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SECTOR IN-DEPTH
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State and local government - US

Rising school employee pension costs an emerging risk for some state governments

The state governments with the highest unfunded pension burdens also tend to heavily support school district pension costs. Where states exhibit significant budget challenges, the potential for loss or reduction of pension support represents a well-established contingent risk for schools and, in some cases, higher educational institutions. On the other hand, the risk that school district pension costs may shift up to states that have not traditionally provided support is also rising. Unfunded liabilities and annual costs for some teacher pension systems have risen to onerous levels that may prove unaffordable for school districts, forcing state governments to assume greater responsibility for these mounting obligations.

» **State governments with the highest adjusted net pension liabilities (ANPLs) do not face upward cost-shift risk from schools because they already provide material support for local district pensions.** Funding responsibility for teacher pension plans in Connecticut (A1 stable), Illinois (Baa3 negative), Kentucky (Aa3 stable) and New Jersey (A3 stable) represents the single largest source of ANPL for each respective state. The potential for downward pension cost-shifting to local governments from each of these state governments, and several others, represents a significant contingent risk for local schools.

» **Pension costs that amount to 25%-30% of payroll may represent a practical affordability limit for many school districts.** Some states have already increased contribution support for district in order to keep costs from exceeding this range. By assuming responsibility for a portion of their retirement benefit costs, Michigan (Aa1 stable) has kept school district contributions to a statewide pension system from exceeding 27% of payroll. Colorado (Aa1 stable) recently acted to provide ongoing cost support for a severely underfunded statewide teacher plan, improving contribution strength while keeping school district burdens nearly flat. While Illinois is considering a downward shift of some pension costs to all other school districts, it recently provided additional aid to the Chicago Board of Education (B3 stable) that reduced the district's contribution burden to 24% of payroll from 34%.

» **Growing school district pension pressure represents a potentially new budget risk for some states.** Of the states that do not currently provide direct support for local school district pensions, large unfunded liabilities and high annual costs suggest that Louisiana (Aa3 negative), Mississippi (Aa2 negative) and New Mexico (Aa1 negative) face high risk of having to absorb some portions of local costs. Without offsetting benefit reforms, each of these states could face large ANPL increases if they make material long-term funding commitments to support local school pension costs.

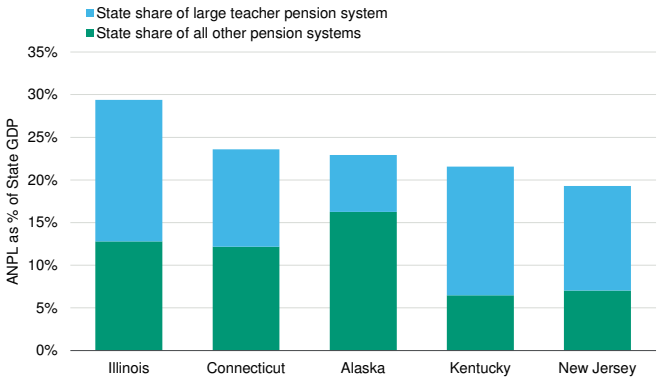
State governments with highest ANPLs do not face upward cost-shift risk from schools because they already provide material support for local districts' pensions

State governments with the heaviest unfunded pension liabilities, such as Illinois, Connecticut and Alaska (Aa3 stable), all provide significant contribution support for local school district pensions. This support materially increases these states' balance sheet leverage because teacher pension systems represent a significant portion of their overall unfunded pension liabilities. In the cases of Illinois, Kentucky and New Jersey, teacher plan ANPLs comprise more than half of each state government's entire ANPL (see Exhibit 1).

While the funding levels of these heavily burdened states' teacher pension plans are very low and will require significant contribution increases in future years, these state governments' budgets clearly face either a material portion or the entire funding responsibility for these rising costs. In other words, there is little to no risk that these states will face a higher *proportionate* funding responsibility for their respective statewide teacher pension systems because they are already covering most or all of the costs (see Exhibit 2).

