

Testifier handouts

from

Brian Rice

representing

Minnesota Professional Fire Fighters and
Minnesota Police Fraternal Association

Report on the LCPR Study of Postretirement Adjustments (COLAs)

December 2020

Submitted to the Legislature by the LCPR on May 13, 2021

*Prepared by LCPR Staff: Chad Burkitt, Analyst
Lisa Diesslin, Commission Assistant
Susan Lenczewski, Executive Director*

Figure 13: Projected Purchasing Power Over 20 Years for 2011 Retirees and Assuming 2.5% Inflation

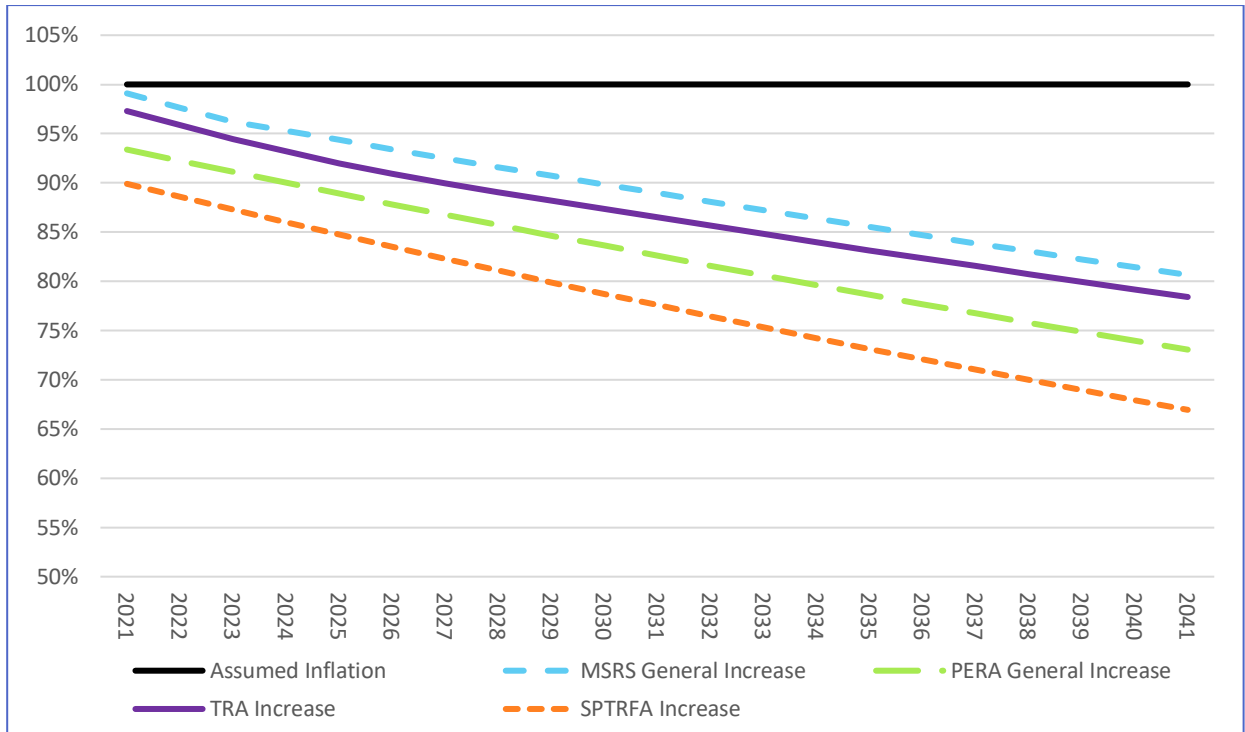
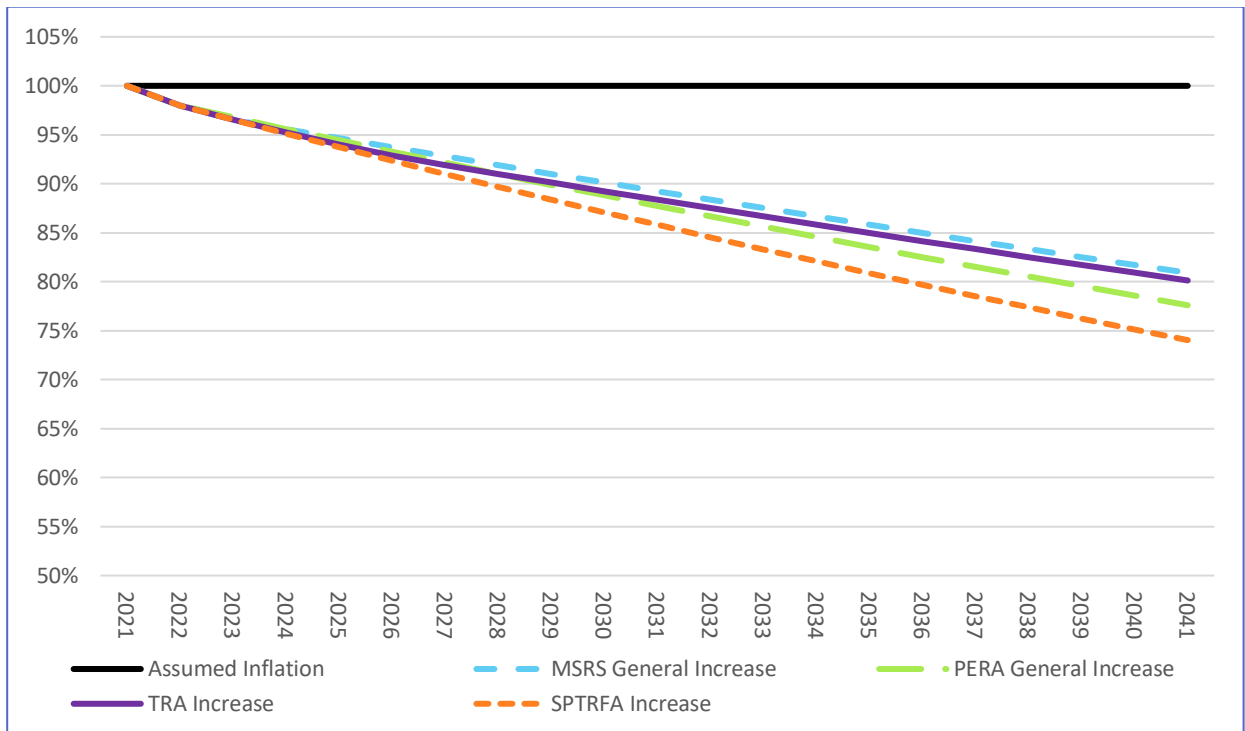


Figure 14: Projected Purchasing Power Over 20 Years for 2021 Retirees and Assuming 2.5% Inflation



NASRA Issue Brief: State and Local Government Spending on Public Employee Retirement Systems



Updated February 2022

State and local government pension benefits are paid not from general operating revenues, but from trust funds to which state and local government retirees and their employers contribute during retirees' working years. These trusts pay over \$300 billion annually to retirees and their beneficiaries, benefits that reach virtually every city and town in the nation.ⁱ On a nationwide basis, contributions made by state and local governments to pension trust funds account for 5.01 percent of direct general spending (see Figure 1).ⁱⁱ Pension spending levels, however, vary widely among states, depending on various factors, and are actuarially sufficient for some pension plans and insufficient for others.

In the wake of the 2008-09 market decline, nearly every state and many cities took steps to improve the financial condition of their retirement plans and to reduce costs.ⁱⁱⁱ States and cities changed their pension plans by adjusting employee and employer contribution levels, reducing benefits, or both. This update provides figures for public pension contributions as a percentage of state and local government direct general spending for FY 2019, and projects a rate of spending on pensions on an aggregate basis for FY 2020.

