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Corporate Pension Plans: New Developments and Litigation

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The Brattle Group provides consulting and expert testimony in economics, finance, and regulation to corporations, law firms, and governments around the world.

We combine in-depth industry experience and rigorous analyses to help clients answer complex economic and financial questions in litigation and regulation, develop strategies for changing markets, and make critical business decisions.

We have offices in Cambridge, Massachusetts; San Francisco, California; and Washington, DC. We also have offices in Brussels, London, and Madrid.

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By George Oldfield, Bente Villadsen, and Urvashi Malhotra

Introduction

The financial health of corporate-sponsored pension plans is frequently in the news these days. Most of the information about these plans comes from the financial disclosures made by the sponsoring corporations. Because financial disclosure standards changed in 2006, with additional modifications in 2009, it is important for analysts, investors, and plan beneficiaries to understand these new standards as well as their strengths and weaknesses.

In this newsletter we explain the accounting basis of corporate-sponsored defined benefit (DB) pension plan financial disclosures and outline recent changes in the relevant Financial Accounting Standards Board (FASB) standards. We also discuss how the status of corporate-sponsored DB plans depends on discretionary assumptions and summarize related litigation issues.¹

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The views expressed in this newsletter are strictly those of the authors and do not necessarily state or reflect the views of *The Brattle Group*, *Inc*.

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The Current State of Corporate Pension Plans

The financial crisis of the past two years has fueled litigation involving the accounting and disclosure of pension costs and obligations by companies. The litigation has been stoked by a combination of substantial losses encountered by corporatesponsored pension plans and a recent accounting rule change that enhanced the transparency of the funded status of DB pension plans for companies reporting in accordance with the U.S. Generally Accepted Accounting Principles (GAAP).

The sheer size of companies' pension benefit obligations makes it important to understand how they are accounted for and disclosed. The pension benefit obligations (for DB plans) exceed 40 percent of total assets for large firms that have the largest obligations.² Long-term pension obligations, which constitute a substantial fraction of these companies' balance sheets, cannot be ignored.

The "funded status" of a corporation's pension plan compares the current value of the plan assets against the present value of the company's future obligation. Over the last several years, the funded status of corporate pension obligations has significantly deteriorated.³ A recent study by Milliman⁴ reported that the 100 largest U.S. corporate DB plan sponsors recorded a \$300 billion loss of funded status during 2008. This drove their funded status from about 105 percent of obligations to less than 80 percent, illustrating the sheer magnitude of the shortfall in pension plan funding as shown in Figure 1. The degree of underfunding is similar regardless of whether one looks at the largest 100 corporations in the U.S. or at the 100 largest DB plan sponsors.

Following a significant drop in pension plan value and an increase in the unfunded status, pension beneficiaries of a number of plans have alleged breach of fiduciary duty by pension plan administrators, lack of disclosures in reporting, improper fund allocation, or even fraud for making aggressive assumptions in reporting pension plan obligations.^{5,6}

The recent extension of the period over which pension plan sponsors can amortize the unfunded amount makes it more difficult to make an accurate and timely assessment of the plan's health. A solid understanding of the guidelines for funding and the accounting standards governing reporting and disclosure of pension-related matters makes the assessment easier.



Figure 1 - Average Pension-Funded Ratio of the Milliman 100 Index and the Top 100 S&P 500 Companies

Accounting for Pension Plans



Companies generally design their pension plans in accordance with federal income tax guidelines. Such plans are called qualified pension plans. These plans can be divided into two broad categories: defined contribution (DC) plans⁷ and DB plans.

In DB pension plans, the amount of pension benefit to be provided to an employee is defined by a formula, usually involving variables such as age, salary at the time of retirement, and number of years of service. For example, a DB pension plan may specify that the retired employee be paid annually 60 percent of the average of the last five years' salary. The employer must then estimate what it needs to set aside each year the employee is working to cover these future payouts.

This requires assumptions about factors such as the proportion of employees who will qualify for benefits, the rate of salary increases until retirement, the length of time that an employee will be employed before retirement, life expectancy after retirement, and the appropriate discount rate. Therefore, financial accounting for DB plans is complex and provides a great deal of discretion to the reporting firm's management.

