



Managing Risk For Frozen Pension Plans

By

Peter Austin
Executive Director
Mellon Asset Management

David B. Chittim
Senior Vice President, Investments
Mellon Asset Management

Andrew D. Wozniak, ASA, MAAA
Director, Research & Analysis
Mellon Asset Management

Developing an Investment Strategy for Frozen Plans

A recent report by the Pension Benefit Guaranty Corporation* states that 9.4% of defined benefit plans are frozen. While many of the affected plans in the PBGC's report had fewer than 100 participants, recent actions by Verizon, IBM and GM to freeze their defined benefit plans underscore the increased popularity of freezing among large companies. Although the motivations and objectives of sponsors vary, most wish to eliminate the risk and volatility of DB plans. Freezing eliminates the accrual of future benefits, and often prompts a collective sigh of relief within the organization. But it should also generate new questions:

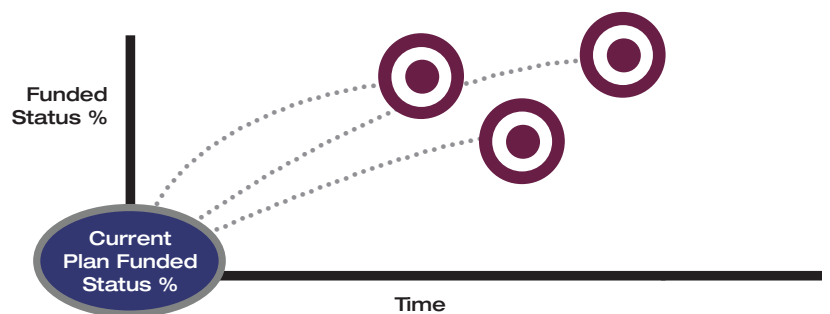
- ▶ Have we really eliminated plan risk and volatility?
- ▶ Is termination our end goal? If so, how and when do we terminate?
- ▶ How do we address our funding gap?
- ▶ Should we change our asset allocation?

A frozen plan often leads management, analysts, and others to believe that the risk of the defined benefit plan has been mitigated, so it is time to move on to other more important issues. **But freezing a plan does not necessarily reduce a sponsor's financial risk significantly.** In fact, freezing a plan requires more, not fewer, decisions from the sponsor.

Those decisions and their implementation can present the sponsor with a wide range of possibilities. In this paper, we offer a road map to help sponsors make the best choices for frozen pension plans.

Termination Liability: A Higher, Moving Target

For most sponsors who freeze their DB plan, termination of the plan is the ultimate goal. In many cases, though, the termination goal is not immediately attainable, due to underfunding and cash cost. While the desired outcome may vary, each sponsor of a frozen plan must develop a strategy that begins with the calculation of the termination liability, and the recognition that over time it will be a moving target that requires close monitoring.



*Pension Benefit Guaranty Corp.: *An Analysis of Frozen Defined Benefit Plans* Dec. 21, 2005.

Road Map For Plan Termination

The development of an investment strategy to accomplish pension plan termination is a **dynamic** and **complex** process

STEP 1:
Calculate **Market Value of Liabilities (MVL)**

STEP 2:
Establish objectives and risk tolerance

- **Termination time horizon**
- **Contribution budget**
- **Risk tolerance**
 - ERISA required contributions
 - Financial statement impact

How a plan sponsor responds to this challenge will define its success in managing toward termination. The plan sponsor needs to understand that there are many required steps, and managing a frozen pension plan is a dynamic and complex process.

Waiting for interest rates to rise, contributing the ERISA minimum, or taking increased portfolio risk are examples of strategies that may make plan termination unlikely.

Our five-step process for mapping the road to termination addresses the challenges sponsors face in frozen plan management.

Plan Termination Costs

Many plan sponsors are surprised to discover that the costs of terminating a defined benefit plan may be significant. The reasons are many, often mired in actuarial and accounting convention. But there is a simple explanation – lower discount rates.

Traditional plan termination involves payments to the individual participants (lump sum settlements) or a transfer of the liability to an insurance company. An insurance company assumes full responsibility for paying participants their retirement benefits in accordance with the plan provisions. For most plans, these payments will extend upwards of 75 years from the date of termination.

