Pension Plan Assumptions—
The Importance of Getting It Right

Trustees should understand the reasoning behind key assumptions about pension plans. Overly optimistic assumptions eventually have a negative impact on a plan’s financial stability.

by Michael A. Ledbetter, CEBS, and Jason Birkle
The years following the 2008 collapse of the financial markets have been very challenging for defined benefit (DB) plans. To comply with Pension Protection Act (PPA) requirements, many plans have slashed benefit accruals, eliminated popular benefit options and implemented rehabilitation plans that dramatically increased contribution rates.

Aggressive action and an improving economy have allowed many plans to return to a position of relative financial stability. A recent report from the Segal Company reveals that 65% of calendar year plans are now in the “green zone” (no longer “critical” or “endangered” as defined by PPA).¹

Despite these recent gains, many view the economic recovery with skepticism. The hardships created by the 2008 market collapse remain fresh in the minds of stakeholders such as plan trustees, participants and actuaries.

Trustees are under pressure to ensure the problems faced in 2008 never occur again and are concerned by any change that increases a plan’s liabilities.

The difficult landscape facing underfunded multiemployer pension plans has highlighted the critical role of plan assumptions in determining liabilities. There can be a strong incentive for stakeholders to advocate for overly optimistic plan assumptions that boost a plan’s funded status over the short term. While this choice of action may be temporarily appreciated by those weary of dealing with pension problems, unrealistic plan assumptions can pose long-term risks to struggling plans. To the extent actual experience does not match overly optimistic plan assumptions, unexpected costs will be created that will have to be addressed in the future.

“Expect the best, plan for the worst and prepare to be surprised.”
—Denis Waitley
The use of unrealistic plan assumptions is part of the “kick-the-can-down-the-road” philosophy that has contributed to many current funding problems. The purpose of this article is to provide a basic understanding of the actuarial standards of practice that govern the setting of many DB pension plan assumptions. Trustees should be able to identify and explain the reasoning behind certain key plan assumptions. They should feel comfortable asking the plan actuary to justify the rationale behind these assumptions. Trustees who are knowledgeable and engaged are more likely to understand the impact that unreasonable assumptions can have on a plan’s financial stability.

First, it is important to understand what guidance exists for setting assumptions in a DB plan.

Actuarial Standards Governing Plan Assumptions

The Actuarial Standards Board (ASB) establishes actuarial standards of practice (ASOPs) for pension plan actuaries rendering services in the United States. ASOPs establish and define the appropriate level of practice within the profession and are designed, in part, to provide an analytical framework for exercising professional judgment. ASOPs identify what an actuary is supposed to consider, document and disclose during the course of an engagement. Actuaries are responsible for determining which ASOPs apply to their work on pension plans. The ASOPs establish principles to be used by actuaries but are not meant to dictate every step in the process of an actuarial assignment. Many principles appear throughout the ASOPs governing the pension valuation assumption-setting process, including:

- Actuaries may consider the views of experts when setting assumptions, but the final decision must reflect the actuary’s professional judgment.
- A range of assumptions may be reasonable and may be developed by an individual actuary or across the actuarial practice as a whole.
- Assumptions should contain no significant bias, meaning they are not overly optimistic or pessimistic.
- Assumptions used should be internally consistent with one another.
- To the extent processes used by an actuary materially deviate from an ASOP, the final report to the trustees should contain an explanation of the nature of, reason for and impact of the deviation.
- The plan’s annual actuarial report should contain detailed information on the assumptions used to value the plan. The report should be sufficiently detailed to allow another qualified actuary to review the report and provide an opinion on whether the work and findings were reasonable.

Prior to 2007, actuarial assumptions and methods used to determine costs, liabilities and other factors were required only to be reasonable in the aggregate. This meant a pension plan could use an unreasonable assumption so long as the combination of assumptions offered an actuary’s best judgment of anticipated experience. PPA modified this rule, and now each actuarial assumption the actuary uses must be reasonable and, in combination, must offer an actuary’s best estimate of future plan experience. In other words, an actuary certifies that the assumptions used are an unbiased estimate of future experience for each key demographic and economic assumption.

