

**RE: Potential Effects of the GASB's Preliminary Views**  
**FROM: Paul Zorn\***  
**DATE: August 30, 2010**

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This memorandum analyzes the potential effects of the GASB's proposed changes to pension accounting and reporting standards for governmental employers. The analysis is done by applying several of the key changes to a modeled public pension plan, based on a medium-sized, statewide plan covering general employees. In evaluating changes to accounting standards, the GASB considers three key criteria: accountability, decision-usefulness, and interperiod equity. The analysis raises serious concerns over how well the proposed changes would meet these criteria.

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On June 16, 2010, the Governmental Accounting Standards Board (GASB) issued its Preliminary Views (PV)<sup>1</sup> on proposed changes to accounting and financial reporting standards for pensions. If approved, the changes would apply to state and local governmental employers that sponsor defined benefit (DB) pensions. However, the changes would apply only within the context of accounting and financial reporting and would not necessarily apply to the actuarial calculations used to fund DB benefits.

The underlying goal of the GASB's Postemployment Benefits (PEB) project is to review current accounting and financial reporting standards related to postemployment benefits. In considering changes to accounting standards, the GASB uses three key criteria to evaluate various accounting and reporting approaches:

- **Accountability:** Would the resulting measures help hold public officials accountable to their constituents by providing an accurate accounting of financial transactions?
- **Decision-Usefulness:** Would the measures provide the information needed by decision-makers and stakeholders to make informed decisions?
- **Interperiod Equity:** Would the measures help determine whether the costs of governmental services are allocated equitably across current and future taxpayers?

The following memorandum illustrates some of the potential effects of the GASB's proposed changes. This is done by applying several of the GASB's key changes to a modeled public pension plan, based on a medium-sized, statewide plan covering general employees. The GASB's changes are applied as if they were applicable in 1983, and the proposed accounting measures are estimated based on the plan's historical experience through 2009. (See Appendix A for additional information about the underlying methodology.) Because this necessarily requires certain simplifications, the results are intended as illustrative rather than definitive.<sup>2</sup> Nevertheless,

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<sup>1</sup> The PV is titled: "Preliminary Views of the Governmental Accounting Standards Board on major issues related to Pension Accounting and Financial Reporting by Employers" and is available at [www.gasb.org](http://www.gasb.org).

<sup>2</sup> In addition, the results would not necessarily reflect the experience of governments under substantially different circumstances than those modeled.

the author believes the results reasonably reflect the underlying dynamics and potential effects of the proposed changes.

### **Overview of the GASB's Proposed Changes**

Before discussing the results, it may be useful to compare the GASB's proposed changes with its current approach. The GASB's current accounting measures for pensions are closely linked to the actuarial funding measures. The GASB's current measure of the employer's pension expense, (i.e., the Annual Pension Cost), consists of the employer's Annual Required Contribution (ARC), plus certain adjustments if the employer has contributed more or less than the ARC over time. The ARC, in turn, is the employer's actuarially determined contribution, which includes the Normal Cost (i.e., the Service Cost) of benefits accrued during the period, plus amortization of the Unfunded Actuarial Accrued Liability (and actuarial gains/losses) over a period not longer than 30 years.

The GASB's current measure of the employer's pension liability (i.e., the Net Pension Obligation), is the difference between the employer's Annual Pension Cost and the contributions actually made by the employer. Moreover, additional information about the employer's actuarial liabilities and the funded status of the plan are presented as required supplementary information in the employer's annual financial report. This information includes: the Actuarial Accrued Liability, Actuarial Value of Assets, Unfunded Actuarial Accrued Liability, and the plan's Funded Ratio. Typically, the Actuarial Value of Assets is determined using a method that averages (or smoothes) investment gains/losses over time, often 5 years.

