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# GASB 67 and GASB 68: A Narrative Literature Review of Pension Liability Measurement and Disclosure

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## Abstract

This article provides a review of GASB 67 and 68 literature, focusing on two areas: pension liability measurement and pension disclosures requirements. The authors searched for research articles on these topics from EBSCO and Google Scholar using the keywords Pension and GASB for the period 2011 to present. The review evaluates the current state of research on GASB pension standards, assessing their impact on enhancing the measurement, disclosures, and resulting accountability and transparency of public pensions. Research indicates support for the use of the blended discount rate to measure pension obligations; however, some studies suggest that the rate is still high, potentially undervaluing pension liabilities. The standards' disclosure requirements are found to have improved transparency, compelling governments to alter their behavior to mitigate the adverse effects.

**Keywords:** GASB 67, GASB 68, Pension measurement, Pension Liability, Pension Disclosures

## Introduction

For decades, the Government Accounting Standards Board (GASB) has issued standards that address accounting for pensions in public sectors. Since its formation in 1984, GASB has devoted a significant amount of time to pension standards with nearly 25 percent of their standards dealing with pension-related matters (Flesher, Foltin, Previts, & Stone, 2019). In June 2012, GASB issued GASB 67, *Financial Reporting for Pension Plans* (GASB, 2012a) and GASB 68, *Accounting and financial Reporting for Pensions* (GASB, 2012b), two pension standards that have been referred to as some of the most controversial standards in government accounting since GASB's formation (Allen & Petacchi, 2023). Issued the same year, GASB 67 and GASB 68 (GASB 67/68) represent one of the major efforts by GASB to overhaul government accounting and reporting for pensions since the formation of GASB (Apostolou, Apostolou, & Dorminey, 2013).

In announcing the issuance of the two standards, GASB stated that their objective "is to improve accounting and financial reporting by state and local governments for pensions" (GASB, 2012a, GASB, 2012b, Summary). They added that the standards were aimed at "providing decision-useful information, supporting assessments of accountability and interperiod equity, and creating additional transparency" (GASB, 2012a, GASB 2012b, Summary). This is consistent with GASB's Conceptual Statement 1 (GASB, 1987), which states that "financial reporting should assist in fulfilling government's duties to be publicly accountable and should enable users to assess that accountability" (GASB, 1987, Summary). Similarly, Conceptual Statement 3 (GASB, 2005), emphasizes the need for effective and reliable communication of financial information to the public. Furthermore, Conceptual Statement 3 underscores communication through "disclosure in notes to basic financial statements, presentation as required supplementary information [RSI], and presentation as supplementary information" (GASB, 2005, summary). GASB 67/68 reiterates this need for effective and reliable communication by emphasizing that the statements will enhance the decision usefulness of pension information and accountability through "notes disclosures and required supplementary information" (GASB, 2012a, GASB, 2012b, Summary).

There is a vast body of research on governments' public pensions, addressing topics such as pension liability measurement, the impact of pension obligations on government policies, pension underfunding determinants and consequences, among others. Research specifically related to GASB's pension standards examines the benefits of these standards, the challenges associated with their implementation, their effects on pension liability measurement and funding, their guidance on disclosures requirements, among other topics. This study focuses on GASB 67/68 pension standards, providing a narrative review of the literature to understand the current state of GASB pension research. We seek to understand the extent to which GASB achieved its objective to improve measurement, financial reporting, and disclosures, resulting in increased accountability and transparency in state and local government pension plans. Additionally, we assess the implications of the GASB pension literature for standard setting and pension funding, and we identify gaps and unanswered questions to suggest avenues for future research.

The next section discusses the importance and impact of public pensions on governments and the public. This is followed by a brief review of GASB 67 and 68. The literature review methodology and a comprehensive review of GASB 67/68 literature follows. We discuss the conclusion and offer suggestions for future research in the final section.

## Public Pensions

The extent to which public pension plans impact the American public is significant. According to the Census Bureau, the United States has over 90,000 state and local governments, most of which provide pensions to their employees, with over 14.9 million working pension participants and 12 million retirees (U. S. Census Bureau, 2022). Furthermore, Public Plans Data (PPD) reports that there are over 5,000 public retirement systems that manage over $5.3 trillion in pension funds for state and local government employees (Public Plans Data, 2022).

Unfunded and underfunded public pensions represent the largest liability for state and local governments (Giesecke & Rauh, 2023). Unlike private sectors that tend to have defined contribution (DC) pension plans, public sectors predominantly have defined benefit (DB) pension plans. Under DC plans, employees and employers contribute to an account, and benefits are dependent on contributions and investments with no additional liability to the employer beyond the contributions. In DB plans, benefits are determined by a formula that considers employees' wages and years of service. Therefore, while DC plans are by definition fully funded, DB plans create a liability that at times is difficult to estimate. According to the US Bureau of Labor Statistics, only 15 percent of private industry employees have access to DB pension plans, while 86 percent of state and local government workers participate in DB plans (U.S. Bureau of Labor Statistics, 2023). In response to this, the majority of public pension standards[1] and research involves accounting for DB plans rather than DC plans.

Public plans data shows a declining trend in the funded ratio over the last 20 years from a high of 102% in 2001 to just 77% in 2022 (Public Plans Data, 2022). Data from The Pew Charitable Trusts research shows that even as taxpayer contributions to public pensions continue to increase, the plans still face over a $1 trillion shortfall. The impact of this shortfall would impede not just the livelihood of public employees' retirement, but also governments' ability to provide important public services such as infrastructure, public safety, and schools (Pew, 2024).

[1] A review of GASB Codification shows that no single standard by GASB is devoted to DC plans. When guidance on DC is made, it is a part of another standard.

The size and the importance of pension obligations has led to the issuance of multiple GASB statements that address accounting, reporting, measurement, and disclosure requirements of pensions in governments' Annual Comprehensive Financial Reports (ACFR). While GASB rules do not mandate funding, they are designed to serve as a guide to funding (Biggs & Smetters, 2013). Therefore, the standards' focus on measurement, accountability, reporting, and full disclosure informs the public and sheds light on pensions underfunding and shortcomings.

**GASB 67 and 68**

In June 2012, GASB issued GASB 67 and GASB 68, effective 2013 and 2014, respectively (GASB, 2012a, 2012b). The two standards which amended GASB 25 and GASB 27 were issued in response to critics who argued that the standards understated the pension liability and failed to disclose the value of the liability on the face of the balance sheet (Flesher et al., 2019). Ctitics also argued that the previous standards were "opaque and inaccurate [and provided] room for manupilation" (Fan, 2022). GASB 67/68 "encompass a host of reforms pertaining to virtually every aspect of pension accounting" (Munnell,Aubry, Hurwitz, & Quinby, 2012) and they are expected to "substantially improve the accounting and financial reporting of public employee pensions" (Mortimer & Henderson, 2014) by state and local governments. In issuing the standards, GASB asserted that the primary objective was to improve accounting and financial reporting by state and local governments for pensions and pension plans (GASB, 2012a, 2012b). GASB 67 applies to state and local pension plans that are administered as trusts while GASB 68 applies to "governments that contributed to larger pension plans, such as state-wide or locale-wide multi-employer programs" (Flesher et al. 2019).

