A Judge in Their Own Cause: GASB 67/68 and the continued mis-measurement of public sector pension liabilities

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Introduction

In total, 90,000 state and local governments in the United States offer public employees a defined benefit pension plan. In 2015 these plans covered over 20 million employees and 10 million retirees receiving total benefits of \$286.5 billion. According to the U.S. Census in FY 2015 assets totaled \$3.1 trillion and total pension liabilities \$4 trillion, producing total underfunding of \$978 billion.

Government estimates of plan underfunding are contested by economists, policy analysts and financial practitioners as underestimating the full value of pension liabilities by several trillion.⁴ The reason for such a large gap in measurement is due to the actuarial and accounting guidance that informs public sector pension reporting. The basis on which pensions are measured is central to their proper funding and sustainability. Inaccurate measurement of pension benefits has major

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¹ United States Census (June 2016)

https://www.census.gov/content/dam/Census/library/publications/2016/econ/g15-aspp-sl.pdf ² lbid.

³ United States Census 2015 Survey of Public Pensions: State and Local Data (https://www.census.gov/govs/retire/)

⁴ Rauh calculates state and local public sector plans unfunded liabilities total \$4.67 trillion as of FY 2015, "Joshua Rauh,"Hidden Debt, Hidden Deficits," Hoover Institute Essay, April 11, 2016 p. 3. (http://www.hoover.org/research/hidden-debt-hidden-deficits-how-pension-promises-are-consuming-state-and-local-budgets) More recent estimates suggest unfunded pension liabilities for state and local governments is \$6 trillion, See, "The \$6 trillion pension hole we're all going to have to pay for, " by Ed Bartholomew and Jeremy Gold, *MarketWatch*, August 20, 2016 (http://www.marketwatch.com/story/why-your-states-public-pension-plan-is-in-a-much-bigger-hole-than-you-already-fear-2016-08-16)

financial implications for retirees, taxpayers and governments as the recent experiences of Puerto Rico, Detroit, and San Bernardino attest.

Public sector plans in the U.S. operate under actuarial and accounting guidance provided by the Government Accounting Standards Board (GASB) and Society of Actuaries (SOA). Until 2014, governments followed GASB Statements No. 25 and 27 to measure and value pension plan data. Based on criticism that these standards do not fully measure plan liabilities and generate misleading information, GASB 25 and 27 were replaced with GASB 67 and 68 in an attempt to ensure more accurate and transparent reporting. Early evidence suggests that the new guidance has an overall mixed effect and produces its own set of distortions. Liabilities continue to be dramatically understated while assets are reported on a sounder basis. Requirements to report the pension liability in financial statements, rather than in the notes, represent an improvement in transparency, yet, the liability figures themselves do not fully reflect the true unfunded liability for public plans.

In this paper we review the changes to GASB accounting guidance and how they affect the measurement and reporting of pension assets and liabilities. In particular, we explore the extent to which GASB 67 allows for a subjective approach to pension liability measurement. We select 144 plans that calculated the Unfunded Actuarial Accrued Liability (UAAL) as outlined in GASB 25 and the Net Pension Liability (NPL) as outlined in GASB 67 on the same valuation date to ensure comparability. Based on a review of these 144 plans as of June 2014 we find that the implementation of GASB 67 resulted in little change in the reported

liability, contrary to the expectation of scholars. This is due to the discretion GASB 67 gives to actuaries in determining when a pension plan is likely to run out of assets. The result is that only a small fraction of plans applied GASB 67's recommended "blended discount rate" in FY 2014, leading to almost no discernable change in the size of unfunded liabilities for the majority of plans, and a slight improvement in the case of Illinois, a state with among the most distressed pension plans in the nation. Secondly, we find that GASB 68, while revealing more of plans' underfunding in financial reports continues to conceal total amount of underfunding.

I. GASB 25 vs. GASB 67: The measurement of pension assets and liabilities

a. Reporting

In the mid-1990s GASB issued statements No. 25 and No. 27.⁵ GASB 25 required governments' pension plan reports to include two reporting schedules. The *schedule of funding progress* included the actuarial value of assets (AVA), the actuarial accrued liability (AAL), and the difference between them known as the unfunded actuarial liability (UAAL). The *schedule of employer contributions* included the annual required contributions (ARC) and the portion of the ARC the government contributed to the plan in that year. GASB 25 also provided guidance on how to measure both the assets and the liabilities. This standard was amended on June 25, 2012 and replaced by GASB 67 which requires the calculation of a Net

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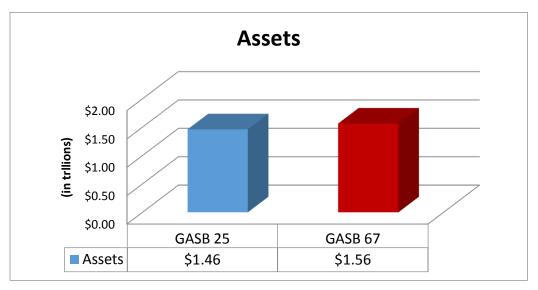
⁵ See GASB No. 25: Financial Reporting for Defined Benefit Pension Plans and Note Disclosures for Defined Contributions Plans; and Statement No. 27: Accounting for Pensions by State and Local Government Employers. (http://www.gasb.org/st/summary/gstsm25.html)

Pension Liability (NPL) which is the Total Pension Liability (TPL) minus the Fiduciary Net Position.

b. Asset measurement

Under GASB 25 assets were measured on a fair-market basis which permitted actuaries to "smooth" market fluctuations in asset returns. Smoothing produces an "actuarial value of assets" based on the multi-year average (usually five years) of market values. The intent of asset smoothing was to dampen swings in investment earnings in order to give sponsors predictability in their annual contributions. However, during significant market declines asset smoothing produces actuarial asset values that are larger than true market values contributing to a false sense of strong performance and masking the risk and volatility of pension asset portfolios. Under GASB 67 asset values are no longer "smoothed." Instead plans report assets on a market basis. Reviewing a sample of plans in which actuaries calculated both the UAAL and the NPL shows 144 state pension plans are reporting assets on a market basis. The result is that these plans' asset values were 7 percent higher under GASB 67 (for FY 2014) as Chart 1 shows.





c. Liability valuation

Valuation of the liability associated with promised pension benefits depends on actuarial assumptions which relate to unknown, but somewhat predictable events including retirement ages, benefit structure, life expectancy and other factors. In addition, actuaries must calculate the present value of the liability to determine what benefits due years in the future are worth in today's dollars and the contribution needed to fund the benefits. This calculation known as "discounting the liability" (i.e., reverse compound interest). It requires the selection of an interest rate known as the "discount rate" to transform the future value of pension benefits into a present value. GASB 25 indicates that the discount rate used may be based on the expected return on the pension plan's assets when invested in a mix of stocks and bonds, known as the historical rate of return.