The GASB's proposed changes would disconnect pension accounting from pension funding. The GASB's proposed accounting measure of the employer's pension liability (i.e., the Net Pension Liability) would reflect the employer's unfunded pension obligation, but would be significantly different from the actuarial approach. First, in determining the Net Pension Liability, the Market Value of Assets (rather than the Actuarial Value of Assets) would be subtracted from the Total Pension Liability. This would make the Net Pension Liability more volatile than the Unfunded Actuarial Accrued Liability, since the Market Value of Assets is not smoothed. Second, the Total Pension Liability would be calculated using a "blended" discount rate reflecting some combination of the long-term expected investment return and municipal bond yields. In the next section, the blended rate will be discussed in more detail.

In addition, the GASB's proposed new accounting measure of the pension expense (i.e., the PV Pension Expense) would disconnect it from the funding measure reflected by the Annual Pension Cost.<sup>3</sup> Although the PV Pension Expense would include a measure of the Service Cost based on the Entry Age Normal actuarial cost method, the methods for amortizing actuarial gains and losses in the PV Pension Expense would be very different from the current approach. This is discussed further in the section on the PV Pension Expense.

### **Expected Investment Returns and Municipal Bond Yields**

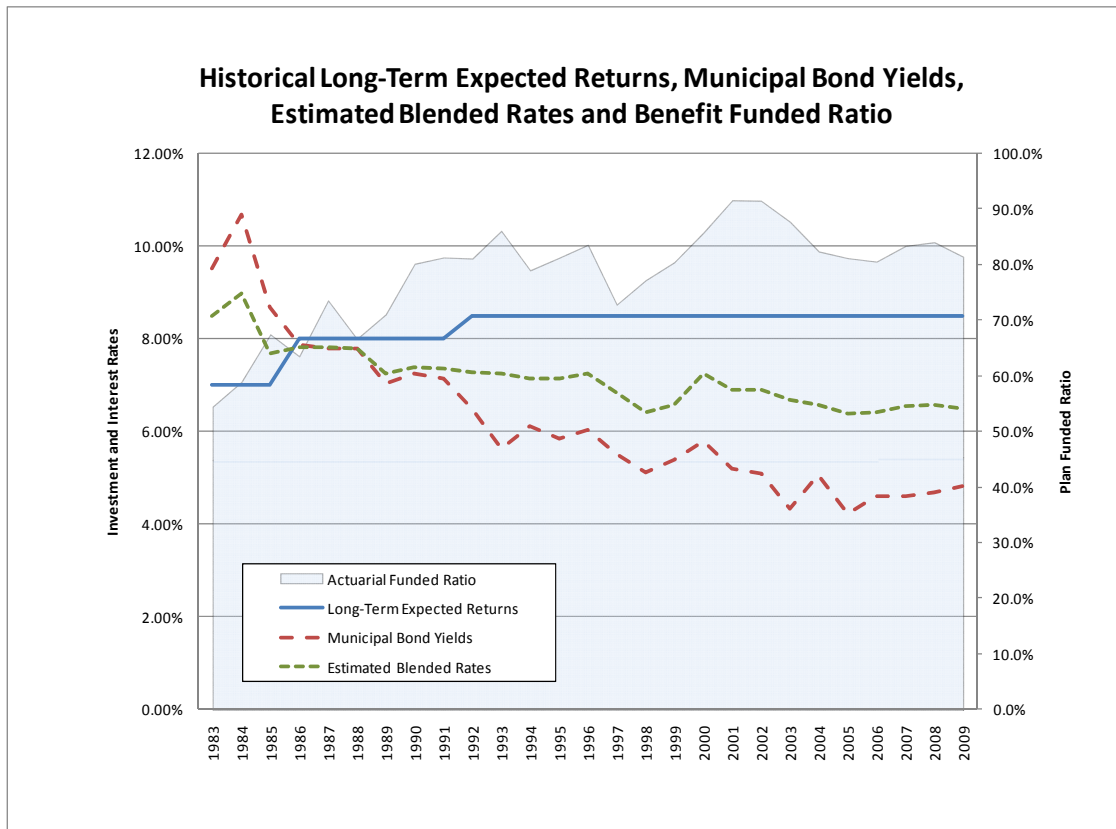
Interest rates and investment returns are key factors that drive the actuarial valuations used to fund public pension plans, as well as the GASB's proposed accounting measures. For actuarial valuations of public plans, the long-term expected investment return serves to estimate future investment earnings as well as to discount future benefit payments in order to determine the present value of the pension liability.