GASB 67 and GASB 68 standards are related and some of their main requirements overlap. Major assertions found in both standards include (1) disclosing in the face of the financial statements, the net pension liability (NPL), which was previously reported in the notes to the financial statements and is measured as the difference between total pension liability and plans fiduciary position and (2) discounting projected benefit payments using a rate equal to the long-term expected rate of return on pension plan investments, to the extent that the pension plan assets are expected to cover the projected pension benefit payments. Excess projected benefits payments should be discounted using a tax-exempt, high quality municipal bond rate, resulting in a *blended discount rate* that reflects both rates.

Requirements specific to GASB 67 include (1) preparation of a statement of fiduciary net position and a statement of changes in fiduciary net position, (2) disclosing in the notes to the financial statements information about benefits offered, the classes of members covered, board members' composition, investment policies, and description of the determination of the fair value, and (3) disclosing in the RSI the sources of changes in the net pension liability, information about components of pension liability and related ratios, the net pension plan as a percentage of the total pension liability, and net liability as percentage of covered-employee payroll, for 10 of the most recent years.

GASB 68 categorizes employers into three categories: single employers, agent employers, or cost-sharing employers. GASB 68's major assertions include (1) employers in cost-sharing plans recognizing in the financial statements pension liability and pension expense that is a "proportionate share of net pension liability of all employers for benefits provided through pension plan" (GASB, 2012b, Summary), (2) establishing criteria for measuring and recognizing liabilities, deferred outflows/inflows of resources, and expense/expenditures, and identifying methods and assumptions for projecting benefit payments, discounting projected payments to their actuarial present value, and attributing that present value to periods of employee service (Apostolou et al., 2013), (3) disclosing in notes descriptive information, such as the types of benefits provided and the number and classes of employees covered by the benefit terms, and (4) reducing the amortization period of some pension expense components from 30 years to the average remaining service lives of plan participants. Additionally, for single and agent employer plans, GASB 68 requires disclosing in RSI sources of changes in the net pension liability, components of net pension liability, and related ratios. Conversely, for cost-sharing employers, RSI should disclose 10-year schedules of net pension liability and information about statutory or contractually required contributions, contributions to the pension plans and related ratios, if applicable.

The underlying message in all the pension standards has been to improve financial measurement and reporting, increase accountability and transparency by state and local government plans, and hence enhance decision making by the public. The requirement to increase disclosures in both the notes and the RSI and to provide information on the measurement of net pension liability, pension expense, and other pension components are key to pension accounting.

## Methodology

This narrative review focuses on evaluating research related to GASB pension standards through a process of discovery. The review began by identifying key topic areas, which were determined by reading and summarizing GASB's pension standards, specifically GASB 67 and GASB 68, and outlining their primary objectives.

To gather relevant literature, the authors conducted a search on EBSCO and Google Scholar using the keywords "Pension" and "GASB" for the period from 2011[2] to the present. The use of two databases helped broaden the scope and reduce bias in the results, while the choice of broad search terms ensured comprehensive coverage of the topics. The initial search returned over 100 articles. The authors excluded articles that did not specifically address GASB 67 and/or GASB 68. Further narrowing down, they excluded articles that only described and explained the standards, offered implementation guidelines and reminders, were case studies, or were official releases of the standard. After these eliminations, 29 articles remained for review.

These articles were analyzed in relation to the major assertions of GASB 67/68, with a focus on two main areas: (1) pension liability measurements and (2) increased pension disclosures and transparency. Additionally, a third category was created for articles that address other facets of the standards. For the articles in each area of interest, the authors summarized the key findings, noting consensus or divergence among the studies. They also assessed the current state of the literature, highlighting existing gaps, and suggested areas for future study.

## Review of GASB Pension Literature

### *Pension Liability Measurement*

For years, total pension liability (projected pension benefits) valuation has been a focus of many discussions and criticisms. The total pension liability represents the projected benefits payable to current active and inactive plan participants because of their past service and expected future service years. Prior to GASB 67/68, governments computed pension liability by discounting future pension benefits using the expected rate of return on pension plan assets held. Critics of this approach argued that the expected rate of return is conceptually high and often understates the pension liability. Naughton, Petacchi, and Webber (2015) reported that discounting future pension benefits using the pension assets' expected rate of return often contributes to understated pension liabilities, understated pension funding gaps, and reduced pension contributions. In response to the criticisms, GASB 67/68 now requires the use of a blended discount rate that uses the long-term expected rate of return on pension plan investments to the extent that the pension plan assets are expected to cover the projected pension benefit payments. The excess is discounted using a tax-exempt, high quality municipal bond rate. In this section, we look at studies that examined governments' pension liability measurement using GASB's recommended blended discount rate.

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[2] We chose the year 2011 to capture the GASB 67/68 due process period. GASB 67/68 exposure drafts were published in 2011 (GASB 2011a, 2011b)

Novy-Marx and Rauh (2011) developed models to measure state pension liabilities using various accrual methods and discount rates. Using data from 116 state government pension plans, the authors build two models that estimate pension liability. The first uses a discount rate based on the municipal bond yield and the second one uses a treasury yield curve. Under both models, the pension liability estimate is higher than the amounts reported in the financial reports that used GASB's requirements. In another study that further challenges pension liability measurement, Novy-Marx (2013) argues that GASB's commitment to develop high-quality standards of accounting and financial reporting for state and local governments and improve transparency may be constrained by the methodology used to compute pension liability because it obscures the plans' true funded status. The author argues that the discount rate sanctioned by GASB for the computation of the pension liability is higher than the rate recommended by financial economists. They contend that financial economists view accumulated pension benefits as nearly default free and should be "discounted at rates reflecting their [lower] risks" (Novy-Marx, 2013) rather than at GASB's prescribed discount rate. The study also argues that for governments that sponsor multiple plans the same assets and liabilities can have different values based on how they are apportioned across plans, resulting in an improved but misleading funding status.

Biggs (2011) offers a financial economists' perspective on pension liability valuation. Consistent with Novy-Marx (2013), the author argues that the requirement to discount benefits at the expected rate of return, usually around eight percent, grossly understates unfunded pension liabilities. They recommend the use of a market valuation approach that "would discount public pension liabilities at municipal bond or US Treasury security interest rates" (Novy-Marx, 2013. Implementation of this proposal would result in a $3 trillion increase in the value of unfunded pension liabilities.