Figure 2 above details the typical components used to determine the annual plan assets and projected benefit obligations (PBO) for the employer. The difference between the plan assets and the PBO is the funded status of the plan. DB plans are typically funded through a separate legal and accounting entity (a pension trust) that receives the contributions from the employer, administers the pension assets, and makes the benefit payouts to retired employees.

The sponsoring company, however, remains responsible for ensuring that there are sufficient assets in the plan trust to pay the benefits promised to plan participants.

To ensure that assets are sufficient, the employer must estimate the total value of the benefits promised and then fund the benefits during the employees' service.⁸ Accounting rules are designed to disclose the expense to the corporation of funding benefits in the reporting periods during which the cost is incurred.

Employees and investors watch the funded status of DB plans closely. The funded status of a plan is a result of an estimate of plan assets minus the present value of projected (estimated) future plan obligations. Neither the evaluation of plan assets nor the estimation of the present value of PBOs are simple exercises. Further, the ability to assess the true economic status of a plan depends greatly on how a sponsoring corporation discloses and reports these obligations in its financial statements.

Disclosures related to conversions from DB to cash balance plans have also been the subject of lawsuits. For example, in July 2010, Washington Mutual, Inc. agreed to pay \$20 million to settle a class action alleging the bank failed to notify employees that the conversion to a cash balance formula diminished their pension benefits.⁹ The employees also claimed the pension plan had violated the procedural notification requirements of the Employee Retirement Income Security Act (ERISA), which calls for timely notifications and plan summaries.

Recent Efforts to Increase Transparency of Corporate Pension Plans

On June 15, 2005, the U.S. Securities and Exchange Commission (SEC) issued a report asserting that the pension accounting standards needed greater reporting transparency.¹⁰ One of the concerns cited in this SEC report was related to the smoothing mechanisms regarding the amortization of a plan's asset gains and losses and past service cost. The study also estimated the impact of this practice:

An extrapolation of the findings from the sample of the issuers in the study to the approximate population of active U.S. issuers suggests that there may be approximately \$535 billion in retirement obligations that are not recognized on issuer balance sheets.¹¹

On September 29, 2006, FASB issued Statement of Financial Accounting Standards (SFAS) 158,¹² Employers' Accounting for Defined Benefit Pension and Other Postretirement Plans – An Amendment of FASB Statement No. 87, 88, 106, and 132(R). SFAS 158 significantly changed the balance sheet reporting for DB plans.

Subsequent to SFAS 158, companies with DB post-retirement plans, including pension plans and health plans, were to recognize the funded status (the difference between the plan's PBO and the fair value of its plan assets as of the date of the financial statements) as the pension asset or liability on their balance sheet. As a result of the issuance of SFAS 158, the effects of events such as pension plan amendments or actuarial gains and losses, which were previously relegated to a sponsor's financial statement notes, are now included in the pension's asset or liability reported on a plan sponsor's balance sheet.

Table 1 compares the pension liability that would have been reported by a hypothetical corporation prior to SFAS 158 against what it would report on its balance sheet after SFAS 158. Prior to SFAS 158, the corporation reported the net pension asset or liability of \$35. After SFAS 158, the same corporation would have reported a much higher net pension liability of \$80.

Note that the calculation of pension expense is not changed by the issuance of SFAS 158. Pension expense is still smoothed by the amortization of past service cost and actuarial gains or losses. Also, companies filing under the International Financial Reporting Standards (IFRS) still report in a manner similar to that of companies filing under the GAAP prior to 2006. However, the International Accounting Standards Board (IASB) is expected to issue standards that converge with the financial reporting standard set by SFAS 158.

