NASRA Issue Brief:
State and Local Government Contributions to Statewide Pension Plans: FY 17

June 2019

Pension benefits for employees of state and local governments are paid from trust funds to which public employees and their employers contribute during employees' working years. Timely contributions are vital to 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.

Nationally, contributions made by state and local governments to pension trust funds in recent years account for just less than five percent of all spending.[1] Overall, the experience for FY 17 reflects a continuation of an improved effort among state and local governments to make actuarially determined pension contributions: on a dollar-weighted basis, the percentage of required contributions that was paid by public employers increased for the fifth consecutive year, while pension costs continued to grow at a slower pace than previous years. This has occurred even as plans have reduced their investment return assumptions and implemented more aggressive amortization strategies to pay off unfunded pension liabilities.

Pension spending levels, however, vary widely among states and are actuarially sufficient for some pension plans and insufficient for others. Unlike employees, who must always contribute the amount prescribed in statute or by plan rules, a broad range of funding statutes, rules, policies, and practices is used to determine the contributions public employers—states, cities, etc.—make to public pension plans. This disparity in contribution governance arrangements is one of several factors contributing to a wide range of experience among public employers concerning required contributions.

This brief describes how contributions are determined; the recent public employer contribution experience; and trends in employer contributions over time.

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.

Actuarially Determined Contributions

Funding a pension plan takes place over many years and, as described in the box to the left, typically involves a combination of contributions from employees and employers, which are invested to generate investment earnings. Contributions are a vital source of public pension funding: of the $7.5 trillion in public pension revenue since 1988, nearly 38 percent has come from contributions paid by employers and employees[2]. The amount of contributions needed to fund a pension plan is calculated as part of an actuarial valuation, which is a mathematical process that determines a pension plan's condition and cost required to pay promised benefits.[3]

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[1] NASRA, "State and Local Government Spending on Public Employee Retirement Systems," March 2019; calculation does not include spending from federal sources

[2] Contributions @ NASRA.org http://www.nasra.org/contributions

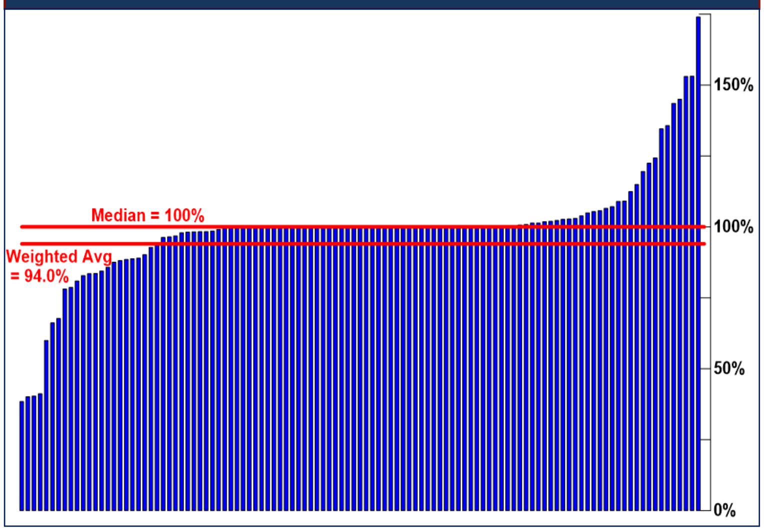
[3] Professional actuaries are guided by Actuarial Standards of Practice; ASOP No. 4 provides guidance on the determination of the required cost, or contribution requirement, of a pension plan. ASOP #4 defines the Actuarially Determined Contribution as: "A potential payment to the plan as determined 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." ASOP #4 defines Contribution Allocation Procedure as: "A procedure that uses an actuarial cost method, and may include an asset valuation method, an amortization method, and an output smoothing method, to determine the actuarially determined contribution for a plan.

For public pension plans, an actuarially determined contribution, or ADC, typically is consistent with the annual required contribution, or ARC, a concept introduced by GASB Statement 25 and defined essentially as the sum of the normal cost (the estimated cost of benefits earned each year); and an amortization payment. Amortization, or payment over time, is required when either a) contributions are insufficient and/or b) the plan's demographic or investment experience cause the value of assets and liabilities to diverge. Amortization is intended to eliminate this difference, which is known as the unfunded actuarial liability.