Key Actuarial Assumptions for Multiemployer Plans

For single employer plans, many of the key assumptions used are now defined by statute and no longer allow discretion in their determination. In contrast, a multiemployer plan and its actuary still have the latitude to exercise professional judgment and select the assumptions used to value the plan. Recall that selection of each assumption must be reasonable and, in combination, offer the actuary’s best estimate of anticipated experience. Although there are dozens of assumptions used when valuing a pension plan and providing projection reports, those dealing with investment returns, mortality rates and future employment rates are particularly important for multiemployer plans.

Investment Return Assumption

Actuaries use an investment return assumption (also called a discount rate or interest rate) to convert future amounts into an actuarial present value. In other words, the actuary is trying to determine whether the plan’s current assets, contributions and investment gains will be sufficient to pay for the benefit payments and plan expenses in future years.

The higher the return assumption, the more future investment gains are expected, so less money is needed today for the plan to meet its future promised benefits. According to the Government Accountability Office (GAO), most multiemployer plans use an assumption rate equal to the plan’s assumed rate of investment return.
the 2010 plan year, the GAO reported the average multiemployer plan used a return assumption of 7.52%. The 2014 edition of the Inventory of Construction Industry Pension Plans showed that the vast majority of multiemployer plans used a return assumption between 7% and 8% per year, with just over 52% of plans assuming a 7.5% return. Only six construction industry plans identified in the Inventory report used a return assumption above 8%.

The investment return assumption has been hotly debated in trustee meetings. Many trustees and some plan professionals do not believe it is reasonable in today’s markets to expect returns of 7.5% or higher over the next several years. To support their case, skeptics note that over the ten-year period through 2012, multiemployer plans in the Inventory report returned only 5.91%—for a cumulative underperformance of 14% over that period. Given the strong investment returns since 2008, many are understandably concerned about a future correction or prolonged downturn in the financial markets and are skeptical that the financial markets can continue to meet actuarial expectations. Conversely, other plan professionals take a longer term view and argue that returns over the past 20 years or more have exceeded the 7.5% threshold.

ASOP 27 governs the selection of economic assumptions, including the plan’s expected investment return. While an actuary may incorporate the views of experts when selecting an appropriate investment return assumption, the final decision is required to reflect the actuary’s professional judgment. ASOP 27 allows the actuary to consider such factors as the plan’s investment policy, investment manager performance, expenses and other factors when selecting an investment return assumption.

Despite the recent market volatility, actuaries are cautioned not to “give undue weight to recent experience.”7 The 2014 Survey of Capital Market Assumptions from Horizon Actuarial Services notes that absent unusually high negative cash flow, “it is usually appropriate to consider investment returns over an investment horizon of at least 20 years."8 This same report surveyed 23 investment advisory firms concerning their capital market assumptions and found an even probability of a plan exceeding or not meeting 7.5% per year over the next 20 years.

Conversely, the likelihood of a plan earning 8% or more over the same period was only 41.8%. Some commentators have noted that under the revised actuarial standards, “an actuary may find it more difficult to justify an investment return assumption significantly greater than the median projected return.”9

If the findings of the 2014 Survey of Capital Market Assumptions are to be considered a reliable barometer of future investment returns, then it appears a return assumption of 7.5% would be in a range of reasonable assumptions to use for many pension plans. Depending on cash flow, investment allocation and other factors, it is possible that a higher or lower assumption could also be warranted.

Trustees should request an explanation of the rationale used to determine the investment return assumption and work with the actuary and other plan professionals to better understand the factors considered in determining the assumption.

Unfortunately, plans using an aggressive investment return assumption may be facing an ugly reality in future years if those returns are not realized. A small change in the assumed rate of return can have a dramatic impact on plan liabilities. A 1% reduction in a plan’s investment return assumption can reasonably be assumed to increase plan liabilities by 10% to 15%. Such a dramatic increase in liabilities would result in a corresponding drop in a plan’s funded status, which inevitably will lead to in-
creased contribution rates, additional benefit cuts and potentially higher employer withdrawal liability.

**Mortality Assumptions**

Life expectancy has changed significantly since most plans were established more than 50 years ago. ASOP 35 requires an actuary to exercise professional judgment in the selection of an appropriate mortality table and the selection of mortality improvement rates. Actuaries typically use standard mortality tables but are expected to adjust their assumptions to better fit the plan demographics for factors such as a blue-collar workforce, income, gender, occupation, etc.10 Some large plans that have sufficient size are able to develop their own custom mortality table based on actual plan experience.

