SHEEO

STATE HIGHER EDUCATION EXECUTIVE OFFICERS ASSOCIATION

UNDERSTANDING STATE PENSION CHALLENGES: A PRIMER FOR SHEEOS

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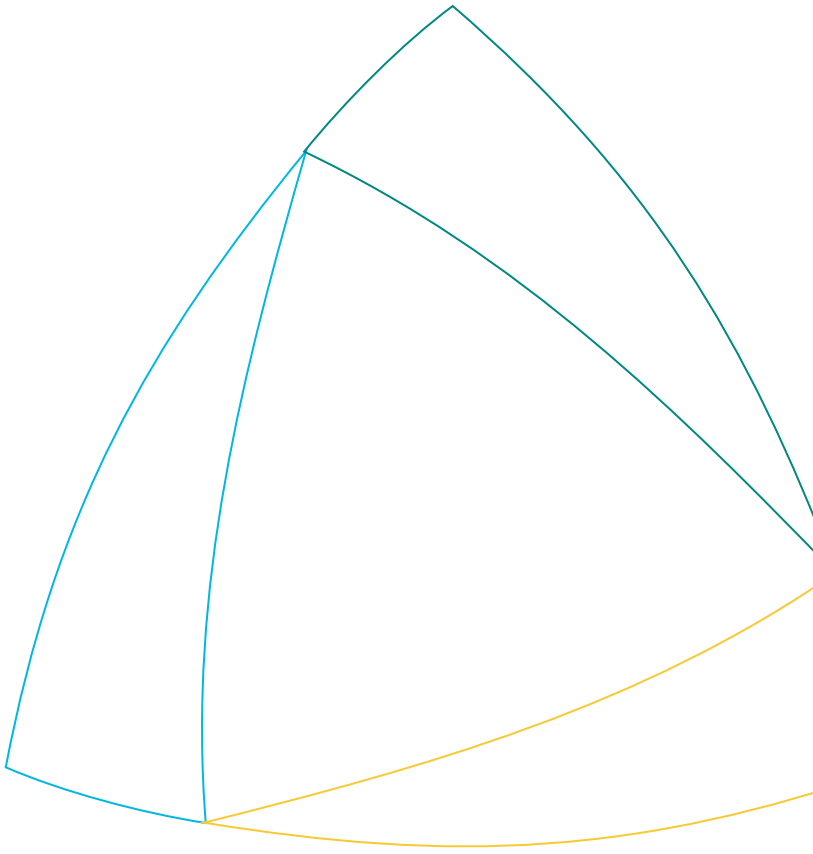

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INTRODUCTION

Higher education appropriations are often referred to as the "balance wheel" for state budgets, receiving greater than average funding reductions during economic downturns and above average increases during periods of economic growth. However, this trend has gradually diminished with each recession as higher education funding no longer returns to pre-recession levels. The State Higher Education Executive Officers Association's (SHEEO) annual State Higher Education Finance (SHEF) report documents this ratcheting down. After adjusting for inflation, state and local per student appropriations decreased from $8,848 in 2008 to a low of $6,689 in 2012 at the trough of the Great Recession. Since then, per student funding has increased steadily to $7,853 in 2018 but remains nearly $1,000 below the 2008 funding level.[1] In addition to fluctuating based on the economic cycle, higher education funding has been increasingly crowded out by other budget categories with spending for higher education, as a portion of General Fund expenditures, declining from 13 percent in FY 1992 to 9 percent in FY 2018.[2] While K-12 education and healthcare expenditures have been two of the most significant budget drivers to crowd out higher education funding, state pension obligations are gradually consuming an increased share of state revenue.[3]

As advocates and defenders of public higher education within their states, state higher education executive officers (SHEEOs) should understand the challenges facing public pension plans and the potential negative impact unfunded liabilities will have on overall state funding for higher education. While a handful of states' pension challenges, e.g., Illinois, Connecticut, Kentucky, have received considerable media attention, there is great variation in the financial health of state pension plans. Two states—South Dakota and Wisconsin—had fully funded pension plans in 2017, meaning the pension trust funds in these states had sufficient assets to cover the expected benefits for all current and future retirees. Nationally, state pension systems have approximately 70 percent of the assets needed to cover estimated pension obligations.[4] ***Figure 1*** shows the FY 2017 funding ratios of each state. While there is some concern that most state pension plans have a funding ratio below 80 percent, which is a threshold credit rating agencies use as an indicator that the plan is in good financial standing, it is perhaps more concerning that nearly a decade after the beginning of the Great Recession and several years of healthy stock market returns and increased state contributions, the average funding ratio for state pension systems nationwide is approximately 17 percentage points lower than prior to the recession.[5] Moreover, credit rating agencies have begun paying added attention to pension liabilities following the Great Recession.[6] Between 2009 and 2017, the Moody's

1. State Higher Education Executive Officers Association. (2019). *State higher education finance report: FY 2018.* Boulder, CO. Retrieved from https://sheeo.org/project/state-higher-education-finance
2. National Conference of State Legislatures. *Survey of legislative fiscal offices for fiscal years 1992 and 2018.* (Unpublished surveys.) For more information, contact http://www.ncsl.org
3. Lenny, J., Lutz, B., Sheiner, L. (2019). *The sustainability of state and local government pensions: A public finance approach.* Washington, DC: Brookings Institution. Retrieved from https://www.brookings.edu/wp-content/uploads/2019/07/lenney_lutz_sheiner_MFC_Final.pdf
4. Cembalest, M. (2018). "The ARC and the covenants: The state of the states, 2018" (Supplementary materials). *Eye on the Market.* New York, NY: J.P. Morgan. Retrieved from https://www.jpmorgan.com/jpmpdf/1320746284526.pdf
5. Pew Charitable Trusts. (2019). *The state pension funding gap: 2017.* Retrieved from https://www.pewtrusts.org/en/research-and-analysis/issue-briefs/2019/06/the-state-pension-funding-gap-2017
6. Jeppson, N. H., Ruddy, J. A., & Salerno, D. F. (2018). Defining and quantifying the pension liabilities of government entities in the United States. *Journal of Corporate Accounting & Finance, 29*(1), 98-106.

rating agency listed pension liabilities as an important factor when downgrading the bond ratings of nine states—Alaska, Connecticut, Illinois, Kansas, Kentucky, Louisiana, New Jersey, Pennsylvania, and West Virginia.[7] When bond ratings are downgraded, state borrowing costs increase, and the number of capital projects a state can undertake in a given year will likely decline. As competition for capital funding increases, higher education projects run the risk of being crowded out.

