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U.S. State Pensions: Funded Ratios Declined Again In 2016

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U.S. State Pensions: Funded Ratios Declined Again In 2016

In the ninth year of this historically slow economic recovery, many states are experiencing budget pressure as fixed costs rise and revenue growth remains stagnant. The current recovery from the Great Recession over the previous nine years has been relatively slow for state economies and tax revenues, which has posed challenges for rebuilding reserves and investing in infrastructure. In this slow-growth environment, we have noted credit deterioration across some states experiencing relatively acute budgetary pressure and structural imbalance due particularly to rising pension and health care costs (see "U.S. State Sector 2017 Outlook: Protracted Slow Economic Growth Casts A Shadow," published Jan. 5, 2017 on RatingsDirect).

As we predicted in our survey last year, weak market returns at the end of June 2016 and the gradual lowering of rate of return assumptions have contributed to another decline in reported median pension funded ratios in this year's survey. While pension funded ratios next year are likely to receive some uplift from better market returns at the end of June 2017, the long term median annualized rate of return is lower and will continue to pressure plan funding. Plans have increasingly made incremental reductions to actuarial assumed rates of return to better align with actual experience. For plans that do not lower the rate of return assumptions, plan managers might choose to pursue higher yields through risker investment strategies. However, higher volatility and the potential for a series of return shortfalls or asset declines in a market correction could compound underfunding with steeper required growth in contribution rates in the long run. In our view, these decisions represent the difficult tradeoff between reducing the long-term risk associated with uncertain and volatile market returns in exchange for increased budgetary costs.

For some states, pensions continue to be a source of budget and credit pressure and usually reflect a history of poor funding discipline in our opinion. Other states have managed the long-term liability relatively well and have either tempered benefit levels and plan offerings or demonstrated strong funding discipline based on conservative actuarial assumptions and methods. We consider the state's commitment to funding annual contributions that address the long-term pension liability a key credit consideration. How states and plans craft funding policies using conservative assumptions to meet a realistic estimate of the long-term unfunded pension liability is important to future state credit quality.

Overview

- More states are experiencing some budget pressures related to pensions and other rising costs amid a slow economic recovery.
- Investment returns are up in 2017, but long-term pressures on pension funding remain.
- Survey results reveal another decline in reported median pension funded ratios to 68% as of fiscal 2016.