ASOP 35 indicates that actuaries “should” reflect mortality improvements from the date the table was published to the measurement date and from the measurement date into the future. For example, if a plan used the Retirement Plans (RP)-2000 table to set mortality assumptions in 2015, the actuary would need to recognize that mortality has improved in the 15 years since the table was published. Additionally, the plan should also reflect anticipated mortality improvement in the future. Most experts recognize that mortality trends will continue to improve, but there is a debate as to how long the trend of such rapid mortality improvement can continue. Some factors such as obesity, sedentary lifestyles and drug-resistant bacteria suggest that this trend could slow significantly in the future.

Not every plan will use the same approach in developing a mortality assumption but, as with other assumptions, the rationale as to how the assumption was chosen should be documented.

In October 2014, the Society of Actuaries issued its *RP-2014 Mortality Tables Report*. Many multiemployer plan actuaries have questioned whether the new tables are appropriate for multiemployer plans and have delayed their implementation. For example, the Segal Company recently released a study outlining mortality experience of 271 multiemployer plans and over 200,000 deaths from 2008 to 2013.11 The study showed that the plans experienced 9% more deaths than predicted by the RP-2014 blue-collar annuitant mortality tables. Additionally, the study showed that the mortality improvement experience was less than predicted by the Mortality Projection (MP)-2014 Mortality Improvement Scale.

It is important that trustees discuss their plan’s mortality assumption with their actuaries and understand that the new RP-2014 tables may lead to a large, unnecessary increase in the plan’s liabilities that may not reflect multiemployer plan experience.

**Future Hours Worked**

For many multiemployer pension plans, especially in the construction industry, the assumption regarding future hours of work is a critical element of actuarial projections that has become even more important as projections are relied upon for zone status certifications and possible benefit reductions. Without an accurate projection of future contribution income based on the future hours of work assumption, the actuary’s forecast could differ greatly from the actual results.

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**takeaways**

- Using unrealistic plan assumptions will result in unexpected costs that trustees eventually must deal with.
- An actuary may deviate from an ASOP in setting assumptions but must explain the deviation, why it was made and the expected impact in a report to trustees.
- PPA requires that actuarial assumptions must be reasonable and, in combination, must offer an actuary’s best estimate of future plan experience.
- Assumptions about investment returns, mortality rates and future employment rates are especially important for multiemployer plans.
- Many—though not all—believe the 7.5% assumed investment return used by slightly more than half of multiemployer plans in 2014 is reasonable. But a small change in the assumed rate of return can have a dramatic impact on plan liabilities.
- Not every plan will use the same approach in developing a mortality assumption but, as with other assumptions, the rationale as to how the assumption was chosen should be documented.
Despite the importance of projecting hours of service, there is comparatively little analytical framework to guide the setting of this assumption. ASOP 35 notes “[a]ssumptions for hours of service are generally plan- or industry-specific.” When making the annual certification of the plan’s funded status as PPA requires, the actuary may assume that the negotiated contributions will continue in future years or that employer contributions for the most recent year will continue indefinitely.¹² For purposes of the annual certification, the trustees must also provide the actuary with projections on industry activity, including covered employment and contribution levels. It is common for the hours-of-work assumption used in the annual certification to match the hours-of-service assumption in the valuation. As with other assumptions, it is important that the hours-of-service assumption be reasonable because large deviations in expected versus actual results could have a significant impact on the accuracy of the results.

Conclusion

Trustees are not expected to be experts in the field of actuarial practice or assumption setting for pension plans. The terms of the Employee Retirement Income Security Act allow plan trustees to rely on their actuary and other plan professionals to provide professional advice and consultation. Trustees do, however, have a duty to monitor the performance of the pension plan and to identify any potential red flags, which include unreasonable assumptions. To the extent a plan’s assumptions appear potentially unreasonable or outside of industry norms, the trustee should ask questions and make certain they are noted in meeting minutes. While there may be justification for the unusual assumptions, plan trustees should strive to confirm that every assumption used by the plan is reasonable and, in combination, offers the best estimate of future plan experience. By failing to do so, trustees risk creating significant legacy costs that will need to be addressed in years to come.

Endnotes

6. Horizon Actuarial Services, LLC, and Mechanical Contractors Association of America, Inventory of Construction Industry Pension Plans (2014 Ed.).
10. Actuarial Standards of Practice, No. 35 (2014).

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