Pension plans have historically assumed an annual return of between 7.5 to 8 percent on their asset portfolios.⁶

Before discussing the impact of the new rule it is necessary to consider why GASB modified its approach and the extent to which the new approach addresses the initial criticisms of economists. We next present the ongoing debate over the actuarial approach versus the economic approach on to how to select the discount rate to calculate the present value of a pension liability. According to the principles of finance the discount rate selected to value a stream of cash flows due in the future (in this case, pension benefits) should be based on the guarantee and timing of those payments. The value of plan benefits is independent from the value of the assets the plan holds. Public sector pensions are often protected in state statute or constitution as legally guaranteed, putting them on par with government debt. Economic theory suggests that the proper discount rate to use when valuing a debt-like pension liability is the return on bonds, currently valued at historic lows. The effect of selecting the lower return on bonds as the discount rate is to increase the size of the liability and the annual contribution required. The earlier guidance of GASB 25 allowed guaranteed

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⁶ Government Accountability Office, Report to the Chairman Committee on Health, Education, Labor and Pensions, United States Senate "Pension Plan Valuation: Views on Using Multiple Measures to Offer a More Complete Financial Picture," September 2014 p. 54. (http://www.gao.gov/assets/670/666287.pdf)

⁷ This principle is defined in the Modigliani-Miller Theorem, Franco Modigliani and Merton H. Miller, "The Cost of Capital, Corporation Finance and Theory of Investment," The American Economic Review, Vol. 48, No. 3 (June 1958), pp. 261-267.

⁽https://www2.bc.edu/~chemmanu/phdfincorp/MF891%20papers/MM1958.pdf)

⁸ A one-point decrease in the discount rate results in an increase in the liability of up to 20 percent increase in the present value of the liability. V. Gopalakrishnan and Timothy F. Sugrue,

pension liabilities to be valued based on the expected returns on plan assets which consist of mix of higher risk stocks and bonds thus linking the funding of plans to the volatility of the stock market exposing the plan to underfunding. According to the economic approach, plans are effectively assuming a large risk premium when anticipating annual returns of 7.5 percent on a liability that is effectively the equivalent of a government-guaranteed bond, which currently return less than 2 percent annually.⁹

Economists stress that the discount rate used to value plan liabilities is independent from the plan's investment strategy. This theory holds that applying a discount rate to value plan liabilities based on the return on U.S. Treasuries does not imply a plan must invest the assets exclusively in bonds. The subject of how to invest pension assets may follow a number of suggested approaches according to this literature. The goal of the investment strategy is to hedge against changes in the value of pension benefits due to changes in wages, real interest rates and inflation. Waring (2012) suggests a bond-centric Liability Matching Asset

[&]quot;The Determinants of Actuarial Assumptions Under Pension Accounting Disclosures," Journal of Financial and Strategic Decisions, Volume 8 No. 1 Spring 1995.

⁹ I 2007 United States Government Accountability Office study noted "real returns on various investment instruments over the last 40 years" was 5%. (Governmental Accounting Standards Board, 2011, p. 33)

¹⁰ George Pennacchi and Mahdi Rastad, "Portfolio Allocation for Public Pension Funds," Journal of Pension Economics and Finance 10, no. 2 (April 2011), 221–45. The authors note that previous research suggests pension funds invest in equities to hedge against wage uncertainty. See Fisher Black, "Should You Use Stocks to Hedge Your Pension Liability?," Financial Analysts Journal 45, no. 1 (January/February 1989), 10–12. Mirko Cardinale, "Cointegration and the Relationship between Pension Liabilities and Asset Prices (Watson Wyatt Technical Paper Series No. 2003-TR-06, 2003); Deborah Lucas and Stephen Zeldes, "How Should Public Pension Plans Invest?" American Economic Review 99, no. 2 (2009): 527–32. This research is based on a positive correlation between equities and wages. Pennacchi and Rastad test this and find a negative correlation between growth in US state and local wages and US equities. They

Portfolio (LMAP) with an optional Risky Asset Portfolio (RAP). Pennachi and Madhi develop a "risk-minimizing allocation" for public plans in which the fund borrows via short positions to increase its investments in U.S. fixed income securities. Public plans may also adopt a life-cycle fund approach in which allocations to risky assets should diminish as the employee reaches retirement. The rule of thumb suggests that the allocation to stocks in an investor's portfolio equal 100 minus their age. At age 20, an investor would hold 80 percent of their portfolio in stocks. At age 60 this would fall to 40 percent. Research by Biggs demonstrates that public pension plans could adopt a similar approach based on the age composition of plan participants. 13

One corollary to the economic critique of how public plans select discount rates is that selecting a discount rate based on expected asset returns implies that liability valuation is dependent on asset performance. In order to meet high discount rate assumptions plans are incentivized to assume more investment risk, which may have a negative effect on plan funding.

find that as the period grows longer, the negative correlation increases. Thus, Pennachi and Rastad conclude that since the typical duration of a pension plan's liabilities is 15 years, stocks may not be the best hedge against wage risk.

¹¹ M. Barton Waring, Pension Finance: Putting the Risks and Costs of Defined Benefit Plans Back Under Your Control" Wiley Finance 2012.

¹² This portfolio would consist of a 9 percent short position in equities, a 160 percent allocation to fixed income, a 24 percent allocation of private equity and a 27 percent short position in hedge funds.

