

The Role of Actuarial Audits in Performing Due Diligence

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Public sector retirement plans (and retiree health plans) are receiving a great deal of attention these days. Some important reasons include:

- Various corporate scandals and their impact on public plan investments. Some plans have lost hundreds of millions of dollars due to fraudulent financial reporting by the corporations whose shares they own.
- The end of the 1990's great bull market caused a decline in plan assets and funded ratios and in some cases led to large contribution rate increases in public sector plans.
- The first wave of Baby Boom retirees began occurring in about 2000. By this time, older boomers are either retired or close to it. This will increase negative cash flows in public sector plans.
- Tax caps and reductions in state and federal revenue sharing have put tremendous pressure on local governmental budgets.
- Benefit structures such as Deferred Retirement Option Plans (DROPs) are difficult to understand and to explain to the public and have become subject to increasing scrutiny.

With the increased focus on public plans there is a heightened awareness of the need for due diligence on the part of trustees in performing their fiduciary duties. Trustees have a duty to select plan service providers prudently, and once selected, to monitor the quality of their work regularly.

Plan trustees work with retained advisors to manage risks. The primary risk is that the assets of the system will not support the liabilities without a large increase in the employer or employee contribution rate. Public pension (and retiree health) plans commonly use a number of tools to monitor and manage this risk, including:

- Actuarial audits
- Actuarial experience studies
- Gain/Loss analyses
- Asset/Liability studies
- Asset allocation models

This article discusses actuarial audits as a due diligence tool for plan trustees. High quality actuarial work can do much to ensure the long-term soundness of a pension plan. Similarly, low quality actuarial work, left undiscovered, can undermine a plan's financial security in a fairly short time.

What is an Actuarial Audit?

An actuarial audit is the scrutiny of one actuary's work by another actuary to ensure that actuarial valuations are performed correctly and that the methods and assumptions used are reasonable. An actuarial audit usually includes a critique of the plan actuary's judgment concerning the plan's exposure to risk. Such a critique should be made in light of the financial objectives of the plan.

For example, if the financial objective of the system is to establish a contribution rate that is expected to remain approximately level as a percent of member payroll from generation to generation, the audit might include a discussion of the characteristics of the actuarial valuation method (Entry Age Normal

Cost, Projected Unit Credit, Aggregate, etc.).

The Purpose of an Audit

An audit's main purpose is to verify that the actuarial work is accurate and the advice given is sound. Actuarial audits provide assurance to plan trustees and other interested parties that the financial condition of the plan, as stated by the actuary, is accurate.

In some plans, audits are performed on a regular basis. In others they are performed when danger signs in the financial structure of the plan appear. Examples of danger signs include:

- An unexpected decline in assets resulting from payouts exceeding contributions and investment return;
- Retired life liabilities being less than fully funded with no significant progress toward full funding;
- A protracted period of decline in the funded ratio or increases in computed contribution rates without adequate explanation; and,
- An inconsistent relationship among the various valuation assumptions (sometimes difficult for an untrained person to notice).

Benefits of an Audit

The outcome of the actuarial audit reveals whether procedures are technically sound and if plan objectives are being met. Equally important, this type of review helps to generate a sense of security among those concerned with plan financing. The value of such knowledge may make the cost of the audit incidental.

The dialogue generated by the audit process usually has educational value. The basic funding principle of

paying for a benefit when it is earned may be easy to grasp. The implementation of the concept is often confusing, particularly if the plan includes a DROP or other complicated feature. The proper use of good advisors provides a chance to get a good look at the forest rather than getting lost among the trees of technicalities.

If the advice a plan has been receiving is inaccurate or inappropriate, the actuarial audit should bring this to light so that remedial action can be initiated. Finally, we all benefit from someone looking over our shoulder occasionally. The mere possibility that a fellow practitioner may analyze an actuary's work can result in additional care being taken in the valuation process.

Types of Audits

There are a variety of levels of actuarial audit. These are described below on a scale of one through four (one being the most comprehensive and four being the least).

Level One

A Level One audit is a complete actuarial valuation of the plan based on the same census data, assumptions and actuarial methods used by the plan's actuary. The goal is to replicate the results of the most recent valuation. This is sometimes called a replication audit. Generally, there is some testing of plan experience as part of the review and there is dialogue among the retirement plan representatives, the retained actuary, and the reviewing actuary. A detailed report and presentation of the findings in a meeting with plan representatives is standard.

Level Two

A Level Two audit includes a review of the actuarial reports of the plan and a test of the valuation results using a mathematical model of plan activity or sampling (as opposed to

performing a complete replication of the retained actuary's valuation of the plan). As in a Level One audit, there is dialogue with the plan's actuary and plan representatives. A detailed report and presentation of the findings would be included.

An auditing actuarial firm with broad public plan experience and technical capability can usually verify the retained actuary's previous results reasonably well with a Level Two audit. If results cannot be verified or explained, it may be necessary to expand the scope of the audit to Level One. This would be recommended before any action is taken as a result of the audit.

