mergers and acquisition activity.
2. The industry will look for ways to improve their operations, including outsourcing and offshoring some back office functions and customer-facing business processes.
3. Understanding catastrophe risk and improvements in underwriting performance will be key to surviving the impending soft market conditions.
4. Adequate risk management within organizations that have invested in alternative asset classes, which in turn led to greater credit risk exposure, may gain a competitive advantage.
5. The companies left standing will be those with actuarial practitioners using more sophisticated financial and risk management methodologies to ensure efficient deployment of capital. The effect on Solvency II cannot be ignored since the capital investment requires extensive improvements to systems, processes and data.
6. IFRS will be here soon. Companies need to assess the impact of the proposals on their financial statements and educate key employees. It is one thing to have a plan, but it is the ability to implement that plan efficiently that counts.

No outlook is complete without looking back to see how good the soothsayer was with their predictions. Here is E&Y's 2007 outlook. I will let the reader decide which items came to fruition although many of the 2008 and 2007 points have common themes.



- Forward-thinking companies are aggressively managing quality and profitability across product lines, deploying capital judiciously and tackling rising costs.
- Opportunities remain for incumbents in the areas of underwriting, catastrophe exposure management, capital management, and expense management.
- Policyholders in coastal communities are still struggling with claim disputes, limited availability of products and daunting price increases. Companies will need to manage the "risks" of recovery.
- Reinsurance will be a particularly innovative market in 2007 that will push the limits on the use of advanced analytics at the transaction level as well as in the capital allocation process.
- Insurers will move toward a convergence of risk management activities to achieve well-controlled and transparent management of risk and capital on a cost effective basis.

To learn more on how some of these items may affect your P&C client, please contact ARM.

Actuarial Questions for a DB Valuation

By Corwin Zass



This article provides general questions used in a defined benefit plan valuation.

The primary issues addressed by a pension plan review are as follows:

Qualifications: Was the actuarial valuation performed by a qualified actuary and in accordance with the principles and practices prescribed by the Actuarial Standards Board? The Actuarial Standards Board has a Pension Committee which covers these Actuarial Standards of Practice (other ASOPs may apply):

- ASOP #2. Recommendations for Actuarial Communications Related to Statements of Financial Accounting Standards Nos. 87 and 88 (April 1987)
- ASOP #4. Measuring Pension Obligations (September 2007) Note: This revised document is effective for any work performed on or after March 15, 2008.
- ASOP #27. Selection of Economic Assumptions for Measuring Pension Obligations (September 2007) Note: This revised document is effective for any work performed on or after March 15, 2008.
- ASOP #34. Actuarial Practice Concerning Retirement Plan Benefits in Domestic Relations Actions (October 1999)
- ASOP #35. Selection of Demographic and Other Noneconomic Assumptions for Measuring Pension Obligations (September 2007) Note: This revised document is effective for any work performed on or after March 15, 2008.
- ASOP #44. Selection and Use of Asset Valuation Methods for Pension Valuations (September 2007) Note: Effective March 15, 2008

Membership Data: Was the input data relied on by the qualified actuary accurate and usable in the valuation? In other words, how complete and what was the quality of the data? Did the qualified actuary use any modeling of the members due to a large population? If so, did the report provide any model validation to the actual input items?

Actuarial Value of Assets: Was the actuarial value of the assets methodology reasonable and in compliance with Actuarial Standards of Practice?

Actuarial Liabilities: Were the plan benefit provisions appropriately accounted for in an accurate manner? Were the actuarial assumptions and methods applied consistently and correctly?

Funding: Did the qualified actuary use a funding method that was reasonable and did it meet generally accepted actuarial standards? Were the plan's funding methods, assumptions, and contribution rates applied consistently and accurately?

Assumptions: A thorough review of the actuarial assumptions tends to be outside the normal scope of an audit. However, the reviewing actuary should be able to conclude that the assumptions were "reasonable and appropriate" to use in the actuarial valuation.

Valuation Report: Did the qualified actuary prepare a formal report on the valuation? If so, did the report provide adequate communication on the process followed in the valuation and the results of the valuation? How did the report compare to the prior report?