¹³ Andrew Biggs, "Investment-Based Transition Costs Associated with Closing a Defined Benefit Pension Plan," Mercatus Working Paper, Mercatus Center at George Mason University, February 2015, p. 15

A recent empirical study by Andonov, Bauer and Cremers compares U.S. public pension plans to plans in Canada and Europe to determine how GASB regulatory incentives guide discount rate selection affects risk-taking in investment. ¹⁴ While U.S. public plans may select a discount rate based on the expected return on investments. U.S. private plans use a discount rate based on high-grade corporate bonds. Until 2004, U.S. private plans were required to use the return on 30-year Treasury bonds. ¹⁵ Canadian public and private plans use a discount rate based on high-quality corporate debt. In the Netherlands plans must use a discount rate of a maximum of four percent. Plans in the U.K. discount their private and public pension liabilities based on the yields on U.K. government securities.

The authors find that an increase in the allocation of risky assets in public pension funds from 56.1 percent in 1993 to 72.4 percent in 2012 is mainly due to risk-

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Andonov, Aleksandar and Bauer, Rob and Cremers, Martijn, Pension Fund Asset Allocation and Liability Discount Rates (September 30, 2016). Available at SSRN: https://ssrn.com/abstract=2070054 or http://dx.doi.org/10.2139/ssrn.2070054

¹⁵ In 2012 Congress voted to allow U.S. private plans to adjust their discount rate to reflect a 25-year average rate on corporate bonds as opposed to the 2-year average rate. This change had the effect of increasing the discount rate from 4 percent to 6 percent, thereby reducing reported liabilities and annual contributions. The secondary effect of the measure was to shift money from pension funds to corporate income statements increasing taxable income. The discount rate used for U.S. private sector plans is still selected, based on FASB guidance, with reference to corporate bonds, an approximation of the guaranteed nature of the pension benefit. See, "A Realistic Discount Rate for Pensions," by Robert C Pozen and Theresa Hamacher, Brookings Institute, https://www.brookings.edu/opinions/a-realistic-discount-rate-for-pensions/) and "Paving Over Pension Liabilities," by Jason Fichtner and Eileen Norcross, Real Clear Policy, June 15, 2012

taking by U.S. public funds. By contrast, U.S. private funds decreased their allocation to risky assets by 2.8 percent over the same period. In particular, the authors find that more mature U.S. pension funds have a stronger incentive to invest in risky assets because reducing the discount rate has an immediate impact on increased contributions. For every 10 percent increase in the percent of retired workers U.S public plans increase their allocation to risky investments by 5.34 percent, while Canadian, European and U.S. private sector plans decrease their allocation by 1.7 percent. Increasing risk as a plan matures is in contrast to the life-cycle investment approach described earlier.

To reconcile the critique of economists with the historic practice of actuaries in discount rate selection, GASB 67 attempted to merge the two approaches. As discussed, under GASB 25 the actuarial liability was calculated using the expected rate of return on plan assets (the historical rate). Under GASB 67, as long as the plan is projected to not run out of assets, plans may continue to use the historical rate. Plans that project they will run out of assets within the next thirty years are required to use a "blended rate." Effectively, the portion of benefits backed by assets is valued based on the historical rate. Any remaining portion of the benefit not backed by assets is valued based on the low-risk index rate for 20-year tax-exempt municipal bonds. This is based on GASB's recognition that investment returns can't be earned unless there are assets available to be invested. Blending the (low-risk), low return on bonds with the (high-risk), high-return historic rate produces a lower overall blended rate, resulting in a higher reported liability.

During the comment period before the new guidance was implemented, several economists remained critical of the "blended rate" approach. The core criticism was much the same - the new approach continues to apply the expected rate of return on the assets to value the plan liability. Economic theory stresses the independence of liabilities and assets for valuation purposes. Jeffrey Brown noted that even if one were to accept GASB's "blended rate" logic it is the unfunded assets that are at-risk, and to which the riskier discount rate should be applied while the risk-adjusted rate should be applied to the funded portion. ¹⁶ Brown further suggests that as a result of GASB 67, plans will have an incentive to invest in risker assets to justify a higher discount rate.

The ongoing debate between economists and the actuarial profession over how to select a discount rate to value pension liabilities is certain to continue as the core objections remain the same. However this debate is resolved we now move on to assess the implementation of GASB 67: did it achieve its goal of ensuring plans report a fuller picture of plan funding status?

Several scholars and analysts anticipated that as a result of GASB 67 plans would apply a lower blended rate and report higher liabilities and lower funding ratios. Modeling 126 plans for FY 2010 Munnell et al. estimated, using 2010 data, that funding ratios were likely to fall from 77 percent to 63 percent under the new

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 $^{^{16}}$ Jeffrey Brown, "Online Comments: Accounting and Financial Reporting for Pensions and Amendment of GASB 27, "

http://www.gasb.org/cs/BlobServer?blobkey=id&blobnocache=true&blobwhere=11758230134 70&blobheader=application%2Fpdf&blobheadername2=Content-Length&blobheadername1=Content-

Disposition&blobheadervalue2=651825&blobheadervalue1=filename%3D0065-34-E-JEFFREY_BROWN-UNIV_OF_ILLINOIS.pdf&blobcol=urldata&blobtable=MungoBlobs

guidance.¹⁷ Mortimer and Henderson, modeling 48 plans for FY 2010 projected that under the new standards, funding levels would fall depending on the size and funding ratios of the plan under the previous guidance.¹⁸ Specifically plans with lower funding ratios under GASB 25/27 such as Illinois, Connecticut, and Kentucky were projected to run out of assets more quickly leading them to apply the lowrisk rate sooner. Overall these states would be forced to apply the lower blended rate producing higher unfunded liabilities and lower funding ratios. The authors projected Illinois State Retirement System's liability to increase from \$18.7 billion under GASB 25 to \$36 billion under the new guidance and the funding ratio to fall from 37.4 percent to 23 percent.¹⁹ Conversely, states with robust funding levels under GASB 25 were projected to show very small changes in the size of unfunded liabilities under the new guidance. Overall Mortimer and Henderson project that the implementation of GASB 67/68 increases reported net pension liabilities by \$9.2 billion and decreases funding ratios by 17.2 percent.²⁰

The main finding of Mortimer and Henderson is that GASB 67/68 affects plans differently. Plans that begin with lower funding ratios were projected to show a greater increase in liabilities and decline in funding ratios than those that begin

¹⁷ Alicia H. Munnell, Jean-Pierre Aubry, Josh Hurwitz, Laura Quinby "How Would GASB Proposals Affect State and Local Pension Reporting?" Center for Retirement Research at Boston College, No. 23, November 2011, updated November 2012, p. 3. (http://crr.bc.edu/wp-content/uploads/2011/11/slp 23-1.pdf)

¹⁸ John W. Mortimer and Linda R. Henderson, "Measuring Pension Liabilities under GASB Statement No. 68" Accounting Horizons, Vol. 28. No. 3, 2014, pp. 421-454. Note: the authors refer to the guidance as GASB 68, however the guidance that pertains to the calculation of discount rates is described in GASB 67.