In a follow up study, Biggs (2012) reports on public pension plans' underfunding and the shortcomings of GASB standards to fully capture the pension liability. They report that in 2011, using the fair market valuation, which captures the guaranteed pension benefits, the average public pension plan was around 41 percent funded with roughly $4.6 trillion in total unfunded liabilities. This is significantly lower than the 75 percent funded ratio found using GASB's rules. The report is particularly critical of the blended discount rate which they argue is logically backwards. Their argument is based on the premise that GASB's new approach, discounting future pension liabilities at the expected rate of return to the extent the pension plan assets are expected to cover the benefit liabilities with the excess being discounted at a tax-exempt, high quality bond index, is not economically coherent. The author argues that the logical way is to discount the pension liability backed by pension assets with a lower interest rate and pension liability that is not backed by pension assets with a higher discount rate. They also commented on the approach of the ratings agency Moody's which, instead of accepting state and local governments' own measures of pension liability, adopted a discount rate similar to that used by private sector defined pensions plans. In 2010, the unfunded pension liability was $2.2 trillion under Moody's revised rate, compared to $770 billion under GASB's requirements. This amount is close to what a pure market-based approach would derive. The author contends that even though this would still fall short of the estimated $4.6 trillion underfunded pension liability, it represents a better picture of the true value of the government pension liability compared to using GASB's required discount rate.

Munnell, et al. (2012) examined how the proposed GASB 67/68 changes would alter the funded ratios of state and local pension plans. While the study criticizes the pre GASB 67/68 discount rate for failing to reflect the nature of the liabilities, it also takes issue with the required blended discount rate arguing that it "makes no theoretical sense for two identical streams of benefits to have different values based on the funded status of the plan" (Munnell et al., 2012). The authors compared funded ratios using the pre GASB 67/68 discount rate with the funded ratios using the proposed GASB 67/68 blended discount rate. They found a decrease in the funded ratio from 76 percent to 57 percent. They contend that the blended discount rate would not only complicate comparisons across states and localities but also change the funded status. This is because any change in the funded status "will be attributable to the change in assets and the impact of that change on the value of liabilities" (Munnell et al., 2012). They caution that the expected reduction in funding status should be interpreted carefully and not be characterized as a worsening pension crisis, but rather a step towards necessary reforms.

Mortimer and Henderson (2014) examined the impact of the prescribed discount rate in GASB 68 on the net liabilities and funded ratios of states' defined benefit pension plans. Using pension data from the PPD, the authors developed a methodology to examine the magnitude of pension liabilities, net pension liabilities, and funded ratios after GASB 68. The methodology developed formulas for applying a 20-year, AA municipal bond rate to unfunded pension liabilities in a sample of major defined pension plans. For the year 2010, the rate was applied to the states' net pension plan liabilities to create GASB 68 hypothetical amounts for total pension liabilities, net pension liabilities, and funded ratios. They found that, under GASB 68, the hypothetical total liabilities and net pension liabilities increased, while the funded ratios decreased. In addition, the changes were significant with the reportable net pension liability increasing from $6.9 billion to $16.1 billion, and the average funded ratio decreasing from 73.4 percent to 56.3 percent. However, the impact of the decreases in the funded ratio was not uniform.

States with higher funded ratios experienced modest decreases compared to states with lower funded ratios.

Hallman and Khurana (2015) studied the use of the expected rate of return on plan assets as the discount rate for the future pension payments, arguing that this rate fails to capture the riskiness of the pension liability. Further, they contend that GASB 67/68's blended discount rate, which combines the expected rate of return on assets with a high-quality bond index rate, would not solve the problem of understated unfunded pension liabilities that already exists in many government pension funds. The study demonstrates that using the yield on a portfolio of high-quality municipal bonds as a discount rate to calculate pension liability results in more useful information for both municipal bond markets and credit rating agencies. They also note that credit ratings agencies and municipal bond market participants commonly recognize and adjust the inflated discount rate used by state governments, and that those adjusted rates are significantly associated with lower credit ratings and higher interest rates. These findings are consistent with other studies critical of GASB's required pension liability discount rate.

Kriz and Chen (2017) used a simulation to show that, based on historical investment data, the use of risk-free discount rate to value pension liabilities, as suggested in some prior research studies, "produces a significant downward bias in the prediction of the future value of pension assets and argue that using the risk-free rate for valuation would overestimate plan underfunding and create unnecessary funding pressure for state and local governments" (Kriz & Chen, 2017). In agreement with GASB 67's requirement for the use of a discount rate based on the long-term rate of investment, the authors used historical data dating back to 1926 to demonstrate that in the long run, using the risk-free rate of return to discount future liabilities results in an overstatement of the liability. Their analysis was critical of studies that have argued against GASB's use of a discount rate based on return on investments, accusing the studies of having a short-term focus. They contend that in the long term, pension liabilities discounted at the risk-free rate could lead to overestimation of the pension liability that could result in unnecessary funding pressure for state and local governments.

Kilgour (2021) studied the impact of GASB 68 on public pensions funding. They examined how the blended discount rate, and other GASB 68 requirements affected the amount of public pension underfunding, the actuarial determined contribution (ADC), and funded ratios. GASB 68's blended discount rate requires discounting unfunded pension liabilities using a tax-exempt, high quality bond index. The author notes that the 20-year, tax-exempt municipal bond rate declined from 3.62 percent in June 2018 to 1.81 percent in 2020. Additionally, they found that the average blended discount rate decreased from 8.04 percent in 2001 to 7.22 percent in 2019, a rate they argued is still higher than the expected real rate of 6 percent. They expanded the analysis to examine the impact of the required blended rate in combination with other major GASB 68 requirements on net pension liabilities and found that while well-funded plans saw minor change, underfunded plans saw an increase in the net pension liability. In addition, they found that applying GASB 68 requirements to the pension plans in the study resulted in a decrease in the funded ratio from 85.5 percent in 2005 to 71.9 percent in 2019 and an increase in the ADC from 5.3 percent of pay in 2001 to 19.7 percent of pay in 2019.

In a study that analyzed the trends of pension funds' unfunded obligations in state and local governments, Giesecke and Rauh (2023) calculated the market value of the unfunded pension plan liability using default-free discount rates and found it to be significantly larger than the total reported unfunded pension plan liability using GASB standards. Using a sample of the main pension systems of the states, the largest cities, and the largest counties around the US, they found that, in 2021, the total reported unfunded pension liabilities under GASB was $1.076 trillion while the recalculated market value of that unfunded liability was $6.501 trillion. This resulted in a funding ratio of just 43.8 percent, a ratio significantly different from the reported 82.5 percent. The difference was caused by the high actuarial discount rate assumed in the reported amounts based on GASB 67 changes, as compared to the use of the default free market rate.