Nationwide Spending on Public Pensions

Based on the most recent information provided by the U.S. Census Bureau, in FY 19, 5.01 percent of all state and local government spending is used to fund pension benefits for employees of state and local government. As shown in Figure 2, pension costs rose sharply following FY 02 after falling equally sharply in the preceding years. These costs declined from 3.7 percent, in FY 91, to a low point of 2.3 percent in FY 02, and reached 5.2 percent in FY 18 before declining to 5.0 percent in FY 19. The decreased rate of spending in FY 19 represents the largest decline since FY 05, and was driven by the smallest annual increase in employer pension contributions since that same year.

State and local governments contributed, in aggregate, approximately \$180 billion to pension funds in FY 20, which represents a 7.4 percent increase from the prior year and includes an additional \$6.0 billion contributed by the State of California to its public pension plans, and an advance payment of \$1.06 billion from Pennsylvania State University to the Pennsylvania State Employees' Retirement System. As displayed in Figure 2, this change is projected to increase the percentage of state and local direct general spending on public pensions, from 5.01 percent to 5.2 percent.^{iv}

Although pensions in most states do not comprise a significant portion of aggregate state and local spending, (as shown in Table 1 on page 5), spending on pensions by states and political subdivisions varies widely among states, from just under 2.0 percent to more than 10.0 percent. Some municipalities have reported higher pension costs as a percentage of their budget.

Figure 1. State and local spending on public pensions as a percentage of total government direct general spending, FY 19

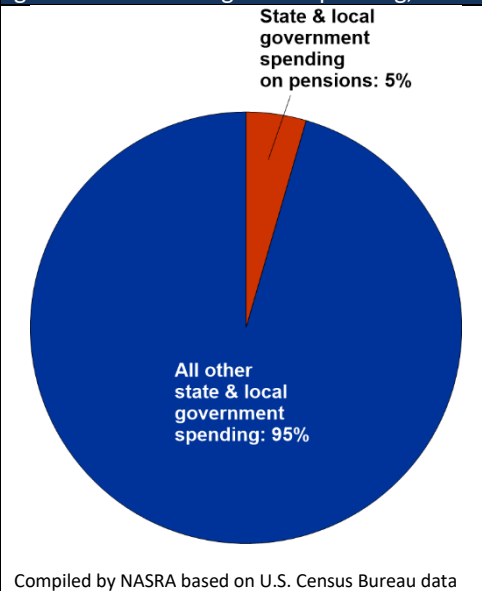
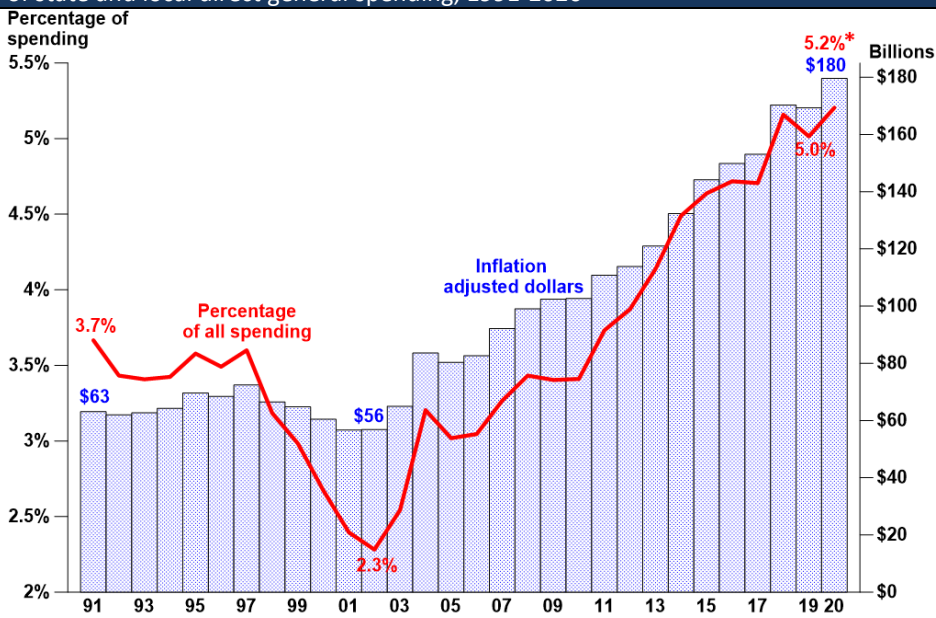


Figure 2. State and local pension contributions, in 2020 dollars, and as a percentage of state and local direct general spending, 1991-2020*



Compiled by NASRA based on U.S. Census Bureau data

*Projected, based on estimated state and local government spending from National Association of State Budget Officers (NASBO) and U.S. Census Bureau data

Differences in Pension Cost Levels

The variation in pension spending levels among states is attributable to such factors as differences in pension benefit levels; variations in the size of unfunded pension liabilities; the level of commitment by the state and its local government plan sponsors to make required pension contributions; the portion of the state's population that lives in an urban area; and the fiscal condition of government plan sponsors. Most employees of state and local government participate in statewide retirement systems. In FY 20, state and local government contributions to statewide retirement systems accounted for 78 percent of total pension contributions, with the remaining 22 percent belonging to

locally administered systems. As a percentage of total spending, cities spent approximately 31 percent more than states on pensions over the 30-year period spanning 1988-2017.^v This higher level of spending is largely attributable to the types of services delivered at the local level (i.e., more labor-intensive, such as public safety personnel) and the resulting larger portion of local government spending that goes toward salaries and related benefits compared to spending by states.

Differences in Benefit Levels

Pension benefit levels, and therefore required costs, vary among public pension plans. As described below, this difference is particularly pronounced for the 25 percent to 30 percent of state and local government employees who do not participate in Social Security, as their pension benefit levels—and costs—generally are higher to compensate for all or part of the absence of Social Security benefits. In addition to pension benefit accrual rates, variations in benefit levels may manifest themselves also via differences in required employee contribution rates and other features of the plan design, such as vesting periods, age of retirement benefit eligibility, etc.

Size of Unfunded Liabilities

An unfunded pension liability is the projected difference between the pension benefits that have been accrued and the assets that have been set aside to pay for them. For a plan with a relatively large unfunded liability, the annual cost of paying down that liability can exceed the cost of benefits accrued each year. By contrast, the cost for a plan with no unfunded liability is simply the cost of benefits accrued each year, i.e., the normal cost. Assuming the employer is making a good faith effort to pay its required contributions, states with pension plans that have a relatively large unfunded liability will have higher pension plan spending levels.

Social Security Coverage

Twenty-five to thirty percent of state and local governments and their employees make contributions to their retirement plan instead of to Social Security. This is the case for most to substantially all of the state and local government workforce in seven states, 40 percent of the nation's public school teachers, and a majority of firefighters and police officers.^{vi} Pension benefits—and costs—for those who do not participate in Social Security are usually higher than for those who do participate, in order to compensate for the absence of Social Security benefits. This higher cost should be considered in the context of the 12.4 percent of payroll, or an estimated \$36.5 billion annually,^{vii} these employers and employees would otherwise be paying into Social Security.

