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Considerations for **Discount Rate Selection**

by Arthur L. Conat

Working for an accounting firm, I find late fall and early winter are the peak times during which actuaries at our firm begin to receive calls regarding the selection of a discount rate. These calls often question us regarding the range of discount rates that the auditors would accept. Beacause of the significance of pension expense and related balance sheet disclosure, many clients ask actuaries to help them develop a budget for next year's pension cost well before year-end disclosure. Clients will often seek an actuary's opinion regarding their view of acceptable discount rates. In our current environment, one can anticipate a need to demonstrate the appropriateness of a weighted average discount rate caused by pressure from the users of financial statements. This emphasizes the need for actuaries to understand various approaches to establishing a discount rate, including the use of the yield curve.

Guidance within FAS 87 and FAS 106

When Statement of Financial Accounting Standards No. 87 (FAS 87) was released, many pension actuaries were concerned that they needed to regularly gather information regarding the "…rates implicit in the current prices of annuity contracts that could be used to effect the settlement of the obligation."[1] Although it was possible to get information regarding annuity quotes, it wasn't very easy. Fortunately another approach to the development of discount rates for FAS 87 calculations was offered. Employers were allowed to look to the "rates of return on high-quality fixed income investments currently available and expected to be available during the period to maturity of the pension benefits.[2]" Paragraphs 195 through 201 of FAS 87 provide insight into the Financial Accounting Standards Board's (FASB's) thought process toward setting discount rates at that time.

At that time, rates on such investments were still somewhat high, which allowed employers to establish liabilities similar to the ones they were accustomed to seeing in the funding valuations for their plans. Thus, companies may not have pursued the highest available discount rate when first adopting FAS 87. Figure 1 provides a table comparing a few benchmark rates in December 1987, December 1993 and December 2003.

The approach to setting discount rates became clearer in 1990 with the issuance of the Statement of Financial Accounting Standards No. 106 (FAS 106). Employers did not have a significant market to which they could turn to "settle" postretirement benefit liabilities. An approach, outlined in paragraph 186 of FAS 106, identifies the objective of setting a discount rate as being to establish a liability equivalent to an amount that if invested in high-quality fixed income securities would match the benefit payment stream. And, if the maturity dates of the fixed income securities do not extend to the end of the benefit payment stream, rates should be extrapolated from the *yield curve*. A rate developed by this process is called a defeasance rate.

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Figure 1

Benchmark Rate	December 1987	December 1993	December 2003
30-Year Treasury Rate (monthly average)	9.12%	6.25%	5.07%[3]
PBGV Vested Liability Rate	7.16%	4.97%	5.12%
PBGC Immediate Rate for Lump Sum Payments	8.25%	4.25%	3.25%
Moody's AAA (last day of the month)	10.06%	7.00%	5.63%
Moody's AA (last day of the month)	10.26%	7.21%	6.01%

[1] Statement of Financial Accounting Standards No. 87, paragraph 44

[2] Ibid

[3] As developed by the IRS as a substitute for actual issues of 30-year Treasuries

Paragraph 187 of FAS 106 reinforced the use of a defeasance rate for pension plans by indicating that the process for setting discount rates for pension plans and other postretirement benefit plans should be the same. This approach clarified for some the use of the term "effectively settled" from the term "settled" as the former does not include an insurer's risk premium, but rather only the time value of money. While the process is required to be the same, the process may develop a different discount rate for a pension plan than a postretirement benefit plan, even if the covered population is identical.

Enter the EITF

The FASB's Emerging Issues Task Force or (EITF) was established in 1984 to assist the FASB with identifying and resolving problems or concerns related to financial reporting that stemmed from the implementation of FASB's pronouncements. A member of the FASB has always chaired the EITF. The Task Force is comprised of voting members from accounting firms and industry and has two non-voting observers; one is from the U.S. Securities and Exchange Commission (SEC) and the other from the Accounting Standards Executive Committee (AcSEC). The meetings of the EITF have on occasion been used as a forum for the SEC to make announcements.

By 1993, interest rates had dropped approximately 300 basis points from 1987, when larger companies adopted FAS 87. There was a concern on the part of the SEC that many companies had not followed the spirit of the published guidance in selecting discount rates. On September 22, 1993, Walter P. Schuetze, chief accountant of the SEC, wrote to Timothy S. Lucas, chairman of the EITF, of the intention of the SEC Observer to make an announcement at an EITF meeting on the following day. The announcement declared the SEC's expectation that since rates had declined so precipitously from the prior year (approximately 100 basis points) that discount rates should also drop in step with the economy. The SEC Observer reminded industry of the guidance in paragraph 186 of FAS 106 and further identified that the SEC viewed a high-quality fixed income debt security as one that received one of the two highest ratings from a recognized ratings agency (e.g. Moody's AA or higher).