Giesecke and Rauh (2023) argue that while the blended discount rate required by GASB 67 may be "economically sensible, more and more plans assert successfully that future contributions will be sufficient and thus avoid this restriction" (Giesecke & Rauh, 2023). They note that despite GASB 67's requirements, many pension plans reverted to high discount rates, likely contributing to large, underfunded pension liabilities. For example, the average discount rate used in 2021 was 6.76 percent, a rate they contend is "much higher than what a valuation requires to match the cash flow profile of future pension promises" (Giesecke and Rauh 2023, 222). They also maintain that even with enhanced disclosure requirements and new restrictions, the valuation of pension obligations remains overly aggressive and does not align with the principles of financial economics. They contend that the continued use of a high discount rate not only understates the unfunded public pension liability, but also understates the yearly pension cost, creating the illusion that pension contributions are adequate when they are not.

Giesecke and Rauh's (2024) update of Giesecke and Rauh (2023) found that in 2022, the total reported unfunded pension liability increased to $1.572 trillion from $1.076 trillion in 2021, while the market value of the unfunded pension liability decreased to $5.120 trillion from $6.501 trillion in 2021. This does not change the premise of their earlier findings, that the reported unfunded pension liability is highly understated as compared to the market value of the liability. They attributed the observed decrease in the market value of the unfunded pension liability to a decline in the net fiduciary asset position and an increase in the market interest rates due to the Federal Reserve's interest rate increases. Consistent with Giesecke and Rauh (2023), this study confirms that both the reported unfunded pension liability and the yearly pension cost contributions continue to be understated.

In summary, most of the extant literature on GASB 67/68 pension liability measurement focuses on the requirement for governments to use a blended discount rate of return to measure pension obligations. The studies are largely critical of this approach, arguing that while the blended rate is an improvement from the previous use of the expected rate on return on plan investments, GASB did not go far enough. Some research indicates that with the blended discount rate, pension liability is understated, and the funded ratio is overstated. They suggest that the blended discount rate is still high and recommend using the lower, risk-free rates to discount future pension liabilities. Critics also contend that it is economically illogical to apply a higher discount rate to pension liabilities backed by pension assets and a lower discount rate to those not backed by assets. Notably, literature suggesting that the discount rate is still too high highlights that the markets, particularly the credit ratings agencies, commonly recognize and adjust the inflated discount rate when making decisions.

Not all literature is critical of the GASB 67/68 pension liability measurement requirements. Some research suggests that in the long-run, GASB's requirement to use the return on plan assets to discount pension liabilities is appropriate. This line of research contends that the criticism of GASB's use of the long-term rate of investment return as the baseline for discounting pension liability is based on short-term analysis and urges researchers to focus on long-term perspectives instead. Table 1 shows a summary of the articles that discuss pension liability measurement.

*Pensions Increased Disclosure Requirements*

Another important GASB 67/68 objective is enhancing disclosure and transparency. GASB notes that increased disclosures in notes and in RSI will improve decision-usefulness and accountability in pension reporting (GASB, 2012a, 2012b). The standards also require preparation of a statement of fiduciary net position and a statement of changes in fiduciary net position as well as disclosing net pension liability in the face of the financial statements rather than in the notes. In addition to the requirement to disclose descriptive pension information in the notes and RSI, the standards also mandate that employers in cost-sharing plans recognize in the financial statements pension liability and pension expense that is a "proportionate share of net pension liability (of all employers for benefits provided through pension plans)-the collective net pension liability" (GASB, 2012b, Summary). Studies have looked at how the additional disclosure requirements affect economic decisions, public perceptions, and credit ratings, and expose pension underfunding.

**Table 1:** Pension Measurement

| Authors and Year | Data | Research Findings |
|---|---|---|
| Novy-Marx and Rauh (2011) | 116 pension plan data from the US. Census Bureau and CAFRs | Built models using the municipal bond yield and treasury yield curve to demonstrate that GASB's discount rate understates the true value of the pension liability |
| Novy-Marx (2013) | No data | Criticizes GASB's blended discount rate and illustrates how it obscures the true funding status of pension plans |
| Biggs (2011) | No data | Discusses how GASB's blended discount rate falls short of capturing the true value of the pension liability<br>Argues that pension liability should be valued at market value to accurately reflect its true value |
| Biggs (2012) | 126 pension plans data from PPD | Demonstrates that using market value to measure pension liability results in a significantly larger pension liability compared to GASB' discount rate |
| Munnell, et al. (2012) | 126 pension plans data from PPD | Compared the pre GASB 67/68 pension liability funded ratio to the post GASB 67/68 pension funded ratio and found a significant decrease |
| Mortimer and Henderson (2014) | 48 pension plans data from PPD | Analyzes the magnitude of pension liabilities, net pension liabilities, and funded ratios, post GASB 68<br>Found increases in total liabilities and net pension liabilities and a decrease in the funded ratio |
| Hallman and Khurana (2015) | 486 bond issuances from all 50 states and bond sales data | Demonstrates that compared to the use of GASB's discount rate, pension liability recalculated using a high-quality municipal bonds yield as a discount rate provides more useful information for both municipal bond markets and credit rating agencies |
| Kriz and Chen (2017) | No data | Used a simulation to demonstrate that pension assets invested over the long term have a higher growth rate than the risk-free rate. They found support for GASB's requirement for the use of return on plan assets as the discount rate for pension liability |
| Kilgour (2021) | 126 pension plans data from PPD | Examines the impact of GASB 68 requirements on public pension underfunding, ADC, and the funded ratios. Found decreases in the funded ratio and an increase in ADC after GASB 68 |
| Giesecke and Rauh (2023) | 647 pension systems in the US | Demonstrates that the unfunded public pension liabilities measured using the market value is significantly larger than the reported amounts |
| Giesecke and Rauh (2024) | 648 pension systems in the US | Updates Giesecke and Rauh (2023) and shows that the market value of unfunded pension liability remains significantly higher than the pension liability in the financial reports |

During the GASB 67/68 deliberations period, Apostolou, et al. (2011) examined the pension crisis facing state governments, focusing on existing reporting requirements, and exploring how the standards' requirements would address the complex pension accounting landscape. Using fiscal year 2011 data, the authors highlight some states' large budget deficits and attribute some of the deficits to the cost of unfunded pension liabilities and lack of transparency. Their study shows that for the years 2010 and 2011, unfunded pension obligations were a material component of the large budget deficit problems experienced by state governments. The authors noted how the new standards' requirements on increased disclosures and transparency, particularly the inclusion of unfunded pension obligations in governments' financial statements as opposed to disclosing them in the footnotes, will "make explicit the financial burdens that the public employee pension benefits place on state governments" (Apostolou et al., 2011) They applauded GASB's added disclosure requirements, which they contend were timely in exposing pension liabilities' role in causing widespread state budget shortfalls.