Exhibit 1

Funding responsibility for statewide teacher pension systems drives high ANPLs for the most heavily burdened states



Reflects pension data measured as of June 30, 2017, with proportionate shares of pension plans that we have used previously to calculate the states' ANPLs.
Source: Moody's Investors Service

Exhibit 2

States with heaviest pension burdens already cover very significant portions of teacher pension systems

Funding position as of June 2017 ($ billions)

State	Share of Teacher Pension System	Reported Net Pension Liability	Reported Funded Ratio	Moody's ANPL	Moody's Funded Ratio
Illinois	97%	$76	39%	$140	26%
New Jersey	100%	$68	25%	$72	24%
Connecticut	100%	$13	56%	$30	36%
Kentucky	95%	$28	40%	$32	37%
Alaska	62%	$2	70%	$5	50%

Reported liabilities and Moody's ANPLs represent plan totals, not just each state's proportionate share. State proportionate shares reflect our most recent pension liability survey of the 50 states, which covered fiscal year 2016 reporting.
Sources: Moody's Investors Service and plan comprehensive annual financial reports

In contrast, when state governments cover annual pension contributions on their behalf, school districts and some higher educational institutions face a contingent risk of the state shifting costs it previously covered down to the local level. Several notable examples include:

» Illinois politicians have considered a downward shift of pension costs to local schools and public universities to varying degrees for several years. For example, the governor recently proposed shifting the costs for current year benefit accruals to local school districts, called "normal cost" or "service cost," over the next four years.

» New Jersey has not enacted a downward pension cost shift to local schools, but a state commission in 2015 recommended shifting certain retiree medical costs. To make the cost shift more affordable for local districts, the same commission recommended concurrent benefit reforms.

» While not implemented, Connecticut's governor in 2017 proposed a downward shift in funding responsibility to local municipalities for a portion of their teacher pension costs.

» While not a direct downward cost shift, Kentucky has made a ramp-up in its own pension contributions more affordable, in part, by reducing state aid for public universities. Illinois has implemented a similar trade of rising pension support for lower state operating aid for its public colleges and universities.

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» Texas (Aaa stable) has imposed a 50% cap on its support for community college districts' pension contributions.

» Maryland (Aaa stable) shifted a significant portion of teacher pension normal costs downward to local governments as part of its fiscal 2013 budget.

Pension costs that amount to 25%-30% of payroll may represent a practical affordability limit for many school districts

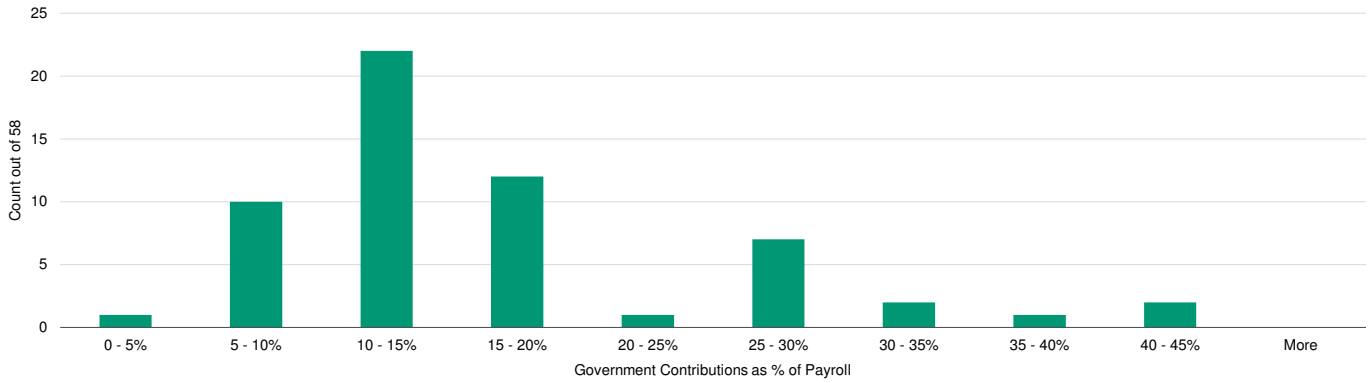
An emerging trend suggests that annual pension contribution requirements that exceed 25%-30% of payroll for school districts could represent an affordability limit in many cases. When school districts reach a pension affordability limit, the likelihood that the state government may be forced to provide contribution support rises, particularly given the significant overall role that states tend to play in K-12 education funding and/or related policy matters.