Pre-SFAS 158		Post-SFAS 158	
РВО	(\$100)	PBO	(\$100)
Plan Asset Value	\$20	Plan Value	\$20
Funded Status	(\$80)	Funded Status	(\$80)
Prior Service Cost	\$15		
Actuarial Losses	\$30		
Net Pension Liability	(\$35)		

Table 1 - SFAS 158 Increased Reported Pension Liability

Cash Balance Pension Plan: A Hybrid of Defined Benefit and Defined Contribution Plans

A cash balance plan is a defined benefit (DB) plan that resembles a defined contribution plan. Each period the employer contributes to every participant account a dollar amount that is generally determined as a percentage of income. The employer also contributes interest such that each account holds the current lump-sum value of the participant's accrued benefits. The interest rate is specified in the plan and is unrelated to the investment earnings of the employer's pension trust. Financial disclosures regarding cash balance plans are also governed by FASB's Accounting Standards Codification (ASC) 715 (previously Statement of Financial Accounting Standards (SFAS) 158).

Cash balance plans that are converted from DB plans sometimes provide transitional benefits for employees nearing retirement because cash balance plan benefits accrue at a faster rate early in the career and at a lower rate later in the career. Conversion of pension plans from DB to cash balance has been the subject of numerous lawsuits.

In 2003, a federal court ruled that IBM violated age discrimination laws when it changed its DB plan in 1999 because the changes would leave older employees with smaller benefits at retirement than younger workers. The class action lawsuit involved 130,000 IBM workers and retirees. Following this judgment, IBM entered into a partial settlement pending appeal to the Circuit Court. By the terms of the settlement, if the Circuit Court upheld the age discrimination judgment, IBM would provide plan participants with additional pension benefits that had an approximate value of \$1.7 billion, almost \$1.4 billion more than if the Circuit Court reversed the ruling. The Circuit Court reversed the ruling.

Another favorable decision for cash balance plans was delivered more recently in a matter involving AT&T Inc. AT&T employees filed a lawsuit against AT&T after the company converted its DB plan to a cash balance plan in 1997. The litigation continued for 12 years. The size of the potential damages in the case was \$2.3 billion, with potential punitive damages in case of a jury trial doubling to \$4.6 billion. In June 2010, the U.S. District Court for the District of New Jersey cleared AT&T on all claims that it violated federal pension and age discrimination laws in connection with the conversion of its pension plan.[†] Despite this and other favorable decisions for cash balance plan sponsors in similar matters, the risk of substantial liability for sponsors has led to significant settlements with plaintiffs.

[†] Schultz, "AT&T Fights Pension Suit," *The Wall Street Journal*, April 7, 2010. Available at: http://online.wsj.com/article/SB100014240527023041724045751682 40583359882.html. Meyer, "Court Clears AT&T on All ERISA, ADEA Claims Stemming From Its Cash Balance Conversion," *Pension & Benefits Daily*, June 9, 2010. Available at: http://www.erisapensionclaims.com/AT_T/Engers2010/BNAArticleEngers692010.pdf. An interesting side issue on the AT&T cash balance litigation involves the Securities and Exchange Commission's (SEC) questioning of AT&T's disclosures in financial reports regarding the potential size of its liability in the suit. Clearly, the SEC is becoming more vigilant on pension-related matters in financial disclosures.

The Brattle Group's Capabilities in Pension Matters

Our expertise and industry experience allows us to assist sponsors, overseers, and other fiduciaries in navigating the increasingly complex world of pension planning and pensionrelated litigation.

Financial issues in pensions involve a number of related matters:

- Transaction execution analysis
- Due diligence in underwritings and private placements
- Investment strategy
- A sponsor's cost of capital and funding decisions
- Corporate financial accounting and disclosure
- Standards of fiduciary performance

Our principals have over 30 years of experience in researching and analyzing pension-related matters on behalf of our clients. Most recently, we worked on pension funding and executive compensation disclosure rules on behalf of the U.S. Securities and Exchange Commission. Our experts have testified in litigation concerning Executive Life and have coauthored numerous books and articles on financial issues in pensions.

We have particular expertise in the corporate finance aspects of pensions, including: the impact on financial structure, financial accounting and disclosure, and the estimation of damages in securities litigation. Another of our specialties involves evaluating fiduciary performance.

