U.S. State Pension Reforms Partly Mitigate The Effects Of The Next Recession

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Despite investment gains in 2018, U.S. states have made relatively slow progress since the Great Recession in improving funded ratios, with S&P Global Ratings' most recent survey data indicating that the average weighted pension status across state plans was 72.5% compared with 83% in 2007. However, looking at the funded ratios alone falls short of understanding whether or not states have made progress toward improving the overall pension funding picture. Indeed, poor investment returns in select years and maturing pension plan populations have stunted state funding progress. Also, in the years immediately following the Great Recession, many states had reduced plan contributions as a short-term means of balancing budgets, resulting in funding setbacks from which many have yet to recover.

Key Takeaways

- Reported median state-funded ratios remained relatively stable at about 72.5% in fiscal 2018 as discount rate reductions offset recent strong market gains and many states continue to make cost-saving pension reforms.
- State legislators have largely focused on long-term costs as opposed to short-term budgetary relief.
- Despite progress toward more prudent assumptions and actuarially based funding, most states still fall short of minimum funding progress.
- Although a majority of state pension plans remain vulnerable to market shocks, such as a possible recession, we expect that funding levels and costs will remain manageable for most.

However, in recent years, many states have made conservative changes to actuarial methods and assumptions that, while hindering actuarial funding ratios, show a more realistic assessment of market risk tolerance for states, thus better enabling them to make funding progress. We have also witnessed that many states have learned lessons from funding discipline mistakes over the past ten years and better understand sources of pension liability and costs, and have therefore demonstrated a commitment to actuarially based funding. In this sense, states may be better prepared heading into the next recession despite weaker funded ratios. Yet, in our view, despite some progress, many plans' current contributions, discount rate assumptions, and investment allocations still fall short of fully mitigating the market volatility that increasingly appears to lie

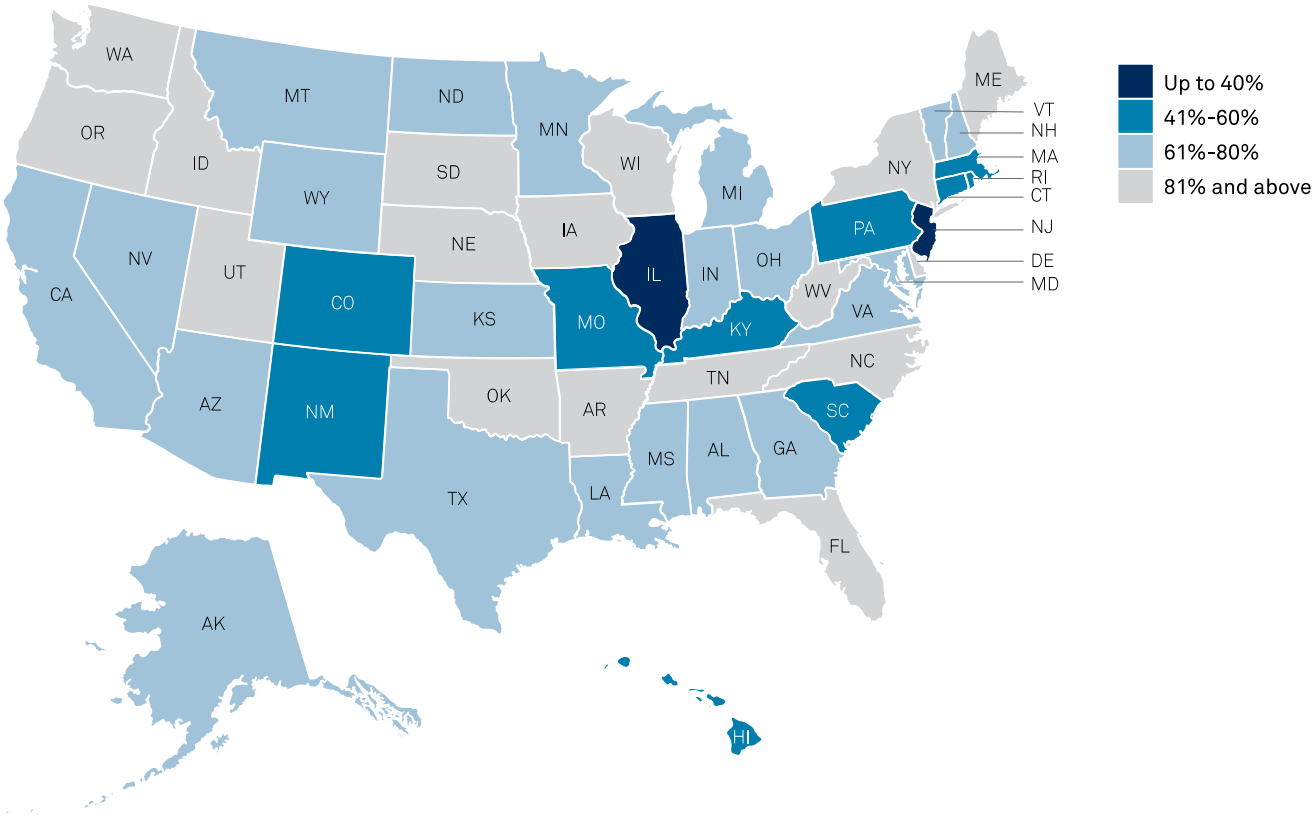
ahead.