Annual contributions for most pension plans with participating school districts have yet to reach this cost range. Of the 58 pension plans nationwide that we have identified that represent a main source of pension exposure for school districts, government contributions to 46, or nearly 80% of those plans amounted to 25% or less of payroll in their most recent financial reports (see Exhibit 3). These values represent actual contributions made by all state and local governments combined, irrespective of the strength or weakness of those contributions relative to an actuarial requirement or our "tread water" indicator. Our tread water indicator is the sum of the employer portion of service cost and interest on beginning of year net pension liabilities, using reported assumptions.

Exhibit 3

Substantial portion of government contributions for school district employee pensions fell below 25% of payroll

Data reflects fiscal year 2017 for most plans



Data reflects fiscal year ended December 31, 2016 for five plans.
Source: Moody's Investors Service

When school districts' pension costs have reached or exceeded the 25%-30% of payroll range, in several key examples the state government has stepped in to effectively cap those costs, increasing their own long-term pension funding burden.

For example, in 2012, the State of Michigan acted to keep local school contributions for pensions and retiree medical benefits from exceeding 27% of payroll after school districts in the state faced rapidly rising contribution rates to the Michigan Public School Employees Retirement System (MPSERS). MPSERS' unfunded liabilities grew dramatically because of investment losses suffered during the 2008-09 financial crisis, and many participating districts in the system also faced declining payroll levels. The combination of higher unfunded liabilities and declining payroll led to rapidly rising per unit personnel costs at a time when declining enrollment led to revenue pressure for many districts

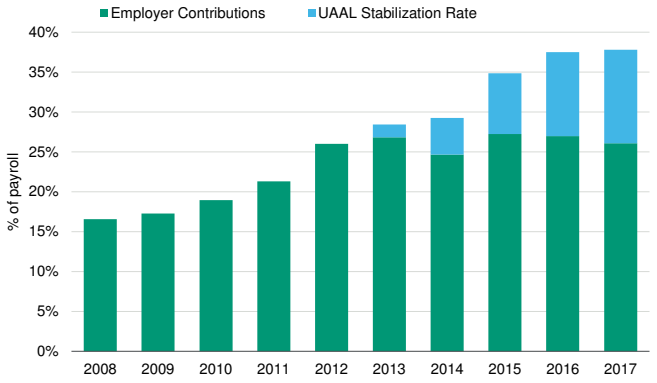
In 2012, the state enacted numerous changes designed to lower benefit accruals and costs, both for both new employees and prospectively for current employees. Further, the state capped the total amount, relative to payroll, that local school districts could be required to pay toward MPSERS for unfunded pension and retiree medical benefits. Specifically, Public Act 300 (2012) capped the amount local schools could pay toward MPSERS' unfunded actuarial accrued liability (UAAL) at roughly 21% of payroll. Because the system's annual actuarial funding requirements exceed this capped rate, the state covers the difference by paying a "UAAL Stabilization Rate" as part of its overall financial aid to local schools (see Exhibit 4).

Illinois recently increased its pension cost support for the Chicago Board of Education (Board of Ed), lowering the district's annual contributions to around 25% of payroll. The state has long considered shifting a portion of annual teacher pension costs down to all other local school districts throughout the state, which participate in the Teachers' Retirement System. Unlike other school districts throughout the state, however, the Board of Ed is responsible for its own employee pension plan, the Public School Teachers' Pension & Retirement Fund of Chicago. When the Board of Ed was facing a significant budget crisis in which elevated pension costs played a prominent role, the state significantly increased its pension cost support far beyond the very minor support it traditionally provided. In fiscal 2018, the state provided an additional $221 million in support, amounting to about 10% of payroll. The move reduced the Board of Education's contributions to roughly 24% of payroll.