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<sup>3</sup> The term "PV Pension Expense" is used in this memorandum to distinguish the measure of pension expense proposed in the Preliminary Views from the general term for pension expense.

As discussed on the previous page, the Net Pension Liability would be determined using a blended discount rate, based on some combination of the long-term expected return and municipal bond yields. The blended rate would reflect the long-term expected return to the extent current and expected future assets (including expected future contributions and investment earnings) are sufficient to pay expected future benefits. However, to the extent current and expected future assets are not sufficient, municipal bond yields would be combined with the long-term expected return to determine the blended rate.<sup>4</sup> Note that under this approach, the long-term expected return could be used as the discount rate, provided current and future expected contributions and investment earnings are sufficient to pay future benefits. (See Appendix B for an example of how the blended rate would be calculated.) Chart 1 shows these rates over the study period.

**Chart 1**



In Chart 1, both the long-term expected returns and the municipal bond yields are based on historical data. The blended rate is based on the plan’s funded ratio and factors developed from a simplified projection of the plan’s future cash flows. While this approach does not exactly determine the blended rate, it provides a reasonable approximation and helps to simplify the analysis.<sup>5</sup>

Several things are interesting about the chart. First, the municipal bond yields are higher than the plan’s long-term expected returns from 1983 to 1986. This was a time of high inflation, and most

<sup>4</sup> The GASB PV indicates the municipal bond yields would be based on an index of high-quality municipal bonds. The yields used in this study reflect an index of tax-exempt, general obligation municipal bonds published by the *Bond Buyer*. The GASB PV does not specify whether the index used to determine the blended rate would be based on taxable or tax-exempt municipal bonds.

<sup>5</sup> In actual practice, the blended discount rate would not be based on the plan’s funded ratio, but rather on the degree to which current and projected future assets are sufficient to pay expected future benefits.

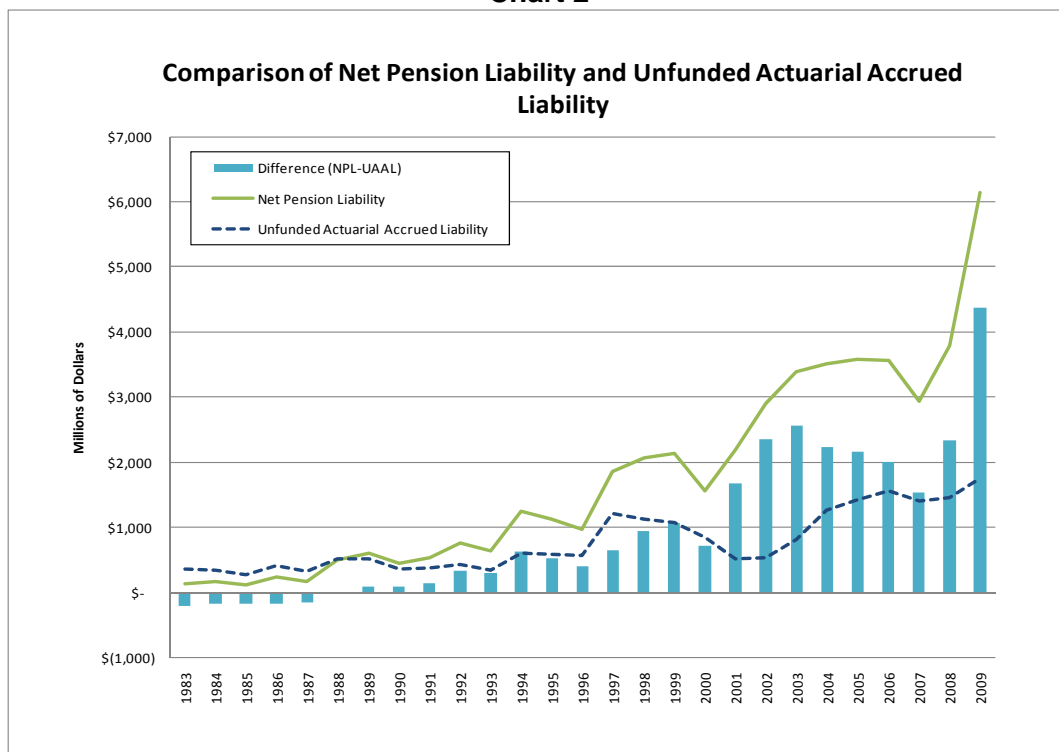
bond yields were in the double-digit range. As a result, the blended rate would have been higher than the long-term expected return during this period. This is because the plan's low funded ratio at the time (between 55% and 70%) would have caused a large portion of the (higher) municipal bond yields to be included in the blended rate. Since pension liabilities are inversely proportional to the discount rate, use of the higher blended rate would have resulted in lower measures of the pension liabilities than determined using the long-term expected returns.