The EITF released the SEC Observer's comments on September 23, 1993 regarding the selection of discount rates as EITF Topic D-36. On January 11, 1994, James R. Boatsman, a Professional Accounting Fellow and professor at Arizona State University spoke at an AICPA conference on the topic of discount rates. Mr. Boatsman identified the use of the bootstrap method as a means by which one can transform yields to maturity of coupon instruments to comparable yields on zero coupon instruments. In his speech he also identified the problems of using instruments that contained call features; as such features could distort the shape of the yield curve if not handled properly.

Later in 1994, Solomon Brothers (now Citigroup) introduced the Solomon Brothers Pension Discount Curve and Liability Index. This tool was established as a means by which organizations can comply with FASB's and the SEC's guidance on the establishment of a discount rate. These have been available on the Society of Actuaries Web site since 1994, when they were established.

Evolving Practice

At year-end 1993, many companies engaged actuarial firms to assist with the analysis of bond yields and the establishment of a yield curve to select a discount rate in accordance with the pronouncements. As companies produced their analyses, many actuaries noticed an emerging pattern. The weighted average rate from a defeasance approach produced a rate closely related to the AA Average Corporate Bond Rate published by Moody's Investor Service ("Moody's AA Bond Rate") on the same date of the analysis for a large percentage of companies. Looking at a large number of analyses, the defeasance rate approach averaged a rate of 25 basis points higher than Moody's AA Bond Rate.

Many pension plans cover a group of participants that is relatively stable. The duration of the liabilities for any plan with a stable population would not be expected to change significantly over time, and thus the benchmark of the Moody's AA Bond Rate became the basis for many organizations as a reflection of the rate at which pension benefits could be effectively settled.

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Today's Climate

The collapse of Enron and its auditor Arthur Andersen set the tone for an intensified scrutiny of company practices as they relate to financial reporting. Section 404 of the Sarbanes-Oxley Act established a requirement that public accounting firms test the internal controls of public companies

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that become the basis for their financial reporting. Equity investments have suffered significant losses and the yields on fixed-income debt instruments have continued to decline.

The issues that comprise the basis for Moody's AA Bond Rate have also changed. The percentage of all issues of at least AA quality has dropped significantly since 1993. Many AA rated bonds have call features that can affect the duration of the bonds. Additionally, the spread between short-term and long-term bonds has widened in the past few years. Thus, the timing of the benefit payments now has a greater impact on the establishment of a discount rate.

Education Session with the SEC and FASB

On July 14, 2003, an education session was held with the SEC, FASB and representatives from many public accounting and other firms. The session focused on the development of the assumptions used in companies' financial reporting and disclosures. It was an opportunity for all parties to discuss the state of current practice and for the SEC and the FASB to express their viewpoints on the effectiveness of current practice.

The discussion uncovered that some SEC registrants did not maintain adequate documentation for their selection of various assumptions and that the initial explanations for choice of assumptions were many times inadequate. A theme that emerged from the education session was a need for greater documentation of the approach used by employers to select assumptions. The use of Moody's AA Bond Rate as a basis for the selection of the discount rate was specifically explored.

The SEC and FASB were particularly interested in the common practice for the selection of discount rates. They focused on a representation that there were a significant number of companies that were not performing an analysis like the one outlined in EITF Topic D-36. An opinion was offered that a weighted average rate could not be justified without discounting the benefit payment stream to identify the effect of the current market.

The theme of greater documentation is echoed in Section 404 of the Sarbanes-Oxley Act. The assumptions used in the disclosure of pension plans are the employer's assumptions. The rules surrounding the testing of internal controls of SEC registrants are still evolving; many believe that the controls surrounding the selection of the assumptions used in such disclosures will be included in such testing. As such, employers may ask their actuaries to assist them with the construction of the procedures they will follow to regularly select the assumptions used in their financial reporting.

Upcoming Considerations

The use of a yield curve is gaining popularity as a means to discount a benefit stream. Its use is grounded in the theory that it better replicates all of the underlying components of interest for a variety of payment streams. There does not seem to be a consistent approach to the construction of a yield curve amongst actuaries and other financial professionals. As with other approaches to demonstrating the appropriateness of a discount rate, support for the use of a yield curve should be provided to identify that its construction fulfills the requirements of FAS 87 and FAS 106.

In December 2003, the FASB released Statement of Financial Accounting Standards No. 132 (revised 2003) referred to as ("FAS 132(R)"). FAS 132(R) requires that companies disclose each of the first five fiscal years of anticipated benefit payments immediately following the date of the disclosure and the aggregate total of anticipated benefit payments for the five fiscal years following thereafter. One of the reasons cited for the change was to allow users of financial statements to better understand the time horizon over which benefit payments were made compared to the maturities of the plan's assets.

Users of financial statements want to understand pension accounting better. Many do not understand the levels of cost or liabilities and the manner in which they change from year-to-year. The more that we can do as actuaries to improve the level of transparency of pension accounting, the greater service we are providing to the readers of the financial statements. ◆