The state also signaled an intention to maintain the higher level of pension contribution support going forward. Public Act 100-0465 called for Illinois to contribute the employer portion of normal cost for the Board of Ed starting in fiscal 2019 without a sunset. Illinois' governor has since proposed halting support for the Board of Ed's pension costs to help balance the state's own budget, but the probability of that proposal's adoption by the state's legislature is unknown. Through fiscal 2019, Illinois has effectively capped the Chicago Board of Education's pension contributions at roughly 25% of payroll (see Exhibit 5).

Exhibit 4

Michigan capped local school district retirement costs by directing a portion of aid for unfunded liability amortization

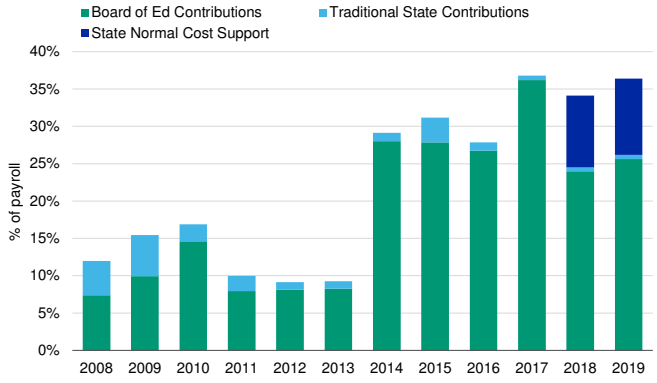


UAAL stands for unfunded actuarial accrued liability. Contributions cover both pension and retiree medical benefits.
Source: Michigan Office of Retirement Services

Exhibit 5

Chicago Board of Ed's contribution burden falls back closer to 25% of payroll with extra state support

Government contribution sources to Chicago teachers' pension fund



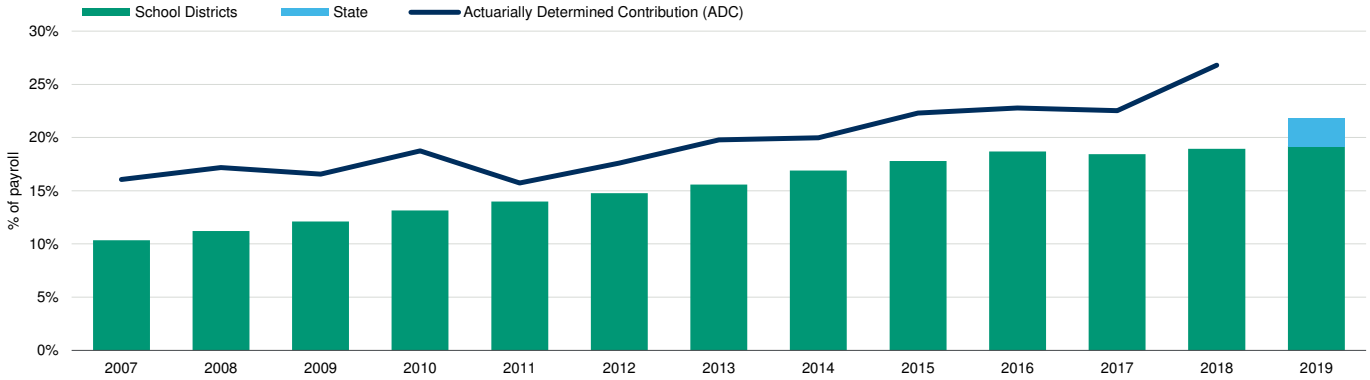
Sources: Chicago teachers' pension fund CAFRs and actuarial valuations

In another recent example, Colorado school districts' rising pension contribution requirements have not yet approached the 25%-30% range, but annual funding requirements of the Colorado Public Employees' Retirement Association's (PERA) School Division have. School district contributions to PERA are set by state statute, and reached 19% of payroll in fiscal 2018, compared to 10% in 2007. These higher and rising contribution rates have nonetheless underfunded the system's actuarially determined contribution, which reached 27% in fiscal 2018.

On June 4, 2018, Colorado's governor signed Senate Bill 18-200 into law. The state will begin to provide $225 million of annual contribution support to several plans administered by PERA, a portion of which would be directed to the severely underfunded statewide teacher pension system. The legislation also contains numerous benefit changes that we currently expect will prevent the School Division's ADC from rising much above 25% of payroll for 2019, although an updated actuarial valuation is not yet available. At the same time, new state contribution support will help reduce the annual funding gap while keep local school district contributions at roughly 19% of payroll (see Exhibit 6).