Level of Commitment to Pay Required Contributions

State and local government efforts to pay required contributions vary widely: some employers consistently pay the full Actuarially Determined Contribution, and others pay less.^{viii} Whatever the cost of the pension plan, actual spending on pensions as a percentage of all spending is affected by employers' effort to actuarially fund the plan.^{ix}

Urbanization

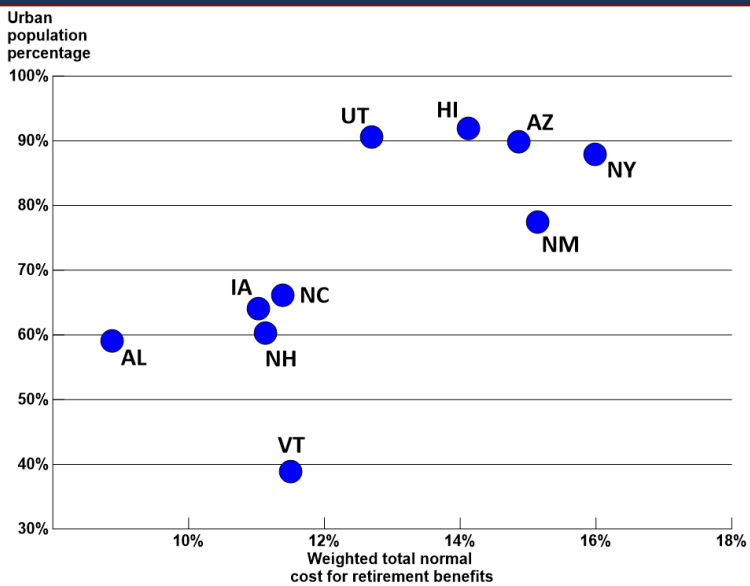
Another factor that appears to contribute to differences among states in pension costs is the extent to which the state's population resides in urban areas, or cities. Figure 3 plots state and local spending on pensions and the percentage of population residing in metropolitan areas within selected states.^x This data suggests that, although not true in every case, states characterized by greater urban populations are more likely to experience higher costs for public pension benefits than states with lower urban populations.^{xi} Tighter labor markets and higher cost of living – factors that may characterize densely populated cities – may lead employers to offer higher retirement benefits in order to meet their workforce management objectives. Pension benefits are just one component of total compensation, and other factors,

such as salaries and health benefits for active and/or retired workers, may also be correlated with a state's degree of urbanization, and may also affect the difference in pension costs. Further research into the relationship of these factors may clarify these differences.

Fiscal Resources of the Plan Sponsor

The fiscal status of governments that sponsor public pension plans is an important factor to consider when measuring the percentage of state spending dedicated to pensions in each state. The national aggregate rate of increase in state expenditures from FY 18 to FY 19 was 3.5 percent, which is consistent with recent recovery in state and local finances. FY 19 represents the fourth consecutive year of state and local spending growth above 3.5 percent following five straight years of growth below 3 percent. However, the individual state experience is mixed: compared to FY 18, FY 19 individual state expenditures ranged from an increase

Figure 3. FY 2020 State Retirement Benefit Costs and Urban Population Percentage for Selected States



of nearly 8 percent to an 11 percent rate of decline. States with greater increased spending may be better able to absorb higher pension contributions than states with weaker or negative spending.

In addition to these causes of variation in pension costs among states, consistent comparisons of pension spending by local governments can be difficult to make because the fiscal relationship between each state and its political subdivisions is unique with respect to revenue, spending structure and taxing authority, and varies widely. For example, funding responsibility for K-12 education budgets ranges from primarily a state duty to one that is primarily a local responsibility.^{xii} Likewise, revenue-sharing arrangements and the authority of local governments to tax and raise revenue also run a wide range. As with states, pension costs for municipalities also can vary widely.

Cost and Financing Factors

Public pensions are financed through a combination of contributions from public employers (state and local agencies) and public employees, and the investment earnings on those contributions. Since 1991, investment earnings have accounted for 60 percent of all public pension revenue; employer contributions, 28 percent; and employee contributions, 12 percent.^{xiii}

Employee Contributions

Because nearly all public employees are required both to participate in their employer-sponsored retirement plan and to contribute toward the cost of their pension benefit—typically four to eight percent of pay—most state and local government retirement plans are, in fact, mandatory savings programs. In recent years, many states increased rates of required employee contributions. On a national basis, in fiscal year 2020, employee contributions accounted for nearly 24 percent of all public pension plan contributions, with employer contributions making up the remaining 76 percent.^{xiv}

Employer Contributions

A variety of state and local laws and policies guide governmental pension funding practices. Most require employers to contribute what is known as the Actuarially Determined Employer Contribution (ADEC), which is the amount needed to finance benefits accrued each year, plus the annual cost to amortize unfunded liabilities from past years, less required employee contributions. On a weighted basis, the average ADEC paid has been over 90 percent for six consecutive years. Beneath this average contribution experience lies diversity: approximately 75 percent of plans in the Public Fund Survey^{xv} consistently receive 90 percent or more of their ADC.^{xvi} This means that although a majority of plans have been receiving their actuarial required funding, some plans have not been adequately funded, which will result in higher future costs.

Leading national public sector associations established a Pension Funding Task Force, which in 2013 released its report [Pension Funding: A Guide for Elected Officials](#) urging policymakers to follow recommended guidelines for an actuarially determined contribution to government retirement systems.

Investments and Other Parts of the Financing Equation

The largest portion of public pension funding – 60 percent for the 30-year period 1991-2020 – comes from investment earnings, which illustrates the major role this revenue source plays in determining pension costs (see [NASRA Issue Brief: Public Pension Plan Investment Return Assumptions](#), February 2021).

In addition to the performance of pension fund investments, actuarial expectations regarding macro-economic and demographic events also affect the cost of the plan. These events include the rate of inflation, retirement rates, attrition and rates of hiring, and wage growth, which can be affected by salary cuts and layoffs. Additionally, legislatures in nearly every state made changes to pension benefits and/or financing structures, in some cases reducing plan costs and long-term obligations.

Conclusion

Pension costs paid by state and local government employers vary widely and reflect multiple factors, including differing levels of public services, benefits, pension funding levels, employer effort to pay required contributions, and the fiscal condition of states and their political subdivisions, among others. Employers in FY 20 contributed nearly \$180 billion to pension benefits for employees, an amount that, in total, is a relatively small—but growing—part of state and local government spending.

Table 1: State and local government contributions to pensions as a percentage of all state and local government direct general spending, by state, FY 10 to FY 19

	FY 10 %	FY 10 to FY 19 %	FY 19 %			FY 10 %	FY 10 to FY 19 %	FY 19 %
Alabama	3.35		3.19		Montana	2.74		3.67
<i>Alaska</i>	2.58		5.18		Nebraska	2.15		2.92
Arizona	3.00		4.53		<i>Nevada</i>	6.76		3.82
Arkansas	3.51		3.57		New Hampshire	2.82		3.89
<i>California</i>	4.58		7.42 ¹		New Jersey	2.52		5.57
<i>Colorado</i>	2.71		4.11		New Mexico	3.17		3.23
Connecticut	5.54		9.69		New York	4.68		5.99
Delaware	2.30		3.22		North Carolina	1.20		2.81
<i>District of Columbia</i>	1.69		2.18		North Dakota	1.31		2.16
Florida	3.07		2.67		<i>Ohio</i>	3.55		4.17
Georgia	2.63		5.31		Oklahoma	4.01		4.47
Hawaii	4.21		5.85		Oregon	1.85		3.82
Idaho	2.75		2.96		Pennsylvania	1.60		6.18
<i>Illinois</i>	6.05		10.56		Rhode Island	5.00		6.21
Indiana	3.25		3.72		South Carolina	2.71		3.70
Iowa	1.98		2.67		South Dakota	1.74		1.95
Kansas	2.37		4.17		Tennessee	2.58		2.94
Kentucky	3.14		7.17		<i>Texas</i>	2.57		2.97
<i>Louisiana</i>	3.72		6.42		Utah	3.42		3.90
<i>Maine</i>	3.11		3.36		Vermont	1.25		2.81
Maryland	3.62		4.51		Virginia	3.63		4.01
<i>Massachusetts</i>	4.26		4.39		Washington	1.83		4.09
Michigan	2.86		5.15		West Virginia	4.41		4.41
Minnesota	1.92		2.38		Wisconsin	2.48		2.12
Mississippi	3.22		3.98		Wyoming	1.42		1.94
Missouri	3.70		4.66		US Average	3.41		5.16

Compiled by NASRA based on U.S. Census Bureau data

Table Notes

Charts in the FY 10 to FY 19 % column reflect the percentage spending for each of the 10 years within the timeframe. Percent-of-spending is as of publication date; figures are subject to periodic revisions by the U.S. Census Bureau. States where more than one-half of public employee payrolls are estimated to be outside of Social Security are italicized.