While the potential impact on state higher education funding levels is of critical importance, another reason to understand pension reform is the potential impact on employee morale. State higher education agencies are predominantly made up of state employees who are invested in public pension programs and dependent upon them for their own retirement savings. About a quarter of state and local employees participate in public pension plans in lieu of the Social Security program.[8] SHEEOs must hire and maintain competent, motivated staffs committed to promoting higher education as a public good and reaching attainment goals; however, doing so is complicated by the long-term structural issues inherent in many state pension programs. Furthermore, many public college and university employees are also invested in state pension plans. Their morale, commitment, and security are needed as we attempt to improve outcomes for students. Qualified hires may steer clear of employment in state agencies and public colleges and universities when they consider their individual retirement needs.[9] Moreover, staff turnover may increase following pension benefit reductions, as employees seek higher compensation with employment in the private sector.[10]

The purpose of this policy brief is to provide background information to help SHEEOs better understand the current status of state pension obligations. We first review how most public pensions have become underfunded. Next, we review the common reforms states have taken to address the financial health of their retirement systems. Finally, we highlight several complicating factors that may limit the effectiveness of the reforms or lead to future funding challenges. Before proceeding, we realize that several key terms may be unfamiliar to readers so we provide definitions at the outset.

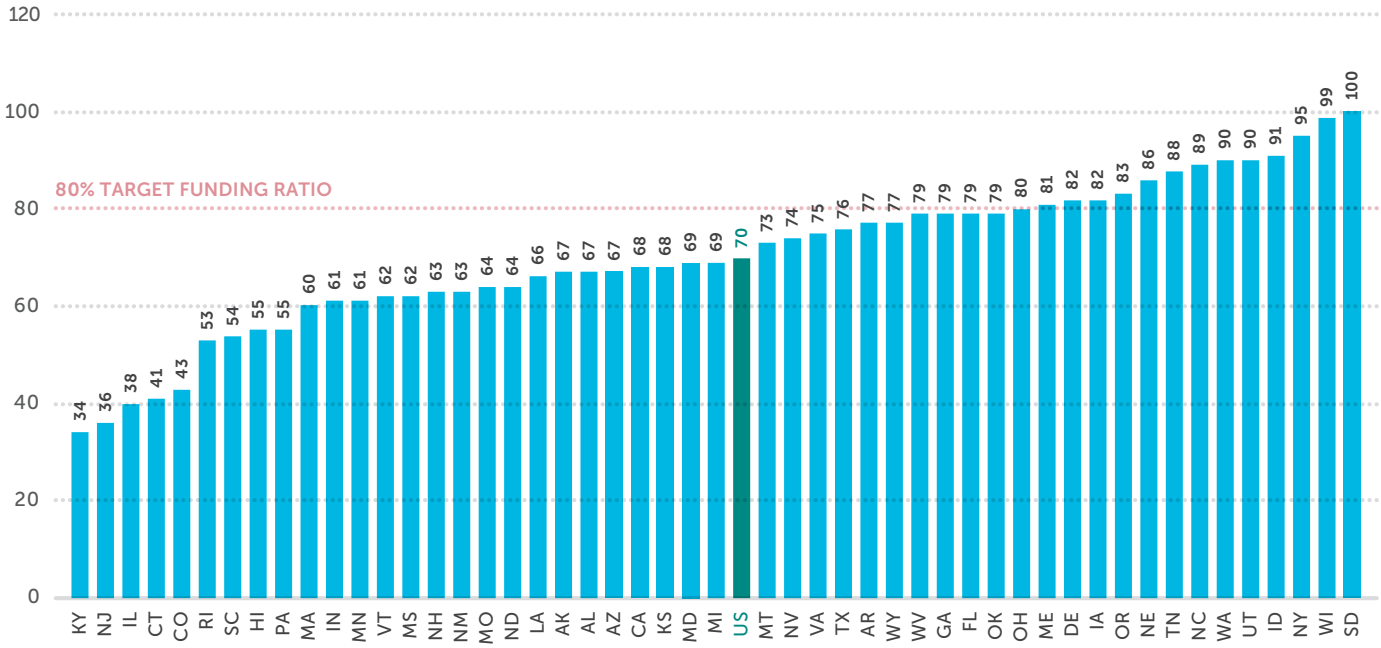
KEY TERMS

- **Pension obligation** refers to the total pension benefits current employees and retirees have accrued and the benefits current employees are projected to accrue in the future. It represents a financial commitment or liability of a state.
- **Unfunded liability** is the portion of the pension obligation for which a pension trust fund does not currently have assets to pay. It is the gap between funds on hand and the estimated amount a pension plan will need to pay over the life of all plan members.

7. Aubry, J. P., Crawford, C. V., & Munnell, A. H. (2017). *How have municipal bond markets reacted to pension reform?* (SPL# 57). Center for Retirement Research at Boston College.
8. National Association of State Retirement Administrators. (n.d.) Social security coverage. Retrieved from https://www.nasra.org/socialsecurity
9. Quinby, L. D., Sanzenbacher, G. T., & Aubry, J. P. (2018). *How have pension cuts affected public sector competitiveness?* (SLP#59). Center for Retirement Research at Boston College. Retrieved from https://crr.bc.edu/wp-content/uploads/2018/04/slp_59.pdf
10. Quinby, L. D., & Wettstein, G. (2019). *Do benefit cuts encourage public employees to leave?* (SLP#65). Center for Retirement Research at Boston College. Retrieved from https://crr.bc.edu/wp-content/uploads/2019/05/SLP65.pdf

- **Funded ratio** is the portion of the pension obligation that a state currently has assets to pay. Expressed in percent terms, higher percentages equate to better funded pension plans.
- **Defined-benefit plan** is a type of pension plan in which states guarantee a specific level of benefits in retirement. States assume a greater share of the risk since they are responsible for ensuring the benefits are paid to each beneficiary.
- **Defined-contribution plan** is a type of pension plan in which states provide a specific contribution to individual employee retirement accounts. These plans function like 401(k) plans, and individual employees assume most of the risk associated with funding retirement.
- **Discount rate** is an interest rate used to value future pension obligations in today's dollars. State and employee pension contributions are influenced by this rate. A higher discount rate will require lower annual contributions; however, if investment returns lag the discount rate, the pension plan's funding status will deteriorate, resulting in a lower funded ratio.