Exhibit 6

Colorado poised to begin supporting local teacher pensions after years of underfunding have translated to higher annual costs



Applies to all Colorado school districts except Denver Public Schools. State support relative to payroll for fiscal 2019 reflects Moody's estimate.
Sources: Colorado PERA, Moody's Investors Service

Growing school district pension pressure represents a new budget risk for some states

Among the school district pension systems with the highest annual costs relative to payroll, most are already supported by state governments to at least some degree. Among teacher plans, those in Illinois, Alaska and Kentucky had the highest tread water indicators relative to payroll as of their most recently available plan financial reporting, and each respective state provides material cost support for those plans.

Other state governments that provide at least some support for the highest cost teacher plans include Pennsylvania (Aa3 stable), Connecticut, Hawaii (Aa1 stable), New Jersey, Michigan, Massachusetts (Aa1 stable), California (Aa3 stable), West Virginia (Aa2 stable) and Indiana (Aaa stable). Colorado is slated to join this list now that its governor has signed Senate Bill 18-200, as discussed previously.

The remaining high cost teacher plans that do not currently receive direct state support are: the Teachers' Retirement System of the City of New York (NYC TRS), the Teachers' Retirement System of Louisiana (TRSL) and the New Mexico Educational Retirement Board (NM ERB). Along with the state and municipalities, Mississippi school districts participate in the statewide Public Employees' Retirement System (MS PERS), a similarly high cost pension system based on our tread water indicator.

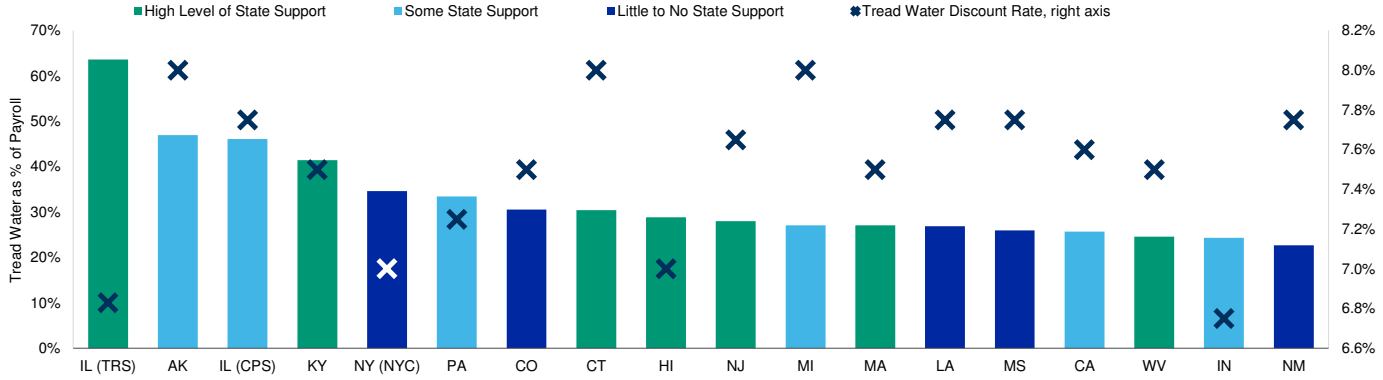
We do not foresee the State of New York (Aa1 stable) providing contribution support for New York City (Aa2 stable) teacher pensions, given the unique nature of the city as a major economic center, the substantial size of city government operations and its large income tax revenue base. While NYC TRS has one of the highest tread water indicators nationally among teacher pension plans, the city annually contributes above this funding level and based on a comparatively low reported discount rate of 7.0%. The lower the discount rate, the higher our tread water indicator tends to be, all else being equal.