Second, municipal bond yields declined (somewhat erratically) between 1987 and 2006, and would have been significantly lower than the long-term expected returns (by 150 to 350 basis points) over much of that time. This would have resulted in significantly higher (and more erratic) measures of the pension liabilities. This is discussed further in the next section.

### The Net Pension Liability

The Net Pension Liability is intended to reflect the employer's unfunded pension obligation, but would be measured differently than the Unfunded Actuarial Accrued Liability used for funding purposes. First, the Total Pension Liability used to determine the Net Pension Liability would be based on the blended discount rate rather than the long-term expected return. Second, the Market Value of Assets would be subtracted from the Total Pension Liability to calculate the Net Pension Liability, introducing significant volatility into the measure. Chart 2 shows results for the Net Pension Liability and Unfunded Actuarial Accrued Liability over the study period.<sup>6</sup>

Chart 2



<sup>6</sup> In order to demonstrate the difference between the Net Pension Liability and the Unfunded Actuarial Accrued Liability for this study, it was assumed that current and future expected assets would be insufficient to cover expected future benefits and so the blended discount rate was used to determine the Net Pension Liability. However, for the plan on which the model is based, the Annual Pension Cost was paid throughout the study period. Consequently, the sponsoring employer would likely have been able to use the long-term expected return as the discount rate. This would have lowered the Net Pension Liability but would not have affected the volatility resulting from the Market Value of Assets.

From 1983 through 1987, the Net Pension Liability would have been about half of the Unfunded Actuarial Accrued Liability. This is because the plan was underfunded during the period and municipal bond yields were much higher than the long-term expected return. Consequently, the blended discount rate would have been higher than the expected return, lowering the Net Pension Liability below the Unfunded Actuarial Accrued Liability.

For the remainder of the study period, the Net Pension Liability would likely have been significantly higher than the Unfunded Actuarial Accrued Liability. First, the blended discount rate would have been lower than the long-term expected return, resulting in a higher measure of the Total Pension Liability.

Second, the use of the Market Value of Assets would have introduced significant volatility into the Net Pension Liability. As shown in Chart 2, the Net Pension Liability and the Unfunded Actuarial Accrued Liability would have diverged sharply in 2000, as the first financial downturn of the decade caused the value of equity investments to fall and increase unfunded liabilities. This would have immediately increased the Net Pension Liability, but would have had less of an effect on the Unfunded Actuarial Accrued Liability (due to smoothing of investment gains). As a result, between the years 2000 and 2009, the Net Pension Liability would have been at least double or triple the amount of the Unfunded Actuarial Accrued Liability.

As investment returns improved between 2003 and 2007, the Net Pension Liability would have leveled off and then declined, while the Unfunded Actuarial Accrued Liability increased (due to smoothing of investment losses). In 2008, the second financial downturn drove asset values down even further. This would likely have resulted in an unprecedented increase in the Net Pension Liability in 2009, to almost four times the Unfunded Actuarial Accrued Liability.