Various funding mechanisms, including statutorily-fixed rates, actuarially-determined rates, and annual appropriations, are used to fund public pension plans. Virtually all plans calculate an ADC, which serves as a benchmark to measure the sufficiency of the employer's contribution. Pension plans typically maintain a funding policy by which they expect to reach full funding at the end of a specified period of time if the plan receives all of its actuarially determined contributions; and if all of the plan's actuarial assumptions—about the many factors affecting the plan, such as future investment performance, how long plan participants will work, etc.—materialize as expected. Pension plans regularly monitor their condition through actuarial valuations and experience studies to determine if assumptions are being met and if adjustments are needed.

Because actuarial methods, assumptions and benefit levels differ from one plan to another, the ADC also will vary. As a result, the ADC for two hypothetical plans with identical financial and demographic compositions could (and usually will) also differ. Also, laws and rules governing pension contributions vary widely among states and cities, and those provisions can affect public pension plan funding. For more information concerning the impact of funding policies, statutes and rules, see "The Annual Required Contribution Experience of Statewide Pension Plans, FY 01 to FY 13."[4]

Figure 1: Distribution of ARC/ADC received by 111 plans, FY 17



Source: State retirement systems CAFRs compiled by NASRA

FY 2017 Contribution Experience

As shown in Figure 1, the median actuarially determined contribution received in FY 17 was 100 percent, and ranged from 38.4 percent to 174.0 percent. On a dollar-weighted basis, (as shown in Figure 2) the average ADC received was 94.0 percent, up from 92.0 percent in FY 16 and marking the fifth consecutive year of improvement and the third consecutive year in which the combined annual contribution effort is above 90 percent.[5] The FY 17 non-weighted average was 99.2 percent.

The aggregate rate of increase in required contributions from FY 16 to FY 17 was 4.3 percent, which is the second lowest rate of increase during the measurement period and marks the fourth consecutive year of growth in required contributions below 5.0 percent. This reduced rate of increase also continues a trend seen in recent years of slower annual growth in required contributions, especially compared to the sharp increases experienced in FY 03-05, following the market decline of 2000-2002. The slower growth in recent years has occurred at a time when many public pension plans have reduced their investment return assumption[6], which, other factors being equal, increases required costs. If return assumptions had remained the same, the increase to cost would have been smaller.

The procedure may produce a single value, such as normal cost plus an amortization payment of the unfunded actuarial accrued liability, or a range of values …."

[4] NASRA, The Annual Required Contribution Experience of Statewide Pension Plans, FY 01 to FY 13

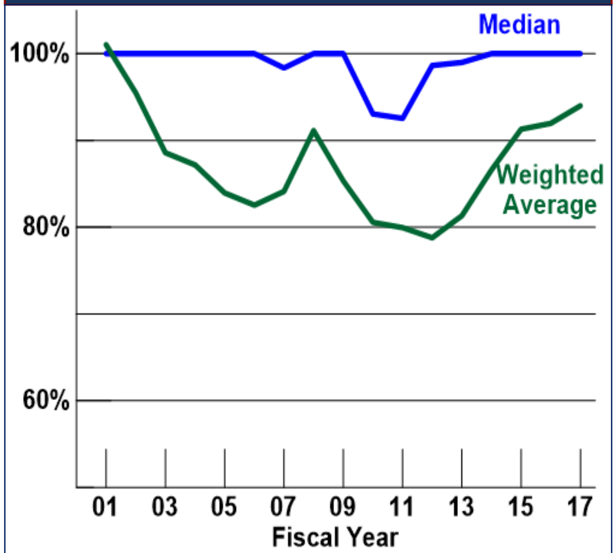
[5] New GASB reporting requirements have resulted in some plans no longer reporting their ADC experience. GASB Statements 25 and 27 established a requirement that public pension plans present in their financial report a) a history of the calculated annual required contribution, and b) the employer contributions that were actually paid. Unlike Statement 25, Statement 67 does not require agent plans to report this information. Specifically, "the [GASB] board concluded that 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 plan as a whole." Statement 67 also requires that, for cost-sharing plans, the plan's ADC experience be reported only if an ADC is actually calculated.