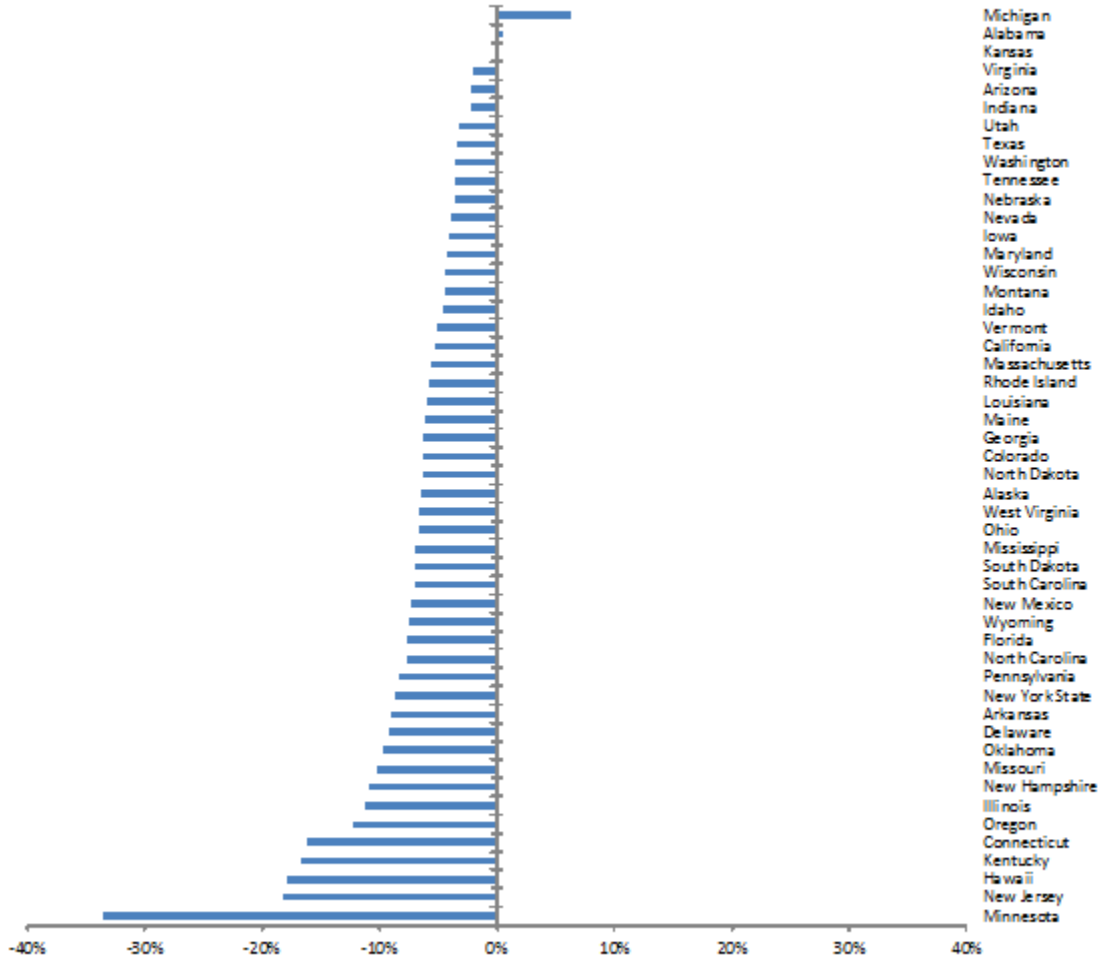
Survey Results

Our survey results incorporate reported pension liabilities under the Governmental Accounting Standards Board (GASB) Statements 67 and 68, which took effect for employers and governmental non-employer contributing entities for fiscal years starting on or after June 15, 2013, and June 15, 2014, respectively. The statements changed how pension liabilities are accounted for and reported in state and local governments' financial statements. The current standards value pension plan assets to market which lends to volatility in year-to-year reported pension funded ratios.

Pension funded ratios

Based on plan information reported through the end of fiscal 2016, our survey reflects a significant decline in reported funded levels across all states compared to the previous year with little exception. The median funded ratio reported on a GASB basis across all states fell to 68% from almost 75% in fiscal 2015. The decline reflects a combination of factors including weak market returns and changes in actuarial assumptions, primarily reductions in assumed rates of return and the adoption of generational mortality projections. As discussed above, reported pension funded ratios in GASB statements from year to year will be more volatile based on the market valuation of assets. As a result, reported funded ratios next year will likely improve in line with healthier market returns as of June 2017. According to a report by Wilshire Trust Universe Comparison Service, the median public pension plan return was 12.4% as of June 2017, which is stronger than returns in the previous two years. However, reported annualized 20 year median returns were only 7%, and we expect long-term market returns are likely to continue to remain a pressure for pension plans.