Average State Funding Levels Plateau With Notable Exceptions

This year's S&P Global Ratings' annual state pension survey found most state pensions reported slight improvement in funding levels in fiscal 2018, mainly due to solid investment returns as of June 30, 2018 (a median of 8.9% for the states' largest plans). The fiscal 2018 aggregate median reported funded ratio of 72.5% for states was up just slightly compared with 69.5% in fiscal 2017. However, we note that nearly half of the states' largest plans lowered their rate of return assumption in 2018 to reduce market volatility risk, and this has played into relatively flat reported funding levels.

Chart 1

U.S. Pension Funded Ratio 2018



Source: S&P Global Ratings.

In addition to investment returns, changes to a state's funding trajectory and corresponding fluctuations in the single Governmental Accounting Standards Board (GASB) discount rate also influenced swings in reported funding ratios. Minnesota and Kentucky led states in funding gains because they increased their discount rates or trimmed benefits, such as maximum cost-of-living adjustments. We expect that due to reforms, Colorado will be a leader among states in funding gains for fiscal 2019. All three states no longer assume a crossover date for their largest plan following reforms that moved the states to funding closer to actuarially determined contributions

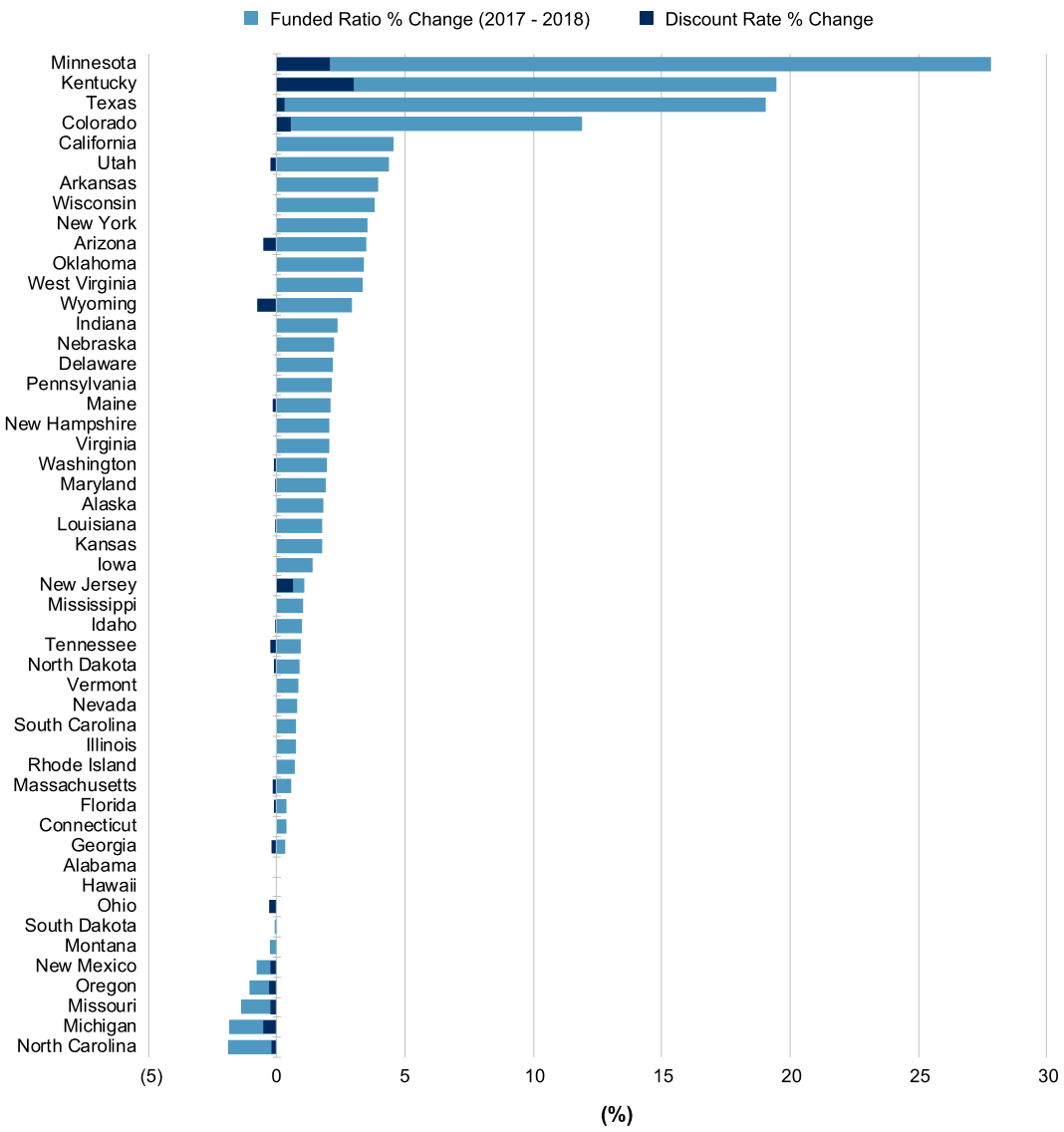
(ADCs). (See "Minnesota's New Pension Bill Is A Positive Step Toward Sustainable Funding," published June 7, 2018, on RatingsDirect and "Colorado SB 18-200 Outlines A Path Toward Pension Funding; Is It Enough?" published May 21, 2018.)