Analysis of the pension systems in Louisiana, Mississippi and New Mexico suggests these three states have high contingent risk of an upward shift in school pension costs to the state from local districts, unless benefit changes are implemented that materially lower costs. Their statewide pension systems not only have among the highest tread water indicators, but those indicators were also based on comparatively high reported discount rates in the plans' most recent financial reports (see Exhibit 7). To the extent these states act to increase their long-term funding commitments for local school district pensions, we would likely increase their proportionate shares of teacher plan ANPLs commensurately in our credit analysis.

Exhibit 7

In states providing little to no direct contribution support, teacher plans in New York, Colorado, Louisiana, Mississippi and New Mexico exhibit the highest costs for local schools to "tread water"

Data reflects most recently available plan financial reporting, in most cases June 30, 2017



"TRS" stands for the "Teachers Retirement System of Illinois." "CPS" stands for "Chicago Public Schools" (i.e. the Board of Ed). Since Colorado's governor has signed SB 18-200, we plan to classify the state in the "some support" category going forward. Discount rates used in our "tread water" indicator reflect the discount rate in place at the end of the prior year, and for plans that do not project asset depletion, reflect the discount rate reported under GASB rules. For plans with low, "blended" GASB discount rates, we use the assumed rate of investment return.

Source: Moody's Investors Service

Contribution rates to Louisiana's teacher pension system have moderated, but costs could easily rise again

Louisiana school district pension contributions to the statewide teacher pension plan, TRSL, are elevated at around 26% of payroll, but have recently fallen from peak levels just shy of 35% (see Exhibit 8). Even in peak contribution years, Louisiana did not step in to provide cost support. However, the system's reported discount rate is likely to drop eventually, and it faces significant risk of volatile investment performance because of an aggressive asset allocation. As a result, contribution rates could again rise to levels that have driven other states to take on an extra teacher pension funding burden. Further, Louisiana's constitution provides contractual protections for teachers' pension benefits and a state guarantee for the ultimate payment of benefits.

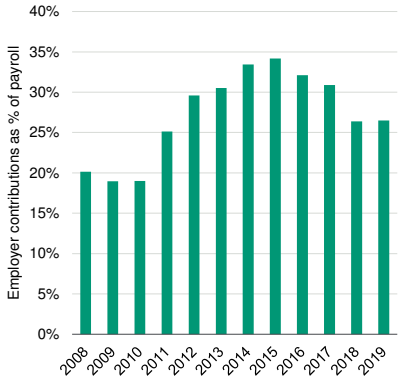
Employer contributions by participating school districts and higher educational institutions to TRSL have historically tracked closely to actuarial requirements, and have exceeded our tread water indicator in recent years. However, TRSL retains a very large unfunded liability and has been slower than many other large US public pension systems to meaningfully reduce its reported discount rate. The system used a 7.65% discount rate in its 2017 actuarial valuation, down only five basis points from the year prior. We estimate that based on a slightly lower 7.0% discount rate, fiscal 2018 employer contributions to the system fall below the tread water level (see Exhibit 9). With many large US public pension systems now using reported discount rates around 7.0%, it is likely just a matter of time before TRSL will follow suit. If and when the system's reported discount rate falls, contribution rates for participating schools must increase to pay down accumulated unfunded liabilities.

Given the linkage between reported discount rates and assumed rates of investment return for US public pension systems, TRSL's asset allocation is weighted heavily toward asset classes with the highest expected returns, such as public equities and alternatives (see Exhibit 10). However, those asset classes also tend to carry far higher risk of investment return volatility than fixed income. If TRSL's reach for yield results in investment losses, government contribution requirements will again be forced upward to backfill lost assets.

Exhibit 8

After rapid escalation, employer contribution requirements to TRSL have recently eased ...