In order to protect itself from market shifts, the insurance company discounts the liabilities using very conservative assumptions. These “market” rates are invariably lower than the rates used for actuarial or financial statement reporting. The lower rates mean greater termination costs.

Road Map for Plan Termination

Some plan sponsors may be successful in reaching termination with little to no planning. It is important to point out that this will be the exception – not the rule.

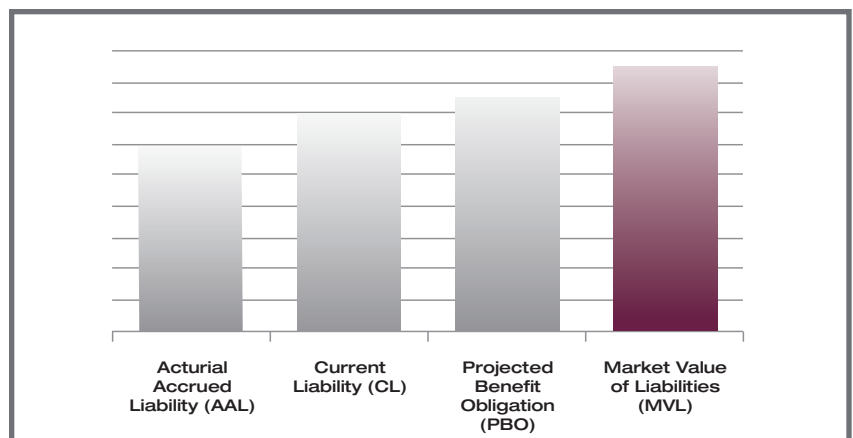
STEP 1:

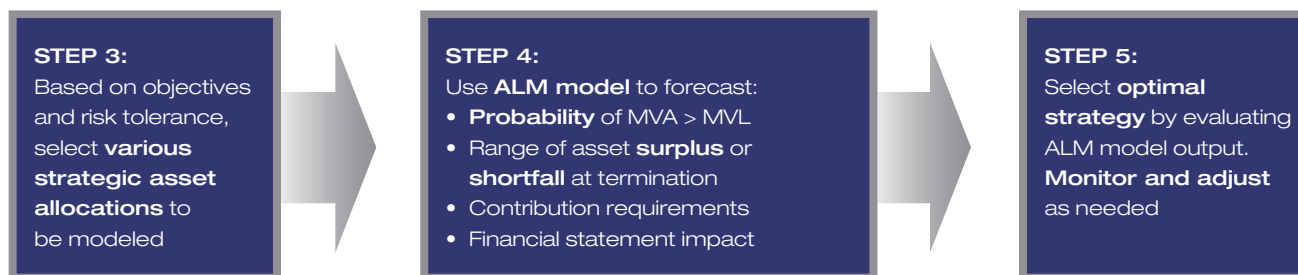
Calculate Market Value of Liabilities (MVL)

The cost of terminating a pension plan cannot be found in any actuarial report, financial statement or government form. A plan may appear to be fully funded on an accounting or ERISA basis, but may be underfunded on a market-valued plan termination basis.

Market Value of Liabilities (MVL) can be used to approximate plan termination costs. MVL, a seldom used but increasingly important measure, is calculated using U.S. Treasury spot rates, similar to rates used by insurance companies when developing termination cost. MVL approximates what it would cost a sponsor to transfer plan liabilities in the market. It results in the highest liability valuations of the methods shown below because Treasury spot rates are lower than the high-grade corporate rates used in other measures.

Alternative Liability Measures



**STEP 2:****Establish objectives and risk tolerance**

A plan's investment strategy must be aligned with a targeted time frame for terminating. Terminating a plan in one year requires a very different investment strategy than termination in five years. A target date for termination, or some other desired end state, should be established immediately, as we recognize that the termination liability is a dynamic target that requires a comprehensive solution. Sponsors must establish a contribution budget, especially in the case of underfunded plans. Ongoing contributions will be essential to achieve the desired outcome.

During Step 2, sponsors must determine their sensitivity to future plan funded status levels, ERISA contribution requirements, pension expense, and balance sheet impact. Every sponsor has a unique degree of risk tolerance for each of these financial measures. For example, private companies may be more sensitive to required contributions, but large public companies may be more concerned about pension expense.

STEP 3:**Select various strategic asset allocations**

At this point, the liabilities have been valued, the time horizon set, the contribution budget established and risk tolerance assessed. Attention now shifts to the selection and modeling of investment portfolios.