In a study that focused on the state of California, Kilgour (2013) examined the ramifications of the interactions between extensive underfunding of pension plans, increased disclosure requirements by GASB, and the rise in Chapter 9 filings. The author noted how the increase in Chapter 9 bankruptcy filings by small governments and municipalities, especially in California, in combination with disclosure requirements of GASB 67/68 would result in what they referred to as the "perfect storm" (Kilgour, 2013). They also discussed how California's major pension funds would experience a decrease in funded ratios after implementation. In addition, they commented that GASB 68's provision requiring governments that are a party to cost-sharing multiple-employer plans to recognize in their financial statements their proportionate share of the plan's unfunded liability would "come as a shock to many plan administrators, trustees and elected officials who have always assumed that by making their timely contributions their obligation was satisfied" (Kilgour, 2013). For municipalities and local government entities already encumbered with bonds and general indebtedness, the additional pensions liability disclosure will have consequences, including impacts on credit ratings. The author claimed that if local governments, already in Chapter 9 bankruptcy protection, attempted to escape their pension debt obligation, they would potentially subject cost-sharing pensions like The California Public Employee's Retirement System (CalPERS), to large losses.

Declaring the new pension standards as the most significant GASB change since its formation, Apostolou, et al. (2013) discusses how, unlike the previous standards, "the new standards break the close link between pension accounting and required funding amounts that has existed" in the past (Apostolou et al., 2013). They emphasize how the required improved liability recognition and reporting improve upon previous standards and allow taxpayers to determine whether enough assets are being set aside to fulfil pension commitments. They also suggest that the improved disclosure and transparency requirements reveal additional pension liabilities that expose government entities' pension underfunding. This may compel governments to institute reforms which could include "increased contributions, less generous benefits for the newly hired employees, and reductions in [Cost of Living Adjustments] COLAs for current beneficiaries" (Apostolou et al., 2013).

Assessing the major provisions of GASB 68, Birrer (2014) questioned whether the standard was the solution to the public pension crisis. Consistent with prior pension studies, the author highlights the public pension problem facing many local and state governments, especially the size of the obligation. They maintain that GASB 68's increased disclosure requirements and the change in the pension liability computation will improve reporting and enhance transparency. They contend that the standards' requirement for plans to disclose their contribution schedules will aid users of financial reports in evaluating the level of pension funding and its impact on public services. This will force governments to find ways to reduce the cost of pensions while increasing their contributions to avoid reporting large pension liabilities. They conclude that despite increased disclosures and transparency, pension underfunding is rampant and GASB 68 "will not by itself solve the financial crises facing state and local governments" (Birrer, 2014). Many governments will continue to push for other solutions, including replacing DB plans with DC plans for new employees, increasing employee contributions, reducing COLAs, and requiring longer service periods.

Lasee and Lieberman (2014) document the potential impact of GASB 67/68 on government bond ratings. They report on the expectation and widespread fear among various stakeholders that the standards' increased pension liability disclosure requirements will cause credit-rating downgrades of state and municipal bonds by rating agencies. However, despite increased disclosures and volatility in government liabilities from year-to-year due to changes in plan assets and the resulting weak balance sheets, the authors contend that the rating agencies already incorporate that information in their ratings. Therefore, the new disclosure requirements will not impact credit ratings of states and local governments' bond ratings because the agencies are already aware of the increased reported pension liability information.

Munnell and Aubry (2016) explored how unfunded pension liabilities affect big cities after GASB 68. The study addresses GASB 68's requirement that employers participating in cost-sharing pension plans include in their balance sheet their proportionate share of the net pension liability. Using a sample size of 92 cities that participated in pension cost-sharing plans, the study found that "the unfunded liability as a percentage of revenue [rose] from 37 percent before GASB 68 to 70 percent after" (Munnell &Aubry, 2016). They noted that since GASB 68 simply shifted the recognition of unfunded liability from states to cities, the increase in the amounts reported by the cities was accompanied by a corresponding decrease in the amounts reported by the states. They also found that the cities' increase in unfunded pension liability, as a percentage of revenue, varied greatly, with 37 percent of the cities experiencing less than a 20 percent increase, and about a third of the cities experiencing over a 60 percent increase. The authors argue that even though the required recognition and additional disclosures do not change local governments' Annual Required Contributions (ARC)s, they may be "interested in seeing the unfunded liability decline over time and will have a vested interest" (Munnell & Aubry, 2016) in increasing their contributions to reduce it.

Foltin, Flesher, Previts, and Stone (2017) discusses how government pensions underfunding, made worse by poor investments decisions, imperfect assumptions on market returns, and declining interest rates, was exposed and became noticeable to the public by GASB 67/68 standards' disclosure requirements. The authors highlight disclosure implications of GASB 67/68 changes which include (1) heightened public awareness, (2) increase in unfunded liability due to blended discount rate, (3) expanded auditor testing, (4) rates adjustments by rating agencies and (5) shifting of liabilities to local governments. While all these are likely to exacerbate government pension plan woes, the authors discuss solutions that governments have taken or may undertake to lessen the impact of pensions underfunding. They include shifting costs from pension funds to individuals, increasing general public funding, increasing state funding, seeking higher returns, reducing benefits, expanding the federal government's role, transferring existing and future employees to defined contribution plans, phasing out defined benefit plans, and exploring hybrid models. They argue that the suggested solutions may not work in all cases and governments must consider the culture and the stakeholders' interests in their recommendations. Overall, the authors reason that the increased transparency from GASB 67/68 will increase public scrutiny and compel the governments to identify new funding options.

Foltin, et al. (2018) report that increased transparency from GASB 67/68 requirements exposed the poor fiscal health and funding status of public pension funds, forcing policymakers to plan for the resulting changes and the impacts on employees and retirees. They caution that the funded pension ratio has decreased over the years for most states, with some states reporting less than a 40% funded pension ratio. Politicians, the media, and the public have used this low funded ratio to call for pension plan reforms. The authors contend that the added disclosure and scrutiny from GASB 67/68 could entice managers to engage in riskier investments or cut benefits unnecessarily to achieve desired results. Furthermore, the increased disclosure of the low funded pension ratio could compel legislators to shift funds from important public services and infrastructure to pension plans, negatively impacting the economic development of states and local governments. They contend that solving the pension crisis will require management and accountants to use their expertise to inform citizens and collaborate to find "the best options for ensuring… pension's long-term sustainability" (Foltin et al., 2018).