### **The PV Pension Expense**

In addition to changing the pension liability for accounting purposes, the GASB is also proposing to change the measure of pension expense. Currently, the pension expense is the Annual Pension Cost, which consists of the Normal Cost (also called the Service Cost) plus the amortization of the Unfunded Actuarial Accrued Liability (and actuarial gains/losses) over a period of not more than 30 years.

#### **Recognizing Liability Gains/Losses**

The new PV Pension Expense would be fundamentally different from the Annual Pension Cost. While the PV Pension Expense would include the Service Cost (based on the Entry Age Normal actuarial cost method) it would also fundamentally differ in how the Unfunded Actuarial Accrued Liability and actuarial gains/losses are recognized in the measure of pension expense.

Determining the pension liability depends on a variety of economic and demographic assumptions. These assumptions may differ from actual experience and so lead to differences between the expected pension liability and the actual pension liability from year to year. To the extent these differences lead to a change in the pension liability related to past service, they would need to be recognized in the PV Pension Expense. The same is true for changes in assumptions and benefits.

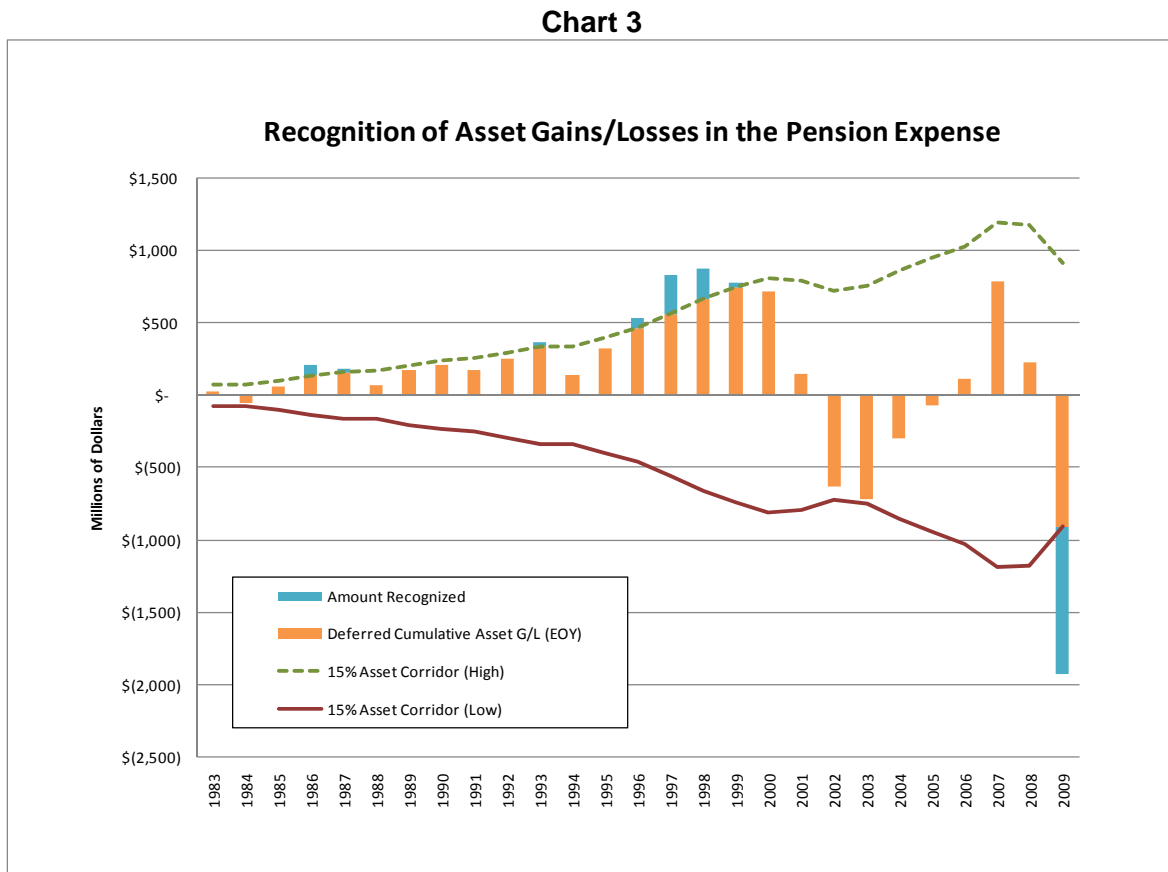
The GASB proposes amortizing these liability gains/losses over the expected remaining service lives of active employees. Moreover, to the extent the liability gains/losses relate to vested inactive members (including retirees and beneficiaries) the gains/losses would be recognized immediately in the PV Pension Expense. For accounting and reporting purposes, this change