¹Figure reflects an additional \$6 billion contribution above the actuarially determined contribution from the State of California, made to reduce the state's unfunded pension liabilities.

²In addition to being a non-Social Security state, one-half of Nevada PERS employers' contribution is attributable to a non-refundable pre-tax salary reduction to fund the employees' portion of the contribution. Excepting FY 16, FY 17 and FY 19 the employees' portion of the contribution is attributed by Census to employers.

See also

National Governors Association, National Conference of State Legislatures, The Council of State Governments, National Association of Counties, National League of Cities, The U.S. Conference of Mayors, International City/County Management Association, National Council on Teacher Retirement, National Association of State Auditors, Comptrollers and Treasurers, Government Finance Officers Association, and National Association of State Retirement Administrators, “Pension Funding: A Guide for Elected Officials,” 2013, [https://www.nasra.org//Files/JointPublications/PensionFundingGuide\(1\).pdf](https://www.nasra.org//Files/JointPublications/PensionFundingGuide(1).pdf)

National Association of State Retirement Administrators, Issue Brief: Public Pension Plan Investment Return Assumptions, Updated February 2020, <http://www.nasra.org/returnassumptionsbrief>

National Association of State Retirement Administrators, Issue Brief: Employee Contributions to Public Pension Funds, September 2021, <https://www.nasra.org/contributionsbrief>

Contact

Keith Brainard, Research Director, keith@nasra.org

Alex Brown, Research Manager, alex@nasra.org

[National Association of State Retirement Administrators](https://www.nasra.org)

ⁱ U.S. Census Bureau, Annual Survey of Public Pensions, <https://www.census.gov/programs-surveys/aspp.html>, 2020; see also “Economic Effects of Public Pensions,” <http://www.nasra.org/economiceffects>

ⁱⁱ The U.S. Census Bureau defines direct general expenditures as all payments to employees, suppliers, contractors, beneficiaries, and other final recipients of governmental payments. Excluded from this category are expenditures for utilities, publicly owned liquor stores, employee retirement benefits paid from trust funds, and intergovernmental payments. Some state and local government spending is non-discretionary, and therefore not in competition for funds with other programs and services. Including non-discretionary spending would make the effect of pension spending appear smaller. In addition, some states and cities do not contribute the amount determined actuarially to adequately fund the plan.

ⁱⁱⁱ NASRA, Significant Reforms to State Retirement Systems, <https://www.nasra.org/reforms> & Selected Approved Changes to State Public Pensions, <https://www.nasra.org/files/Compiled%20Resources/nasrapensionchanges.pdf>

^{iv} Projected spending for 2020 derived from actual state expenditures as reported by the National Association of State Budget Officers in the 2019-2021 State Expenditure Report (<https://www.nasbo.org/mainsite/reports-data/state-expenditure-report> p. 8 and projected increase in local government direct general spending, as provided by the U.S. Census Bureau <https://www.census.gov/programs-surveys/gov-finances.html>

^v Author’s calculations using public pension and state and local government finance data provided by the U.S. Census Bureau

^{vi} Social Security Coverage @NASRA.org, <http://www.nasra.org/socialsecurity>

^{vii} Author’s calculation based on 25 percent of state and local government employees not participating in Social Security, using US Census, 2016 Annual Survey of Public Employment & Payroll, <https://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?src=bkmk>

^{viii} NASRA, The Annual Required Contribution Experience of State Retirement Plans, FY 01 to FY 13, <https://www.nasra.org/arcspotlight> and State and Local Government Contributions to Statewide Pension Plans: FY 20, <http://www.nasra.org/adcbrief>

^{ix} NASRA, State and Local Government Contributions to Statewide Pension Plans, FY 20

^x Pension costs are sourced from Public Plans Data (<https://publicplansdata.org/>), and are weighted for plans in each selected state Urban density data are published by the U.S. Census Bureau and may be accessed at <https://www.census.gov/geo/reference/ua/urban-rural-2010.html>.

^{xi} The states selected for this chart are based on consistency of key factors: Social Security participation; a large or predominant statewide retirement plan; and similarity of benefits.

^{xiii} U.S. Census Bureau, Table 5. Percentage Distribution of Public Elementary-Secondary School System Revenue by Source and State: Fiscal Year 2018, <https://www.census.gov/programs-surveys/school-finances.html>

^{xiii} U.S. Census Bureau, Annual Survey of Public Pensions, <https://www.census.gov/programs-surveys/aspp.html>, 1991-2020

^{xiv} U.S. Census Bureau, Annual Survey of Public Pensions, <https://www.census.gov/programs-surveys/aspp.html>, 2020

^{xv} NASRA Public Fund Survey, <http://www.nasra.org/publicfundsurvey>

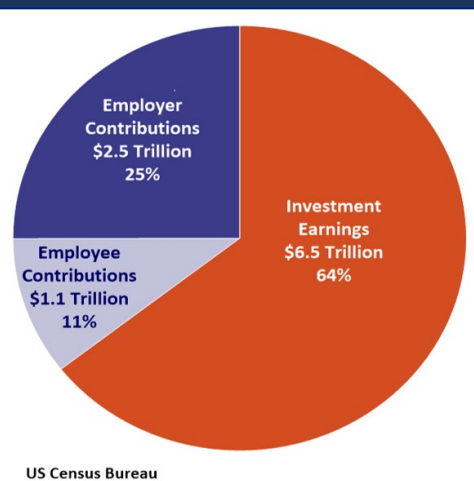
NASRA Issue Brief: State and Local Government Contributions to Statewide Pension Plans: FY 21



December 2022

Pension benefits for employees of state and local governments are paid from trust funds to which public employers and employees contribute during employees' working years. Timely contributions are vital to both adequate funding and the sustainability of these plans: failing to pay required contributions results in higher future costs due to foregone principal and investment earnings that the contributions would have generated.

Figure A: Sources of public pension fund revenue, 1992-2021



Source: US Census Bureau, compiled by NASRA

According to the US Census Bureau, on a national basis, contributions made by employers—states and local governments—in 2021 accounted for 76 percent of all contributions received by public pension plans. The remaining contributions were paid by public employees.¹ A 2022 NASRA issue brief finds that contributions made by state and local governments to pension trust funds in recent years account for 5.0 percent of all non-federal spending.²

Funding a pension plan takes place over many years and, as described in the box below, typically involves a combination of contributions from employees and employers, which are invested to generate investment earnings. The amount of contributions needed to fund a pension plan is calculated as part of an actuarial valuation, a mathematical process that determines a pension plan's condition and cost needed to pay promised benefits. As shown in Figure A, contributions are a vital source of public pension funding: of the \$10+ trillion in public pension revenue since 1992, 36 percent, or more

than \$3.5 trillion, came from contributions paid by employers and employees.³ Of course, contributions provide the basis for investment earnings.

A Brief History of Public Pension Contributions⁴

Although employee and employer contributions today are a core feature of funding for most public pension plans, this has not always been the case. For many years, including, for some plans as recently as the 1980s, pension benefits for employees of state and local government either were not prefunded, or these benefits were funded without the use of actuarial calculations to determine the annual amount needed to fund promised benefits. For example, some states and cities funded pension plans either on a pay-as-you-go basis, in which current benefits were paid with current employer revenues; or public employer payments into the pension plan were not based on an amount determined by actuarial calculation or as a

The Retirement Benefit Plan Equation

A basic formula describes the financing of any type of retirement benefit:

$$C + I = B + E$$

Contributions plus investment earnings equals benefits plus expenses. The money that is drawn from a retirement plan, for benefits and administrative costs, ultimately must equal the money that is contributed to the plan and the investment earnings those contributions generate. This fundamental formula illustrates the vital role contributions play in funding a pension plan.