In Step 3, we look at the current asset allocation as well as a number of other alternative asset allocation strategies.

STEP 4:**Use ALM model to forecast**

The strategic asset allocations developed in Step 3 are integrated with the plan liabilities in Asset/Liability Management (ALM) models. ALM models are used to forecast future interest rate levels, asset returns, plan assets and liabilities. Stochastic ALM models use Monte Carlo simulation to generate thousands of future paths, accounting for correlated movement of economic variables, such as interest rates and asset returns.

ALM models can assess the likelihood of having sufficient assets for plan termination and identify the range of asset surplus or shortfall. These models also forecast future contribution requirements, pension expense, and other financial statement impacts.

STEP 5:**Select strategy, monitor and adjust**

Multiple trials of various strategic asset allocations lead to the selection of an optimal strategy based on the ALM output, plan risk tolerance and plan objectives. The implementation of this strategy allows the plan sponsor to establish a deliberate and measurable process for transitioning its frozen plan to termination.

Sponsors should be aware that, while monitoring active managers against appropriate asset-only benchmarks is prudent, plan-level investment strategies require customized liability benchmarks to determine the success of the investment strategy against plan-specific liability growth.

Changes in the time horizon, end-state objectives, risk tolerance, capital market expectations, regulatory environment or other factors require continuous monitoring, and adjustments may be needed.

Case Study

As an example of how an ALM model can be used to tailor an investment strategy for frozen pension plans, consider the case study on the right page. Please see overleaf for analysis.

For more information on how ALM can be used to aid pension plan management, please contact Peter Austin, Executive Director, Mellon Asset Management, at 412 234-4474.

Hypothetical Case Study – Using an ALM Model to Develop an Investment Strategy for Frozen Plans

Liabilities		in Millions	Funded Status	Assets		in Millions
Actuarial Accrued Liability		\$220	109%	Market Value of Assets		\$240
Current Liability		\$254	94%	Annual Future Contributions		\$10
Projected Benefit Obligation		\$270	89%			
Market Value of Liability		\$300	80%			

All calculations based on Mellon's internally developed capital market assumptions and Mellon's proprietary ALM stochastic forecasting model.

Portfolio Strategy 1 (Traditional)