would reduce the amortization period for liability gains/losses from a maximum of 30 years to about 10 to 20 years (or less). The reduction in the amortization period would likely lead to a higher and more volatile measure of the PV Pension Expense.

### Recognizing Asset Gains/Losses

With regard to asset gains and losses, the GASB proposes to defer recognition of changes in assets to the extent the cumulative differences between actual investment earnings and long-term expected earnings remain within a 15% corridor around the market value of net plan assets. However, when the cumulative difference between actual and expected investment earnings falls outside of the corridor, the portion outside the corridor would be recognized immediately.

Chart 3 shows how asset gains/losses would likely have been recognized in the PV Pension Expense for the modeled plan over the study period.

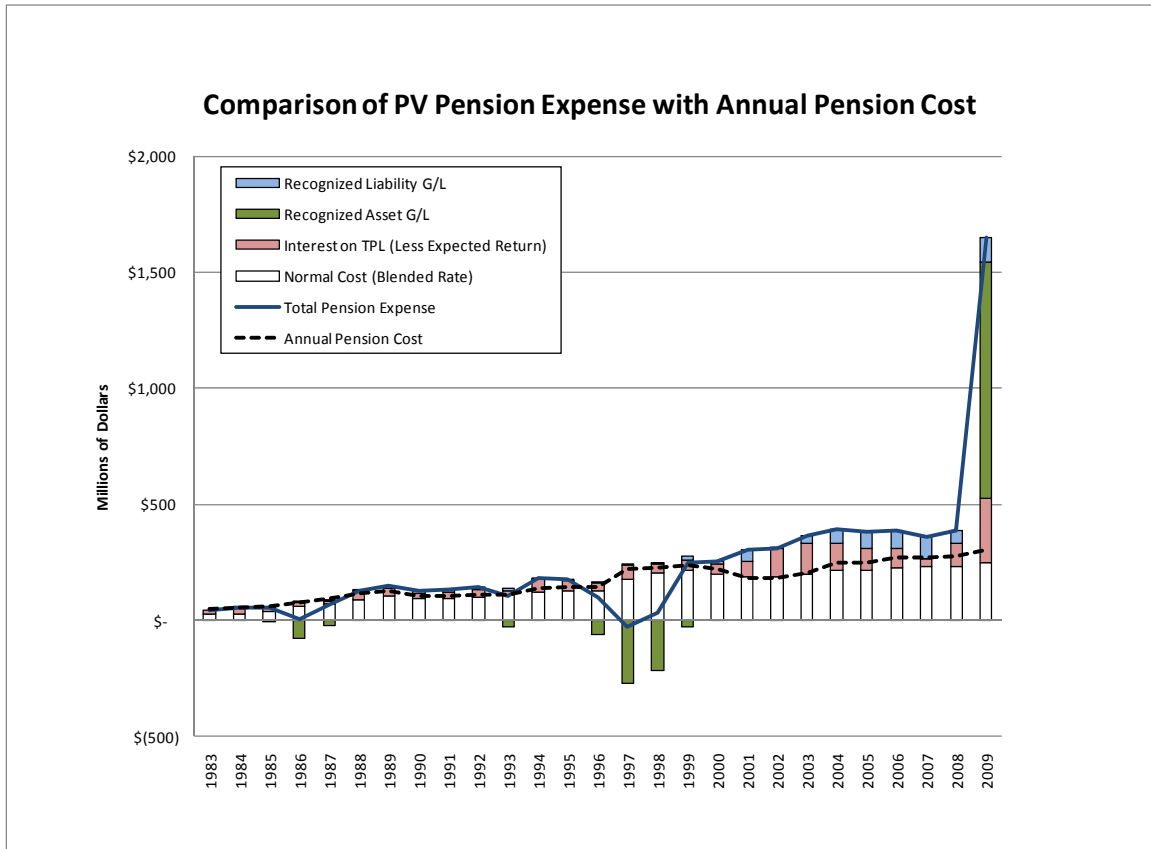


Several things are interesting about this chart. First, as assets increase, so do the deferral corridors. Although the corridors contract at times, the contraction is temporary. Consequently, as time goes by, a larger dollar amount is allowed to be deferred.

Second, the asset gains/losses would be recognized infrequently and typically at unusual times in the markets. As shown in Chart 3, most of the asset gains would have been recognized in the mid-1990s, a time when investment returns were unusually high. Similarly, asset losses would be recognized at times when returns were unusually low, such as 2009.

Rather than recognizing asset gains/losses in a systematic way, the proposed approach would recognize them erratically, leading to similar fluctuations in the PV Pension Expense. Chart 4 shows the PV Pension Expense compared with the Annual Pension Cost over the study period.

**Chart 4**



As Chart 4 shows, although recognition of asset gains/losses outside the 15% corridor would be infrequent, it would have had a strong impact on the PV Pension Expense. For example, it would have resulted in a negative PV Pension Expense in 1997 (and a nearly negative PV Pension Expense in 1986), at times when the Annual Pension Cost was strongly positive. Also, in 2009, it would have been the major contributor to the more than four-fold increase in the PV Pension Expense from the prior year.