Level Three

A Level Three audit includes a review of the previous actuarial valuation reports, dialogue with the retained actuary and plan representatives and presentation of a report. At this level, there are no independent calculations. This approach may lead to savings of time and money, but the results will usually have less value. A Level Three audit may be of interest to smaller plans with limited budgets. Sometimes a plan can benefit by listening to the views of another trained actuary with different experiences and viewpoints than the retained actuary.

Level Four

A Level Four audit includes only a review of the most recent available actuarial report and a disclosure of the findings in letter format.

The scope of levels three and four are so narrow that the term audit may be misleading. The term review would be more appropriate in these cases.

Alternatives

Why not just change actuaries every 2 or 3 years and get the benefit of a variety of viewpoints over a long

span of years? There are a small number of public employee plans doing this. However, public plans today often have very complex provisions. Lack of continuity of advisors can result in less understanding of the financial position of the plan, lower quality actuarial work, and higher fees. There also may be a tendency to overemphasize small differences in approach that are not material to the long term well-being of the plan and its participants.

Continuity and consistency are important to a client who is interested in obtaining the highest quality actuarial work. The best consulting advice (which may be requested on a daily basis during a period of stress or change) depends on the consultant's knowledge of the system's history and trends. The same is true for the annual valuation work and related activities.

But, continuity and consistency are not substitutes for alternate actuarial viewpoints or a check on actuarial calculations and advice by an unbiased peer professional.

Public plan boards that have regular annual valuations along with good communication with their advisors may feel little need for another opinion. But how many of us would seek a second medical opinion if we had to make an important medical decision for a person who could not speak for himself or herself? In situations like that, the physician may recommend a second opinion. This is actually the position in which most public pension boards and actuaries find themselves. They must make decisions and provide advice for the good of the plan participants, who may have no voice in the decisions other than that of the trustees.

Guidelines

Our experience as a firm is considerable and was developed over time by serving as both auditing actuary and audited actuary. The following guidelines have been developed as a result of this experience.

In the absence of danger signals or special circumstances, actuarial audits should be scheduled on a periodic basis. The Government Finance Officers Association recommends actuarial audits at least once every 10 years. Many larger plans have a policy of having an actuarial audit every 5 years, and a few have an audit more frequently. There are a few plans that have an auditing actuary on retainer and have annual audits. Of course, any time unexplained danger signals or apparent discrepancies in methods or assumptions appear, or if major plan changes involving significant costs are about to be made, the time is right.

The auditing actuary is typically selected through the competitive bidding process (the use of a request for proposal, RFP, is common). The auditing actuary should have experience with the type of plan being audited.

Fees for an actuarial audit can vary widely depending on the complexity of the plan, and the extent of the audit. A Level One audit could cost more than the retained actuary charges for the valuation. A Level Four audit could cost as little as a few thousand dollars. But if a plan has liabilities of, say \$1 billion, and a 5% mistake is found, the value of that mistake would be \$50 million!

Contents of an Audit Report

Generally in actuarial work, there is no unique, correct answer; rather there is a range of reasonableness. In light of this, one might wonder what constitutes an actuarial mistake. There are two basic types: The

first type of actuarial mistake includes actuarial results that are outside of the bounds of reasonableness. The second type of mistake includes actuarial results that are within a range of reasonableness but contain minor math errors, show poor judgment, or are based on false premises or bad data.

The second type of mistake is more common than the first. An actuarial valuation is a complex undertaking involving many assumptions and calculations. No two actuaries will ever agree precisely on the results of an actuarial valuation and many valuations have at least a small amount of the second type of mistake described above.

If overall, the reviewer thinks the plan has been getting good advice, this should be stated as part of the findings. Indeed, this should be stated first (if it is true).

The reviewing actuary should then provide criticisms and suggestions in order of relative importance and should explain the difference between matters, if any, that he or she thinks are large and those that are more minor judgment items. Without this sort of classification, the audit results may cause unnecessary confusion.

At some point, depending upon the type of audit being done, the auditing actuary should provide a comparison of the retained actuary's mathematical results with those of the auditing actuary. The comparison should discuss whether or not differences between the two sets of calculations are within reasonable bounds. It should also provide commentary on the assumptions and methods that the retained actuary uses.

Finally, the auditing actuary should make general suggestions for improving the retained actuary's work product and providing more clear

explanations of actuarial work to the trustees.

The end result should be that every one involved is glad that the audit was done.

Follow Up

If areas of concern are discovered during the audit, the reviewing and retained actuary should ideally work together to resolve any concerns. If errors are found, these should be corrected in a professional manner. The next audit should verify that corrections have been made. From our perspective, the goal is sound financial management of public employee plans. It is in everyone's best interest to ensure that a plan's actuarial work is sound.

One Towne Square, Suite 800
Southfield, Michigan 48076
Phone 248.799.9000

www.gabrielroeder.com