^{*} Walsh, "Judge Says I.B.M. Pension Shift Illegally Harmed Older Workers," *The New York Times*, August 1, 2003. Available at: http://www.nytimes.com/2003/08/01/ business/01PENS.html?ex=1060401600&pagewanted=. Geisel, "Court approves IBM pension conversion settlement," *Business Insurance*, August 8, 2005. Available at: http://www.businessinsurance.com/apps/pbcs.dll/article?AID=999920006098. Lunder and Staman, "Cash Balance Plans and Claims of Age Discrimination," *CRS Report for Congress*, January 30, 2008.

Balance Sheet Accounting for Defined Benefit Plans

Following the issuance of SFAS 158, all overfunded plans of a company are combined and shown as a pension asset on the balance sheet.¹³ All underfunded plans are combined and shown as a pension liability.¹⁴ For each individual plan, the pension asset or liability that is reported on the balance sheet is a function of the forecast future pension obligations and the plan assets.

Further, following 2009 guidelines from the FASB, increased disclosures regarding categories and values of assets that back a plan's obligations are mandated in a sponsoring company's financial reports. The major disclosures required by SFAS 158 (and the current codification) are the present value of a plan's projected benefit obligation (PBO) and its fair value of assets.

PROJECTED BENEFIT OBLIGATION (PBO)

The PBO is the present value of the earned future pension plan obligation discounted at a selected discount rate and based on *expected* compensation levels. As indicated in Figure 2 on page 3, the PBO changes due to the movement in five components:

- *Service cost.* This is the actuarial present value of the projected benefits earned by employees during the current year.
- Interest on PBO.¹⁵ This is the outstanding interest on the PBO during the current accounting period. Because pension is a deferred liability that will be paid in the future when employees retire, it is recorded on a discounted basis. Each year, the plan's obligation increases by the amount of interest that accrues based on a selected discount rate.
- Actuarial gains or losses. These represent changes in plan value due to changes in factors such as retirement, age, life span, and discount rate.
- *Plan amendment gains or losses (or past service cost)*. This represents *ex post* benefits allocated to employees when a plan is initiated or modified.
- *Benefits paid to employees.* Benefits paid reduce the total amount payable in pension benefits.

All factors are netted against the pension obligation at the beginning of a period to estimate the PBO at the end of that period. Assumptions regarding each factor affect the estimate of the PBO.



PLAN ASSETS

The contributions to the plan are invested in a portfolio of financial instruments that ideally generates the return necessary to pay the pension benefits as they come due. The plan assets are increased by employer contributions and by the *actual* return on the contributions.¹⁶ Plan assets are decreased by any benefits that are paid out to employees.

Prior to SFAS 158 in 2006, a company did not report the PBO and the value of the plan assets separately in its financial disclosures. The FASB further increased the disclosure requirements in 2009¹⁷ so that companies now disclose greater detail about plans' asset classes, inputs used to determine the fair values of assets, the fair value hierarchy level¹⁸ of these assets, and the concentration of risks within plans' assets.

Because the amortization of any unfunded pension obligation takes place over an extended period of time (up to 15 years),¹⁹ the risk to beneficiaries depends not only on the plan's current funded status, the plan's allocation of assets, and other plan-specific factors, but also on the future financial health of the sponsor.

Income Statement Reporting for Pension Plans

The pension expense that is reported in the plan sponsor's income statement does not include the full impact of all the components of the PB0. The past service cost²⁰ and changes in the PB0 due to actuarial assumptions are deferred and amortized. For example, if a company decides retroactively to increase the pension benefit to each employee from three percent for each year worked to five percent, its PB0 amortization would increase immediately.

After SFAS 158 the company is allowed to amortize this increase over the remaining service life of the employee.

While this treatment reduces a sponsor's volatility of reported pension expense and net income, it may also mask the economic reality of these income statement items.