P&C: Effective Use of Actuarial Expertise

By Lawrence Scott

The American Academy of Actuaries' Committee on Property and Liability Financial Reporting has recently published the paper "An Overview for Audit Committee Members of P&C Insurers: Effective Use of Actuarial Expertise."

The document provides a background on loss reserves, the actuary's integral role in establishing loss reserves, and actuarial considerations for members of audit committees and boards of directors. Many of the concepts mentioned in this article could also apply to similar reserves held by life and health insurers.

A sample checklist was developed by the AAA's Committee during the development of this paper, for the use of audit committee and board members. For your convenience, we have reproduced the checklist below:

Roles and Responsibility

- Name and background of primary internal actuarial contact, often the chief actuary
- Name and employer of each third-party actuary retained by the company to evaluate loss reserves
- Name and background of lead audit firm actuary

Loss Reserve Process and Loss Reserve Uncertainty

- Description of the process that management uses to set loss reserves
- An understanding of the steps that management takes to achieve objectivity
- How management considers internal and external actuarial indications when determining what to record as a best estimate and why there may be differences between recorded and indicated amounts
- The internal and external actuaries' point estimates and/or ranges of reasonable estimates and a comparison of these estimates to the recorded amounts over at least the most recent several years
- Key statistics and/or benchmarks appropriate for each line of business, such as loss ratios by accident year
- Amounts and explanations for changes in loss estimates that are being recognized in the current period
- Identification of the potential risk factors that could result in significant changes to loss reserve estimates in the future
- Estimates of developments that may be considered reasonably possible and examples of events that could cause such developments, perhaps based on historical sudden shifts in loss development

Historical Analysis

- The company's 10-year runoff table in the SEC 10K and the Schedule P – Part 2 Summary schedule, if available
- A summary of the loss reserve changes shown in these tables
- An understanding of the details of revisions to loss reserve estimates—what lines of business, which years, why such changes were identified
- A comparison to industry trends for the same coverages at this time and an understanding of why the company may or may not show similar development
- A comparison to the company's closest competitors

Industry and Competitor Trends

- Analyses of loss reserve adequacy for the lines of business that are relevant to the company
- Loss reserve development trends from competitors, and an explanation of whether, and if so, why the company may show similar development

Public Disclosures

- Oral and written report by opining actuary on their SAO, AOS, and analysis
- Explanation for the risk factors discussed in the opinion
- Identification of considerations useful in determining whether there is a risk of material adverse deviation
- Explanation of unusual values for the NAIC's Insurance Regulatory Information System ratios related directly to reserves

This checklist gives an outline of the topics covered in the paper, but is not a substitute for the document itself. The complete paper may be downloaded from the website of the American Academy of Actuaries: http://www.actuary.org/pdf/casualty/audit_sept07.pdf.

Six Notable Casualty Actuarial Stories of 2007

By Corwin Zass

The Casualty Actuarial Society identified the ten most significant news stories in 2007 affecting the casualty actuarial profession. We chose the following issues that have an effect on the financial position of P&C carriers.