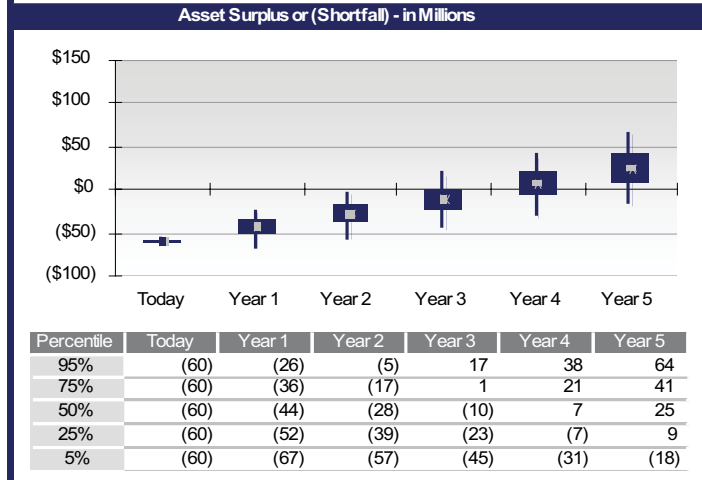
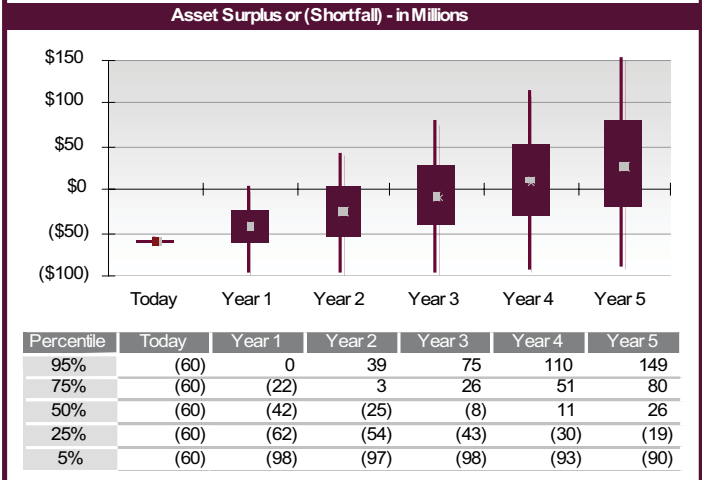
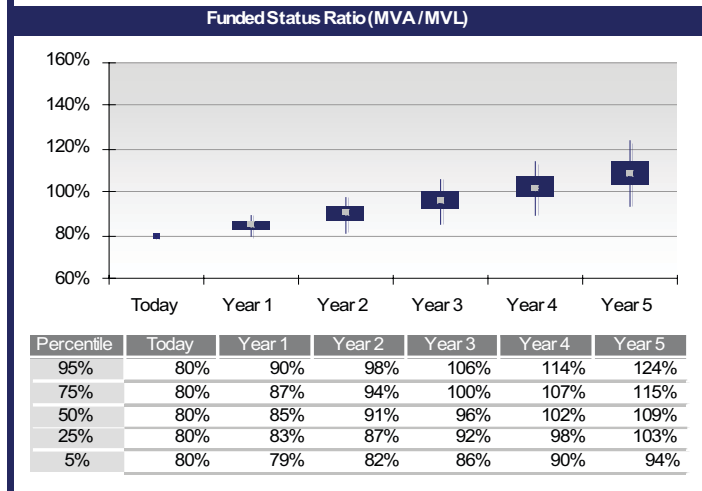
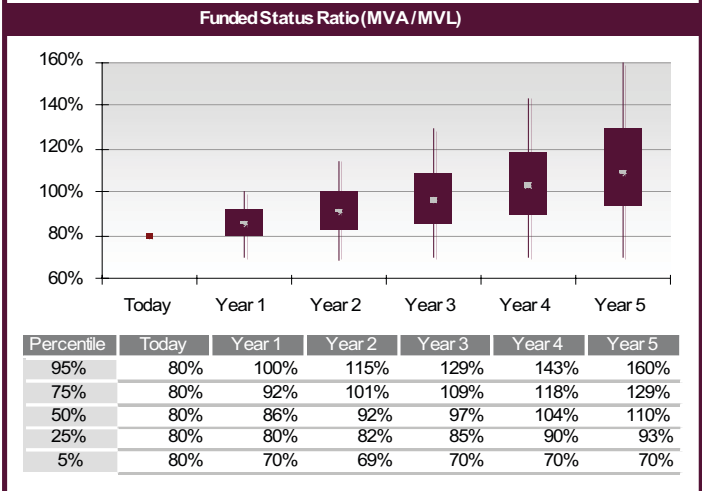
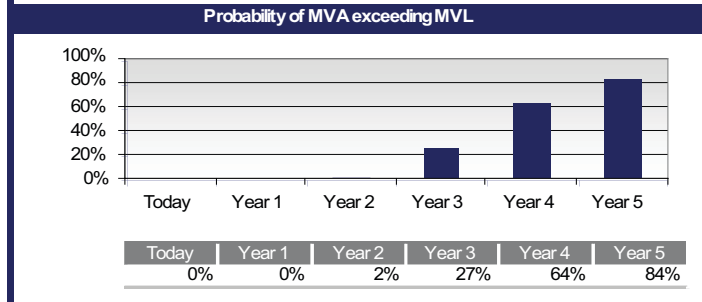
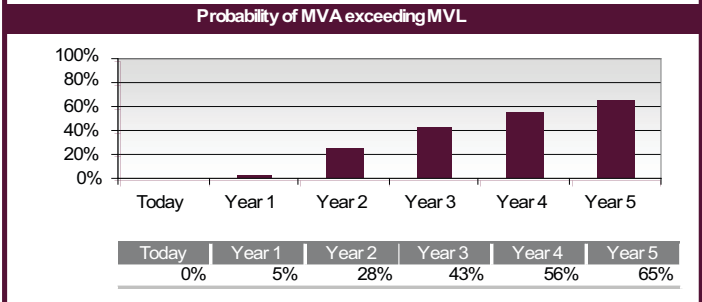
Benchmark	Allocation
Russell 3000	50%
MSCIEAFE	10%
Lehman Aggregate	40%

Portfolio Characteristics	%
Expected Return	7.16%
Standard Deviation	12.24%

Portfolio Strategy 2 (Customized)

Benchmark	Allocation
Russell 1000	10%
Russell 2000	10%
Absolute Return	10%
Customized Long Duration Bonds	70%

Portfolio Characteristics	%
Expected Return	6.32%
Standard Deviation	5.80%



Source: Mellon Asset Management

See back page for index disclosure and explanation of assumptions.