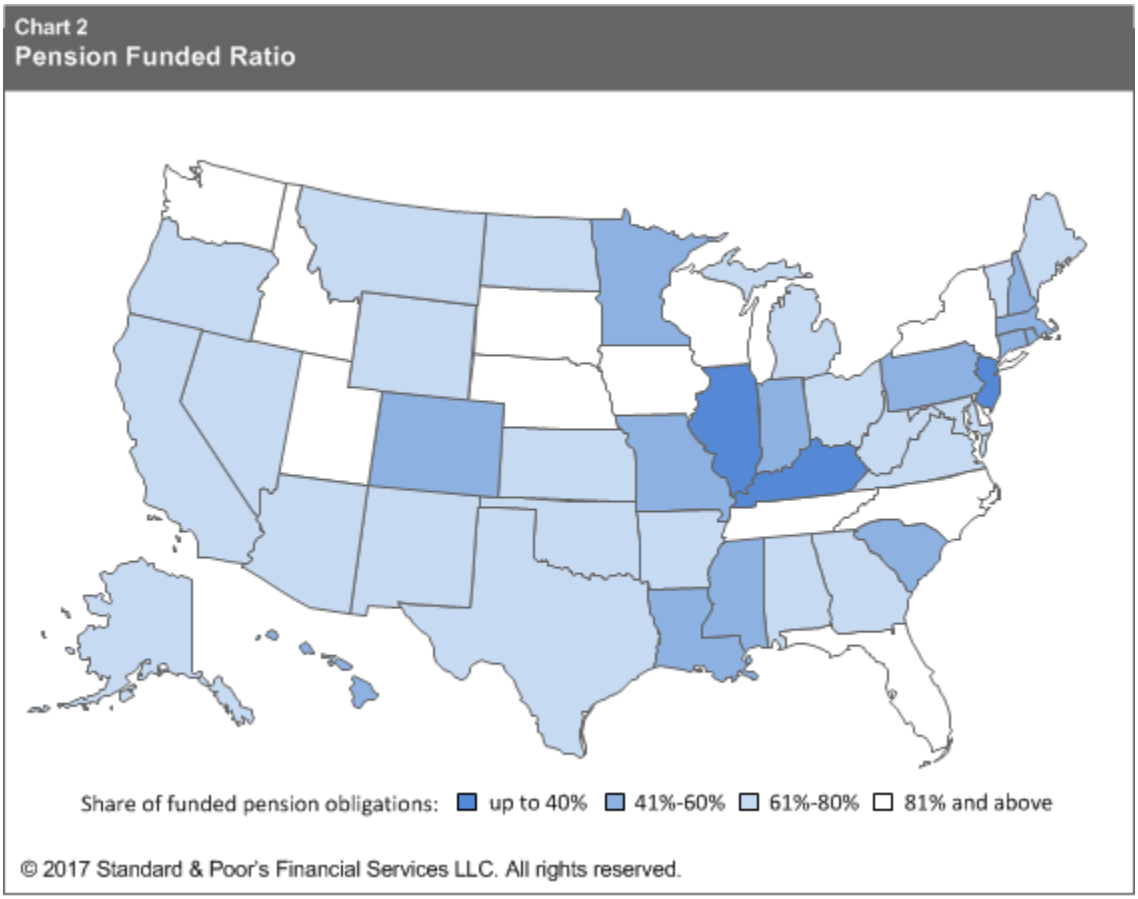
Chart 1
Change In Funded Ratio: Fiscal 2016 vs. Fiscal 2015



Bucking the trend, Michigan's funded ratio actually increased in fiscal 2016 due to market returns that had improved somewhat by September 30 compared to the June 30 measurement date. Additionally, Alabama, Kansas, and Virginia posted minimal changes from year to year. However all other states experienced a decline in funded ratio compared to the previous year. Notably, Minnesota's funded ratio reported across plans fell by a significant amount in fiscal 2016 due to its adoption of a 4.17% GASB single discount rate for its SERF plan compared to a 7.90% assumed rate of return in fiscal 2015. Oregon PERS experienced a more than 12% decline in its funded ratio as of fiscal 2016 due to lower investment returns and reducing its assumed investment rate of return to a more conservative 7.2% from 7.5%. Based on a recent actuarial valuation result which incorporated these changes and a funding approach that "collars" required pension contributions depending on the actuarial funded status, Oregon anticipates its pension contributions will grow at a steeper rate in the next few years.