In summary, pension expense is determined by summing the five components that affect the overall amount, as identified in Table 2 below. Note that the sponsor's actual cash payment into the plan during the period does not enter into the formula for pension expense disclosure for that period.²¹

Table 2 - Components of Pension Expense and Their Impact on Calculations

Component	Impact on Pension Expense	
Service cost	Increase	
Interest	Increase	
Expected return on plan assets	Generally decrease	
Amortization of past service cost	Generally increase	
Amortization of gains or losses	Decrease or increase	

Table 3 - Assumed Discount Rate Can Greatly Impact Reported Pension Liability

Company ABC Future Value of Obligation (\$)	1,000,000	1,000,000
Obligation Due (Years)	20	20
Discount Rate (%)	8	12
Present Value of Obligation (\$)	214,548	103,667
Change in Reported Liability		-52%

Simply by choosing a discount rate of 12 percent instead of 8 percent, Company ABC could reduce its reported pension liability by over 50 percent.

Why Pension Plan Accounting Remains Fundamentally Mysterious

In determining the periodic expenses and the defined benefit obligations of sponsored DB plans, companies make assumptions about three key variables: the discount rate for future obligations, the expected return on plans' assets, and the projected increase in salaries. Estimated costs are typically very sensitive to these assumptions.

While there is some guidance on how to make these assumptions, companies generally enjoy a great deal of discretion in choosing actual discounts, returns, and growth rates. As a result, despite the recent efforts to make pension plan accounting less opaque, the true economic reality of a plan's financial status is difficult to decipher.

Academic research has addressed the value consequences of deciphering plan accounting conventions and the discretion of choosing key pension variables.

CORPORATE ASSUMPTIONS

In this section, we discuss three main variables and their impact on reported pension expense and obligations.

1. Discount rate

The amounts of estimated future plan payouts are estimated based on a number of actuarial assumptions and then discounted back to the present. The discount rate a plan sponsor can use is typically based on high-grade debt securities, but there are no specific benchmarks that a company is required to use in estimating its discount rate. As shown in the example in Table 3 on page 7, the rate chosen can have an enormous impact on the level of estimated obligation.

2. Expected return on a plan's assets

Companies must assume a rate of return on the plan investments. A higher assumed return reduces pension expense and the difference between the expected return and the actual return is deferred. Current commonly relied upon expected plan asset returns range from five to seven percent.

Any increase in the expected return assumption increases the income of a company, while a decrease in the expected return rate increases the company's pension obligation and thus lowers income. Note that an expected return assumption that is greater than the assumed discount rate used to estimate the present or future plan payouts reflects a mismatch in a plan's asset and obligation risks.

3. Salary growth rate

Since many of the defined benefit formulas are based on employee compensation at the time of retirement, companies must estimate the average annual rate by which employee compensation is expected to grow in order to forecast future obligations. Because salary levels are not standardized, companies enjoy a great deal of latitude in this area as well. This can easily become a mechanism for company executives to "manage" earnings.

ACADEMIC RESEARCH

Academic research suggests that the management of corporate plan sponsors make strategic changes in these assumptions in systematic ways. A number of published financial economics studies have evaluated whether the disclosure format of pension assets and liabilities affects the value of a corporation's common equity.

An early study by *Brattle* Principal Dr. George S. Oldfield²² presented an econometric analysis of the value impact of unfunded vested pension obligations. From an economic perspective, an unfunded pension plan serves as a source of capital for the corporation. The unfunded obligation is in substance an unsecured debt instrument issued by the corporation to the pension fund. Hence corporate pension funding policy and capital structure policy are linked, and the pension sponsor's claim on the firm must be taken into account when considering the leverage effect on a corporation's equity value.²³

More recent studies have generally confirmed and expanded upon Dr. Oldfield's results. For example, a 1998 study by Carroll and Niehaus²⁴ provided empirical evidence that overfunded pension assets and underfunded liabilities influence debt ratings, supporting the claim that the value of capital for investors is closely related to the disclosure of pension assets and liabilities. The Carroll and Niehaus paper also concluded that the overfunded and underfunded plans influence debt ratings asymmetrically due to the difficulty for a sponsor to access funds in an overfunded pension plan once they have been contributed. This feature is reflected in the accounting rules for pension plans that require separate reporting of overfunded and underfunded plans by firms.