Case Study Analysis

The hypothetical case study examines a frozen plan that is 80% funded today, and wishes to achieve a fully funded status and termination in three to five years.

Portfolio Strategy 1 has a 60% equity/40% bond asset mix that would be typical for many pension plans. Portfolio Strategy 2 is strongly concentrated in customized long duration bonds, with a few selected "alpha" sectors to supplement total return.

Given its greater equity component, Strategy 1 has the higher expected average return, and a small chance of superior results in the near term. However, Strategy 1 also has a wider range of unfavorable outcomes. Thus there is a greater risk of underperformance in both the near and longer term.

With Strategy 2, the outcomes are more predictable, with much less downside risk. By Year 4, the chance of reaching the terminal funding objective (100% funding) is actually higher with "conservative" Strategy 2.

See back page for index disclosure and explanation of assumptions.

Termination Alternatives

The proliferation of frozen plans has triggered interest in the development of alternatives to traditional termination options. We expect there will be significant interest in these products if they are more cost effective than traditional solutions.

Additional Resources for Pension Fund Management

In previous articles, Mellon Asset Management has examined a range of topical pension issues, including Asset/Liability Management, pension fund reform, and custom liability indexes.

For more information on freezing or terminating pension plans, or prior topics, please contact Peter Austin, Executive Director, Mellon Asset Management, at 412 234-4474.

Pension Reform
Road Map for Plan Sponsors, Part I

Part I of III
This is the first of three papers on pension reform that we hope will help pension plan sponsors navigate through the latest pension funding and accounting changes.

This paper will assess the implications of pension reform. Subsequent papers are intended to assist plan sponsors in developing a plan and monitoring results.

Pension Funding Reform

ERISA, the Department of Labor, the Pension Benefits Guaranty Corporation (PBGC) and the Internal Revenue Code all have comprehensive field their pension plans. There is a strong sense about regulatory action in the near future.

- Clarity of covered regulations
- Including information about funded status of a plan
- Determination of financial position of PBGC

Pension Reform
Road Map for Plan Sponsors, Part II

Part II of III - Developing a Plan
This is the second of three papers on pension reform that we hope will help pension plan sponsors navigate through the latest pension funding and accounting changes on the horizon.

This paper addresses the steps of developing a plan to improve a pending pension reform, including implications of fully-funding pension reform, an overview of pension plan financial risk management, the role of asset/liability management, and the impact of regulatory changes on investment policy. The next paper, Part III, discusses details on how to develop a plan with a comprehensive plan, including financial risk control and responding to future changes.

Implications of Pension Reform - A Summary of Part I

In Part I of our pension reform series, we discussed the proposed rule changes for defined benefit pension plans. We are likely to see

Pension Reform
Road Map for Plan Sponsors, Part III

A Preliminary RMM Assessment
On November 10, 2009, the Financial Accounting Standards Board (FASB) approved a new standard for pension plan sponsors: plan accounting standards. These standards provide guidance for determining and presenting pension expense measurement and disclosing Plan assets and liabilities (before and after tax). The objective is to improve financial reporting of pension plans and to increase transparency of pension plan assets and liabilities. The standards will be effective for fiscal years beginning on or after December 15, 2010. The standards will be implemented by the end of 2010.

Phase I

- Designated asset management
- Liability measurement
- Financial condition of assets
- Contributions to pension plan

Phase II

- Designated asset management
- Liability measurement
- Financial condition of assets
- Contributions to pension plan

Phase I is designed to improve transparency by requiring that the pension plan sponsor will disclose the value of the pension plan assets and liabilities (before and after tax) in the Plan's financial statements. This is similar to the FASB 17 standard for the SEC. Changes in the asset/liability measurement to reduce the volatility of the pension. FASB has indicated they expect Phase II to be completed by the end of 2010.

Phase II will be a joint initiative with the International Accounting Standards Board (IASB). Phase II will be completed by the end of 2010.