New Jersey, Hawaii, Kentucky, Connecticut, and Illinois rank among the states that saw the steepest funded ratio declines across plans in 2016. They also place among the five states with the worst funded ratios. New Jersey, Kentucky, and Illinois, in particular, have a history of significantly underfunding annual contributions below actuarially determined levels. The primary reason for the decline in Hawaii's funded ratio in fiscal 2016 relates to a change in Hawaii's ERS plan's assumed rate of return to 7% from 7.65% and its adoption of revised mortality expectations to better reflect recent experience. Although such a change puts additional negative pressure on the system's funded ratio, we believe it reflects a more conservative orientation to support the long-term sustainability of the system.

Chart 2
Pension Funded Ratio



Fiscal 2016 Best-Funded Pension Ratios	
Wisconsin	98.20
South Dakota	96.89
New York State	93.55
Tennessee	88.04
North Carolina	87.23

Fiscal 2016 Worst-Funded Pension Ratios	
New Jersey	30.93
Kentucky	31.21
Illinois	35.64
Connecticut	41.38
Hawaii	51.28

As illustrated in Chart 2, pension funded ratios vary widely. Wisconsin, South Dakota, New York, and North Carolina continue to rank among the states with the best reported funded ratios in the nation. Tennessee surpassed Florida for a spot in the top five as FRS ratios fell to 85% from 92% in part reflecting a change in the assumed rate of return to 7.6%

from 7.65%. The FRS Actuarial Assumption Conference also recently agreed to lower the assumed rate of return even further to 7.5% to better align with actual experience and which we believe to be a sign of proactive management, although it will raise future estimated liabilities and contributions. New Jersey, Kentucky and Illinois reported GASB funded ratios under 40% reflecting a history of pension underfunding, which has contributed to budgetary pressure in those states and which has been a driver of recent rating downgrades and negative outlooks.

We also note that the assumptions which plans use to derive their liability estimates for reporting purposes don't necessarily align with actuarial assumptions they use for the actual funding framework. For example, whereas GASB standards require market valuation of pension assets, actuarial funding strategies for most plans generally use a valuation of assets which smooths market returns over a number of years to help offset year-to-year volatility. Single blended discount rates required under GASB standards for plans that project asset depletion can be much lower than just the actuarial assumed long-term rate of return. If the underlying actuarial assumptions are not conservative enough or if the funding strategy is poorly crafted even actuarially determined contributions (ADC) could fail to make realistic funding progress toward paying down the long term liability. Not only assumed rates of return, but amortization methods used as a basis for determining the required annual contributions, can significantly influence whether there is a credible path forward to fund a plan's estimated long-term unfunded liability.