FIGURE 1
FUNDING RATIO FOR STATE PENSION PLANS, FY 2017



Source: Cembalest, M. (2018). The ARC and the Covenants: The State of the States, 2018 Supplementary Materials. *Eye on the Market.* New York, NY: J.P. Morgan. Retrieved from https://www.jpmorgan.com/jpmpdf/1320746284526.pdf

HOW DID PENSIONS BECOME A PUBLIC FINANCE PROBLEM?

Each state has a unique pension system that has developed within the specific demographic, political, and economic contexts of the state. Consequently, the reasons a public pension system is well funded or poorly funded vary as much as the idiosyncrasies of individual plans. This section reviews the commonly accepted explanations for why some state pension systems are poorly funded.

STATES FAILED TO MEET ANNUAL CONTRIBUTIONS

Much like higher education funding, states appear to adjust annual contributions to state pension plans in response to economic conditions and other discretionary budget decisions. The methodology used to determine annual contributions varies greatly by state. In some states, the amount is set in statute while other states rely on actuarial calculations. Regardless of the official method used, most state plans calculate an actuarially-determined contribution (ADC) that estimates the annual amount a state would need to contribute for the plan to become 100 percent funded over a long-term time horizon, such as 30 years. The ADC consists of two components: 1) the estimated cost of benefits accrued during the year, and 2) the amount of any unfunded liability amortized over a long-term period.[11] By amortizing the unfunded portion over several years, states can pay down the liability a little at a time, much like making mortgage payments on a home.

The ADC is a useful measuring stick to determine if states are making the necessary contributions to achieve a fully funded pension system. Analysis of recent contributions levels suggests most states regularly make a "good-faith" effort to meet their annual obligations; however, there are a few states that have consistently failed to meet their annual contributions.[12] Between 2001 and 2017, states contributed 92.6 percent of the actuarially-determined contribution; however, some states contributed far less. For example, New Jersey only paid about 40 percent of the state's actuarially-determined contribution during this period of time.[13]

Even when states regularly pay the ADC, unfunded liabilities may never actually decline. States have the flexibility to select an actuarial method for amortizing the unfunded portion, and the method chosen can drastically affect the ADC amounts. Amortizing the unfunded liability over a long-term time horizon allows states the opportunity to gradually make progress toward reducing the liability. However, states can choose an actuarial method that backloads payments, requiring small initial contributions that will increase over the amortization period. Additionally, states regularly reset the amortization period because of changes in a plan's funding status, actuarial assumptions, and other reasons. Some states reset the amortization period every year.

11. National Association of State Retirement Administrators. (2018). *NASRA issue brief: State and local government contributions to statewide pension plans: FY 16.*
12. Brainard, K., & Brown, A. (2015). *Spotlight on the annual required contribution experience of state retirement plans, FY 01 to FY 13.* National Association of State Retirement Administrators.
13. National Association of State Retirement Administrators. (2019). *NASRA issue brief: State and local government contributions to statewide pension plans: FY 17.* Retrieved from https://www.nasra.org/files/Issue%20Briefs/NASRAADCBrief.pdf

For example, if a state used a 30-year amortization period, backloaded contributions to the later years, and reset the 30-year time horizon each year, the state would only make the small contributions and never see a decline in the unfunded portion.[14]

STOCK MARKET VOLATILITY AND UNREALISTIC INVESTMENT RETURN ASSUMPTIONS

Pension systems are primarily funded through three revenue sources: state/employer contributions, employee contributions, and investment returns on plan assets. Of these three sources, pension systems rely predominantly on investment returns for revenue growth. Between 1988 and 2017, the investment returns on pension assets accounted for 62 percent of revenue for public pension plans, while employer contributions accounted for 26 percent and employee contributions accounted for 12 percent.[15]

Given the reliance on investment returns to fund pension obligations, states have a strong interest in making investment decisions that lead to stable asset growth. If adequate growth in trust fund assets is produced through investment returns, then state and employee contributions can increase at slower rates or not at all. However, volatility in the stock market combined with increased allocations to riskier asset classes have resulted in more volatile and lower than expected investment returns and are a reason state pension plans are currently underfunded.

The first decade of the twenty-first century had two significant stock market crashes with total market values dropping by more than 40 percent.[16] This extraordinary market volatility significantly reduced pension trust fund asset values while pension obligations remained steady, resulting in a gap between available funds and obligations. While a well-diversified investment portfolio that balances riskier investments—which are expected to produce higher returns but are associated with a greater potential for losses—with more conservative investments—which are expected to be less volatile but produce lower average returns—can help mitigate some market volatility, public pension systems have been steadily increasing their exposure to more risky investments since 2001.

In the current era of low interest rates, states have had to rely on riskier investments to chase higher returns. Thirty years ago, U.S. Treasury bonds, generally considered one of the least risky investment options, had yields in the 7-8 percent range. As a result, state pension plans could achieve relatively high rates of return without taking on much risk. With U.S. Treasury bond yields currently in the 2-3 percent range, pension plans have increased their share of investments in riskier equities and alternative investments such as private equity, hedge funds, and commodities while decreasing the share of assets invested in more conservative and less volatile fixed-income categories. Fitch Ratings reported equities and alternative investments constituted 77 percent of investments in 2017, a 10-percentage point increase since 2001, while fixed income investments declined from 33 percent of assets to 23 percent during this time period.[17]

14. Munnell, A. H., Aubry, J. P., & Cafarelli, M. (2015). *How did state/local plans become underfunded* (SLP#42). Center for Retirement Research at Boston College. Retrieved from https://crr.bc.edu/wp-content/uploads/2015/01/slp_42.pdf

15. National Association of State Retirement Administrators. (2019). *NASRA issue brief: Public pension plan investment return assumptions.* Retrieved from https://www.nasra.org/files/Issue%20Briefs/NASRAInvReturnAssumptBrief.pdf

16. Cembalest, M. (2018). "The ARC and the covenants 4.0." *Eye on the market.* New York: J.P. Morgan. Retrieved from https://www.jpmorgan.com/jpmpdf/1320746272624.pdf

17. Fitch Ratings. (2019). *U.S. state and local pension investments: Concerns grow with riskier allocations, lower returns.* Retrieved from https://www.nasra.org//Files/Topical%20Reports/Credit%20Effects/Fitch%201905%20allocations.pdf

While public pension plans have been taking on more investment risk, their counterparts in the private sector have been moving toward more conservative allocations.[18] A recent study by the Boston College Center for Retirement and Research compared public pension system allocations to similar defined-benefit plans in the private sector and found that since the Great Recession, public plans have increased their exposure to riskier asset classes by 5 percentage points while private pension plans have decreased their exposure to riskier asset classes by 4 percentage points.[19] Not only has greater exposure to riskier asset classes increased the adverse effects of short-term market volatility and crashes, but the greater risk exposure has also failed to produce higher returns.