¹ US Census Bureau, 2020 Annual Survey of Public Pensions

² NASRA, "State and Local Government Spending on Public Employee Retirement Systems," February 2022; calculation excludes spending from federal sources

³ Contributions@NASRA.org, <http://www.nasra.org/contributions>

⁴ The authors wish to thank Paul Angelo with Segal and David Kausch, formerly with GRS Consulting, for their input on this section.

consistent, fixed percentage of employee pay. The practice of not funding benefits using actuarial cost or based on a fixed percentage of worker pay resulted in inadequate contributions; this resulted in significant unfunded liabilities, some of which persist today.

The amount needed to adequately fund a pension benefit also has not always been a clear or settled matter. Efforts by the accounting and actuarial professions to establish a consensus methodology for determining a contribution for funding new benefit accruals and systematically eliminating any unfunded liabilities resulted in the creation in 1994 of the Annual Required Contribution, or ARC, by the Governmental Accounting Standards Board (GASB). In Statement 25, GASB defined the ARC (paraphrased) as the sum of the plan's normal cost (i.e., the cost of benefits accrued each year) and the annual cost to amortize the plan's unfunded liability over a period of years, known as the funding period.

Although established only as an accounting requirement, the ARC became widely recognized as a de facto measure of employers' effort to fund the pension benefits they were sponsoring. However, compliance with the GASB ARC also permitted the use of certain actuarial methods that resulted in contributions that were insufficient to actually amortize unfunded liabilities over the funding period. One example of such a method was the use of a so-called rolling amortization period, in which the funding period did not decline because it was effectively refinanced each year. Using this method, when the amortization period is lengthy, such as 30 years (the maximum length permitted under GASB standards), the result was amortization of an unfunded liability over a period considerably longer than 30 years. (See more: [NASRA Overview of Public Pension Plan Amortization Policies](#), April 2022)

Following the onset of GASB 25, the actuarial and accounting professions continued to make efforts to strengthen required contributions to public pension plans: in 2014, the Conference of Consulting Actuaries published non-binding guidelines for developing a principles-based actuarial funding policy.⁵ These guidelines articulate key elements of an actuarial-based funding policy and specify practices for implementing such a policy.

In 2015, GASB supplanted Statement 25 with Statement 67, replacing the ARC with a new term, the Actuarially Determined Contribution, or ADC. Through Statement 67, GASB sought to clarify and emphasize that its pension accounting standards are, indeed, *accounting* standards, not guidelines for how a public pension plan should be funded. This distinction is evident in the GASB 67 definition of an ADC, which, rather than specifically defining what an appropriate pension contribution should be, instead defers to the Actuarial Standards Board (ASB) (the entity charged with promulgating guidelines for professional actuaries known as Actuarial Standards of Practice, or ASOPs), responsibility for defining how a public pension plan should be funded. The GASB 67 definition of an ADC is as follows:

A target or recommended contribution to a defined benefit pension plan for the reporting period, determined in conformity with Actuarial Standards of Practice based on the most recent measurement available when the contribution for the reporting period was adopted.

For practical purposes, in most cases the ADC is substantially similar to the ARC in that both measures reflect a contribution dollar amount and a percentage of pay rate that are based on an actuarial calculation reflecting the sum of the normal cost and a cost to eliminate any unfunded liability within a permissible timeframe. GASB's switch to the ADC was intended to shift the focus of funding a pension plan from accounting standards to actuarial standards.

Another change made by Statement 67 was that single employer and (multiple-employer) cost-sharing plans that calculate an Actuarially Determined Contribution are required to report:

- a) the ADC;
- b) if different from the ADC, the contractually required contribution rate, such as would exist under a statutory fixed contribution requirement for cost-sharing plans;
- c) actual contributions made to the plan; and
- d) the dollar difference between the ADC and the actual contributions.⁶

⁵ Conference of Consulting Actuaries, *Actuarial Funding Policies and Practices for Public Pension Plans*, 2014

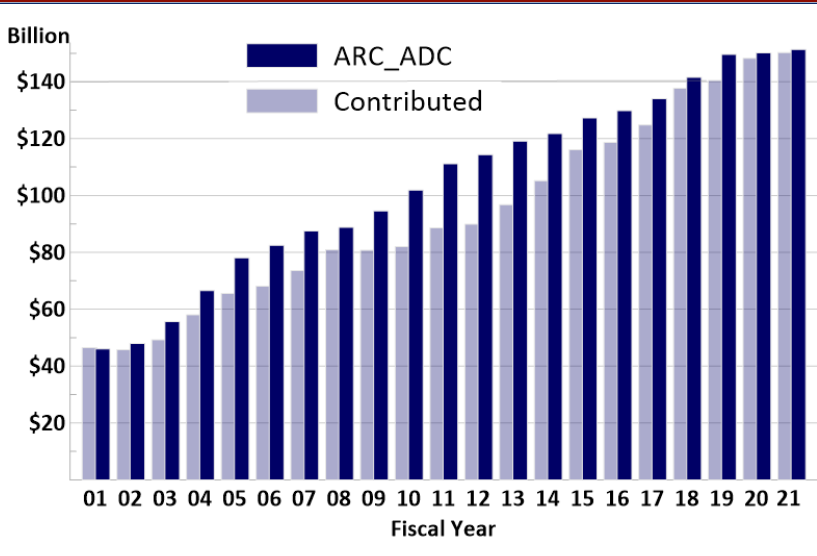
⁶ Statement 67 also eliminates the requirement that agent plans report their ADC experience, because, as the statement says, "aggregated information about contributions to agent pension plans has limited decision utility because the pattern of contributions to each individual agent employer's pension plan would be obscured if the aggregated amounts were reported about the agent pension plan as a whole." Individual employers participating in agent pension plans each have their own actuarial experience, with their own liability and contribution rate. Many agent plans permit employer members to contribute more than the ADC.

Because GASB 67 permits agent plans and plans that do not calculate an ADC⁷ to forgo reporting an ADC and its actual contributions received toward the ADC, since the onset of this statement in 2015, several plans that previously were included in the dataset that accompanies this brief ceased including this information in their financial reports. That experience is reflected in Appendix A.

ASOP No. 4⁸ defines an actuarially determined contribution as:

A potential payment to the plan as determined by the actuary using a contribution allocation procedure. It may or may not be the amount actually paid by the plan sponsor or other contributing entity.

Figure B: Inflation-adjusted change in Annual Required Contribution/Actuarially Determined Contribution and employer contributions, FY 01 to FY 21



Source: State retirement system financial reports, compiled by NASRA

Recent Contribution Experience

As shown in Figure B, aggregate contributions in FY 21 to the plans included in this analysis increased over the prior year by 6.9 percent, growing from \$128.9 billion in FY 20 to \$137.8 billion.

This experience reflects a continuation of an effort among state and local governments to make a larger portion, including 100 percent and more, of their actuarially determined pension contributions. As Figure C illustrates, the median percentage of ADC received in FY 21 was 100 percent, and the dollar-weighted average grew to 99.3 percent. This marks the highest percentage of ADC received since FY 01, and the seventh consecutive year in which the aggregate ADC experience was higher than 90 percent.