While the academic literature supports the notion that a corporation's security market values on average reflect pension plan values that can be estimated from accounting disclosures (even when disclosures are merely in notes), the reporting of pension obligations still relies on relatively subjective assumptions about factors such discount rate, rates of return, and actuarial variables. These assumptions make disclosures susceptible to manipulation.

A 2005 study by Bergstresser, Desai, and Rauh²⁵ shows that manipulation of earnings through opportune changes in value assumptions is closely linked to management equity compensation. The size of DB plans, managers' discretion with respect to key assumptions in determining pension obligations, and the inability of the market to distinguish pension earnings from operating earnings completely make pension reporting an easy tool to generate favorable earnings numbers. The study finds that changes in pension assumptions coincide both with deteriorating financial performance and critical events.

Recent Litigation - Disclosure Issues for Public Sector Plans

In 2007, the auditor for the city of San Diego settled charges brought against the city by the U.S. Securities and Exchange Commission (SEC) involving the auditor disclosure footnotes to the city's financial statements in connection with a bond issuance. The footnotes included positive statements about the city's method for funding its pension obligations, noting that the funding method contained provisions that the pension plan's funding level would not drop below a certain level to protect the pension plan's financial integrity, and that the net pension obligation was funded in a reserve. The SEC alleged that these statements were false and misleading because the city's net pension obligations were not funded in a reserve and because the pension plan had fallen below a funded level that the actuary deemed appropriate.

More recently in August 2010, the state of New Jersey settled, without admitting or denying any wrongdoing, a matter in which the SEC had alleged that the state had misled and not informed the investors about the underfunding of its two largest pension funds.[†]

As these cases illustrate, not only accounting assumptions but also financial disclosures are subject to scrutiny. Given the current level of underfunding, the extension of the amortization period, and the sheer magnitude of pension plan shortfalls, stakeholders are likely to look closely at pension plan disclosures. Going forward, this may be an especially important issue for states and municipalities that issue debt instruments to the public.[‡]

^{*} U.S. Securities and Exchange Commission Litigation Release No. 20394, December 11, 2007. Available at: http://www.sec.gov/litigation/litreleases/2007/ lr20394.htm. Securities and Exchange Commission v. Thomas J. Saiz, and Calderon, Jaham & Osborn, an accountancy corporation, Civil Action No. 07 CV 2308 L (2007).

[†] Walsh, "Pension Fraud by New Jersey is Cited by S.E.C.," *The New York Times*, August 18, 2010. Available at: http://www.nytimes.com/2010/08/19/ business/19muni.html.

[‡] These cases are examples of how public sector pension plans are facing greater levels of scrutiny. Many argue that several public sector pension plans will be underfunded over the next 10 to 20 years. See, for example, Rauh, "Are State Public Pensions Sustainable? Why the Federal Government Should Worry About State Pension Liabilities," May 15, 2010. Available at: http://ssrn.com/abstract=1596679. As a result, we can expect a higher level of litigation involving public sector pension plans, similar to what corporate-sponsored plans face currently.

Assumptions Matter - Recent Regulatory Action

In 2009, General Motors (GM) settled charges brought against it by the U.S. Securities and Exchange Commission (SEC) that, among other things, it did not provide adequate disclosures with respect to the assumptions made about the discount rate and expected return on assets used to calculate its projected benefit obligation and periodic interest expense in 2002 and 2003.⁺

The SEC alleged that with respect to the discount rate, GM did not specify the indicator it relied on to choose its discount rate of 6.75 percent. The SEC estimated that had GM used a 6.5 percent discount rate instead, its 2002 PBO would have been higher by \$1.8 billion and its pre-tax expense would have increased by \$120 million.[†]

With respect to the expected asset return, the SEC alleged that GM used an assumption that was aggressive because it was inconsistent with recent averages. If it had used an average return consistent with the most recent 10-year period, its 2003 pre-tax earnings would have been lower by \$680 million.[‡] The SEC and GM have recently settled the matter. GM neither accepted nor denied the charges, but agreed to improve its pension plan accounting practices.[¶]

* Securities and Exchange Commission v. General Motors Corporation, Civil Action No. 1:09-cv-00119, Complaint (2009).