Table 1 shows the results of a Fitch Ratings analysis of public pension plan investment returns between 2001 and 2017. This table shows a 17-year median return of 6.4 percent, which is lower than the 7-8 percent assumed rate of return for most public plans.[20]

TABLE 1:
MEDIAN PENSION PLAN PORTFOLIO INVESTMENT RETURNS, 2001-2017

PERCENT	17-YEAR INVESTMENT RETURNS (2001-2017)	10-YEAR INVESTMENT RETURNS (2008-2017)	5-YEAR INVESTMENT RETURNS (2013-2017)	3-YEAR INVESTMENT RETURNS (2015-2017)
Maximum	8.2%	8.0%	11.4%	9.1%
Median	6.4%	6.2%	9.2%	6%
Minimum	4.0%	1.9%	0.8%	-1.4%

Source: Fitch Ratings (2019). U.S. State and Local Pension Investments: Concerns Grow with Riskier Allocations, Lower Returns.

Establishing an accurate assumed rate of return is a key consideration for pension plan administrators. If annual investment returns lag the assumed rates of return, state and/or employee contributions will need to make up the shortfall. Moreover, many state plans use the assumed rate of return as the discount rate, which can show a better funded ratio.[21] Assumed rates of return for public pension plans are typically established by the board overseeing the plans, or in a few states by the legislature, and are heavily influenced by actuarial assumptions of demographic and economic factors.[22] In recent years, investment returns have lagged assumptions. According to a Fitch Ratings analysis, South Dakota was the only state in which investment returns exceeded the assumed rate of return between 2001-2017.[23] In the other 49

18. It is worth noting that many private-sector employers have phased out defined-benefit pension plans in recent decades. They have transitioned to defined contributions plans such as 401(k)s and transferred much of the risk associated with funding retirement costs to employees.
19. Aubry, J. P., & Crawford, C. V. (2019). ***Impact of public sector assumed returns on investment choices*** (SLP#63). Center for Retirement Research at Boston College.
20. National Association of State Retirement Administrators. (2019). *Latest investment return assumptions.* Retrieved from https://www.nasra.org/content.asp?admin=Y&contentid=226
21. Stalebrink, O. J. (2014). Public pension funds and assumed rates of return: An empirical examination of public sector defined benefit pension plans. *The American Review of Public Administration, 44*(1), 92-111.
22. National Association of State Retirement Administrators. (2019). *NASRA issue brief: Public pension plan investment return assumptions.* Retrieved from https://www.nasra.org/files/Issue%20Briefs/NASRAInvReturnAssumptBrief.pdf
23. Fitch Ratings. (2019). *U.S. state and local pension investments: Concerns grow with riskier allocations, lower returns.* Retrieved from https://www.nasra.org/Files/Topical%20Reports/Credit%20Effects/Fitch%201905%20allocations.pdf

states, actual returns lagged assumed returns, and in seven states—Arizona, Connecticut, Hawaii, Maryland, New Hampshire, New Jersey, and Rhode Island—actual returns lagged assumptions by 2 percentage points or more. Given this trend of lagging returns, states are beginning to respond by lowering investment assumptions. Forty-four state and local plans now have an assumed rate of return of 7 percent or below.[24]

BENEFIT INCREASES

A third reason state pension plans are in financial trouble is that benefits were expanded during periods of economic growth when many plans operated with surpluses. Defined-benefit pension plans are generally viewed as a form of deferred compensation for public workers. Employees accept a lower salary in the short term based on an understanding they will receive a specific level of benefits during retirement. Consequently, public sector employees generally have lower annual salaries than comparable private sector workers, but relatively generous pension plans make total compensation more equal.[25] Each state has unique political and fiscal limits that influence how generous salary compensation can be for public workers, and deferring compensation until employees retire can provide state policymakers with a way to increase compensation without having to justify a rise in salaries.

There is some evidence that policymakers are more concerned with considering pension benefit increases as a political victory and do not adequately consider the long-term effects of these increases. In many instances, the legislators approving unsustainable benefit increases are no longer in office when states realize the full cost of these changes.[26] While conventional wisdom would suggest states under control of the Democratic Party would be more likely to approve pension benefit increases than states under Republican Party control, research suggests that the strength of public sector unions is more important than political control. In states with strong public sector unions, post-retirement benefits tend to be more generous than in states with weak public unions. This pattern holds even in states under Republican Party control.[27]

INCREASED LIFESPANS

A fourth factor worth noting is that retirees are living longer and thus drawing pension benefits for more years than expected. State pension plan administrators must make actuarial assumptions about how long a person will draw retirement benefits. As life expectancy increased over the last 70 years, plan administrators needed to account for longer lifespans, which in turn increased pension liabilities. Updating life-expectancy assumptions can reduce the funded ratio of plans by 5 percentage points or more.[28] Additional demographic challenges are discussed in the ***Complicating Factors*** section below.

24. National Association of State Retirement Administrators. (2019). *Latest investment return assumptions.* Retrieved from https://www.nasra.org/content.asp?admin=Y&contentid=226
25. Schieber, S. J. (2011). Political economy of public sector retirement plans. *Journal of Pension Economics & Finance, 10*(2), 269-290.
26. Schieber, S. J. (2011). Political economy of public sector retirement plans. *Journal of Pension Economics & Finance, 10*(2), 269-290.
27. DiSalvo, D., & Kucik, J. (2018). Unions, parties, and the politics of state government legacy cost. *Policy Studies Journal, 46*(3), 573-597.
28. Munnell, A. H., Aubry, J. P., & Cafarelli, M. (2015). *How will longer lifespans affect state and local pension funding?* (SPL#43). Center for Retirement Research at Boston College. Retrieved from https://crr.bc.edu/wp-content/uploads/2015/04/slp_43-1.pdf