FASB Pension Accounting Overhaul Begins

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INTEGRATED PENSION SOLUTION

Mellon Asset Management Integrated Pension Solution

The Mellon Asset Management integrated pension solution offers all the services necessary to meet the overall management of your plan.

Our strategic advice and analysis capabilities allow us to deliver a customized pension solution that will meet your specific objectives. The solution is focused on all aspects of plan management and will include:

- Reducing plan contribution levels and resulting pension expense outlays
- Managing your pension impact on financial statements
- Improving portfolio diversification and investment performance
- Reducing cost savings

All of our services are delivered in a cost-effective manner from a dedicated team from a proven and trusted provider. With the growing complexity of pension plans, this singular focus will enable us to structure a strategic solution for you. Our proprietary asset/liability modeling capabilities are a main feature of our service.

We use proprietary asset/liability modeling capabilities to reduce the asset/liability decision-making process. Our modeling process will determine your portfolio liability status and risk tolerance to set the optimal asset allocation for your plan.

We will also create customized liability-driven benchmarks to enable you to measure the investment performance against both targets.

market-based benchmarks and the liability of your plan. Monitoring the change in the value of your assets and plan liabilities on a regular basis will enable you to better manage your plan.

Investment Process and Philosophy

We use a complete range of top investment management firms. The investment philosophy is based upon proper portfolio diversification, management of risk and alpha generation.

Mellon takes responsibility for manager selection, ongoing manager evaluation and quarterly reporting as recommended by our Investment Committee. The objective is to deliver:

- Superior investment performance
- More cost-effective diversification across world-class managers
- Allocative investment strategies that provide enhanced risk-adjusted return
- Simplified plan administration

Client Service Excellence and Trust Services from the Global Leader

Mellon has the experience, size and reputation to deliver the best services to our clients. This includes the ability to provide a full range of value-added services, administration or custody as of 12/31/09. We will provide a comprehensive set of trust services, including on-line reporting, monthly statements and benefit distribution services.

For more information on the Mellon Asset Management Integrated Pension Solution, please contact Craig Vetter at (412) 732-7326.

Mellon Asset Management

The Benefits of Asset/Liability Management

Your Defined Benefit Pension Plan may have a significant impact on your cash flow and financial statements. Determining the appropriate strategy to meet the needs of your plan is critical to the success of your plan.

Plan sponsors need to understand the impact of their plan on their cash flow and financial statements. Mellon Asset Management has demonstrated that a plan's asset allocation explains about 90% of the volatility of a pension plan's return.

Determinants of Portfolio Return

- 60% Cash returns from long duration bonds
- 20% Equity returns, including and other factors

How Asset/Liability Management Can Strengthen Pension Plans

Asset/Liability Management (ALM) uses quantitative models to require the decision-making process. These models are commonly used to help an ALM committee to evaluate specific strategies and needs. ALM can provide forecasts under current and alternative assumptions to illustrate the impact of funded status, contribution, pension expense and other factors over time and under various economic scenarios.

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Improving Pension Liability Management with Liability Benchmarks

Asset Return
Liability Return
Funded Ratio Change

Asset Return minus Liability Return equals Funded Ratio Change.

Introducing the Mellon Pension Liability Index

Sponsors of defined benefit plans increasingly recognize the benefits of creating the plan's asset/liability index. The index tracks the market value of a plan's portfolio, with asset/liability index. At the same time, there has been a dearth of good information on how to build an asset/liability index. Mellon Asset Management has developed a proprietary index to help plan sponsors measure their plan's performance against a benchmark.

Summary

In response to the need, we have created the Mellon Pension Liability Index, a benchmark that tracks the market value of a plan's portfolio, with asset/liability index. The index is designed to help plan sponsors measure their plan's performance against a benchmark. The index is designed to help plan sponsors measure their plan's performance against a benchmark.

Pension Funding

The principal function of a pension fund is to pay the benefits due to the plan. The ultimate success of a plan is whether the assets of the plan are greater than the liabilities. The relationship between the market value of a plan's assets and its liabilities is called the funded ratio. The funded ratio is a key indicator of a plan's financial health. The funded ratio will generally increase over time. If the liability grows faster than the assets, the plan will become less well funded.