Since the close of state fiscal year 2018, plans measured as of December 2018 fared worse due to the steep fall late in the year; poor investment returns had resulted in an average 5% decline in funded ratios. According to Callan, the median public pension annualized investment returns for period ended Dec. 31, 2018 was negative 4.1%. The median rate of return for the four states (Colorado, Ohio, Utah, Wyoming) whose largest plan was measured as of December was negative 3.1%.

According to a report by Wilshire Trust Universe Comparison Service, the median public defined pension plan return was 6.79% as of June 30, 2019, slightly below an average return of 8.4% as of June 2018. We believe slightly weaker investment returns relative to a median assumed rate of return of 7.25% and continued movement toward lower discount rate assumptions, despite some states' ongoing actions to adjust contribution levels to improve funding trajectories, will likely lead to somewhat weaker reported state pension funded ratios in fiscal 2019.

Chart 2

Change In State Pension Funded Ratios (%) - Fiscal 2018 Vs. Fiscal 2017



Hawaii has yet to release its fiscal 2018 pension CAFR. Source: S&P Global Ratings.

Overall reported pension funded ratios across the states vary widely. As illustrated in tables 1 and 2, Wisconsin, South Dakota, and New York continue to rank among the states with the best reported funded ratios in the nation. The largest plans in these states also use actuarial funding, regularly update experience studies, employ reasonable amortization methods, and assume rates of return that are lower than the national median for determining actuarial contributions. Kentucky, New Jersey, and Illinois continue to report GASB funded ratios near 40%, reflecting a history of pension underfunding that makes assumed rates of return used in actuarial funding targets less relevant, which has contributed to budgetary pressure in those states and relative credit differentiation, with all three rated among the lowest of the 50 states.

Table 1

Fiscal 2018 Best-Funded Aggregate Pensions

	Funded ratio (%)
Wisconsin	102.93
South Dakota	100.02
New York	98.95
Washington	93.75
Idaho	91.64

Table 2

Fiscal 2018 Worst-Funded Aggregate Pensions

	Funded ratios (%)
New Jersey	38.41
Illinois	38.98
Colorado	43.76
Kentucky	44.83
Connecticut	46.65

Many States Continue With Pension Reforms, Avoiding Backward Measures

In 2018, 18 states lowered their assumed rate of return for their largest plans while 15 did so for their second-largest plans. On average, largest plan downward revisions were marginal, at just 0.24%. We understand that modest revisions largely reflect the year-to-year affordability of related necessary increases in ADCs rather than actuarial recommendations. The lower assumed rates of return reduce states' exposure to market volatility, minimizing swings in required contributions with investment returns, and providing for faster funding progress.

Connecticut, Illinois, Kansas, and Oregon all contemplated extensions of pension plan amortizations to provide budgetary relief, but only Connecticut implemented such an extension. Following an unexpected revenue bump in April, Illinois' governor announced that he would no longer pursue a seven-year pension amortization extension as part of fiscal 2020 gap-closing measures. If enacted, we would have viewed the extension of the pension plans' amortization as significantly weakening the state's pension liabilities and boosting costs. It would have compounded the state's negative amortization and increased both interest costs and the plans' vulnerability to a market correction. Connecticut pushed out the amortization of its state teacher plan by 17 years, but at the same time, it significantly lowered its rates of return from 8.0% to 6.9% and revised its amortization basis to level dollar from an escalating level 3.25% of payroll method. In aggregate, we believe the resulting drop in annual contributions will be relatively minor, and therefore the measures did not weaken the rating.

Illinois, New Jersey, and Connecticut have incorporated or are considering asset transfers as a means to improve pension funded ratios and lower required contributions. The way that these solutions are valued and influence funding discipline can have varying effects on the overall health of a pension system and long-term fiscal sustainability. To the degree that they are based on

unsubstantiated valuations, create liquidity concerns, or otherwise undermine long-term funding progress, we would view them as a negative credit factor. On the flip side, if these states resist overvaluing assets and sell them to deliver cash to the pension system or use future revenue to supplement pension contributions and accelerate funding progress, the transfer could lead to a consistent paydown of the unfunded liability and stabilize contributions. (For more information on our views of asset transfer and recognition of future revenue streams, please refer to "Pension Brief: Are Pension Asset Transfers A Gimmick Or Sound Fiscal Strategy?" published Feb. 19, 2019.)