[†] Ibid., p. 13.

[‡]Ibid., p. 17.

[¶] U.S. Securities and Exchange Commission Litigation Release No. 20861, January 22, 2009. Available at: http://www.sec. gov/litigation/litreleases/2009/lr20861.htm.



CONCLUSION

FUTURE DEVELOPMENTS IN CORPORATE PENSION ACCOUNTING

A thorough reconsideration of the accounting standards defined for calculating and disclosing pension expenses has long been considered. Currently, the FASB has broken the pension project into two phases. The goal of the first phase, which dealt with recognition issues, became complete with the issuance of SFAS 158.

The second phase, in cooperation with the IASB, was devoted to taking a closer look at more difficult measurement issues, including assumptions used in measuring benefit obligations and whether post-retirement benefit trusts should be consolidated with sponsors' financial statements. This portion of FASB pension activities is currently not active. In addition to the effort by the FASB and the IASB to reform corporate pension accounting, the FASB also broadened the scope of plan asset disclosures in the pension-related notes for accounting statements. Starting in December 2009, the FASB Staff Position on Statement 132 (R)-1 (and in its current codification) requires corporations to provide enhanced disclosures on pension plan investment policies and strategies, fair values of plan assets by categories, and concentrations of risk in plan assets.

These enhanced disclosure requirements shed more light on areas where greater scrutiny of the decision methods and diligence of a plan's fiduciaries is likely to occur.

ENDNOTES

¹ The authors wish to thank Katie Garland of *The Brattle Group, Inc.* for her research assistance.

² This estimate is based on companies in the 25th percentile in terms of pension benefits relative to assets of the largest 100 publicly traded companies at yearend 2009. This is measured by market capitalization of the S&P 500 companies that had pension data available for 2000 - 2009 in the S&P North American Research Insight or "Compustat" Service. Sources of data for publicly traded companies are Bloomberg and Compustat.

³ In response, President Obama signed a law in June 2010 that allows DB plan sponsors to extend the period over which they fund the shortfall in their pension plans. Specifically, the law allows sponsors of DB plans beginning in 2008, 2009, 2010, or 2011 to elect to extend the amortization of the funding shortfall (under certain conditions) over seven or 15 years. Thus, DB pension plan sponsors are allowed to smooth their shortfall amortization contributions over a longer period, which will make a company's amortization (and its reported pension expenses) smaller in any given year. See: "H.R. 3962: Preservation of Access to Care for Medicare Beneficiaries and Pension Relief Act of 2010," One Hundred Eleventh Congress of the United States of America, Title II, Pension Funding Relief.

⁴ Ehrhardt and Morgan, "Milliman 2010 Pension Funding Study," Milliman, Inc., April 2010. Available at: http://www.milliman.com/expertise/employeebenefits/products-tools/pension-funding-study/.

⁵ For example, employees of Sterling Savings Bank filed a class action lawsuit against the bank in a U.S. District Court in January 2010. They alleged that the bank had failed to properly manage pension funds by maintaining a large investment in company stock long after the stock became an imprudent investment. At the time this newsletter was published, the matter was still ongoing. See: "Employees file lawsuit against Sterling Financial Corporation for pension plan losses," Press Release Point, January 11, 2010. Available at: http:// www.pressreleasepoint.com/employees-file-lawsuit-against-sterling-financialcorporation-pension-plan-losses.

⁶ In their August 2010 report, "U.S. Corporate Pension Plans: Deflationary Risk and Asset Allocation – Where's the Yield" (Fitch Report), Fitch Ratings, Inc., a ratings agency that provides issuer and bond ratings, highlights the need to observe the management by corporations of their pension liabilities, particularly in light of low equity returns and a low interest rate environment (p. 1, 3). It warns that disclosures are often inadequate in providing a true picture of pension liabilities (p. 3).

⁷ Defined contribution plans specify the amount of money an employer puts into the plan for the benefit of employees. No explicit promise is made about the periodic payments the employee will receive upon retirement. Once an employer has paid the defined contribution, there is no additional liability to provide pension benefits.