¹⁹ Ibid, p. 446.

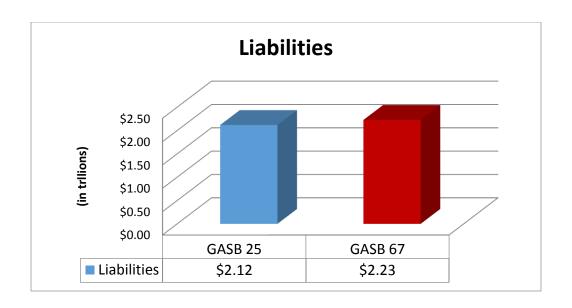
²⁰ Ibid. p. 436.

with robust funding levels. This asymmetric effect is due to the fact that poorly funded plans have fewer years before they run out of assets. Thus they would apply the lower blended rate to a larger portion of the liability. Plans that begin from a relatively strong position have a longer horizon until they exhaust their assets and can apply the higher expected rate of return to value more of their liabilities.

II. The Actual Effects of GASB 67 on the measurement of plans

With a full year of implementation of GASB 67, we can now test if the anticipated effects (higher reported liabilities and lower funding ratios for poorly funded plans) match the experience of pension plans. In FY 2014 pension plans adopted the new guidelines for valuing and reporting liabilities. A review of 144 plans show that the Total Pension Liability (TPL) was only five percent higher than the previously reported AAL, increasing from \$2.12 trillion to \$2.23 trillion as Chart 2 shows. The vast majority of plan actuaries projected that plans would not run of out assets and calculated plan liabilities using the historical rate.

Chart 2. Comparison of liability reporting GASB 25 and GASB 67



Out of 144 plans studied only 13 applied the blended rate. Three states applied a blended rate to their major plans. These include all of New Jersey's pension plans, the Kentucky Teachers' Retirement System, and two of Illinois' plans: the State Employees Retirement System and State Universities Retirement System.

Removing New Jersey's plans for the analysis leads to an overall decrease in the liability from state plans by \$52 billion. That is, state plans are reporting *lower liabilities* under GASB 67 than under GASB 25, contrary to expectations. A few states applied the blended rate to smaller plans including Arizona Elected Officials' Retirement Plan, Colorado Judges Plans and Rhode Island Judges plan.

For the plans that applied the blended rate, the calculation of the rate varies, highlighting the subjective judgments used to assess when plans will run out of assets.

a. <u>Kentucky</u>

Kentucky applied a blended rate for the Teacher's Retirement Plan (KTRS) but not for the state's other major plan, the Employee Retirement System (ERS). Recent

pension reforms require Kentucky to fully fund the Actuarially Determined Contribution (ADC) for the ERS beginning in 2015. Based on this legal commitment to future funding, actuaries projected the ERS would not run out of assets and could continue to use the historical discount rate of 7.5 percent to value the liability. This determination did not take into account the state's past history of underfunding and ERS' weak funding ratio of 25 percent which indicates the plan only has 25 cents for every dollar of benefits promised. Counterintuitively, actuaries assumed the Teachers' Retirement Plan (KTRS) would run out of assets, necessitating the use of a blended discount rate of 5 percent, even though it has a more robust funding ratio of 46 percent. Applying the blended rate to the Teachers' Retirement Plan increases the liability \$14 billion to \$22 billion.

Table 1: Kentucky application of GASB 67

Kentucky	Assets	Liabilities	Unfunded Liability	Funding Ratio	
Kentucky Employees Retirement	_				
System	\$3,139,774	\$12,366,960	\$9,227,186	25%	**
Kentucky Teachers' Retirement					
System	\$18,092,571	\$39,684,776	\$21,592,205	46%	*

^{*} Blended rate used

b. <u>Illinois</u>

Illinois has a long history of inadequately funding its pension plans resulting in poor funding for its three major plans. Actuaries applied the blended rate for two plans – the State Employees Retirement System (SERS) and the State

^{**} Did not use blended rate

Universities Retirement System (SURS). The blended rate was not applied to the Teachers Retirement System (TRS) even though the plan's funding ratio of 43 percent is similar to that of SERS (35 percent) and SURS (44 percent). Even more surprisingly, actuaries project that the SERS and SURS will not run out of assets until after 2065. Thus, the blended rate applied to value the net pension liabilities of SERS and SURS, 7.09 percent, is not significantly different than the historical discount rate of 7.25 percent.

Table 2. Illinois: Application of GASB 67

Illinois	Assets	Liabilities	Unfunded Liability	Funding Ratio	
State Employees Retirement					
System	14,581,566	41,685,086	27,103,520	35%	*
State Universities Retirement					
System	17,391,323	39,182,306	21,790,983	44%	*
Teachers Retirement System	45,824,383	106,682,655	60,858,272	43%	**

^{*} Blended rate used starting 2066

c. New Jersey

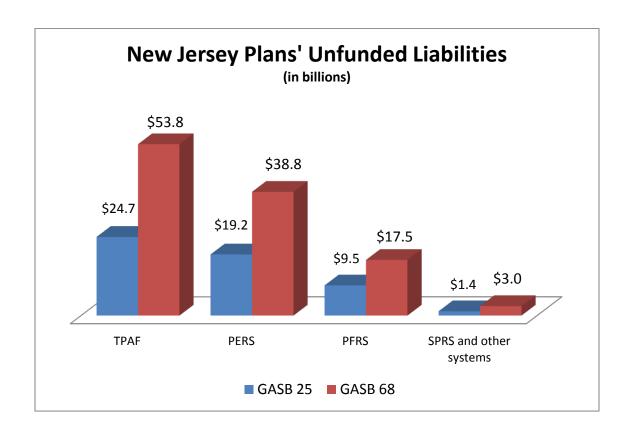
New Jersey applied the blended rate to all of its major pension plans, including the Public Employees Retirement System (PERS), the Teachers Pension Annuity Fund (TPAF), the Police and Firefighters Retirement System (PFRS) and the State Police Retirement System (SPRS). The actuaries also projected an earlier run out date for assets, resulting the use of the lower blended rate instead of the historical rate. Consequently, the difference between the liability calculated under GASB 67 and GASB 25 for New Jersey's plans is \$58.4 billion, resulting in a 107% increase.