Most States Still Fall Short Of Minimum Funding Progress Despite Reforms

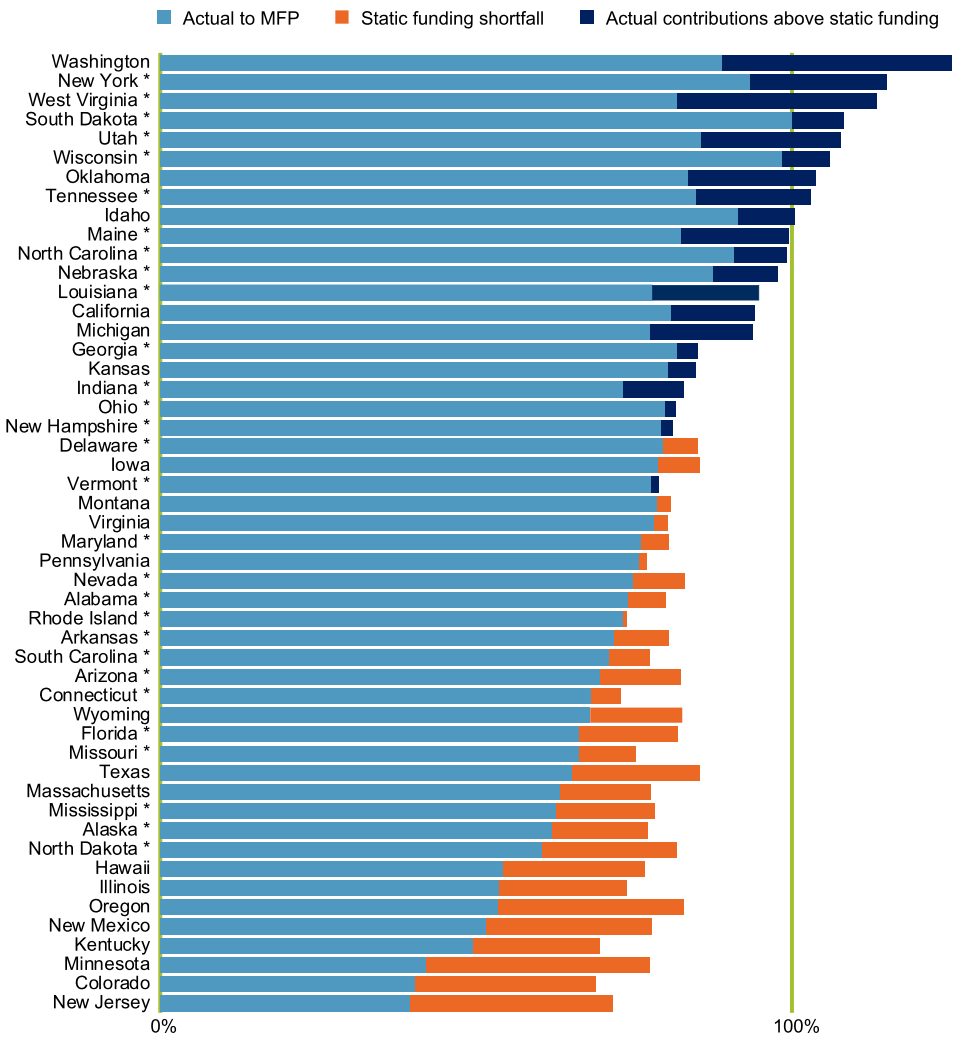
Despite the above-mentioned widespread efforts to improve funding discipline, many states are failing to make meaningful progress on their aggregate pension liabilities. Many are funding their pensions on an actuarial basis; however, if the underlying actuarial assumptions are not conservative enough or if the funding strategy is poorly crafted, even ADCs could fail to make realistic funding progress toward paying down the long-term liability.

Chart 3 compares total annual plan contributions to certain costs generating the annual change in the net pension liability (NPL). We believe there is likely some minimum amount of funding progress if the annual plan contributions cover service cost (the present value of benefits earned by participants in the year), a portion of the annual total interest cost related to pension liabilities unmatched by plan assets, and 1/30 of the beginning NPL (see "Survey Methodology" below). The chart reveals that, on the whole, plan contributions for only eight of the states covered these annual costs for the most recently reported year, down from nine the previous year. Many of the states that show strong progress in meeting these annual measures are also those with the consistently highest reported funded ratios.

Looking at another metric, static funding, which measures whether or not a state meets just current service and interest costs, 60% of states fail to meet this threshold. This means that that even for those that maintain a track record of funding at actuarially determined levels, total plan contributions can still fall short of levels necessary to make progress on paying down the long-term liability. This typically happens when the actuarial assumptions and methods used to calculate ADCs are somewhat optimistic and do not align with recent experience.

Chart 3

State Plan Aggregate Actual Contribution Funding Progress



*These states typically fully meet required contributions with an actuarial basis. Source: S&P Global Ratings.