An article by Kim, Jiang, and Lim (2020), discusses how implementation of GASB 68's disclosure requirements revealed the financial crises of many states, particularly Connecticut. Their depiction suggested that the requirement by GASB 68 to use an accrual basis to measure and recognize liabilities, deferred outflows, and deferred inflows of resources related to public pension plans made Connecticut's dire financial condition more visible. They underscore the impact of GASB 68 on Connecticut's financial challenges by noting a restatement of the net position deficit from $17.4 billion to $35.3 billion deficit in 2014 due to an under- or unfunded pension liability after the standard's implementation. In addition, Connecticut, "one of the highest taxed states" (Kim et al., 2020) that maintains "the worst-funded pension system in the country" (Kim et al., 2020), had its bond ratings downgraded by the three major credit rating agencies in the years following GASB 68 implementation. The authors argue that while the standard achieved the objective of improving disclosure, accountability, and transparency, it also exposed the state's financial distress, leaving lawmakers scrabbling to contain it.

Sun and Zhang (2021) studied the effects of GASB 68 on the cost of debt for state public pension plans. Using bond yield-spread as proxy for debt cost, their study examined whether the cost of debt would change because of GASB 68's increased disclosure that requires recognition of pension liability in the statement of net position. Using data from PPD and bond yield-spreads for the two immediate years before and after GASB 68, they found that government entities' cost of debt increased after GASB 68. Furthermore, they also found that "the magnitude of the effect of GASB 68 on the cost of debt [increase] with the level of pension deficits" (Sun & Zhang, 2021). They concluded that the new pension disclosures provide valuable and different information to credit market investors, before and after the implementation of GASB 68.

Fan (2022) examined the economic consequences of GASB statements on local housing market and local economies. Specifically, the study looked at whether GASB 67/68's increased transparency and pensions underfunding disclosures affected local housing market and local economies, in border-counties in the US and in California cities. They expected that the improved disclosure requirements would put pressure on governments to reduce pension deficits and improve their financial position, forcing them to either cut spending or increase taxes to fund pensions. This in turn would negatively affect the local economies' attractiveness to investors and future homebuyers and put pressure on the housing market. They hypothesized a strong negative relationship between housing price growth and pension underfunding gap following GASB 67/68. Using data from 1,308 adjacent county-pairs along state borders, they found that following the standards' increased disclosure requirements, "regions exposed to larger public pension underfunding experience lower growth in housing markets and local economies" (Fan, 2022). Similar results were observed at a city-level, where the post GASB 68 pension burden negatively affected housing market growth in California cities that participate in cost-sharing pension plans. This means that increased disclosure exposed pension underfunding, which suppressed growth in the local housing market and the local economy. They suggested that the findings show that the increased pension recognition and disclosure requirements increase individual attention to pension underfunding and thus influence government policies and housing investors' price expectations.

Dambra, Even-Tov, and Naughton (2023) examined whether GASB's financial statement disclosure requirements influence local governments' economic decision-making. The study used one of the major GASB 68's pension disclosure conditions that requires governments that participate in shared pension plans administered by another government to disclose their pro-rata share of pension obligations. Before GASB 68, these governments did not disclose their pension obligations while all other governments disclosed their net pension liability in the RSI section of the financial reports. The elimination of the reporting differences created an opportunity to analyze how the disclosures affected governments' economic decision-making. Using data from 432 counties in 45 states, the study found that, relative to already disclosing counties, counties that disclosed unfunded liability for the first time experienced "a differential reduction in payroll expenses, public welfare expenses, and employee head count of approximately 2.5%, 6%, and 1.9%, respectively" (Dambra et al., 2023). The study found no differential consequences on the revenue side. They conclude that "local governments respond to fiscal shocks with expense reduction rather than revenue increases" (Dambra et al., 2023). The study suggests that GASB 68 disclosure requirements inform counties about their future cash flow obligations, thereby altering their behavior and influencing their economic decision making.

Anantharaman and Chuk (2024) examined whether GASB's financial statement disclosure requirements influence local governments' economic decision-making. Using data from the 100 largest US state pension plans, the authors investigated whether public pension contributions increased following the implementation of GASB 67/68. They also examined whether those increases were more significant for governments anticipating a larger financial impact from GASB 67/68, those that rely more heavily on debt financing, those with upcoming gubernatorial elections, and those with strong public-sector unions. The results indicate a significant increase in pension contributions in the two years following GASB 67/68 implementation. They also found that the increase in contributions were more prevalent in "governments facing stronger political monitoring and scrutiny, through labor unions and ahead of gubernatorial elections" (Anantharaman & Chuk, 2024). This research suggests that the observed increase in pension contributions is consistent with governments' attempt to alleviate adverse impact from GASB 67/68 due to the increased disclosure and transparency requirements.

Extant research is mostly complementary of GASB 67/68's increased pension disclosure requirement, indicating that the additional transparency helps inform the public of widespread pension underfunding. There is evidence suggesting that some governments altered their behavior on pensions post GASB 67/68 by increasing their ARC and/or cutting expenses to lessen the negative impact of the additional pension liability disclosures. The literature is mixed on the impact that increased pension disclosure has on credit ratings. While there is evidence indicating that some governments experienced credit ratings downgrades, there is also contrary evidence suggesting that rating agencies had already incorporated all pension liability information in their decision making. Table 2 shows a summary of the articles that discuss pension's increased disclosure requirements.

Table 2: Pensions Increased Disclosure Requirements

| Authors and Year | Data | Research Findings |
|---|---|---|
| Apostolou, et al. (2011) | Top 10 states with the largest budget deficit | Discusses how the increased pensions disclosures and transparency will expose the financial burdens faced by the public especially for states already struggling with budget deficits |
| Kilgour (2013) | California's major pension plans | Examines the interactions between extensive underfunding of the pension plans, increased disclosure requirements by GASB, and the rise in Chapter 9 filings. Argues that the additional disclosures will compound challenges for governments already encumbered with bonds and general debt |
| Apostolou, et al. (2013) | No data | Discusses whether improved disclosure and transparency requirements would reveal additional pension liabilities and expose the pensions' underfunding. They also suggest steps to reduce the underfunding |
| Birrer (2014) | No data | Discusses whether the disclosure requirements will be the solution to the pension underfunding crisis. Calls for additional measures to help resolve pensions underfunding |
| Lasee and Lieberman (2014) | No data | Discusses the impact of GASB 67/68 disclosure requirements on the governments' credit ratings. Argues that the credit rating agencies are already aware of the magnitude of the pension liabilities and that they already incorporate that information into their decision making |
| Munnell and Aubry (2016) | 173 of the largest cities in each state and 92 | Investigates the impact of disclosing unfunded liability in cost-sharing plans on cities<br>Found increases in unfunded pension liability in cities |