**Conclusions**

In proposing changes to current pension standards, the GASB’s goals are to provide accounting information that: (1) holds public officials accountable to their constituents for financial transactions; (2) is needed by decision makers and stakeholders to make informed decisions; and (3) measures the degree to which the costs of governmental services are equitably allocated across current and future taxpayers.

While these are important goals, the above analysis raises serious concerns over how well the proposed changes would meet the goals. With regard to accountability, the proposed changes would likely make it more difficult to hold public officials accountable for funding pension benefits. As shown in Charts 2 and 4, the Net Pension Liability and PV Pension Expense would not reflect the Unfunded Actuarial Accrued Liability and Annual Pension Cost used to fund the plan. Consequently, they would not be useful benchmarks for determining whether required contributions have been made or whether the funded status is improving.

With regard to informed decisions, the Net Pension Liability and PV Pension Expense could send misleading signals with regard to the contributions necessary to fund the benefits as well as the benefits' funded status. As shown in Chart 2, at times when municipal bond yields are high (e.g., 1983 – 1986) the Net Pension Liability could be significantly lower than the Unfunded Actuarial Accrued Liability. This could lead decision-makers to conclude the benefits were well funded and erroneously decide to reduce contributions. Similarly, as shown in Chart 4, at times when the PV Pension Expense is low or negative (e.g., 1986 and 1997), decision makers might also interpret this as a reason to lower contributions.

With regard to interperiod equity, Charts 3 and 4 show that a substantial portion of unusually high asset gains or losses would be immediately recognized in the PV Pension Expense (e.g., 2009). This would allocate a significant portion of the asset gains/losses to taxpayers in that year, even though those asset gains/losses might be offset by future gains/losses. A more equitable approach would be to amortize asset gains/losses evenly over multiple years, so that taxpayers in a given year are not disproportionately burdened or advantaged.