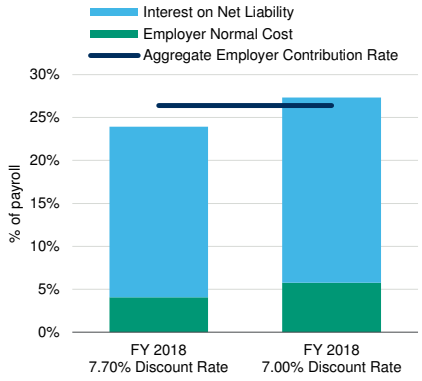
Employer contributions as % of payroll



Sources: Plan financial statements and actuarial valuations

Exhibit 9

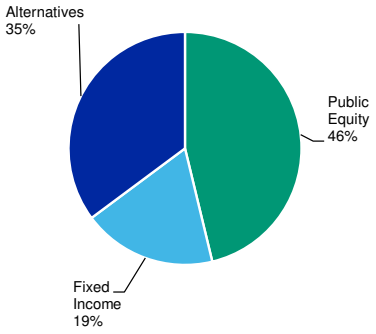
... but the plan's high reported discount rate understates annual costs ...



Source: Moody's Investors Service estimates, based on plan financial reports and valuations

Exhibit 10

... and its risky asset allocation leaves school district budgets very susceptible to contribution increases in the event of downward market swings



Source: Teachers' Retirement System of Louisiana

Mississippi's statewide pension system exhibits annual underfunding despite its very high discount rate assumption

Along with the state and municipalities, Mississippi school districts participate in the statewide Public Employees' Retirement System (MS PERS), and their employer contribution rates have remained very steady over the past decade (see Exhibit 11). However, steady but low contributions have allowed unfunded liabilities to continue rising almost every year, reaching almost $17 billion in 2017 from less than $8 billion in 2008 (see Exhibit 12).

Similar to the Louisiana teachers pension example, MS PERS continues to rely on a high 7.75% assumed rate of return, which also serves as its reported discount rate. Unlike in Louisiana, however, contributions to MS PERS continue to track far below the tread water indicator, even with the high discount rate assumption. In the fiscal year that ended on June 30, 2017, government contributions to MS PERS amounted to just 65% of the tread water level, signaling that future contribution increases and/or benefit changes are highly likely.

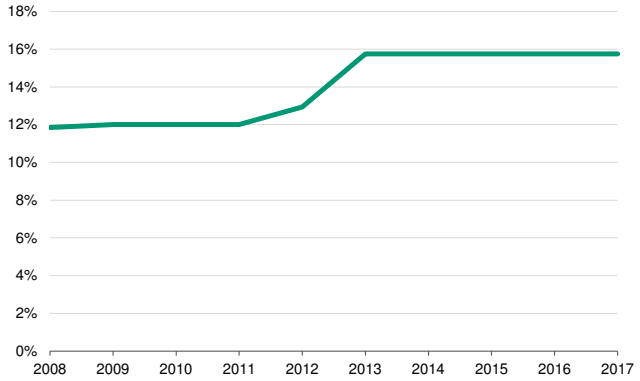
Actuaries for the MS PERS plan make annual funding projections, and if the plan's projected funded ratio in the year 2042 is not at least 75% for two consecutive years of projections, the plan's funding policy calls for an employer contribution increase. The plan failed this test in its 2017 projection, and plan actuaries called for an increase in employer contribution rates to 17.65% of payroll to meet the plan's funding target. (The plan's tread water indicator was 27% of payroll in 2017). Further, these projections assume 7.75% annual investment returns, so a downward discount rate revision and/or consistent investment performance below the plan's aggressive target could trigger additional contribution hikes. These risks all point to rising contribution rates in the future to MS PERS, meaning Mississippi schools could soon face pension costs of 25%-30% of payroll.

Mississippi's "Adequate Education Program" (MAEP) uses a host of formulaic factors for determining school district funding. The state does not directly contribute to MS PERS for school districts, but it indirectly provides PERS contributions through MAEP, which supports salary and fringe benefits. Since the current formula includes a "base student cost" that incorporates MS PERS contribution requirements, higher school district pension contribution requirements would increase the state's costs to fulfill MAEP funding, all else being equal. However, state appropriations have not always matched MAEP amounts.

Exhibit 11

Employer contribution rates to MS PERS have remained steady ...