[6] NASRA Issue Brief, Public Pension Plan Investment Return Assumptions, February 2019

The slower rate of increase is caused partly by pension reforms, including higher required employee contributions and lower benefit levels (and costs) enacted in every state since 2009.[7]

Another factor contributing to higher pension costs in recent years is a movement among public pension plans toward more conservative methods to amortize unfunded actuarial liabilities. Research indicates that more plans are employing methods to pay off their unfunded liabilities more aggressively[8], which increases costs in the near-term, and reduces long-term costs.

Figure 2: Median and weighted average ARC/ADC contributed to 112 statewide plans



Source: State retirement systems CAFRs compiled by NASRA

Recent History of Employer Contributions

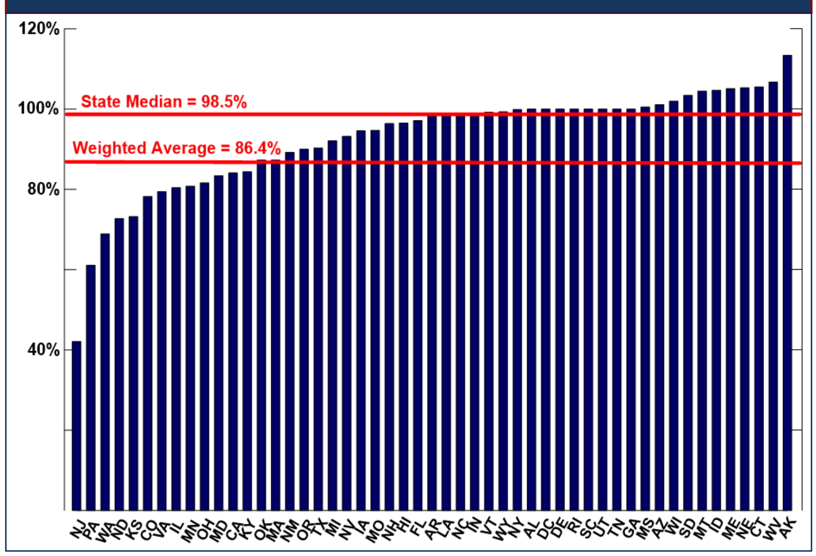
Spending on pensions by states & local government is just below five percent of all spending.[9] The employer contribution experience since FY 2001 covers an eventful period, including two economic recessions—impairing state and local fiscal conditions—and two periods of sharp declines in capital markets, which increased unfunded pension liabilities. For the plans measured for this study, actuarially determined contributions rose from $27.8 billion in FY 01 to $109.4 billion in FY 17, an increase of 186 percent in inflation-adjusted dollars. Actual contributions paid by employers during this period grew from $28.0 billion to $96.9 billion, an inflation-adjusted increase of 153 percent.

Figure 2 plots the weighted percentage of actuarially determined contributions received from FY 01 to FY 17. Because each state is unique in terms of its governance structure, pension funding policy and practice, the relative cost of its pension plan(s), fiscal condition, and other factors, the required contribution experience of each state is also unique, and ranges widely. As Figure 3 shows, on a weighted average basis, states' percentage of cumulative ARC/ADC paid since FY 2001 ranges from just over 40 percent to more than 100 percent. In the median, state plans received 98.5 percent of their required contributions, and 86.4 percent as a weighted average. The average actuarially determined contribution received for the period was 92.6 percent, as a few larger plans pulled down the average because they received a relatively lower portion of their ADC.

Conclusion

Although contributions to public pensions remain on average a relatively small percentage of state and local government spending, they also have grown in recent years. Depending on the plan, the growth of required employer contributions is due to one or more factors, including investment market losses; insufficient contributions; more conservative actuarial methods and assumptions, including lower investment return assumptions and more aggressive amortization periods; and demographic and investment experience that differs from assumptions. The overall experience for FY 17 reflects continuation of an improving effort among state and local government employers to make the full actuarially determined contribution, which will forestall higher costs in the future and strengthen the long-term sustainability of public pension plans.