STATE REFORMS TO ADDRESS UNDERFUNDED PENSION LIABILITIES

Following the financial and labor market turmoil caused by the Great Recession, most states enacted substantial reforms to reduce public pension liabilities. These reforms are intended to improve the long-term fiscal sustainability of public pension plans and generally shift more risk to employees. With the exception of some cost of living adjustments, the reform measures will only affect current and future employees once fully implemented. Common reform measures adopted between 2009-2018 include:[29]

- **Increasing employee contributions.** Thirty-nine states increased the amount employees are required to contribute toward their retirement. In some states, these increases were temporary while in other states they were permanent or did not include an end date. The median contribution for employees participating in Social Security is now 6 percent, up 1 percentage point from 2010. Employees not participating in Social Security have a median contribution of 8 percent, which is unchanged since 2002.[30]
- **Increasing service requirements and decreasing plan multipliers.** Pension benefits are designed to replace a portion of a retiree's salary. The benefit is usually calculated with a simple formula that multiplies years of employment by an average salary and a multiplier. Since the start of the Great Recession, states have enacted reforms that changed one or more of the formula components. For example, some states modified how average salaries are calculated, often by requiring more years that include lower salary amounts. States also reduced the multiplier (e.g., from 2 percent to 1.5 percent), and required longer periods of service to qualify for a normal retirement benefit.
- **Increasing retirement age.** Several states increased the retirement age employees must reach before beginning to draw benefits by 1-5 years. In addition, several states increased the number of years of service required to receive maximum retirement benefits by 2-5 years. Thirty-three states increased age and/or service requirements.
- **Reducing or eliminating cost of living adjustments (COLAs).** COLAs provide retirees with an annual benefit increase to help offset the effects of inflation. Thirty-one states reduced COLAs. Among these states, seventeen COLA reductions affect current retirees as well as current and future employees. In seven states, COLA reductions affect current and future employees, while in seven states, COLA reductions only affect future employees. State reforms varied from percentage point reductions to the elimination of COLAs entirely.

29. Unless otherwise noted, the information in this section is from: Brainard, K., & Brown, A. (2018). *Spotlight on significant reforms to state retirement systems*. National Association of State Retirement Administrators. Retrieved from https://www.nasra.org/files/Spotlight/Significant%20Reforms.pdf. This brief includes detailed information on benefit changes for all major state plans.

30. National Association of State Retirement Administrators. (2015). *NASRA issue brief: Employee contributions to public pension plans.* Retrieved from https://www.nasra.org/files/Issue%20Briefs/NASRAContribBrief.pdf

- **Creating defined contribution or hybrid plans.** While most states decided to keep and modify their traditional defined-benefit plans, Arizona and Oklahoma passed legislation that closed the defined-benefit pension plans to new employees. In these states, new employees will contribute to defined-contribution plans that operate more like 401(k) retirement accounts. Rather than pooling assets from many employees, assets are contributed to an individual employee's account. Other states such as Kansas switched to a hybrid plan that is designed to combine the benefits of traditional pensions with individual accounts. In Kansas, newly hired employees have individual accounts but are guaranteed at least a 4 percent return.[31] While conventional wisdom may suggest closing a defined-benefit plan to new employees will be the easiest solution to solve pension funding issues, research suggests the reality is much more complicated.[32] In the 1990s, Michigan and West Virginia closed their defined-benefit plans to new members, but in both instances, pension costs increased.[33] West Virginia reopened its defined-benefit plan in the early 2000s. Pension costs are largely driven by the generosity of benefits, and a generous defined-contribution plan can still be more expensive than a defined-benefit plan.
- **Issuing pension obligation bonds (POBs).** POBs have been around as a financing strategy since the mid-1980s, and the current low-interest environment has caused many states to consider issuing these bonds to address unfunded liabilities. The basic idea behind POBs is that states issue taxable general obligation bonds at low interest rates, deposit the proceeds in the pension trust, and then earn higher returns than the interest rate the state is paying. POBs do not reduce total state debt but rather convert a portion of the pension liability into general obligation debt—which the state must pay regularly or risk a downgraded credit rating. The empirical evidence suggests POBs are risky as states do not always earn the investment returns needed for the strategy to pay off.[34]

Because legal restrictions in many states limit reforms to current workers and in some states only to workers who have yet to be hired, their aggregate effect on funding levels will take several decades to be fully realized. As a result, many of the current reform measures do not significantly change the contributions states need to make to their pension systems in the near term. One recent study estimates that the percent of state and local budgets allocated to pensions will remain above pre-recession levels until the full effect of reforms occurs in the 2040s.[35] Another study estimated the effects of various reforms on pension liabilities. Enacting

31. National Association of State Retirement Administrators. (2019). *NASRA issue brief: State hybrid retirement plans.* Retrieved from https://www.nasra.org/files/Issue%20Briefs/NASRAHybridBrief.pdf
32. Poterba, J., Rauh, J., Venti, S., & Wise, D. (2007). Defined contribution plans, defined benefit plans, and the accumulation of retirement wealth. J*ournal of public economics, 91*(10), 2062-2086.
33. National Institute on Retirement Security. (2015). *Case studies of state pension plans that switched to defined contribution plans.* Retrieved from https://www.nirsonline.org/wp-content/uploads/2017/11/public_pension_resource_guide_-_case_studies_of_state__pension_plans_that_switched_to_defined_contribution_plans.pdf
34. Munnell, A. H., Aubry, J. P., & Cafarelli, M. (2014). *An update on pension obligation bonds* (SLP#40). Center for Retirement Research at Boston College.
35. Munnell, A. H., Aubry, J. P., Belbase, A., & Hurwitz, J. (2013). *State and local pension costs: Pre-crisis, post-crisis, and post-reform* (SPL#30). Center for Retirement Research at Boston College.

changes such as increasing the retirement age reduces pension liabilities by 2-4 percent and reducing the COLA by 1 percentage point could potentially reduce pension liabilities by 9-11 percent.[36] COLA adjustments have a larger effect on pension liabilities in part because courts have allowed states to apply this reform to current retirees.

It is also worth noting that pension reforms can lead to vastly different levels of compensation for employees performing the same job. Because the legal protections in some states only apply to future workers, an employee hired the year after pension reforms take effect will receive a lower level of compensation than an employee hired the year before. This lack of equity in benefits can lead to lower employee morale and increase staff turnover.

36. Novy-Marx, R., & Rauh, J. D. (2011). Policy options for state pension systems and their impact on plan liabilities. *Journal of Pension Economics & Finance, 10*(2), 173-194.