| | | |
|---|---|---|
| | cities that in cost-sharing state plans | participating in cost-sharing plans. Suggests that governments may increase ARCs to decrease reported pension liabilities |
| Foltin, et al. (2017) | No data | Discusses various implications of GASB 67/68 disclosure requirements and suggests some solutions to mitigate the fallout |
| Foltin, et al. (2018) | No data | Discusses the underfunded pension crises and how increased disclosure requirements might address the problem by pressuring legislators to reallocate funds from public welfare services to pensions funds |
| Kim, et al. (2020) | No data | Discusses the impact GASB 68's disclosure requirements have on states' fiscal positions, particularly in Connecticut. Argues that increases disclosures exacerbate the state's high tax burden and large pension obligations, forcing the government to scrabble for solutions |
| Sun and Zhang (2021) | 961,072 daily bond yields from 124,331 unique bond issues. Data from PPD | Examines the effects of GASB 68 on the cost of debt for state public pension plans, finding that the cost of debt increased after GASB 68. Observed larger debt cost increases in states with large pension deficits |
| Fan (2022) | 1,308 unique state border county pairs from US Census Bureau | Examines whether increased pensions disclosure requirements affect local housing markets and economies in border counties in the US. Found that increased disclosures exposed pensions underfunding which in turn suppresses the local housing market |
| Dambra, et al. (2023) | 432 counties data from US Census Bureau and county-level pension plans data | Examines whether GASB 68's financial statement disclosure requirements influence local governments' economic decision-making Found that compared to counties that were already disclosing their unfunded pension liability, counties disclosing unfunded pension liability for the first-time reduced expenses but there was no change in revenues |
| Anantharaman and Chuk (2024) | 100 largest US state pension plans | Examines whether increased disclosure requirements influence local governments' economic decision-making Found a significant increase in pension contributions in the two years following GASB 67/68. Governments with strong unions and upcoming gubernatorial elections experienced greater pension contributions after GASB 67/68 |

*Other Areas of Interest*

While most of the research on GASB 67/68 focused on pension liability measurement and increased disclosure, there is research that explored other areas of interest. This includes GASB 67/68 implementation and audit challenges, shortcomings of the standards, understandability, among others

Copley and Roof (2015) discussed the effects of GASB 67/68 not just to the governments that sponsor their own plans and those that participate in those plans, but also the implications to auditors and the need to coordinate their efforts with government employees. In understanding the complexities added to pension accounting, the authors noted the work by the Auditing Standards Board (ASB) and the State and Local Government Expert Panel

(SLGEP) to address pension-related auditing interpretations and reporting issues, respectively. The authors maintain that the difficulty created by GASB 67/68's requirement to recognize net pension liabilities on governmentwide statements of net position and in the proprietary fund statements, creates the challenge of obtaining evidence to attest to the fairness of the reported pension balances. They discuss recommendations by SLGEP that are specific to the type of pension plans. For single-employer pension plans, auditor recommendations include (1) understanding the process and controls used in order to ensure the completeness and the accuracy of the data provided by the actuary, (2) testing a sample of plan participants in the underlaying records to ensure the accuracy of the actuary data, (3) evaluating the actuary's competence and the actuarial valuation report, and (4) examining the government's pension accrual and related disclosures in accordance with the standards. For cost-sharing multiple-employer plans, they recommend "close cooperation between the retirement system and the participating governments, as well as between those entities and their auditors" (Copley & Roof, 2015). Further, they discuss the need for auditors to select and test a payroll data sample of the contributing employer for accuracy and completeness. They also discuss SLGEP's recommendations regarding agent multiple-employer plans, which include government officials taking responsibility for the underlying reports and assumptions, and the government auditors evaluating the competency and objectivity of the actuary and the retirement system auditor. In summary the authors state that GASB 67/68 implementation is challenging and requires all parties to plan and take actions to ensure the most cost-effective way of executing them.

The study by Himick, Brivot, and Henri (2016) uses the GASB 67/68 due process to explore the extent to which lay citizens participated in the standard setting debates. Based on GASB's mission of encouraging broad standard setting participation, the authors sought to determine the kinds of stakeholders that participated in GASB 67/68's pension project, particularly in the discount rate selection debate. The authors selected the discount rate debate for analysis due it its potential impact on both the net pension liability and the annual pension expense. The results of this study indicate that, despite being invited, lay citizens did not participate in GASB 67/68's due process. They also found that the opinions of lay experts who participated in the due process mirrored those of professional experts and they did not act as mediators between lay citizens and professionals. Surprisingly, they found that the expected consequentialist form of reasoning was absent and instead "deontological, rule-derived reasoning was the dominant ethical grammar employed" (Himick et al., 2016). This suggests that not only did the lay citizens fail to participate in the GASB 67/68 due process, but lay experts did not represent their opinions. This raises the question of how understandable the standards are to the citizens given the low level of participation in the standard setting process, even in situations with high stakes such as pensions.

Weinberg and Norcross (2017) discuss the extent to which GASB 67/68's efforts to improve financial transparency and disclosure succeeded in addressing the shortcomings and criticisms of the previous pension standards. They focus on three major criticisms of the previous standards including (1) allowing governments to engage in the averaging of pensions investment performance over a five-year period to smooth out market swings, (2) valuing pension liability using expected investment portfolio rates and, (3) not reporting unfunded pension liability in the financial statements. Their review of 144 plans for FY 2014 found that, after GASB 67, the total pension plan assets' value was higher by 7 percent than it would be under asset smoothing. Although the authors anticipated a significant rise in governments' net pension liabilities, the 144 pension plans in their 2014 study reported just a 5 percent increase in total pension liabilities. Only 13 of the 144 plans in the study used a blended discount rate. Most plans used a high discount rate, because the "actuaries projected no portion of the liability would be unfunded, because the plans would not run out of assets" (Weinberg & Norcross, 2017).

In FY 2015, the study shows that state governments' pension debt increased from $80 billion to $537 billion after GASB 67/68 requirements. The authors noted that even though the GASB 67/68 requirements showed increased financial reporting transparency and accuracy, there were shortcomings and areas where the requirements are likely to cause distortions. For example, to enhance timeliness, GASB 68 permits plans to report the previous year's pension liability in the current year's financial reports. In addition, the standards seem to have maintained asset smoothing by allowing the difference between the expected return and the actual return on plan assets to be deferred. Therefore, while GASB 67/68 requirements enhance disclosure and "financial transparency by requiring fuller pension reporting in government financial statements" (Weinberg & Norcross, 2017) there still are notable shortcomings that threaten the accuracy of these reports. They recommend three changes to address the identified shortcomings of the standards: (1) reassessing the blended discount rate, (2) eliminating assets smoothing through the use of deferrals, and (3) including the current period's pension numbers in the financial reports.