^{**} Did not use blended rate

Chart 3: New Jersey Plans' Discount Rates

	Historical Rate	Blended Rate
PERS	7.90%	5.39%
TPAF	7.90%	4.68%
PFRS	7.90%	6.32%
SPRS	7.90%	5.12%

Chart 4: New Jersey Plan liabilities under GASB 68



d. California

California actuaries initially calculated the net pension liability for the Teachers Retirement System (CalSTRS) to be \$167 billion under GASB 67. Upon the enactment of AB 1469 in which the state promised to fund the plan sufficiently to pay benefits in future years, the actuarial projections changed to indicate that its assets would not run out. Based on this expectation, CalSTRS is no longer required

to use the blended discount rate resulting in a steep decrease in the size of the plan's NPL from \$167 billion to \$58 billion. This adjustment by plan actuaries effectively implies that a legal promise to fund the plan is the equivalent of actual assets

The Appendix lists all 144 plans and their reported liabilities under both GASB 25 and GASB 67.

The implementation of GASB 67 is troubling. The intent of the guidance is to more accurately assess the size of pension liabilities so that sponsors contribute sufficiently to fund the benefits. However, the design and implementation of the rule shows that it allows for an entirely subjective assessment of plan funding status and an arbitrary calculation and application of discount rates. Scholars anticipated that the implementation of GASB 67 would naturally result in higher reported liabilities, in particular for poorly funded plans under GASB 25, assuming that the rule was applied consistently and transparently. Mortimer and Henderson suggest that as long as the return on municipal bonds remains low, pension plans with low funding ratios (the strongest candidates for using the lower, blended rate) may,

"have the incentive to encourage the use of optimistic estimates, especially related to future contributions, and accelerate annual pension fund additions while deferring annual deduction. These would minimize the number of GASB 68 funded years and hence reduce the reportable pension liability." ²¹

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²¹ Ibid, p 427.

Since a key assumption in calculating the blended rate is to determine when the plan is likely to run out of assets, GASB 67 may incentivize plans to project they are unlikely to run out of assets for many years, allowing them to continue using the higher discount rate. This points to not only a poor implementation of the guidance, but faulty design. The data bears this out. Remarkably, despite poor funding levels and decades of under contributions, Illinois' Teachers Retirement System projects a *lower liability* and a better funding ratio under GASB 67. Even though the accounting standard designed to be more stringent, Illinois has seemingly improved its pension plan's health simply by assuming (based on future funding behavior) the plan will not run out of assets for several decades. The implementation of GASB 67 points to a concern raised by the American Institute of Certified Public Accountants (AICPA) at the time the new guidelines were issued that it is, "overly complex, subjective and ripe for abuse." 22 At issue is not only the opportunity for gamesmanship but the underlying logic to GASB 67. At the time of the rule's proposal, economists and financial experts identified the rule as intrinsically flawed. The main defect of the new guidance, the critics hold, is that the new GASB rules continue to use the expected return on assets to value the liability maintaining the notion that it is possible to erase pension liabilities by taking on more investment risk. The implication is that the design of GASB 67 may incentivize plan actuaries to forecast optimistic projections of plan health despite past performance and current funding shortfalls.

²² Ibid

III. GASB 27 vs. 68: Governmental reporting of pension data

State and local governments produce several types of annual reports on the financial health of their operations, trust funds, and component units. The Comprehensive Annual Financial Report (CAFR) covers the entire scope of a state or local government's operations which includes general information on any employee pension or health benefits offered by the government. In addition, the individual plans produce an actuarial report annually which gives a detailed and technical analysis of plan data, valuation methods, assumptions and investment information. Some plans also provide a CAFR which includes a more general overview of the pension system, its history and management. These reports are produced under various GASB directives on how financial information is to be measured and reported.

Until 2014, state and local governments presented pension liability and expense measures based on GASB 27 in their CAFR. GASB 27 provided standards on the measurement, recognition and display of pension expenditures or expenses, related liabilities, assets, note disclosures and any relevant supplementary information. GASB 27 also required governments to disclose the annual required contribution (ARC) to the pension plan. The ARC consists of two pieces: the cost of benefits earned in the current year, known as the "service cost" or "normal cost," and the amortization of the prior unfunded balance over 30 years plus interest. The ARC was reported as the "pension expense" and the liability associated with it was reported as the "net pension obligation" (NPO) in financial statements.

When the government paid the ARC, "pension expense", the NPO was reduced by that amount. Effectively this information provided a measure of how much should have been contributed to the plan as calculated by actuaries versus how much the government contributed to the plan annually. It did not provide a measure of total assets or liabilities.

For example, if a government contributed \$9,000 of the \$10,000 ARC, the government reported a "net pension obligation" or NPO of \$1,000. The NPO reflected the remaining balance of what the government was required to contribute in that year towards the pension system. (i.e. the remaining annual payment to the debt). It did not capture the total unfunded liability (i.e. the total unfunded debt). This reporting convention (and inaccurately named accounting identity) allowed governments that contributed more than the ARC (e.g. \$11,000 paid towards a \$10,000 Annual Required Contribution) in a given year to report a "net pension asset" despite the existence very large unfunded liabilities.

Detroit provides an example of this confusing accounting identity as Chart 5 shows. When the city declared bankruptcy in 2013, it reported "net pension assets" of \$1.286 billion for primary government and \$24.8 million in "net pension assets" for its component units in the city's Statement of Net Position (page 35). Despite the city's practice of making the full annual contribution, it did not actually have net pensions assets, but rather a large unfunded liability. This could be discovered by looking much further in the report on page 146 in the *schedule*

of funding progress as chart 6 shows. The city reported unfunded actuarial accrued liabilities (UAAL) of \$984.9 million.