COMPLICATING FACTORS

The sections above have reviewed the current status of state pension obligations and some of the actions states have taken to improve the fiscal sustainability of these plans. However, public pensions are complex systems that are influenced by a multitude of demographic, economic, and political factors. Many of these factors limit or confound the range of options states have to improve pension funding ratios. The following section highlights a few of the more prevalent complicating factors.

CONSTITUTIONAL AND LEGAL PROTECTIONS

The constitutional and legal protections for state pension systems tend to be very strong; therefore, states may have limited reform options available to address unfunded pension liabilities. Because public pension systems are exempt from the major federal provisions that regulate private pensions, the legal protections covering state pension systems are a matter of state law.[37] Consequently, there is no uniform protection for all state pension plans as the constitutional and legal protections have evolved differently in each state based on unique contexts and court decisions. Most states follow one of three approaches for the legal protection of public pension benefits: gratuity, contract, or property—each is explained in greater detail below. In addition to these legal approaches, seven states have constitutional provisions that protect pension benefits. ***Table 2*** provides a breakdown of which legal approach each state uses. This table also categorizes states by which benefit accruals are protected. Past accruals refer to benefits current employees and retirees have already earned. Future accruals refer to the benefits current employees will earn if they continue to be employed by the state. As described below, this is a very important distinction for employees as well as state policymakers.

TABLE 2:
LEGAL BASIS FOR PROTECTING PUBLIC PENSION BENEFITS

LEGAL BASIS	ACCRUALS PROTECTED			
	PAST & FUTURE	PAST & MAYBE FUTURE	PAST ONLY	NONE
State constitution	AK, IL, NY	AZ	HI, LA, MI	
Contract	AL, CA, GA, KS, MA, NE, NV, NH, ND, OR, PA, TN, VT, WA, WV	CO, ID, MD, MS, NJ, RI, SC	AR, DE, FL, IA, KY, MO, MT, NC, OK, SD, UT, VA	
Property	ME, WY	CT, NM, OH	WI	
Promissory estoppel	MN			
Gratuity				IN, TX

Source: Munnell, A. H., & Quinby, L. (2012). Legal constraints on changes in state and local pensions. *State and Local Issue in Brief, 25.*

37. Monahan, A. B. (2010). Public pension plan reform: The legal framework. *Education Finance and Policy, 5*(4), 617-646

- **Constitutional protections.** While most states do not explicitly include pension plans in their constitutions, seven states do—Alaska, Arizona, Hawaii, Illinois, Louisiana, Michigan, and New York. In general, these states consider pension obligations to be contracts between employees and the state. In most instances, the constitutional provisions contain language that specifically articulates which benefit accruals are protected. For example, Alaska, Illinois, and New York all have constitutional provisions that protect pension benefits from the time an employee is hired.
- **Contract approach.** The majority of states follow the contract approach. In these states, public pension benefits are considered contracts and, therefore, are protected under state and federal laws that prevent the impairment of contracts. However, state courts have varied in interpreting when the contract begins and what is covered under the contract.[38] Some states consider the contract to begin on the employee's first day. In other states, the contract is valid when the employee becomes vested (i.e., has met the minimum requirements to qualify for receiving pension benefits), while in other states, the contract is considered effective when the employee retires. These are important distinctions because they determine to whom any benefit reductions may apply. In states where the contract becomes effective on the first day of employment, benefit changes will only apply to new employees that have yet to be hired, which means all past and future pension benefit accruals for current employees are protected. Conversely, if the contract is valid when the employee retires, then benefit changes can apply to current and future employees, providing a state with more flexibility to address unfunded liabilities by applying any reforms to a larger portion of retirement system members.
- **Property approach.** Six states consider pension benefits property that cannot be taken without just compensation and due process under the Fifth and Fourteenth Amendments to the U.S. Constitution.[39] However, courts have been less willing to accept changes to pension benefits as a taking of property. Consequently, states following the property approach generally have more flexibility to enact pension reforms.[40]
- **Promissory estoppel.** Minnesota courts have adopted a promissory estoppel approach to protect pension benefits. This approach can be considered a "quasi-contract" that provides protections even when there is no official written contract in the state's constitution or statutes.[41]

38. Monahan, A. B. (2010). Public pension plan reform: The legal framework. *Education Finance and Policy, 5*(4), 617-646.
39. Monahan, A. B. (2010). Public pension plan reform: The legal framework. *Education Finance and Policy, 5*(4), 617-646.
40. Munnell, A. H., & Quinby, L. (2012). *Legal constraints on changes in state and local pensions* (SPL#25). Center for Retirement Research at Boston College.
41. Anenson, T. L., Slabaugh, A., & Lahey, K. E. (2014). Reforming public pensions. *Yale Law & Policy Revue*, 33, 1.

- **Gratuity approach.** Until the mid-twentieth century, state funded retirement plans were considered "gratuities" that the state government could change or end at any time.[42] Indiana and Texas still consider at least some retirement plans gratuities. In Indiana, courts have considered involuntary plans—plans where workers are mandated to participate—to be gratuities, while voluntary plans—where workers select to participate in the plan—are generally given more protections. In Texas, all state-administered pension plans are still considered gratuities, but the state has generally afforded pension plans more protections than assumed under the gratuity approach.[43]

As noted above, several states have reduced or eliminated COLAs for current employees and retirees. State courts have upheld most COLA reductions enacted since the Great Recession.[44] In general, courts have considered COLAs as separate from core pension benefits and not protected under contractual provisions of state constitutions and statutes.[45]

ACCOUNTING STANDARD CHANGES

How states report pension obligations can increase or decrease the size of the unfunded liability. Recent changes to accounting standards used by states are designed to increase transparency and the accuracy of reporting liabilities.

The Government Accounting Standards Board (GASB) is a private board responsible for establishing the accounting standards for state and local governments. GASB standards for public pension reporting changed significantly in 2012 when the Board updated its reporting and measurement guidance. The new standards, known as GASB 67 and GASB 68, made three changes to increase transparency in pension reporting. First, GASB 67 requires states to report the market value of pension assets and no longer allows states to use a technique known as asset smoothing. Under previous standards, states were able to report average asset values over a multiyear period. This technique smoothed market fluctuations and allowed states to have a level of predictability in calculating annual contributions. The newer standards provide greater transparency but also result in lower asset values during years with market declines because the short-term volatility is no longer smoothed over multiple years.