Despite Improved Assumptions, Plans Remain Vulnerable To Market Volatility

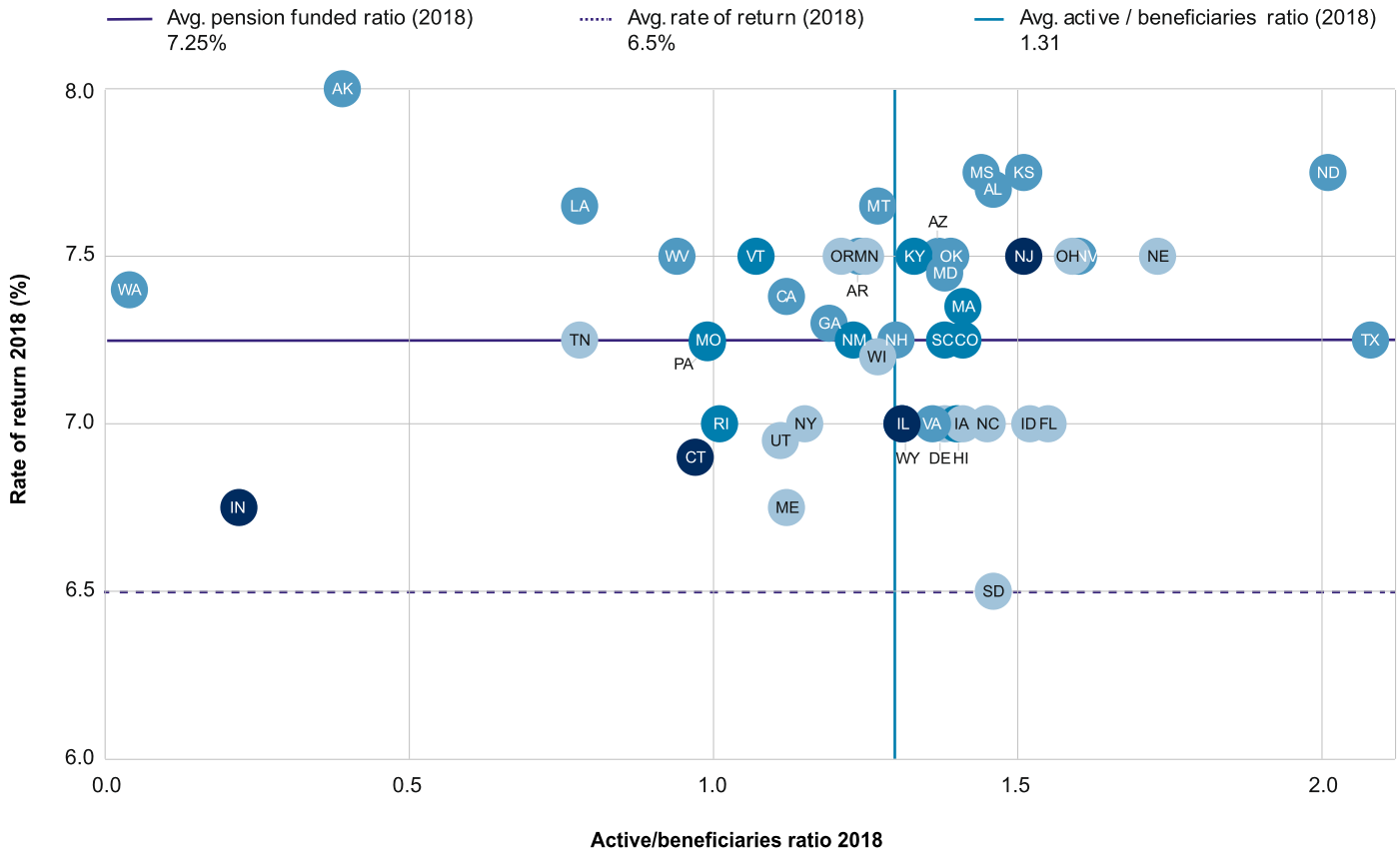
In our view, assumed rates of return should not only align with the expected realistic performance of the target asset portfolio, but should also reflect prudent and informed decision-making on how much market volatility and liquidity risk or budgetary stress a state can absorb. Higher risk typically means exposure to greater volatility. In the event of a market correction, a drop in asset values would necessitate an escalation in required contributions. Despite widespread state efforts to continue to ratchet down assumed rates of return, most plans retain rates that exceed what we view as a sustainable rate based on likely market volatility. In our view, based on current market conditions of the expected asset return of an average plan in the U.S., a sustainable

discount rate for the typical plan is 6.5%.

In Chart 4, the assumed rates of return for the 50 states' largest plans are represented on the vertical axis around a median of 7.25%, well above 6.5%. Plans at the top of the chart have higher assumed returns, and consequently, a greater acceptance of market volatility risk within their target portfolio.

Chart 4

Plan Demographics And Discount Rate - Largest State Plans



Source: S&P Global Ratings.

Demographics Influence The Funded Ratio And Budgetary Vulnerability

States with mature plans and elevated discount rates that still have low funded ratios may warrant additional attention with regard to budgetary vulnerability.

In chart 4, the active-to-beneficiary ratio is represented on the horizontal axis around a median of 1.32. As the proportion of benefits that are accrued increases for mature plans (seen on the left side of the chart), there is less flexibility to reduce costs via a plan freeze. Additionally, as a plan matures, there are reduced plan inflows as fewer active members contribute annually, and this is compounded by increased outflows for a greater number of retirees and beneficiaries. There is

greater strain on employers, as well as asset returns, to maintain plan funding, particularly if the avoidance of intergenerational inequity is desired. Increased liquidity needs, along with reduced capacity for market volatility, could push mature plans toward lower assumed returns.