Figure 3: Median and weighted average of ARC/ADC paid by state, FY 01 to FY 17



Source: State retirement systems CAFRs compiled by NASRA

[7] NASRA, Significant Reforms to State Retirement Systems, December 2018
[8] Public Plans Data, Center for Retirement Research, NASRA, Center for State & Local Government Excellence
[9] NASRA, Issue Brief: State and Local Government Spending on Public Employee Retirement Systems, March 2019

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, Issue Brief: State and Local Government Spending on Public Employee Retirement Systems, March 2019, http://www.nasra.org/costsbrief

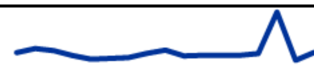
National Association of State Retirement Administrators, Issue Brief: Employee Contributions to Public Pension Funds, September 2018, http://www.nasra.org/contributionsbrief

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

Contact

Keith Brainard, Research Director, keith@nasra.org
Alex Brown, Research Manager, alex@nasra.org
National Association of State Retirement Administrators

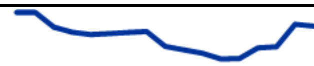
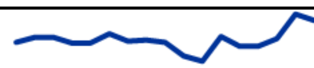
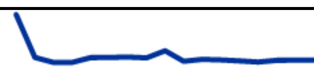
Appendix A: State and local government contributions as a percentage of the Annual Required Contribution and Actuarially Determined Contribution, FY 01 to FY 17

Plan	FY 01 %	FY 01 to FY 17 %	FY 17 %	Weighted Avg, FY 01 – FY 17
Alaska PERS[1]	105.3		98.4	101.5
Alaska Teachers[1]	114.0		114.9	131.9
Alabama Teachers	100.0		100.0	100.0
Alabama ERS	100.0		100.0	100.0
Arkansas Teachers	101.6		97.9	97.7
Arkansas PERS	100.0		100.0	100.0
Arizona SRS	100.0		100.0	100.0
Arizona Public Safety Personnel	100.0		100.0	101.1
California PERF	100.0		100.0	100.1
California Teachers	123.0		83.6	63.0
Colorado State & School[2]	100.0			70.4
Colorado School[2]	48.0		83.5	75.3
Colorado State[2]	48.0		87.5	74.2
Colorado Municipal	100.0		100.7	94.3
Denver Public Schools[1]	100.0		38.4	88.0
Colorado Affiliated Local	100.0		134.6	111.5

Plan	FY 01 %	FY 01 to FY 17 %	FY 17 %	Weighted Avg, FY 01 – FY 17
Connecticut Teachers[1]	85.0		100.0	117.7
Connecticut SERS	106.1		98.3	97.3
DC Police & Fire	100.0		100.0	100.0
DC Teachers	100.0		100.0	100.0
Delaware State	100.0		100.0	100.0
Florida RS	110.0		100.0	97.1
Georgia Teachers	100.0		100.0	100.0
Georgia ERS	100.0		100.1	100.1
Hawaii ERS	100.0		96.8	96.5
Iowa PERS	100.0		105.0	94.6
Idaho PERS	130.7		105.7	104.7
Illinois Teachers	70.6		66.2	73.9
Illinois Municipal	100.0		100.0	98.8
Illinois Universities[1]	85.5		88.5	83.0
Illinois SERS	124.3		84.5	82.4
Indiana Teachers	125.9		102.7	99.1
Indiana PERF	117.0		112.4	99.0
Kansas PERS	77.6		80.9	73.2
Kentucky Teachers[1]	100.0		98.5	84.6
Kentucky County	109.9		100.8	102.0
Kentucky ERS	105.6		122.5	68.6
Louisiana Teachers	110.2		101.3	101.1
Louisiana SERS	100.7		96.3	94.8
Massachusetts Teachers	113.5		100.0	87.5
Massachusetts SERS	116.4		100.0	87.1
Maryland Teachers	100.0		100.0	86.5
Maryland PERS	100.0		100.0	78.0