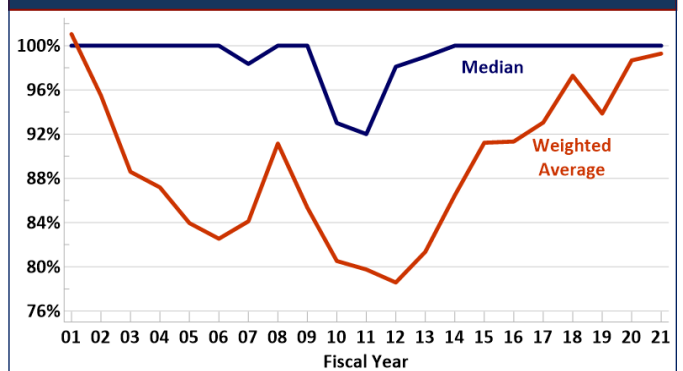
Following the recession of 2007-09 and the market decline of 2008-09, many public pension

plans have changed their funding policies and practices, resulting in increases in required contributions. Such changes include implementation of more aggressive funding policies; lower investment return assumptions; updated mortality assumptions; and reduced amortization periods.

Dedicated Funding Sources

In recent years, a growing number of public employers established dedicated public pension funding sources to supplement or replace other sources of funding for employer contributions to public pensions. Traditionally, contributions to public pension funds come from employers' general fund and other sources that are used to pay employees. Such dedicated funding sources include dedicated sales taxes, insurance policy surcharges, budget surplus monies, mineral and severance tax revenues, and others. Perhaps the most notable source of dedicated funding is in the State of New Jersey, which in 2017 transferred rights to all revenue generated by the state lottery to the state pension plans.⁹

Figure C: Median and weighted average employer contributions as a percentage of ARC/ADC, FY 01 to FY 21



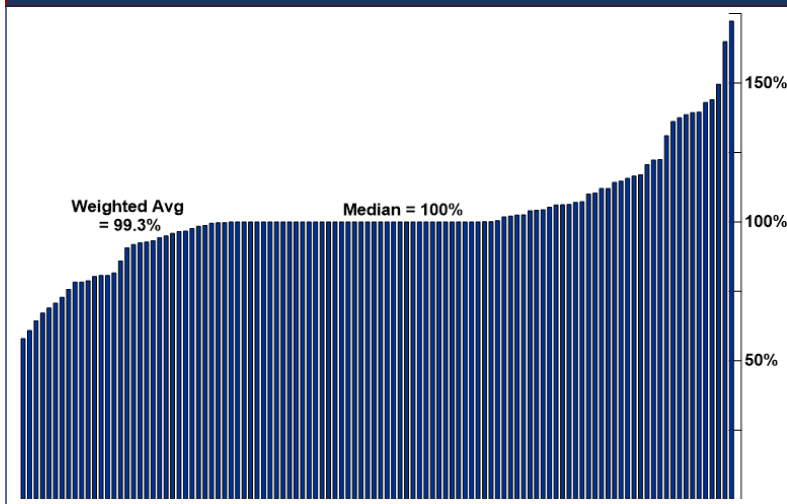
Source: State retirement system financial reports, compiled by NASRA

⁷ Statement 67 requires plans to report their ADC experience if an ADC is calculated. Since contribution requirements for fixed rate plans are set in statute, some of these plans do not report their ADC experience and instead compare their contributions received to the legal or statutory requirement.

⁸ Effective for any actuarial report issued on or after February 15, 2023, ASOP No. 4 will require the disclosure of a so-called reasonable actuarially determined contribution, which requires following a contribution allocation procedure that adheres to a set of conditions specified in the standard. For more information, see here: <http://www.actuarialstandardsboard.org/asops/asop-no-4-measuring-pension-obligations-and-determining-pension-plan-costs-or-contributions/#321-reasonable-actuarially-determined-contribution>

⁹ Funding Policies@NASRA.org, <http://www.nasra.org/funding>

Figure D: Distribution of employer contributions received in FY 21 as a percentage of actuarially determined contribution



Source: State retirement system financial reports, compiled by NASRA

Contributions above the ADC

As shown in Figure D, continuing a trend seen in recent years, some plans received significantly more than their ADC in FY 21, and some of these same plans have consistently received contributions well above the actuarially determined amount. Some of these are agent plans, in which each employer has its own actuarial experience and required contribution rate, and some employers elect to contribute more than the actuarially determined amount.

Contributions above the ADC can be made for a variety of reasons, including the availability of surplus revenue, such as from a budget surplus; changes to the timing of contributions, such as from one fiscal year to another; and to pre-fund targeted benefits, such as a cost-of-living adjustment.

After operating for decades on a pay-as-you-go-basis,

for most of the past 20 years, the West Virginia Teachers' Retirement System has received its full required contribution, including an average of more than 120 percent of its ADC since FY 15. In recent years, the plan's contribution sources include state budget surplus funds and a portion of the state's tobacco settlement monies, used to reduce the state's unfunded actuarial liability. In 2010, legislation approved in West Virginia directs 10 percent of revenues from the state tax on fire insurance premiums and casualty insurance policies to the Teachers' Retirement System.

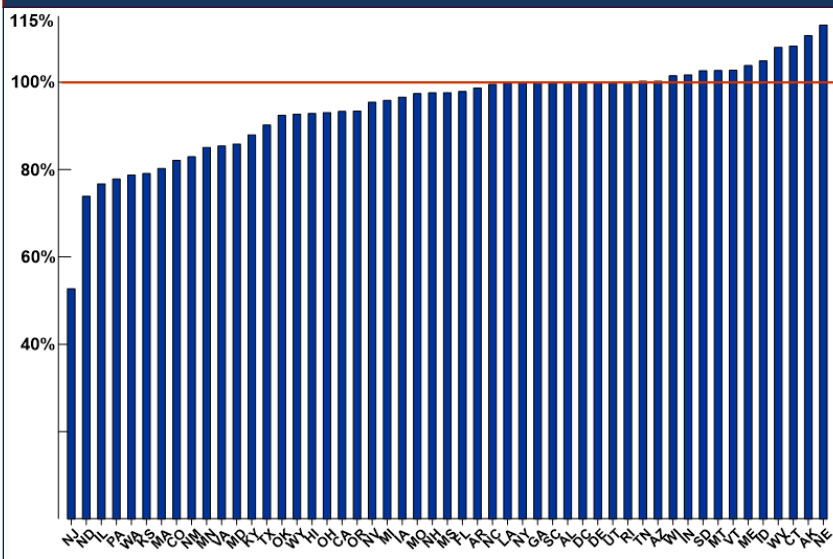
During the past decade, public employers in Nebraska have contributed an average of more than 130 percent of the ADC to the plans for school teachers and state and county employees.

In FY 2015, the State of Alaska appropriated approximately \$3 billion in state surplus monies to reduce the unfunded liabilities of the pension plans for teachers and state and local government workers, which resulted in contributions received equal to 231.7 and 527.7 percent of the ADC, respectively.

In FY 2009, the State of Connecticut issued some \$2 billion in pension obligation bonds to reduce the unfunded actuarial liability of the Connecticut Teachers Retirement System. As in the case of Alaska, this infusion of funding produced an employer contribution substantially greater than the actuarially determined contribution for that year. These actions taken by Alaska and Connecticut are responsible for those states' strong contribution performance for the measurement period as evidenced by Figure E.

More recently, Connecticut transferred the portion of the budget surplus to the State Employees' Retirement System that exceeded the state's statutory limit on its rainy-day fund, resulting in a contribution well above the actuarially determined amount. Similarly, many local governments in California again in FY 21 contributed more than the ADC, resulting in an aggregate contribution to the plan well above the actuarially determined amount.