The funded ratio is represented in chart 4 by color. A mature plan with a high active-to-beneficiary ratio might elect to reduce market risk by incorporating a safer target portfolio and corresponding lower assumed return. A lower assumed return correlates to a lower discount rate, and therefore, a lower funded ratio.

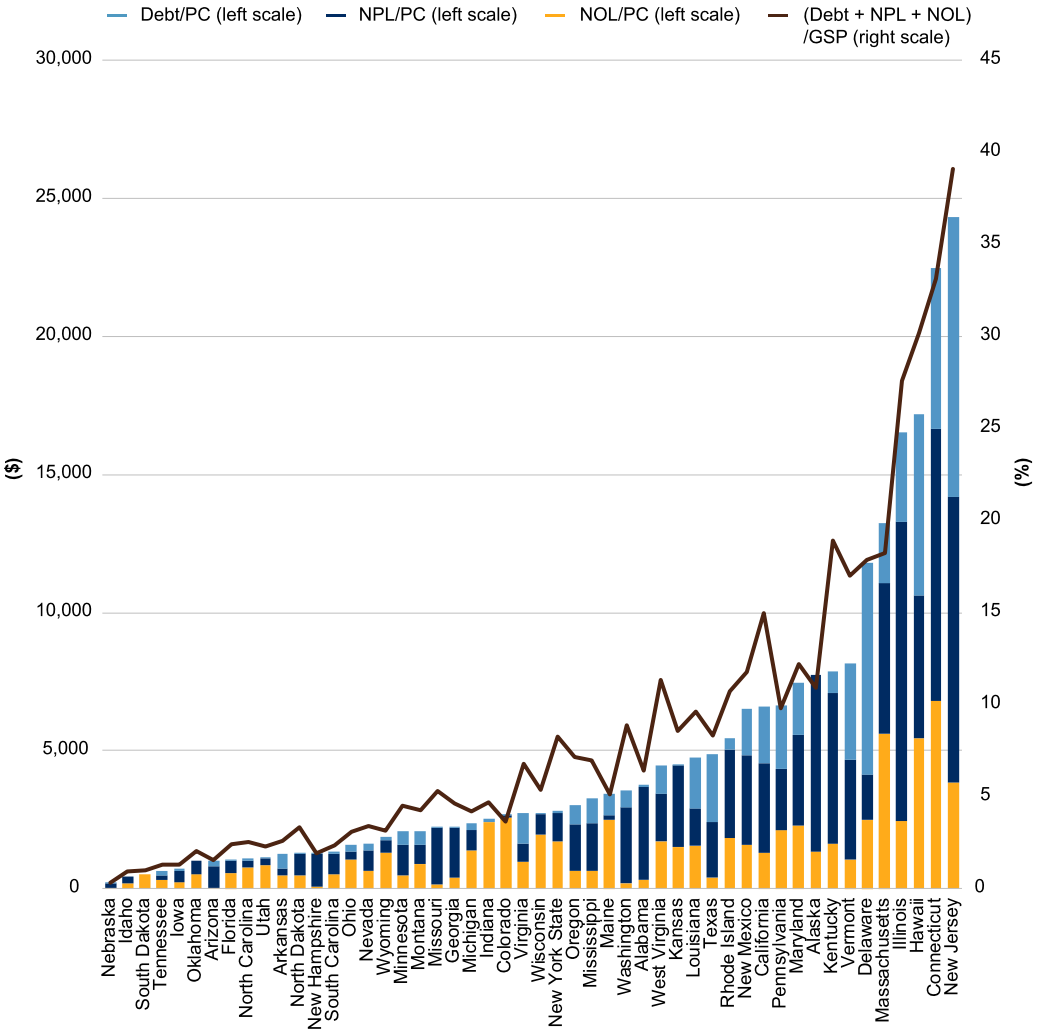
An additional note with regard to demographics has to do with funding discipline. Plans that incorporate assumed payroll growth in their amortization methodology have a built-in deferral of contributions that is intended to be a stable percentage of the budget. However, assumed payroll growth is typically around 1% higher than assumed inflation and this may not be attainable indefinitely. Every year that payroll growth is not realized leads to a contribution shortfall from expectations and adds unfunded liabilities that further add to already-accelerating contributions. We have seen amortization methods reduce such risk of acceleration in states such as Kentucky and Connecticut and expect this trend to continue.

Pension Costs Remain Affordable For Most States, With Notable Exceptions

Fixed costs remain affordable for most states. According to S&P Global Ratings' 2018 survey of state budgets, the median pension contribution as a share of general fund expenditures was 6% of expenditures, with contributions ranging from as low as 1% of expenditures to 18%. However, when accounting for debt and other postemployment benefit (OPEB) expenses, costs rise to a median of 11.5%. Across states, median pension liability per capita is $1,126, and when combined with net OPEB and debt liabilities, increases to a moderate $2,741 per capita. While the extreme outliers rightly get attention, it is worth pointing out that many states retain modest liabilities. However, we acknowledge that, when coupled with rising Medicaid costs (which average about 19% of general fund expenditures), other competing priorities, and slow or declining revenues, even modest growth in pension contributions can lead to budgetary pressure. Notably, the states with the highest pension costs also tend to have higher overall fixed costs, giving them less flexibility to address rising contributions. Please refer to "When The Credit Cycle Turns, U.S. States May Be Tested In Unprecedented Ways" (published Sept. 17, 2018) for more data on states' fixed costs.