## **Appendix A – Model and Methodology**

The results of this paper are based on a pension plan modeled using historical data from a statewide plan covering general employees.<sup>7</sup> The data were collected from actuarial reports and annual financial reports prepared from 1984 to 2009. The results reported for the plan's Unfunded Actuarial Accrued Liability and Annual Pension Cost are based closely on the historical actuarial valuations of the plan, including the plan's Actuarial Accrued Liabilities and Normal Costs. However, certain changes were made to improve the consistency of the results. For example, while the statewide plan's amortization period for unfunded liabilities varied from year to year, it was set to a 30-year open amortization period for the study.

The results reported for the Net Pension Liability were derived from the historical Actuarial Accrued Liabilities by adjusting the Actuarial Accrued Liabilities to reflect the difference between the plan's long-term expected return and the blended discount rate based on the duration and convexity of the liabilities. The Net Pension Liability was then calculated by subtracting the historical Market Value of Assets from the adjusted Actuarial Accrued Liability. In calculating the PV Pension Expense, the Service Cost component was also adjusted to reflect the blended discount rate.

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<sup>7</sup> Plans for public safety employees have different demographic and benefit characteristics than plans for general employees and teachers. Consequently, the specific results of this study may not necessarily be representative of public safety plans. Nevertheless, it is likely the results would have generally been similar for public safety plans.

## Appendix B – Calculating the Blended Discount Rate

As discussed in the GASB’s Preliminary Views, the blended discount rate would reflect the long-term expected return to the extent current and expected future assets (including expected future contributions and investment earnings) are sufficient to pay expected future benefits. However, to the extent current and expected future assets are not sufficient, municipal bond yields (reflecting an index of high-quality municipal bonds) would be used.

The blended discount rate plays a key role in many of the calculations proposed in the GASB’s Preliminary Views, including the Total Pension Liability, the Net Pension Liability, and the Service Cost component of the PV Pension Expense. However, the method for determining the blended rate is complicated and somewhat unclear. The following table offers a simplified example of a process for determining the blended discount rate.

		Expected Return			8.00%				
		Municipal Bond Rate			4.00%				
		Blended Rate			6.54%				
Year	Assets (BOY)	Expected Payments (BOY)	Expected Contributions (BOY)	Expected Investment Earnings (EOY)	Assets (EOY)	Rates Used to Develop the Blended Rate	PV Expected Payments Using Expected Return & Municipal Bond Rate	PV Expected Payments Using the Blended Rate	
1	600	100	10	41	551	8.00%	100	100	
2	551	100	10	37	498	8.00%	93	94	
3	498	100	10	33	440	8.00%	86	88	
4	440	100	10	28	378	8.00%	79	83	
5	378	100	10	23	311	8.00%	74	78	
6	311	100	10	18	239	8.00%	68	73	
7	239	100	10	12	161	8.00%	63	68	
8	161	100	10	6	77	8.00%	58	64	
9	77	100	10	-1	-14	4.00%	73	60	
10	-14	100	10	-8	-113	4.00%	70	57	
							764	764	

In this example, a plan expects to pay benefits of \$100 per year over the next 10 years. At the beginning of year 1, it has assets of \$600, expects contributions of \$10 per year over the period, and expects to earn 8% on the available assets and contributions. Contributions and payments are made at the beginning of the year and investment earnings are paid at the end of the year. The current municipal bond rate is 4%.

To determine the blended rate, the expected return is used to discount the present value of benefit payments to the extent current and expected future assets are sufficient to pay benefits. In the example above, current and expected plan assets are available through year 8 and so the blended discount rate reflects expected returns for the first 8 years. After that, the municipal bond yield is used to determine the present value of benefit payments. Using these rates produces a total present value of expected future benefit payments equal to \$764.

According to the GASB, the blended rate is a single rate that would result in the same present value of benefit payments as determined by applying the expected return and municipal bond rates in the manner described above. So, to determine the blended rate, we need to find a single discount rate that, when applied to the benefit payments, produces a total present value of \$764. As shown in the rightmost column of table, this discount rate is demonstrated to be 6.54%.