Second, GASB 67 provides new guidance for selecting discount rates to value pension liabilities. The discount rate is a key consideration due to the value of money being worth more in the present than in the future. Under previous standards, states used the expected rate of return to discount pension liabilities. Economists were critical of this approach, believing the discount rate was too high and did not reflect the risk of state pension obligations given the strong legal protections in most states.[46] A higher discount rate may understate the true value of pension

42. Monahan, A. (2013). Understanding the legal limits on public pension reform. American Enterprise Institute. Retrieved from https://www.nasra.org/Files/Topical%20Reports/Legal/Monahan1305.pdf

43. Kent Jr, M. B. (2017). Public pension reform and the takings clause. *Belmont Law Revue*, 4, 1.

44. Munnell, A. H., Aubry, J. P., & Cafarelli, M. (2016). COLA cuts in state-local pensions. *Journal of Pension Economics & Finance, 15*(3), 311-332.

45. Munnell, A. H., Aubry, J. P., & Cafarelli, M. (2016). COLA cuts in state-local pensions. *Journal of Pension Economics & Finance, 15*(3), 311-332.

46. Brown, J. R., & Wilcox, D. W. (2009). Discounting state and local pension liabilities. *American Economic Review, 99*(2), 538-42.

obligations, which results in states making lower annual contributions than are needed to fully fund a pension plan. Additionally, the use of a higher discount may encourage plans to invest in riskier asset classes as plan administrators search for higher returns.[47] According to economists, a more appropriate discount rate would be the "risk-free" rate that accounts for the guaranteed liability that pension obligations represent. Options for a risk-free rate include the U.S. Treasury bond rate or a state's General Obligation bond rate.[48] GASB 67 attempts to split the difference by permitting states to use the expected rate of return to discount the funded portion of pension liabilities and to use a lower risk-free rate for the unfunded portion of pension liabilities. Following the implementation of the new standards in Fiscal Year 2014, pension liabilities were expected to increase, which would, in turn, require states to increase annual contributions. However, reported liabilities did not increase as much as expected. Many states continued to use the higher expected rate of return as the discount rate based on the belief pension plans would not run out of assets; consequently, there was no unfunded liability to discount at the lower rate.[49]

Finally, under the GASB 68 standard, states report unfunded pension liabilities on their comprehensive annual financial reports (CAFRs). Prior to the implementation of this standard in Fiscal Year 2015, states that made their full annual required contribution did not have to report a net pension obligation on their financial statements. States must now report unfunded pension liabilities. In the first year of implementation, unfunded pension liabilities reported by states increased from $80 billion to $537 billion.[50]

DEMOGRAPHIC CHALLENGES

The United States is in the middle of a demographic shift to an older population, and current estimates predict slow population growth over the next few decades. By 2030, the entire baby boom generation will be at least 65 years old, and by 2035, adults of retirement age will outnumber children.[51] The aging population will increase the number of state employees retiring at a time when states have limited slack in their budgets to hire new employees. Public sector employment has been slow to recover from the Great Recession, and future hiring is expected to be moderate in the near future.[52] Given the combination of more public workers retiring and limited resources to hire new employees, state pension systems are already feeling pressure. A Wisconsin Legislative Council analysis of 87 state and local pension systems found that the ratio of active employees to retired employees drawing benefits has steadily declined from 2.24 in 2004 to 1.48 in 2017.[53]

47. Brown, J. R., Clark, R., & Rauh, J. (2011). The economics of state and local pensions. *Journal of Pension Economics & Finance, 10*(2), 161-172.
48. Schieber, S. J. (2011). Political economy of public sector retirement plans. *Journal of Pension Economics & Finance, 10*(2), 269-290.
49. Weinberg, S., & Norcross, E. (2017). GASB 67 and GASB 68: What the new accounting standards mean for public pension reporting. *Mercatus on Policy* series.
50. Weinberg, S., & Norcross, E. (2017). GASB 67 and GASB 68: What the new accounting standards mean for public pension reporting. *Mercatus on Policy* series.
51. United States Census Bureau. (2018). *Older people projected to outnumber children for first time in U.S. history.* Retrieved from https://www.census.gov/newsroom/press-releases/2018/cb18-41-population-projections.html
52. Maciag, M. (2017). A downsized public workforce may be a permanent consequence of the recession. *Governing Magazine.* Retrieved from https://www.governing.com/topics/mgmt/gov-suppressed-staffing-levels-government-recession.html
53. Schmidt, D. (2019). 2017-18 *Comparative study of major public employee retirement systems.* Wisconsin Legislative Council. Madison, WI. Retrieved from https://docs.legis.wisconsin.gov/misc/lc/comparative_retirement_study/2018_retirement.pdf

As the number of pension members drawing benefits increases, the annual payout obligation from a pension trust will also increase. Drawing down pension assets to pay current benefits limits flexibility when selecting how to invest plan assets, increases the negative effects of market volatility, and will likely lead to increased costs over time.[54] As more retirees draw benefits, pension plans must have sufficient liquid assets to make payments to benefit recipients. As a result, a portion of plan assets will need to be allocated to investments that can be easily liquidated, preventing these assets from accruing long-term gains. Asset allocations tend to become more conservative as the number of employees contributing to the pension trust declines.[55] The effects of market volatility are also compounded as the number of benefit recipients increases. Because of the reliance on equities and other alternative investments discussed above, large decreases in the overall market lead to large declines in the value of assets held by pension trust funds causing plans to rely more heavily on state and employee contributions to make payments to beneficiaries.[56] Finally, plan assumptions in many states assume employment growth will be responsible for a portion of the expected increase in employee contributions.[57] If current hiring practices continue, states will not be able to rely on new employees to boost pension funding and will likely need to adjust these assumptions. As pension systems continue to mature, states will not be able to rely as heavily on investment returns and will likely become more reliant on employee and state contributions to keep plans solvent.

THE POLITICAL LANDSCAPE OF A STATE

The quantity and depth of pension reforms a state can enact are influenced by the political landscape. State policymakers may encounter a situation where they have exhausted their political capital to make pension reforms but still face an unfunded liability. A recent Fitch analysis identified Ohio as a state that proactively enacted reforms to reduce the state's pension liability through benefit modifications, including COLA reductions. However, the failure of legislation during 2018 was viewed by Fitch as a sign that there was no longer political support for additional benefit reductions.[58] Since so many states enacted pension plan reforms following the Great Recession, further reforms during the next economic downturn may not be politically feasible in some states. When benefit reductions are no longer politically feasible, state governments assume the responsibility for covering unfunded liabilities through increased annual contributions.