Thornburg and Rosacker (2018) describe the politics of pension reporting by explaining how GASB enables politicians to conveniently hide accumulating pension liabilities and public debt from taxpayers. They maintain actuaries could have a conflict of interest because they develop pension assumptions and calculate the estimated ARCs but are hired and compensated by government officials. While GASB standards are expected to mitigate these kinds of risks, the authors note that accounting methods and assumptions that enable governments to reduce or eliminate ARCs are flexible. They also argue that the GASB 67/68 standards are complicated and burdensome, and thus fall short in making pension accounting exact. They particularly criticize the standards' blended discount rate, describing it as a sliding scale that allows better funded plans to use a higher discount rate. Such variations reduce comparability and consistency, thereby diminishing the usefulness of the disclosures. They also criticize the lack of public participation in the standard setting process. For instance, they pointed out that individuals or groups representing the general public submitted only 74 of the 1,024 comment letters to GASB during the GASB 67/68 due process. The authors concluded that the complexity of the standards and lack of public awareness, coupled with the flexibility in accounting choices, allows politicians to "use public pensions to satisfy the demand of public employees while retaining the flexibility to choose when to actually fund them" (Thornburg & Rosacker, 2018).

Allen and Petacchi (2023) referred to GASB 67/68 as two of the most controversial government accounting standards. The authors "examine what incentives drive preparer lobbying positions, whether such lobbying is aligned with user interests, and how such lobbying affects ex post implementation of the final standard" (Allen & Petacchi, 2023). Focusing on two of the major GASB 67/68 requirements, increased disclosure and the use of a blended discount rate, the study evaluates lobbyists' incentives during the due process and ultimate pension reform choices made by the preparers. They analyzed comments from 239 preparers, 175 users, and 42 auditors, finding a divergence of support for the proposed GASB changes. Most preparers and internal users opposed the changes while most auditors and external users supported them. Even in situations where there was support for the blended discount rate, the rationale for supporting it differed among different stakeholders. External users and auditors supported the rate's "incremental shift toward the financial economics-based valuation of a market-based rate" (Allen & Petacchi, 2023), while preparers and internal users favored it due to the potential for increased pension funding.

To understand the underlying motivation behind the apparent conflict of interest among stakeholders, they assessed the impact of reporting higher pension liabilities on the financial statement, the economic constraints, and the political ramifications. They found considerable lobbying against the new standards by states that have "worse-funded plans, run larger deficits, and face strict balanced budget restrictions" (Allen & Petacchi, 2023). Conversely, external users increased their support for the standards in cases where pensions were underfunded, indicating a demand for transparency in states with incentives to hide pension issues. Their study highlights the conflict between preparers and users, with preparers opposing transparency that would reveal negative information, while users support it.

In summary, research into other areas of GASB 67/68 suggests that the standards' objectives may be impeded by their complexity, thereby compromising understandability. Studies also highlight additional shortcomings, such as the flexibility of accounting choices that can impede comparability, conflicts of interest between government officials and actuaries who develop pension assumptions, and conflicts of interest between external users of pension data and preparers of pension information. Table 3 shows a summary of the articles that discuss other areas of interest.

**Table 3:** Other Areas of Interest

| Authors and Year | Data | Research Findings |
|---|---|---|
| Copley and Roof (2015) | No data | Discusses GASB 67/68 implementation and auditing challenges. Offers suggestions from ASB and from SLGEP on planning and auditing different pension plans |
| Himick, et al. (2016) | 106 comment letters | Explores the extent to which lay citizens participate in the standard setting debates<br>Found a lack of consequentialist form of reasoning in the high stakes pension debate and instead found rule-derived reasoning<br>Also found a lack of participation by lay citizens suggesting a lack of understanding of the standard |
| Weinberg and Norcross (2017) | 144 pension plans from States' CAFR | Discusses GASB 67/68's success in addressing the shortcomings and criticisms of the previous pension standards<br>Reports some shortcomings of GASB 67/68 in ensuring accuracy of the financial reports<br>Offers recommendations to address the shortcomings |
| Thornburg and Rosacker (2018) | No data | Describes how the politics of pension reporting enables politicians to conveniently hide accumulating pension liability and public debt from the taxpayers. Also discusses how the complexity of GASB 67/68 reduces comparability and consistency |
| Allen and Petacchi (2023) | 239, 175, and 42 preparers' users' and auditors' due process comments, respectively | Uses GASB 67/68 due process to study the incentives that drive preparer lobbying positions and whether those positions align with users' interests Found conflict between preparers and users with preparers opposing transparency that would reveal negative information whereas users support it |

## Conclusion

The objective of this study is to provide a narrative review of GASB pension literature, aiming to assess the extent to which GASB's has achieved its objective of improving measurement, financial reporting, disclosures, and thereby increasing accountability and transparency in state and local government pension plans. Specifically, we focus on pension liability measurement, disclosure requirements, and other aspects of GASB 67/68 to assess the current state of research, implications for standard setting and pension funding, and propose directions for future research. The literature reviewed was sourced from research articles found on EBSCO and Google Scholar using the keywords Pension and GASB for the period 2011 to present.

Most literature on pension liability measurement criticizes the use of the blended discount rate, arguing that it does not go far enough in capturing the true government pension obligation. While there is greater support for the blended discount rate, as compared to the GASB's previous use of the expected rate of return on plan assets, research suggests that the blended discount rate is too high and that pension liabilities are still understated. Particularly, studies show that by projecting that no portion of the pension liability would be unfunded, governments continue to report low pension liability based on high discount rate. Critics also argue that the discretion in how the blended rate is applied by different governments affects comparability (Munnell et al., 2012). In addition, some research suggests that the blended discount rate is counterintuitive because the portion of the pension liability that is backed by pension assets is secure and should be discounted using a lower interest rate, and not the other way round (Biggs, 2012). Additional research is needed on the effectiveness of the blended interest rate in measuring the true value of pension liability. This could include exploring further Kriz and Chen's (2017) notion that in the long run, using a risk-free rate of return to discount pension liabilities, as recommended by some researchers, can overstate their magnitude.

Studies on increased pension disclosure requirements indicate that additional transparency informs the public about pensions' underfunding and compels governments to take steps such as increasing ARC and/or cutting expenses to mitigate the shortcomings. While some researchers expected the additional pension disclosure requirements to impact governments' credit ratings (Kilgour, 2013), there is research suggesting that rating agencies already incorporate all pension information in their ratings (Lasee and Lieberman, 2014). Research on other areas of GASB 67/68 discusses how the standards' complexity potentially impedes understandability, especially by the public. Additional challenges include difficulties in implementation and auditing, conflict of interests between government officials and actuaries, and opposing interests between external users and statement preparers. The complexity of the standards, which impedes understandability, has implications for GASB, whose goal is to provide useful information to aid in decision making.

As highlighted in this narrative review, research suggests that public pensions are underfunded, and the required GASB 67/68 rules on pension measurements fail to accurately reveal the true value of the obligation. This presents significant implications for GASB, whose responsibility is to ensure that the public is informed about the actual pension obligations and the benefits they are entitled to. Additionally, policymakers should consider implementing pension reforms to ensure adequate funding. These reforms may include increasing contributions, seeking better investment opportunities for pension plans, reducing COLAs, and even replacing DB plans with DC plans for new employees.

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