- **S&P Expands Credit Review Process to Include Analysis of Enterprise Risk Management (ERM)**
In 2006, S&P added an assessment of ERM to its rating criteria for insurance companies; in 2007, it has expanded the ERM assessment to nonfinancial companies as well. These actions will put increased focus and higher priority on ERM in insurance companies and corporations.
- **Increased Use of Stochastic Reserving Techniques Aim to Quantify Uncertainty**
Regulators, rating agencies, and the SEC have been pushing insurance companies to disclose a range of estimates in an effort to illustrate the uncertainty in booked loss liabilities. Actuaries are increasingly turning to stochastic models rather than simply looking at a range of methods or using a varying percentage off of a base selection.
- **Fair Value Accounting—The World is Getting Smaller with Convergence of the IASB and FASB**
Actuaries in financial reporting have had a busy year with actions taken by the Financial Accounting Standards Board (FASB), International Accounting Standard Board (IASB), and the SEC. FASB promulgated FAS 159, “The Fair Value Option for Financial Assets and Financial Liabilities,” which allows entities to choose to report on a fair value basis. Meanwhile the International Accounting Standard Board (IASB) published “Preliminary Views on Insurance Contracts,” which aims to promote a public discussion. The IASB identifies three building blocks: a market-consistent estimate of cash flows, a current market discount rate, and an explicit risk margin.
- **Subprime Mortgage Crisis Affects Insurance Products and Insurer Investment Portfolios**
First, the investment returns for insurance companies will be adversely affected to the extent that companies have investments in mortgage-backed funds. Second, there will be reserving challenges for actuaries in many lines of business, including mortgage, homeowners, D&O, and possibly E&O.
- **Predictive Modeling Expands Beyond Personal Lines Pricing into Commercial Lines, Medical Trends and Claims Management**
Using various data-mining techniques will enhance insurers understanding of future contingent events.
- **Softening Market: Property and Casualty Rates Decline for Third Year**
Will the actuaries’ reaction to the softening pricing for commercial property/casualty markets be to reduce rates? How will the financial outlook of the P&C sector look 12 months from now, assuming actuaries can balance sound underwriting and pricing disciplines with controlled growth?

Looking forward to hearing from You – How and where can we work together?



If you have comments or suggestions for this newsletter, or if you have questions about our business, do not hesitate to e-mail us at newsletter@actrisk.com

Our Services

Actuarial Risk Management offers a wide range of services. Some of our services include:

2008 Actuarial Risk Management
Risk Review is published electronically by Actuarial Risk Management, an independent member of the BDO Seidman Alliance, to provide members the latest news and information about managing risk.

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If you have questions or comments about Risk Review, please send an email to

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Life & Annuity:

- Financial Reporting Duties for Statutory, Tax, GAAP, and IFRS
- Audits of Actuarial Liabilities
- Principle Based Capital and Reserves
- Economic Capital
- Value Based Management
- Merger, Acquisitions and Restructuring
- Products, Markets and Distribution
- Risk Assessment
- Reinsurance
- Expert Witness
- Experience Studies
- Sarbanes-Oxley / Model Audit Implementation

Who Are Our Clients?

- Insurance Companies
- Regulators
- Agencies
- Business Owners
- Hospitals
- Managed Care Providers
- Employers
- Hedge Funds
- Private Investors

Employee Benefit:

- Medicare Part D Assistance and Analysis
- Pricing of Group Medical, Dental, Disability, Life, Drug Plans
- Strategic Planning and Management Analysis
- Plan Funding (fully insured or self-insurance)
- Actuarial Plan Projections and Forecasts
- Self-Insurance Feasibility Studies
- Cost Containment Program (identification & evaluation)
- OPEB Valuations and Program Assessments (under FASB, GASB)

Managed Care:

- Valuation & Financial Reporting
- Provider Network Evaluations
- Benefit Plan Pricing & Premium Rate Filings
- Small & Large Group Underwriting
- IBNR Analysis
- Financial Reporting & Projections
- Predictive Risk Modeling
- HSAs & Consumer Driven Health Plans
- Actuarial Training Programs (Managed Care specific)
- Payor Drug Cost Reviews
- Expert Witness

Property & Casualty:

- Outstanding Claims Liability, IBNE, IBNR and Loss Reserve Analysis
- Product Profitability & Company Capital Management
- Excess Insurance Evaluations
- Loss Forecasts and Historical Profitability Analysis
- Models for Dynamic Financial & Cash Flow Analysis
- Cost Driver Analysis
- Reinsurance & Risk Transfer
- Relativity Factors
- Deductible Credits
- Regulatory Assistance
- Self-Ins. and Captive Prgms
- Audit Support
- Expert Witness

Retirement:

- Actuarial Funding Valuations
- Accounting Valuations and Disclosures (FASB 87, 88, 106, 112, 132, 158)
- Government Plan Valuations (GASB 25, 27, 43, 45)
- Claims Analysis
- Forecasts and Projections
- Plan Design, Evaluation and Re-Design
- Opinions / Recommendations on Assumptions