Figure E: Distribution of weighted average employer contributions made to plans in this analysis for each state, for period FY 01 to FY 21

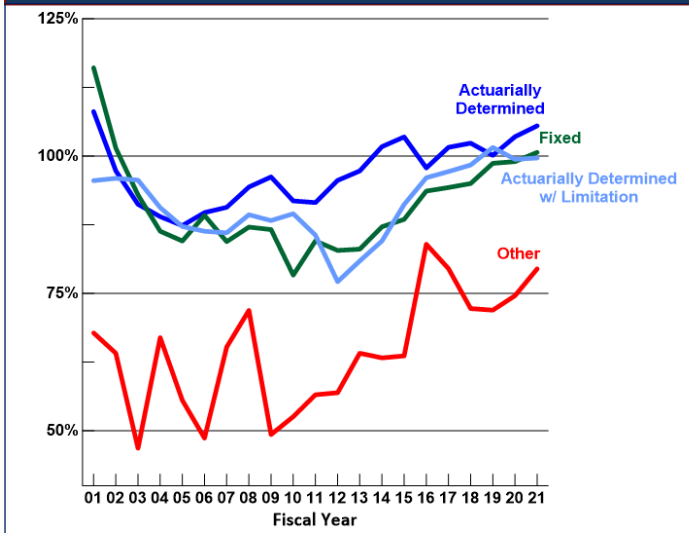


Source: State retirement system financial reports, compiled by NASRA

Governance Structure May Impact Funding Experience

A key factor of the pension funding experience is the myriad governance and funding policy structures that are in place to determine whether and how much pension contributions are made. Beginning with the paper published in 2015, “The Annual Required Contribution Experience of State Retirement Plans,” NASRA grouped retirement systems on the basis of how employer contributions to public pension plans are determined. This analysis employs the use of four broad classifications (see Appendix A): Actuarially Determined; Statutorily Fixed; Actuarially Determined with Limitation; and Other, which, for purposes of this analysis includes plans governed by funding arrangements that differ from the three preceding categories, such as a state law or policy which supersedes an ADC requirement. Table 1 compares the average weighted ARC/ADC experience for plans in this study for the period 2001 to 2020.

Figure F: Average ARC/ADC received for each employer classification: Actuarially Determined, Fixed, Actuarially Determined w/Limitation, and Other, FY 01 to FY 21



Source: State retirement system financial reports, compiled by NASRA

Figure F illustrates the variation in the ARC/ADC received among plans in each of the four classes:

- Following the sharp market decline that began in March 2000, the average percentage of contributions received by the plans in the Actuarially Determined category fell below 100 percent in FY 02, remaining below 100 percent, but above 89 percent, for twelve years before rising above 100 percent beginning in FY 14.
- The average ARC/ADC received by plans whose actuarially determined contribution is constrained by a limiting factor is 86.6 percent for the measurement period.
- The average experience for plans whose employer contribution basis was fixed received an average of 90.7 percent of their ARC/ADC during this period.
- By contrast, the average ARC/ADC received by plans in the Other group is 63.8 percent for the measurement period.

The “Fixed” moniker is a misnomer for plans that have the

authority—or, in some cases, the legal requirement—to either propose or adjust on their own contribution rates or benefit levels, or both, should the plan’s actuarial condition fall outside a specified actuarial range. Such authority can have the outcome of reducing, or eliminating, the gap between the plan’s fixed contribution and its actuarially determined contribution. Following are three examples of fixed rate plans that have legal authority to make adjustments to their plan design or financing structure or are required to propose such changes.

- 2013 legislation authorized the board of the Arkansas Teachers’ Retirement System to make changes to benefits and contribution rates as needed to maintain an unfunded liability amortization period of 30 years or less; this threshold was reduced legislatively to 18 years in 2017. Also in 2017, the Arkansas TRS board used this authority to bring the plan into compliance with this amortization threshold by approving graduated increases in contribution rates for employers and employees; and reducing benefit levels through a lower retirement multiplier and a longer final average salary period used to calculate retirement benefits. As a result of these changes, Arkansas TRS has received at least 95 percent of its ADC since FY 16.
- Ohio statutes require statewide pension plans—PERS, Police & Fire, SERS, and STRS—to submit a proposal to reduce their amortization period to below 30 years when the plan amortization period exceeds that threshold. In 2017, in response to a funding level that exceeded 30 years, using authority to make such changes granted by the Ohio Legislature, the STRS board voted to reduce the COLA to zero to preserve the fiscal integrity of the system and to bring the plan’s amortization period within the 30-year threshold. Since enacting this change, the percentage of ADC received by Ohio STRS has been consistently above 100 percent.
- South Dakota statute requires that when the fair value funded ratio of the South Dakota Retirement System (SDRS) falls below 100 percent and the actuarially determined contribution rate exceeds the statutory rate (6.0 percent; 8.0 percent for public safety personnel), the South Dakota Retirement System must recommend to the

governor and legislature corrective actions—which can include benefit changes—to increase the funding level and reduce the plan cost. This statutory requirement was employed in 2017 to modify SDRS cost-of-living adjustment provisions to bring the plan’s funding condition and contribution rates back into compliance. The flexibility to adjust liabilities to a level supported by the plan’s fixed contribution rate has resulted in the SDRS reporting receipt of at least 100 percent of its ARC/ADC in nearly every year of the measurement period.

These and other examples illustrate that a fixed contribution rate does not, by itself, render a pension plan unable to affect its actuarial condition. A fixed contribution rate provides participating employers the benefit of stability and predictability of the plan’s cost, and a mechanism for making adjustments to ensure the plan remains within designated actuarial targets can balance the constraints of a fixed contribution.

Figure F and Table 1 illustrate the practical effect employer contribution policies had on public pension funding beginning in FY 01. Funding policies for the employers in the Other category lacked legal authority to require an adequate contribution; contributions from these employers remained well below 100 percent for the duration of the measurement period. Employers relying on fixed contribution rate policies, or whose policies are actuarially based but with limitations, received a greater percentage of required contributions than those in the Other category, as these policies provided a legal requirement to make contributions. Figure F also shows that as the level of required contributions rose, the contributions received by plans in the fixed and actuarially determined with limitation categories in most cases serve as a basis of support, even if they were insufficient to fully fund the benefit. By contrast, employers with a funding policy that includes requiring the actuarially-determined contribution predictably had the highest contribution rate experience: their contributions increased as required contributions rose. The 10-year period during which the average contribution received by plans in the ADC class illustrates that even a legal requirement to pay the actuarially-determined contribution does not, by itself, ensure that the full required contribution will always be made.

Conclusion

Although employer contributions are a vital component of funding public pension benefits, only recently—over the past 30 years—has a broad consensus developed that pension benefits should be funded on an actuarial basis, and on how the amount should be calculated.

The experience of state and local government employers making contributions has been mixed, with some plans consistently receiving all or more of their full actuarially calculated contributions, while other plans have consistently received less than the actuarially determined amount. In some cases, amounts contributed by employers have been substantially less. This varied contribution experience is explained in part by the wide diversity in the governance arrangement states and local governments use to make their employer pension contributions.

Actuarially calculated employer contributions increased significantly following the market declines of 2000-2002 and 2008-2009, even while in the case of some plans, actual employer contributions have struggled to keep up with actuarially calculated levels. For the 12th consecutive year, aggregate employer contributions for the plans in this analysis grew from the prior year; the average annual rate of growth in employer contributions over the past 10 years is 7.8 percent. As a percentage of actuarially determined contributions, aggregate contributions in FY 2021 reached their highest level since FY 2001. This aggregate experience is affected by one-time supplemental contributions received by some plans, and obscures a wide range of experience, as some plans received approximately 60 percent of their required contribution, while others received contributions in excess of 160 percent.