Chart 5. City of Detroit Statement of Net Position, June 30, 2013

City of Detroit, Michigan STATEMENT OF NET POSITION June 30, 2013

		Primary Government	t	
	Governmental Activities	Business-type Activities	Totals	Component Units
ASSETS				
Cash and Cash Bquivalents	\$ 82,396,105	\$ 163,352,329	\$ 245,748,434	\$ 35,375,087
Investments	236, 5 61,977	710,436,306	946,998,283	151,640,111
Accounts and Contracts Receivable - Net	76,382,614	224,36 5 ,022	300,747,636	7,33 5 ,636
Internal Balances	1,102,689	(1,102,689)	_	_
Due from Primary Government	_	_	_	9,125,372
Due from Component Units	2,890,675	_	2,890,675	_
Due from Other Governmental Agencies	100,682,629	11,041,400	111,724,029	6,871,396
Inventory	_	20, 55 9,223	20, 55 9,223	3, 5 92,677
Pre paid Bxpenses	600	4,917,278	4,917,878	1,188,283
Long-Term Receivable	_	9,521,918	9,521,918	_
Loans and Notes Receivable	_	_	_	39,495,536
Advance to Component Unit/Library	24,016,604	_	24,016,604	_
Other Assets	1,044,242	_	1,044,242	32,192,037
Restricted Assets	_	_	_	6,062,086
Net Pension Asset	999,38 5, 296	286,840,419	1,286,225,715	24,656,163
Deferred Charges	59,419,593	83,810,516	143,230,109	2,174,130
Capital Assets:				
Non-Depreciable	508,968,614	422,474,218	931,442,832	28,026,898
Depreciable, Net	1,002,848,043	4,778,491,205	5,781,339,248	127,268,202
Total Capital Assets - Net	1,511,816,657	5,200,965,423	6,712,782,080	155,295,100
Total Assets	3,095,699,681	6,714,707,145	9,810,406,826	4 75,003,6 14

Chart 6. City of Detroit

June 30, 2013 - Schedule of Funding Progress

	Total	\$984.9
\$3,675.5	\$3,822.7	\$147.2
Police and Fire Retir	ement System	
\$2,806.5	\$3,644.2	\$837.7
General Retirement	System	
(in millions)		
of Assets	Liabilities	Unfunded
Actuarial Value	Value of	
	Actuarial	

Disclosure under GASB 27 produced even greater confusion for multi-employer plans. These are plans which are managed by a state government in which other government employers participate, such as municipalities and school districts. Multi-employer plans were also required to report the ARC and NPO but they did not have to disclose the unfunded liability (UAAL). Thus, states involved in multi-employer plans reported only a fraction of their unfunded pension liabilities (and in some cases net pension assets) in their financial statements, while not disclosing the plans' total unfunded liabilities.

Misleading accounting terms – labeling the government's annual contributions as "assets" or "obligations"- and inconsistent disclosure between single-employer and multi-employer plans resulted in incomplete estimates of total state pension liabilities in the state's CAFR. As indicated on table B in FY 2014 states reported \$80 billion in Net Pension Obligations (NPO) on their balance sheets. Analysis of

each state's CAFR, pension CAFRs, and pension system actuarial reports, including multi-employer pension plan data indicates the NPO represented less than 13 percent of total unfunded pension liabilities, which amounted to \$628 billion. Under GASB 27's "NPO" reporting convention, 33 states reported less than five percent of their pension liability on the balance sheet. Of these, 16 reported no pension liability and seven states reported "net pension assets."

GASB 68 is intended to make pension reporting clearer on government financial statements. It eliminates the ARC, the NPO and net pension expense. State and local governments instead report a Net Pension Liability (NPL) on their balance sheets in FY 2015. States must report this information for both single-employer and multi-employer plans, as well the state's proportionate share in the multi-employer plan.

In FY 2015 most state and local governments implemented GASB 68 in their CAFRs. State reported pension debt increased from \$80 billion to \$537 billion. As indicated on Table C, states' overall net positions declined by 29 percent from \$1.3 trillion to \$956 billion, most due to the negative effect of the new standard.

Table 3 lists five states with the largest unfunded debt per taxpayer,²⁴ and shows how the implementation of GASB 68 has increased the recognition of unfunded pension liabilities on states' balance sheets.

Sheila Weinberg (et al.) Truth in Accounting, 2014 Financial State of the The States (http://www.truthinaccounting.org/resources/page/2014-financial-state-of-the-states)
 These five states are taken from Truth in Accounting's analysis of state fiscal performance.
 New Jersey, Connecticut, Illinois, Kentucky and Massachusetts are classified as worst "sinkhole

Table 3: Change in reporting for unfunded pension liabilities between GASB 27 and GASB 68

Reported Unfunded Pension Liability	2014	2015		2015	Ratio of 2015 Pension Liability
•			D:ffavanaa	I	•
(in billions)	(GASB 27)	(GASB 68)	Difference	Per Taxpayer (\$)	to General Revenues
New Jersey	\$16.02	\$82.41	\$66.39	\$26,761	2.50
Connecticut	\$2.56	\$24.57	\$22.01	\$19,294	1.49
Illinois	\$29.28	\$108.66	\$79.39	\$26,457	2.52
Kentucky	\$3.02	\$29.65	\$26.62	\$24,074	2.19
Massachusetts	\$2.36	\$26.34	\$23.98	\$10,643	0.99

Table 4 shows how the unfunded pension liability is included on the balance sheet under GASB 68, negatively affecting the net position of these five states. In each case the state's overall net position declined under the new guidance.

Table 4. Change in reporting for net position between GASB 27 and GASB 68

Reported Net Position	2014	2015		2015	Ratio of 2015 Reported Net Position
(in billions)	(GASB 27)	(GASB 68)	Difference	Per Taxpayer (\$)	to General Revenues
New Jersey	-\$29.93	-\$96.98	-\$67.04	-\$31,492	-2.94
Connecticut	-\$10.18	-\$32.88	-\$22.70	-\$17,868	-1.99
Illinois	-\$32.48	-\$107.62	-\$75.14	-\$26,202	-2.50
Kentucky	\$20.07	-\$5.88	-\$25.95	-\$4,773	-0.43
Massachusetts	\$5.98	-\$19.83	-\$25.81	-\$8,016	-0.74

GASB 68's new reporting requirements have an even more pronounced effect on the net position of local governments, in particular for those in multi-employer

states," due to the level of unfunded debt per taxpayer

[.]http://www.truthinaccounting.org/resources/page/2014-financial-state-of-the-states

cost sharing pension plans. Table 5 shows the change in the reported unfunded liability for several major municipal governments.