Chart 5

Fiscal 2018 State Debt And Liabilities As % Of GSP



GSP—Gross state product. PC—Pension contribution. NPL—Net pension liabilities. NOL—Net OPEB liabilities.

Policy Decisions, Not Markets, Will Likely Pose Greatest Future Risks

Despite weaker funded ratios than in 2007 and assumed rates of return that, in our view, still fall short of sufficiently mitigating market volatility, we do not anticipate the next recession will lead to a pension crisis or acute budgetary stress. A majority of plans retain sufficient assets to withstand a market shock, and when smoothed over the remaining amortization period, contribution increases are likely to require difficult budgetary choices but remain affordable. In our view, actions to reduce annual contributions, whether shorting ADCs, extending amortization periods, or poorly executed asset transfers/pension obligation bonds, are more likely to lead to budgetary stress and downward rating revisions than weak pension investment returns in a typical recession.

Table 3

U.S. States' Pension Liabilities And Ratios -- Fiscal 2018

State	GO rating or ICR/outlook	Funded ratio (%)	NPL (Mil. $)	NPL/PC ($)	Debt, pension, and OPEB per capita ($)	Largest plan (2018)
Alabama	AA/Stable	70.87	3,217	658	2,735	Teachers Retirement System
Alaska	AA/Stable	68.37	4,716	6,395	7,745	Public Employees Retirement System
Arizona	AA/Stable	72.67	3,258	454	1,032	State Retirement System
Arkansas	AA/Stable	81.22	2,250	747	1,287	Public Employees Retirement System
California	AA-/Stable	70.75	87,094	2,202	6,629	Public Employees Retirement Fund
Colorado	AA/Stable	43.76	19,309	3,390	3,782	State Division
Connecticut	A/Positive	46.65	35,088	9,821	22,464	State Employees Retirement System
Delaware	AAA/Stable	85.12	1,591	1,645	11,819	State Employee Retirement System
Florida	AAA/Stable	84.26	5,299	249	1,108	Florida Retirement System
Georgia	AAA/Stable	80.05	7,236	688	2,105	Employee Retirement System
Hawaii*	AA+/Stable	54.80	7,331	5,161	17,171	Employee Retirement System
Idaho	AA+/Stable	91.64	399	228	378	Public Employees Retirement System
Illinois	BBB-/Stable	38.98	138,037	10,834	16,535	Teachers Retirement System
Indiana	AAA/Stable	61.12	11,994	1,792	2,270	Teachers Retirement Fund Pre-1996
Iowa	AAA/Stable	83.61	1,227	389	723	Public Employees Retirement System
Kansas	AA-/Stable	68.88	8,593	2,951	4,487	Public Employees Retirement System
Kentucky	A/Stable	44.83	24,448	5,471	7,868	Teachers Retirement System
Louisiana	AA-/Stable	67.60	6,215	1,334	4,761	State Employees Retirement System
Maine	AA/Stable	83.05	2,269	1,696	3,043	State Employees & Teachers Plan
Maryland	AAA/Stable	71.18	19,713	3,262	7,443	Teachers Retirement Pension System
Massachusetts	AA/Stable	60.72	37,686	5,460	13,242	Teachers Retirement System
Michigan	AA/Stable	63.24	17,305	1,731	3,276	Public School Employees Retirement System

Table 3

U.S. States' Pension Liabilities And Ratios -- Fiscal 2018 (cont.)

State	GO rating or ICR/outlook	Funded ratio (%)	NPL (Mil. $)	NPL/PC ($)	Debt, pension, and OPEB per capita ($)	Largest plan (2018)
Minnesota	AAA/Stable	80.67	2,545	453	1,880	State Employees Retirement System
Mississippi	AA/Stable	62.60	3,107	1,040	2,810	Pubic Employees Retirement System
Missouri	AAA/Stable	57.50	6,661	1,087	2,067	State Employees Plan
Montana	AA/Stable	72.53	2,173	2,045	2,249	Public Employees Retirement System
Nebraska	AAA/Stable	87.39	333	173	197	School Employees Retirement System
Nevada	AA/Positive	75.26	2,311	762	1,655	Public Employees Retirement System
New Hampshire	AA/Stable	64.70	992	732	1,328	New Hampshire Retirement System
New Jersey	A-/Stable	38.41	92,166	10,346	24,335	Teachers Pension Annual Fund
New Mexico	AA/Stable	60.97	6,769	3,231	6,605	Education Retirement Board
New York	AA+/Stable	98.95	1,685	86	2,674	Employee Retirement System
North Carolina	AAA/Stable	88.62	2,363	228	1,251	Teachers & State Employees Retirement System
North Dakota	AA+/Stable	65.19	885	1,165	1,305	Public Employees Retirement System
Ohio	AA+/Stable	81.11	3,721	318	1,595	Public Employees Retirement System
Oklahoma	AA/Stable	82.36	1,870	474	1,003	Teachers Retirement System
Oregon	AA+/Stable	82.07	3,139	749	2,747	Public Employees Retirement System (Oregon PERS)
Pennsylvania	A+/Stable	56.78	41,625	3,250	6,533	Public School Employees Retirement System
Rhode Island	AA/Stable	53.61	3,377	3,194	5,463	Employee Retirement System
South Carolina	AA+/Stable	55.07	14,012	2,756	3,545	South Carolina Retirement System Plan
South Dakota	AAA/Stable	100.02	(1)	(1)	523	South Dakota Retirement System
Tennessee	AAA/Stable	89.06	1,234	182	641	Consolidated Retirement System
Texas	AAA/Stable	70.62	58,498	2,038	4,878	Teachers Retirement System