54. S&P Global Ratings. (2018). *U.S. state pensions struggle for gains amid market shifts and demographic headwinds.* Retrieved from https://www.spglobal.com/ratings/en/research/articles/181030-u-s-state-pensions-struggle-for-gains-amid-market-shifts-and-demographic-headwinds-10746923

55. Aubry, J. P., & Crawford, C. V. (2019). *Impact of public sector assumed returns on investment choices* (SLP #63). Center for Retirement Research Working Paper at Boston College.

56. S&P Global Ratings. (2018). *U.S. state pensions struggle for gains amid market shifts and demographic headwinds.* Retrieved from https://www.spglobal.com/ratings/en/research/articles/181030-u-s-state-pensions-struggle-for-gains-amid-market-shifts-and-demographic-headwinds-10746923

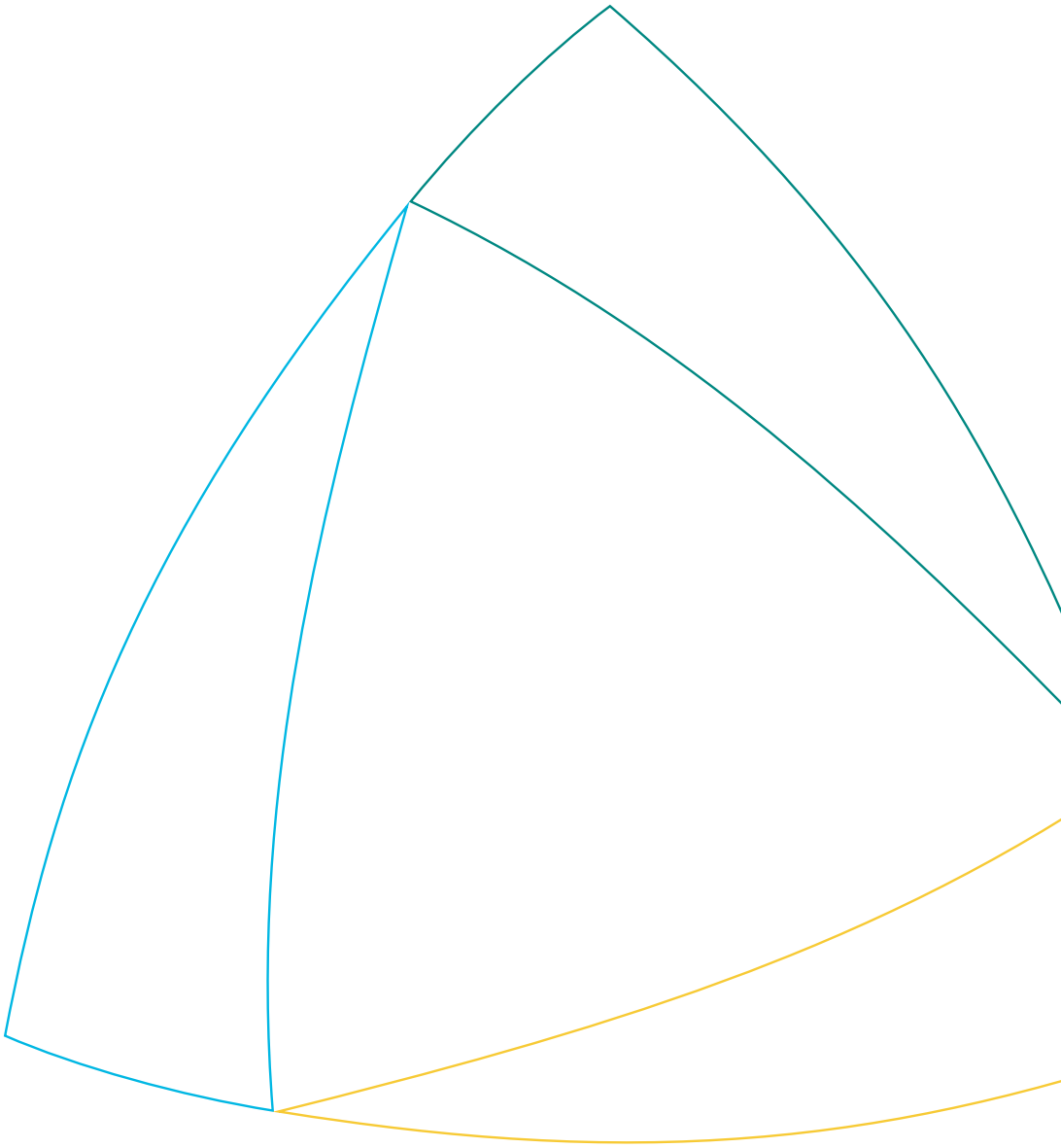
57. S&P Global Ratings. (2018). *U.S. state pensions struggle for gains amid market shifts and demographic headwinds.* Retrieved from https://www.spglobal.com/ratings/en/research/articles/181030-u-s-state-pensions-struggle-for-gains-amid-market-shifts-and-demographic-headwinds-10746923

58. Fitch Solutions. (2018). *Path to impactful U.S. public pension reforms paved by court decisions.* Retrieved from https://www.fitchsolutions.com/public-finance/public-finance-us/path-impactful-us-public-pension-reforms-paved-court-decisions-21-01-2018

CONCLUSION

The reforms enacted after the Great Recession should relieve some fiscal stress on state budgets if states are able to weather the economic cycles until the full impact of the policy changes take effect. While a handful of states with poorly funded pension plans tend to receive a fair amount of media attention, many state pension plans are currently fairly well funded and stable.[59] However, given the history of business cycles in the United States, we will likely experience a downturn in the near future, and many of the reasons state pension plans struggled during the Great Recession are likely to reoccur, including stock market volatility and budget constraints limiting annual state contributions. Moreover, several complicating factors, such as changing demographics and the political landscape of a state, are likely to influence how states respond. SHEEOs need to pay careful attention to the competing demands on state budgets, particularly when they have the potential to impact state funding for higher education and the well-being of their employees. State pensions have the potential to do both.

59. Aubry, J. P., Crawford, C. V., & Wandrei, K. (2018). *Stability in overall pension plan funding masks a growing divide* (SLP#62). Center for Retirement Research at Boston College.



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