Table 5: Change in the reported unfunded liability for municipalities under GASB 27 and GASB 68

Reported Unfunded Pension Liability	2014	2015		2015	Ratio of 2015 Pension Liability
(in millions)	(GASB 27)	(GASB 68)	Difference	Per Taxpayer (\$)	to General Revenues
New York City*	\$568	\$48,686	\$48,118	\$17,731	0.95
Los Angeles County	\$0	\$6,965	\$6,965	\$2,339	1.00
Chicago Public Schools	\$3,190	\$9,501	\$6,311	\$10,935	2.33

^{*}Since New York City implemented GASB 68 for FY2013, these amounts represent 2013 and 2014 amounts.

As with the states, municipal entities' reported net positions were also adversely affected by the inclusion of the unfunded pension liability, as Table 6 shows.

Table 6: Change in the reported unfunded liability for municipalities under GASB 27 and GASB 68

Reported Net Position	2014	2015		2015	Ratio of 2015 Reported Net Position
(in millions)	(GASB 27)	(GASB 68)	Difference	Per Taxpayer (\$)	to General Revenues
New York City*	-\$126,737	-\$190,216	-\$63,479	-\$69,274	-3.44
Los Angeles County	\$10,863	\$1,346	-\$9,517	\$452	0.19
Chicago Public Schools	-\$3,959	-\$11,212	-\$7,253	-\$12,904	-2.75

^{*}Since New York City implemented GASB 68 for FY2013, these amounts represent 2013 and 2014 amounts.

Baca County School District in Campo, Colorado, the second smallest school district in the state, is included in this discussion as a contrast to larger municipal

governments. The district participates in state's multi-employer cost sharing plan. For FY14 under GASB 27, the district did not report any unfunded pension liability. On the district's FY15 balance sheet, it reported a \$1.8 million net pension liability.

Reported Unfunded Pension Liability	2014	2015		2015	Ratio of 2015 Pension Liability to General
(in thousands)	(GASB 27)	(GASB 68)	Difference	Per Taxpayer (\$)	Revenues
Baca County School					
District (Campo, CO)	\$0	\$1,772	\$1,772	\$1,453	1.96

The district's FY14 CAFR indicated the district was in good financial shape with a net position of \$2.6 million. In FY15 the district's net position dropped dramatically to only \$827,815.

Reported Net Position (in thousands)	2014 (GASB 27)	2015 (GASB 68)	Difference	2015 Per Taxpayer (\$)	Ratio of 2015 Reported Net Position to General Revenues
Baca County School					
District (Campo, CO)	\$2,593	\$828	-\$1,765	\$679	0.91

The largest school district in Colorado, Jefferson County, is one of the most dramatic examples of the impact of GASB 68 on how governments are reporting their financial position. For FY14 the district reported a net pension asset of \$43 million under GASB 27. In the FY14 CAFR, the only mention of an unfunded pension liability was in a discussion of the new pension standard, but no amount was included. In the district's FY15 CAFR under GASB 68, a \$1.54 billion net pension liability was reported.

Reported Unfunded Pension Liability (in millions)	2014 (GASB 27)	2015 (GASB 68)	Difference	2015 Per Taxpayer (\$)	Ratio of 2015 Pension Liability to General Revenues
Jefferson County					
School District, CO	-\$43	\$1,536	\$1,579	\$8,053	2.08

Similarly, the district's FY14 CAFR indicated the district was in good financial shape with a net position of \$623 million. For FY15 the district reports a deficit of \$862 million.

Reported					Ratio of 2015
					Reported Net
Net Position	2014	2015		2015	Position
(in millions)	(GASB 27)	(GASB 68)	Difference	Per Taxpayer (\$)	to General Revenues
Jefferson County					
School District, CO	\$623	-\$862	-\$1,484	-\$4,517	-1.17

GASB 68 is placing more of government liabilities on the balance sheet, but shortcomings remain. Despite more demanding reporting requirements for pension liabilities, governments are still given discretion that poorly affects the accuracy of the reporting. These include flexibility in the selection of reporting periods and the use of deferrals to dampen the effects of asset fluctuations.

a. Timing of reporting

Governments may report either the Net Pension Liability (NPL) from the end of its fiscal year, or from the prior fiscal year. The rationale for using the prior year's NPL in current year statements is that the most current information might not be available when the report is prepared. This ensures that governments do not have

to wait on their plan actuaries to calculate the NPL in order to release the government's financial report. Although this might seem like a benign allowance that expedites financial reporting, the time-lag produces a distorted fiscal picture.

For FY15, 39 states reported the prior year's NPLs for at least one of their pension plans. The NPL is the largest liability for most governments. Pension liabilities account for 29% of total state liabilities across the 50 states. Eighteen states have a pension liability greater than one third of total liabilities. Because pension liabilities make up such a significant portion of states' finances, it makes sense to delay financial reports to wait for such pertinent information.

Furthermore, allowing governments to use a measurement date that is different than the date of the financial report goes against the basic accounting principle that a balance sheet is a snapshot of an entity's financial position at one time. (Governmental Accounting Standards Board, 2007) Governments should wait until current pension numbers are available in order to produce a timely, truthful and transparent balance sheet.

b. Deferral of reality

In addition to the issue of timing, GASB 68 permits for another technique that suppresses the impact of the full pension debt on governments' net positions.

Pension plan actuaries and administrators periodically review the validity of the assumptions (e.g. discount rate, mortality tables) used to calculate the pension liability and adjust them to accommodate changing risks and realities. Under

GASB 67 and 68, such changes immediately affect the calculation of the NPL. However, instead of adjusting the pension expense in one year, the recognition of the assumption changes that relates to current employees, is deferred.

To accomplish this, governments are required to report an artificial asset, called "deferred outflows of resources," which is amortized over the remaining working lives of those employees. ²⁵ Differences between the expected earnings on plan investments and actual investment earnings are to be recognized as a deferred outflow or an artificial liability, called "deferred inflow of resources" and included in expenses over a 5-year closed period.