Congress Moves Toward New Law

By Robert D. Trone, Assistant Director, Research and Analysis

In our August 2009 white paper, *Pension Reform: Road Map for Plan Sponsors, Part I*, we discussed various corporate pension funding reform proposals. Since then, the House and Senate passed two versions of legislation designed to tighten pension funding rules, which we outline below.

Over the next 60 days, committee members from both houses will be working to iron out differences. We expect a compromise bill will be ready for the President's signature by early March.

Both measures call for the following:

- Higher funding targets (100% of accrued plan liability)
- Increased PBGC premium (flat and variable)
- Increased maximum tax-deductible contribution limits
- Clarification on liability of each balance plan, though only prospectively

The differences include:

Issue	Senate Bill	House Bill
Industry-specific pension relief	Address	None
Revolving period for interest rates and asset values	One Year	Three Years
"Revolving" plan operations based on asset values	Yes	No

For most established plans, both bills will have a two-year phase-in of the 100% funding target beginning in 2007. However, these established plans will likely see an increase in their annual contribution requirements and they have more time to adjust their funding strategy. Corporate sponsored established plans will have more latitude with respect to the tax advantages gained by contributing to their plan.

The new legislation will likely take effect on January 1, 2007. It is important that plan sponsors be prepared for the impending changes and take the necessary steps to ensure compliance. Plan sponsors may wish to revisit their funding and investment policies to minimize the financial impact of the reform. If you need additional Mellon Service on this topic, please contact Steve Pineda at 412-732-7326.

Mellon Asset Management

ALM Model Assumptions

Mellon Asset Management's Asset/Liability Management (ALM) modeling is based on proprietary capital market projections for the expected returns, volatility and correlations of common asset classes. These asset classes include equities, bonds of various durations, international securities, emerging markets, commodities, absolute return strategies, and other alternatives.

The ALM model uses Monte Carlo simulation to generate thousands of hypothetical economic scenarios that incorporate the projected returns and volatility assumptions. The model produces a range of possible portfolio returns and assigns the probability of their occurrence, as highlighted in the charts. The expected returns and standard deviations shown in the case studies are the weighted averages of the component asset classes.

Index Disclosure

The *Russell 3000 Index* is an unmanaged capitalization-weighted index that is broadly representative of U.S. equity markets.

The *Russell 2000 Index* is an unmanaged capitalization-weighted index that is broadly representative of U.S. small cap equity markets.

The *Russell 1000 Index* is an unmanaged capitalization-weighted index that is broadly representative of U.S. large cap equity markets.

The *MSCI Europe, Australasia, Far East (EAFE) Index* is an unmanaged market-value-weighted index of more than 1,000 securities issued by foreign companies.

The *Lehman Brothers U.S. Aggregate Index* is an unmanaged index broadly representative of the taxable high grade U.S. bond market.

Mellon Asset Management

EACM Advisors

Mellon Equity Associates

Hamon Investment Group

Franklin Portfolio Associates

Mellon Capital Management

Newton Capital Management

Pareto Investment Management

Mellon HBV Alternative Strategies

Standish Mellon Asset Management

The Boston Company Asset Management

Peter S. Austin

Peter is Executive Director of Mellon Asset Management, which provides a range of investment management, asset/liability management and fiduciary services to private and public pension plans, as well as foundations and endowments. He has held leadership roles in Mellon businesses that deliver broad consulting and investment solutions to institutional clients. Peter's background also includes management positions in treasury, corporate finance and strategic planning. Peter holds a B.A. from Kenyon College and an M.B.A. from the Katz School at the University of Pittsburgh.

David B. Chittim

Dave is Senior Vice President, Investments, for Mellon Asset Management Services, responsible for investment strategy development, research, and planning. He brings more than twenty years of experience in developing client-focused asset allocation, matched funding and customized active portfolios, asset-liability management, investment research, and fixed income product development. Dave has an M.B.A. from Stanford University and a B.S. from Carnegie-Mellon University.

Andrew D. Wozniak, ASA, MAAA

Andrew is a Director of Research and Analysis within Mellon Asset Management. He has extensive experience assisting plan sponsors in their development of a strategic asset allocation, asset/liability analysis, and funding policy construction. Andrew is an Associate of the Society of Actuaries, a Member of the American Academy of Actuaries and has a B.S. in Mathematics from Slippery Rock University.

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