⁸ Currently the Pension Benefit Guaranty Corporation (PBGC), a federally created corporation, receives insurance fees from DB plan sponsors and guarantees vested obligations (guaranteed rights that are typically based on an employee's number of years of service). The PBGC insures benefits only of private sector plans.

⁹ Howard, "WaMu Settles ERISA Class Action For \$20M," Law360, July 28, 2010. Available at: http://www.law360.com/print_article/183878.

¹⁰ U.S. Securities and Exchange Commission, "Report and Recommendations Pursuant to Section 401(c) of the Sarbanes-Oxley Act of 2002 on Arrangements with Off-Balance Sheet Implications, Special Purpose Entities, and Transparency of Filings by Issuers," submitted to the President of the United States, the Committee on Banking, Housing, and Urban Affairs of the United States Senate and the Committee on Financial Services of the United States House of Representatives, date unknown. Available at: http://www.sec.gov/news/studies/ soxoffbalancerpt.pdf.

¹¹ Ibid., p. 4.

¹² SFAS 158 is now part of FASB's Accounting Standard Codification (ASC) 715.

 $^{\scriptscriptstyle 13}$ A company may sponsor several different pension plans for different sets of employees.

 $^{\scriptscriptstyle 14}$ Combining all plans and offsetting their overfunded and underfunded status is not allowed.

¹⁵ The Fitch Report forecasts that the low interest rate environment is likely to increase the underfunding of pension plans, pushing corporations to manage the plans more closely and requiring increased vigilance by investors and employees (p. 1).

¹⁶ The market-related value of plan assets can be either fair market value or any calculated value that recognizes changes in fair value in a rational and systematic manner over not more than five years. Mark-to-market accounting, or fair value accounting, a method to record the financial status of a plan transparently on a company's balance sheet, has been increasingly cited as a major contributory cause of the financial crisis. See: Hua, "Mark-to-market accounting comes under fire at shareholder forum," *Pension and Investments*, April, 27, 2009. Available at: http://www.pionline.com/article/20090427/REG/904279997. A substantial amount of literature in finance and economics suggests that the change in pension accounting valuation is unlikely to be the major driver of a financial crisis because investors in the market would fully evaluate the difference between pension assets and pension liabilities already. See "Academic Research" on page 8 herein on the economic substance of accounting disclosures.

¹⁷ FASB's Staff Position 132(R)-1; now part of FASB ASC 715-20-50.

¹⁸ The hierarchy level reflects the level of judgment involved in estimating value.

¹⁹ This reflects the new 15-year amortization schedule as allowed under President Obama's plan that was signed on June 25, 2010. Pension funding shortfalls, before the new measure, had to be amortized over seven years. The additional time has the effect of reducing the periodic pension expense.

²⁰ Service cost captures a change in obligation for employee service in prior periods, due to changes to plan arrangements in the current period, such as when new benefits are introduced or existing benefits are reduced.

²¹ The ERISA Act of 1997 and several subsequent amendments established minimum funding requirements for sponsors of pension plans. Compliance with such requirements is tracked via the plan's funding standard account (FSA), which records improvements to the plan's assets through variables such as contributions, interest, and deductions through charges such as an increase in actuarial liability. The minimum required contribution is the net charges in the FSA.

²² Oldfield, "Financial Aspects of the Private Pension System," Journal of Money, Credit and Banking, 1977: 48–54. Available at: http://www.jstor.org/ pss/1991998.

²³ For a more recent study on the effect of pension obligations on companies' equity values, see Bodie, Merton, and Jin, "Do a Firm's Equity Returns Reflect the Risk of Its Pension Plan?" *Journal of Financial Economics*, 2005.

²⁴ Carroll and Niehaus, "Pension plan funding and corporate debt ratings," *Journal of Risk and Insurance*, September 1998: 427-443. Available at: http://www.jstor.org/pss/253658.

²⁵ Bergstresser, Desai, and Rauh, "Earnings Manipulation, Pension Assumptions and Managerial Investment Decisions," May 2005. Available at: http://papers. ssrn.com/sol3/papers.cfm?abstract_id=551681.

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