When GASB 68 was implemented in 2014, the market value of most pension assets was higher than it had been in the preceding five years. If GASB 27's "asset smoothing" guidance were applied during the same period it would have resulted in a lower actuarial value of assets, and higher unfunded liability for plans. Under GASB 68, the NPL is calculated using the current market value and reported on the balance sheet. The difference between the NPL calculated at market value and the NPL calculated based on 5-year smoothing is reported as deferred inflows of resources. GASB 68 then requires governments to include in pension expense an amount to amortize this liability over five years.

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http://gasb.org/cs/ContentServer?site=GASB&c=Pronouncement_C&pagename=GASB%2FPronouncement C%2FGASBSummaryPage&cid=1176160219492

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http://gasb.org/cs/ContentServer?site=GASB&c=Pronouncement C&pagename=GASB%2FPronouncement C%2FGASBSummaryPage&cid=1176160219492

The rationale is for this practice is to avoid dramatic swings in pension expenses and income statements due to volatility in the market value of pension assets.²⁷ For example, if the market value of the assets improved a great deal in one year and this change was included in the pension expense, then the pension expense would be less. This may prompt elected officials to contribute less into the plan even though these gains could be short lived. Conversely a government's pension expense could be significantly increased because of current year market losses. To some this could indicate the contributions to the pension plan should be greatly increased.

Because the pension expense affects the government's net income, a large increase in the market value of the pension assets could result in an income statement that indicates the government ran a large surplus in one year. But an increase in the pension assets' market value does not equate to money that can be spent on government operations. On the other hand, a huge market decline like the one experienced from 2007 to 2009 would increase the pension expense and result a huge reported deficit. The governments could not tax enough in one

²⁷

²⁷ It is argued that including the impact of dramatic swings in the market value of pension assets in the government's pension expense and the resulting net income would put a focus on short-term investment earnings or losses, while pension measurements should be viewed in an ongoing context. See, GASB 68 paragraph 269.

⁽http://gasb.org/cs/ContentServer?site=GASB&c=Document C&pagename=GASB%2FDocument C%2FGASBDocumentPage&cid=1176160220621)

year to offset this deficit. But historically downturns in the market value of assets have rebounded.

GASB 68 also permits for deferrals that take into account contributions and investment gains and losses after the measurement date. For example, if the government reports in its FY 2015 report the NPL as of June 30, 2014, the contributions made to the plans during the FY15 would be included in the government's deferred outflows. The effect is to increase the government's net position.²⁸

In addition to creating mass confusion, the use of these deferrals cushions the governments' financial statements from the real impact of changes in pension assumptions and market value. Governments' pension expenses and resulting net incomes do not include the real results of the market and the true impact of up-to-date actuarial calculations. The distortion of market or economic reality results in a distorted picture of governments' net positions.

If governments are going to offer and manage defined benefit plans, elected officials need to be aware of the fact that there are risks, including market volatility, involved. Factors like the long term nature of the plans and the short

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²⁸ GASB Statement No. 71: *Pension Transition for Contributions Made Subsequent to the Measurement Date* amends GASB 68 allowing governments, for whom its is "not practical" to determine the investment gains or losses and other NPL activity since the measurement date, to only record the deferred outflow (an increase in net position.) (Governmental Accounting Standards Board, 2013) This could result in an artificial overstatement of a government's net position.

term nature of market fluctuations should be considered as a part of a responsible decision making process, not as a part of accounting rules.

IV. Recommendations

Based on our analysis we recommend the following:

- 1) GASB continue to assess current guidance in light of the economic and financial literature on the selection of the discount rate.
- 2) With current GASB rules in place, consistent and transparent application requires the governments evaluate historical funding behaviors when determining when plan assets will be depleted and when the blended rate applied is applied.
- 3) Require governments to wait until current pension numbers are available in order to produce a timely, truthful and transparent balance sheet.
- 4) Eliminate confusing deferrals, except those that relate to activity in the unfunded liability since the measurement date.

V. Conclusion

The implementation of GASB 67 and 68 was intended to improve the accuracy and transparency of measurement and reporting for U.S. public sector pension plans. Each of these standards has had a mixed effect. GASB 67 put an end to practice of "asset smoothing" which allowed actuaries to average five years of actual market returns on pension assets to dampen swings in market performance and make contributions more predicable for sponsors. Now plans must report assets on a market value basis providing a more accurate measure of plan status. On the liability side, GASB 67 has replaced a flawed approach to

measuring pension liabilities with an approach that is highly subjective producing arbitrary results. Contrary to expectations and early analysis, GASB 67 may create an incentive for actuaries to project robust funding levels far into the future to avoid calculating and reporting large unfunded liabilities. Of 144 plans assessed, only 13 plans applied the more stringent "blended" discount rate to value their liabilities. There is variation in how these plans assessed and measured their liabilities producing an uneven range of outcomes. New Jersey projected asset run out dates much sooner leading the state to report a doubling unfunded liabilities. Despite having weaker funding levels than New Jersey, Illinois projected it would not run out of assets until 2066 allowing it to report lower unfunded liabilities than the previous year.

GASB 68's fix for state and local government financial reports is also mixed. State and local governments are now required to report more of the unfunded liability on the state's balance sheet. Previously, under GASB 27, the information states presented on their balance sheet regarding pensions was misleading. The Net Pension Obligation was a measure of how much governments should have contributed annually to the plan compared to how much was contributed, not a measure of plan underfunding. The total unfunded liability was included elsewhere in the CAFR for single employer plans, and unreported for multi-employer plans. The effect was to present a confusing and incomplete picture of government's overall fiscal health. GASB 68 addresses this by requiring governments to report the unfunded pension liability (NPL) on the balance sheet. The result is that states' net position declined in FY 2015 due to the size of these obligations. Alongside this improvement in transparency and accuracy are the

continuation of accounting assumptions that obscure the true fiscal picture of pensions. GASB 68 permits states to present previous fiscal year information in the current year. And, it allows for the continuation of a form of asset smoothing in how pension expenses (not pensions) are reported. Though these measures are justified as providing flexibility and practicality for governments, they only contribute to an artificial picture of state's true fiscal results and thus affect important decisions on how states use resources.