See also

National Association of State Retirement Administrators, “The Annual Required Contribution Experience of State Retirement Plans,” 2015, http://www.nasra.org/files/JointPublications/NASRA_ARC_Spotlight.pdf

National Association of State Retirement Administrators, “Recession and Market Decline Impacts on Public Pension Plans,” 2020, <https://www.nasra.org/content.asp?admin=Y&contentid=246>

National Association of State Retirement Administrators, Issue Brief: State and Local Government Spending on Public Employee Retirement Systems, February 2022, <http://www.nasra.org/costsbrief>

National Association of State Retirement Administrators, Issue Brief: Employee Contributions to Public Pension Funds, September 2022, <http://www.nasra.org/contributionsbrief>

National Association of State Retirement Administrators, “[Significant Reforms to State Retirement Systems](#),” 2018 and “[Selected Approved Changes to State and Selected Local Public Pensions](#),” 2019-present

[Funding Policies@NASRA.org](mailto:FundingPolicies@NASRA.org)

Contact

Keith Brainard, Research Director, keith@nasra.org

Alex Brown, Research Manager, alex@nasra.org

[National Association of State Retirement Administrators](http://www.nasra.org)

Appendix A
Basis of employer contribution and contribution history

Plan Name	History of Contributions Received		
	FY 12 %	FY 21 %	10-Year Weighted Avg % ARC/ADC Received, FY 12 to FY 21
Alaska PERS	92.7	104.2	106.5
Alaska Teachers	85.2	105.3	153.9
Alabama ERS	100.0	100.0	100.0
Alabama Teachers	100.0	100.0	100.0
Arkansas PERS	100.0	100.0	100.0
Arkansas Teachers	89.9	99.7	93.5
Arizona SRS	100.0	100.0	100.0
California PERF	100.0	116.5	112.3
California Teachers	46.0	92.5	75.5
Colorado Municipal	163.0	115.7	102.9
Colorado School	84.0	107.2	86.3
Colorado State	83.0	110.3	88.1
Denver Public Schools	27.0	114.6	49.8
Connecticut SERS	100.0	139.5	104.7
Connecticut Teachers	100.0	172.3	108.6
DC Police & Fire	100.0	100.0	100.0
DC Teachers	100.0	100.0	100.0
Delaware PERS	100.0	100.0	100.0
Florida RS	60.0	100.0	94.8
Georgia ERS	100.2	100.0	100.0
Georgia Teachers	100.0	100.0	100.0
Hawaii ERS	87.2	100.0	89.9
Iowa PERS	98.2	102.1	101.5
Idaho PERS	84.0	114.2	101.7
Illinois Municipal	98.0	100.0	99.7
Illinois SERS	86.2	81.6	82.7
Illinois Teachers	74.6	60.9	69.1
Illinois Universities	73.1	85.9	84.9
Indiana PERF	78.1	138.6	108.2
Indiana Teachers	90.9	102.5	103.2
Kansas PERS	67.0	96.5	84.3
Kentucky County	105.7	78.3	91.8
Kentucky ERS	51.1	107.0	92.4
Kentucky Teachers	74.0	100.0	84.5
Louisiana SERS	89.3	106.2	99.0
Louisiana Teachers	100.0	90.6	102.0
Massachusetts SERS	83.7	80.7	76.0
Massachusetts Teachers	90.1	80.7	76.6
Maryland PERS	65.0	100.0	85.8
Maryland Teachers	71.0	100.0	87.4

Appendix A
Basis of employer contribution and contribution history

Plan Name	History of Contributions Received		
	FY 12 %	FY 21 %	10-Year Weighted Avg % ARC/ADC Received, FY 12 to FY 21
Maine Local	101.4	100.0	100.1
Maine State and Teacher	100.0	100.0	100.0
Michigan Municipal	108.0		128.8
Michigan Public Schools	83.4	104.0	95.3
Michigan SERS	71.1	98.4	100.2
Minnesota PERF	99.1	120.6	93.6
Minnesota State Employees	80.7	136.1	81.8
Minnesota Teachers	66.4	91.8	78.7
Missouri DOT and Highway Patrol	100.0	100.0	100.0
Missouri PEERS	100.0	102.5	104.5
Missouri State Employees	100.0	100.0	100.4
Missouri Teachers	92.5	106.1	108.1
Mississippi PERS	100.0	98.7	97.0
Montana PERS	100.0	94.9	97.2
Montana Teachers	89.1	100.0	96.3
North Carolina Local Government	100.0	97.6	101.6
North Carolina Teachers and State Employees	100.0	100.0	101.0
North Dakota PERS	42.0	57.9	59.8
North Dakota Teachers	66.5	96.7	97.7
Nebraska County Cash Balance	100.0	131.0	142.4
Nebraska Schools	88.0	143.0	119.8
Nebraska State Cash Balance	100.0	144.0	140.7
New Hampshire Retirement System	100.0	100.0	100.0
New Jersey PERS - local	90.2	93.2	97.2
New Jersey PERS - state	16.1	78.3	44.1
New Jersey Police & Fire - local	92.6	100.0	98.6
New Jersey Police & Fire - state	14.9	75.7	45.4
New Jersey Teachers	14.0	78.8	45.3
New Mexico PERF	100.0	72.8	81.2
New Mexico Teachers	63.4	69.0	74.1
Nevada Police Officer and Firefighter	96.0	110.0	94.0
Nevada Regular Employees	96.0	117.0	98.0
New York State Teachers	100.0	100.0	99.8
NY State & Local ERS	100.0	100.0	100.0
NY State & Local Police & Fire	100.0	100.0	100.0
Ohio PERS	100.0	100.0	100.0
Ohio School Employees	100.0	112.0	101.3
Ohio Teachers	41.0	164.9	97.5
Oklahoma PERS	109.4	122.5	141.5
Oklahoma Teachers	115.9	92.8	107.3

Appendix A
Basis of employer contribution and contribution history

Plan Name	History of Contributions Received		
	FY 12 %	FY 21 %	10-Year Weighted Avg % ARC/ADC Received, FY 12 to FY 21
Oregon PERS	72.0	100.0	96.1
Pennsylvania School Employees	39.0	100.0	84.8
Pennsylvania State ERS	53.9	137.5	102.0
Rhode Island ERS	100.0	100.0	100.0
Rhode Island Municipal	100.0	100.0	100.0
South Carolina Police	100.0	100.0	100.0
South Carolina RS	100.0	100.0	100.0
South Dakota RS	100.0	100.0	105.0
Tennessee Consolidated Retirement System ^{/1}	100.0	102.4	98.9
Texas County & District	106.0	112.0	101.5
Texas ERS	50.0	64.4	71.9
Texas Municipal	101.5	100.0	100.0
Texas Teachers	74.0	94.3	87.9
Utah Noncontributory	100.0	100.0	100.0
Virginia Retirement System	59.6	100.0	88.8
Vermont State Employees	140.2	106.0	118.0
Vermont Teachers	109.6	101.8	106.7
Washington LEOFF Plan 2	137.0	100.4	108.3
Washington PERS 1	51.0	104.4	90.4
Washington PERS 2/3	94.0	99.9	94.5
Washington School Employees Plan 2/3	87.6	100.1	93.3
Washington Teachers Plan 1	44.0	99.5	88.0
Washington Teachers Plan 2/3	92.0	100.0	94.7
Wisconsin Retirement System	104.0	100.0	100.3
West Virginia PERS	105.3	149.6	114.9
West Virginia Teachers	105.3	99.7	107.5
Wyoming Public Employees	88.0	80.4	80.5

Note: GASB Statement 67, which became effective in fiscal year 2015, eliminated the requirement that plans report aggregated employer contribution data for multiple-employer agent pension plans. As a result, this data is no longer reported in this brief for some plans that were previously included in this appendix.

^{/1} The structure of plans administered by the Tennessee Consolidated Retirement System was adjusted effective in FY 2015 from two plans—the State & Teachers plan and the Political Subdivision plan—to three: the Public Employee Retirement Plan, the Teacher Legacy Plan, and the Teacher Hybrid Plan. Also, pursuant to the note above regarding GASB Statement 67, data regarding the actuarially determined contribution for the Political Subdivision plan is not reported beginning in FY 2014. The values shown for the Tennessee Consolidated Retirement System reflect weighted averages for all plans for the respective periods for which information has been reported.