Table 3

U.S. States' Pension Liabilities And Ratios -- Fiscal 2018 (cont.)

State	GO rating or ICR/outlook	Funded ratio (%)	NPL (Mil. $)	NPL/PC ($)	Debt, pension, and OPEB per capita ($)	Largest plan (2018)
Utah	AAA/Stable	90.31	780	247	1,137	Non Cont Retirement System
Vermont	AA+/Stable	61.73	2,265	3,616	8,158	Teachers Retirement System
Virginia	AAA/Stable	76.97	6,383	749	2,360	Retirement System State
Washington	AA+/Stable	93.75	1,265	168	3,452	Public Employees Retirement System 1
West Virginia	AA-/Stable	82.26	3,088	1,710	4,483	Teachers Retirement System
Wisconsin	AA/Stable	102.93	(825)	(142)	2,416	Wisconsin Retirement System
Wyoming	AA+/Stable	77.24	463	801	1,023	Public Employees Pension Plan

*Hawaii incorporates fiscal 2017 pension information, which is the most recent data available. GO--General obligation. ICR--Issuer credit rating. OPEB--Other postemployment benefit. NPL--Net pension liability. PC--Pension contribution.

Survey Methodology

We derived our calculation of pension liabilities from pension plan and state comprehensive annual financial reports (CAFRs) reporting under Governmental Accounting Standards Board (GASB) 67 and 68 standards, GASB 67 consultant reports, and GASB 68 allocation reports currently available to us. We have combined information across multiple pension plans for each state to calculate the state's aggregated plan net position to the total pension liability (pension funded ratio) and funding progress measures. The largest pension plan for a state is measured by its share of the state's aggregated net pension liability [NPL]). We use cost-sharing, multiple-employer pension plan CAFRs or GASB 67 reports released within the state's fiscal year and use the state's proportionate share of plan liabilities to calculate its NPL. Given varying reporting dates between some plan CAFRs and state government CAFRs, we use plan reports measured within the respective state's fiscal 2018, except where noted.

All states have released a CAFR using GASB 68 reporting standards, which incorporates disclosure on the state's proportionate share of cost-sharing pension plans. To estimate respective shares of the pertinent cost-sharing plans' NPL, we use the reported proportionate share disclosed in the states' most recent CAFRs or plan GASB 68 allocation reports. Although most state CAFRs report their proportionate share of respective cost-sharing plan NPLs with a one-year lag, we assume the reported percentage share is applied to fiscal 2018 plan NPLs. In deriving the estimated state portion of the liability for some cost-sharing, multiple-employer plans, we include a portion of plan liabilities in addition to those reported in the state's CAFR if we expect the state will likely continue to make pension contributions on behalf of other plan employers, even if such contributions are not legally required or do not flow directly to the plan.

Most states' single or agent employer plans are relatively small and updated GASB reported information is available only as of fiscal 2017 in their fiscal 2018 CAFRs. Given the relative size of these plans, if updated information is not available for fiscal 2018, we carry forward fiscal 2017 NPLs to fiscal 2018 to maintain relative comparability between years.

Hawaii has yet to report fiscal 2018 pension data, so we have carried forward fiscal 2017 data.

Chart 3 uses the following calculation across all state plans to estimate annual plan funding progress: Total employer and employee plan contributions ÷ the sum of service cost + total interest cost x (1 - average plan funded ratio) + (beginning plan NPL ÷ 30). (See "U.S. State Rating Methodology," published Oct. 17, 2016, paragraph 71, table 27, and glossary.) If the aggregate beginning unfunded pension liability across plans is negative, beginning plan NPL ÷ 30 would be treated as zero. Likewise, for funded ratios at or above 100% in fiscal 2018, the interest cost factor would be zero. Chart 4 reflects information specific to the largest pension plan in which the state participates (see table 3), measured by its share of the state's total estimated NPL.

Related Research

- Market Declines Will Shake Up U.S. State Pension Funding Stability, published Feb. 26, 2009
- Pension Brief: Credit Effects Of Municipal Pension Plans Approaching Asset Depletion, published Sept. 5, 2019
- Pension Brief: Are Asset Transfers A Gimmick Or A Sound Fiscal Strategy?, published Feb. 19, 2019
- When The Credit Cycle Turns, U.S. States May Be Tested In Unprecedented Ways, published Sept. 17, 2018.

This report does not constitute a rating action.