Employer contributions as % of payroll

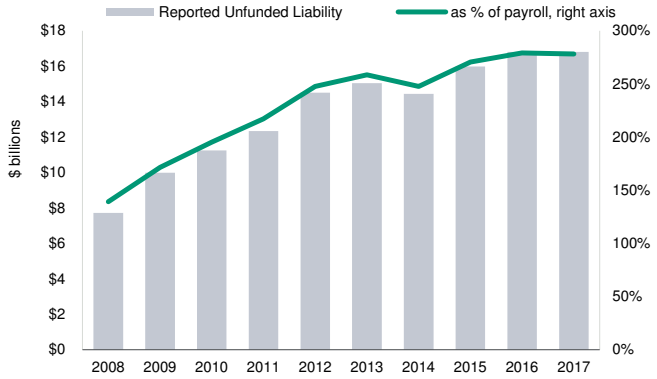


Source: MS PERS actuarial valuation

Exhibit 12

... but unfunded liabilities have continued rising

Reported unfunded actuarial accrued liability



Source: MS PERS

New Mexico schools' heavy reliance on state aid and growing unfunded liabilities could force the state government to provide financial support for pensions

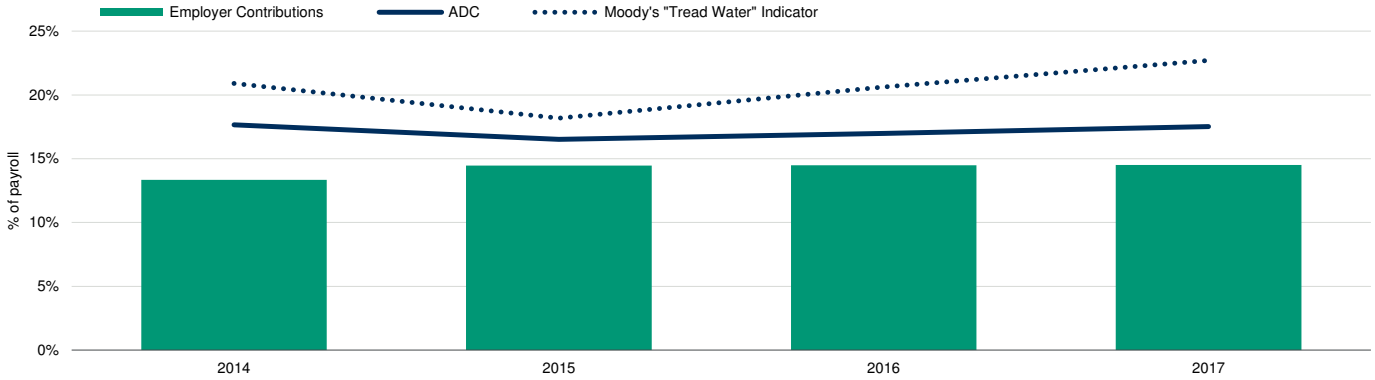
Although New Mexico reports only a very small allocation of the statewide teacher pension plan on its balance sheet under governmental pension accounting standards, the state in some sense is footing the bill for local school district pensions already. School districts in New Mexico derive the vast majority of their annual revenues from the state. For example, 97% of fiscal 2017 general fund revenues of the state's largest school district, Albuquerque Municipal School District 12 (Aa2 negative) were derived from state aid. Local districts are responsible for contributing to the NM ERB at statutorily required rates, given whatever revenues they have available as a result of state aid.

Positively, the NM ERB has recently incorporated falling market return expectations into its assumptions. For example, the system dropped its assumed rate of investment return to 7.25% from 7.75% in 2017. But, employer contributions to the pension system remain far below its funding needs. In fiscal 2017, our tread water indicator for NM ERB was roughly 23% of payroll, compared to about 15% of payroll contributed by schools (see Exhibit 13). The ongoing funding gap signals that in order pay down accumulated unfunded liabilities, future contributions must rise and/or benefit changes must be implemented.

If employer contribution requirements to the NM ERB increase significantly, the state government will have to choose whether to force schools to operate with similar state aid revenues and higher pension costs, to increase aid commensurately to prevent pension costs from crowding out local school district budgets, or to continue to allow the tread water gap to widen, which would be credit negative for both the state and its school districts.

Exhibit 13

School district contributions to the NM ERB significantly lag the tread water indicator



"ADC" stands for actuarially determined contribution.

Sources: Moody's Investors Service, New Mexico Educational Retirement Board

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