Plan	FY 01 %	FY 01 to FY 17 %	FY 17 %	Weighted Avg, FY 01 – FY 17
Maine State and Teacher	100.0		100.0	101.6
Maine Local	100.0		100.0	153.4
Michigan Public Schools	108.2		102.8	88.0
Michigan SERS	109.0		99.1	90.9
Michigan Municipal	118.0		135.7	116.3
Minnesota Teachers	180.0		78.1	81.7
Minnesota PERF	79.4		78.7	83.7
Minnesota State Employees	130.5		59.9	71.4
Missouri Teachers	100.0		106.5	89.9
Missouri State Employees	100.0		103.9	100.3
Missouri Local	100.0		100.0	100.0
Missouri PEERS	100.0		102.2	93.8
Missouri DOT and Highway Patrol	100.0		100.0	100.0
Mississippi PERS	100.0		107.2	100.5
Montana PERS	100.0		100.0	99.4
Montana Teachers	100.0		100.0	109.7
North Carolina Teachers and State Employees	76.0		100.2	97.6
North Carolina Local Government	100.0		101.8	101.2
North Dakota Teachers	100.0		96.5	87.2
North Dakota PERS	100.0		67.7	60.2
Nebraska County Cash Balance[3]	100.0		145.0	120.7
Nebraska State Cash Balance[3]	100.0		153.0	116.0
Nebraska State & School	100.0		174.0	102.7
New Hampshire Retirement System	100.0		100.0	96.4
New Jersey Teachers	0.0		41.2	21.1
New Jersey PERS - state	0.0		40.1	21.7
New Jersey PERS - local	0.0		100.0	90.8

Plan	FY 01 %	FY 01 to FY 17 %	FY 17 %	Weighted Avg, FY 01 – FY 17
New Jersey Police & Fire - state	0.0		40.4	25.0
New Jersey Police & Fire - local	30.3		100.0	81.5
New Mexico PERF	100.0		100.0	100.0
New Mexico Teachers	100.0		82.8	80.6
Nevada Regular Employees	100.0		103.0	94.4
Nevada Police Officer and Firefighter	100.0		102.0	89.3
New York State & Local ERS	100.0		100.0	100.0
New York State Teachers	100.0		100.0	99.8
New York State & Local Police & Fire	100.0		100.0	100.0
Ohio Teachers	100.0		143.6	78.3
Ohio PERS	100.0		100.0	100.0
Ohio Police & Fire[4]	100.0		74.0	63.2
Ohio School Employees	100.0		100.0	99.3
Oklahoma Teachers	72.7		101.3	89.8
Oklahoma PERS	77.3		153.1	81.5
Oregon PERS	94.6		100.0	90.0
Pennsylvania School Employees	100.0		100.0	57.6
Pennsylvania State ERS	147.2		100.0	69.3
Rhode Island ERS	100.0		100.0	100.0
Rhode Island Municipal	100.0		100.0	100.0
South Carolina RS	100.0		100.0	100.0
South Carolina Police	100.0		100.0	100.0
South Dakota RS	100.0		100.0	103.4
TN State and Teachers	100.0		100.0	100.0
TN Political Subdivisions	100.0		100.0	100.0

Plan	FY 01 %	FY 01 to FY 17 %	FY 17 %	Weighted Avg, FY 01 – FY 17
Texas Teachers	100.0		98.3	88.5
Texas ERS	118.3		98.1	77.0
Texas County & District	100.0		109.0	103.8
Texas Municipal	100.0		100.0	97.5
Utah Noncontributory	100.0		100.0	100.0
Virginia Retirement System	100.0		94.4	79.4
Vermont Teachers	91.3		100.3	93.3
Vermont State Employees	99.3		124.3	107.1
Washington PERS 2/3	207.0		88.8	84.0
Washington PERS 1	153.0		92.8	54.4
Washington Teachers Plan 1	156.0		90.2	49.6
Washington Teachers Plan 2/3	172.0		88.1	77.7
Washington LEOFF Plan 2	155.0		105.4	107.5
Washington School Employees Plan 2/3	297.0		85.8	73.1
Wisconsin Retirement System	99.6		100.0	102.0
West Virginia Teachers[1]	100.2		109.1	108.6
West Virginia PERS	100.0		119.5	101.5
Wyoming Public Employees[1]	483.0		89.0	99.3

Charts in the FY 01 to FY 17 % column reflect the percentage spending for each of the 17 years within the timeframe.

[1] Contribution experience includes revenue from one-time sources, such as pension obligation bonds, budget surplus monies, etc.

[2] The Colorado State and School plan was divided after FY 2004. Results for each plan reflect their respective pro rata experience.

[3] The Nebraska cash balance plans began operations in 2003.

[4] Per GASB Statement 67, beginning in FY 14, the Ohio Police & Fire Pension Fund does not report its Actuarially Determined Contributions and ADC received. The information shown reflects the plan's experience through FY 13.