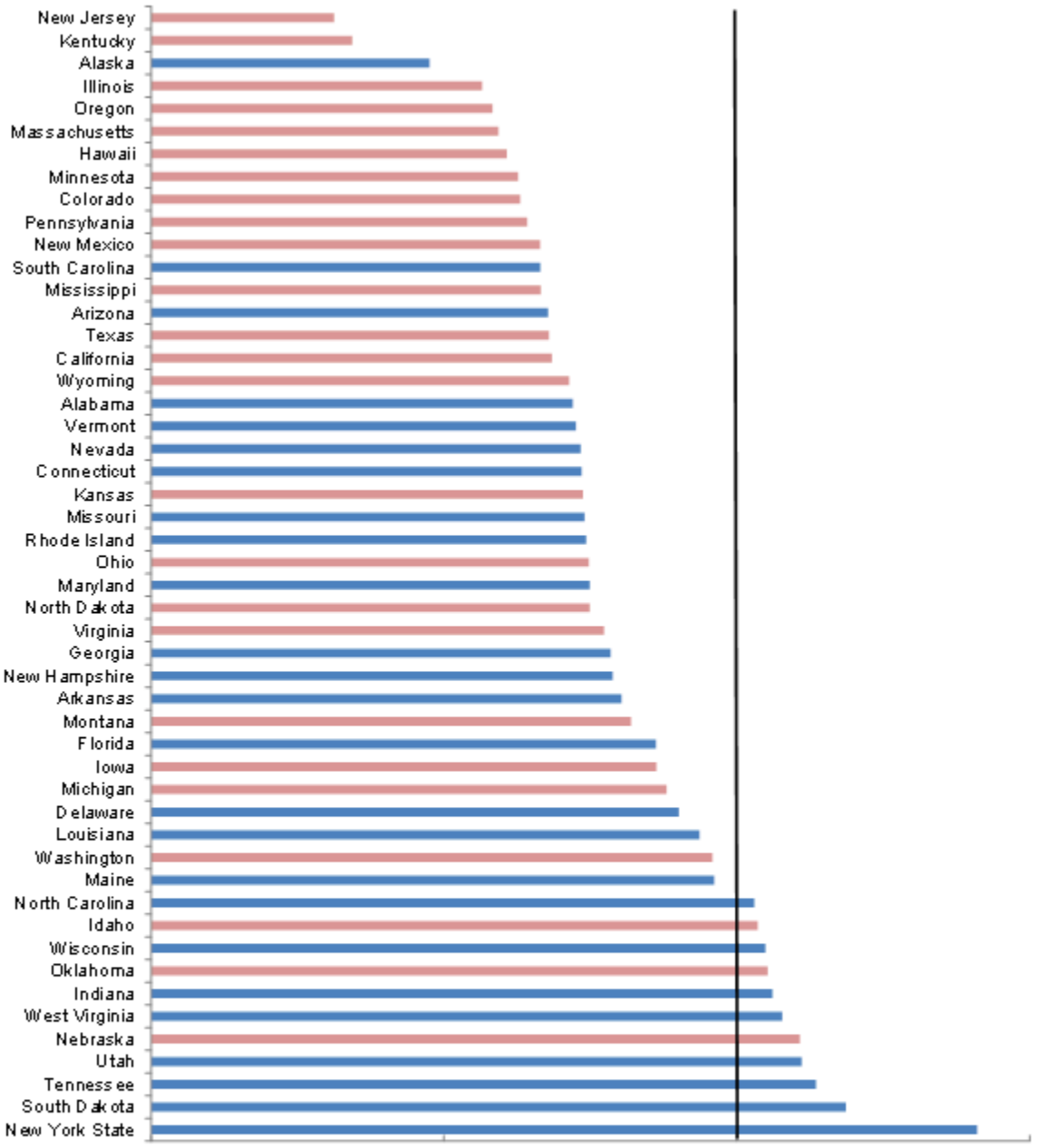
Measuring Funding Progress

In October 2016, S&P Global Ratings revised its methodology for rating U.S. state governments and territories to leverage GASB 67 and 68 pension reporting and disclosure. Our approach includes assessing certain pension plan characteristics, management factors and actuarial assumptions and methods when developing our view of pension funding discipline (see "U.S. State Ratings Methodology"). Our assessment of pension funding discipline begins with our review of a state's funding policy, whether it has an actuarial basis, and whether there is a demonstrated commitment to regularly making annual contributions that meet or exceed actuarially determined levels. We review the assumed rate of return, amortization methods, and other underlying assumptions used to project future contributions. By analyzing funding discipline and assumptions, we analyze how relatively conservative or aggressive assumptions relate to plan funding and how funding pressures could escalate over time.

In our view, states that consistently fund full required contributions with an actuarial basis and use conservative assumptions and methods are more likely to effectively manage their pension liabilities and the associated long-term budgetary costs than states that do not. Additionally, states that continue to take the long view when reforming funding policies and change actuarial assumptions to calibrate more conservatively with actual experience are better positioned to mitigate the risks of future long-term budget pressures.

Chart 3 compares total annual plan contributions to certain costs driving the annual change in the net pension liability. We believe there is likely some minimum amount of funding progress if the annual plan contributions cover (1) service cost (the present value of benefits earned by participants in the year), (2) a portion of the annual total interest cost related to pension liabilities unmatched by plan assets, and (3) 1/30th amortization of the beginning net pension liability (see "Survey Methodology" below). The chart reveals that, on the whole, plan contributions for only 11 of the states are covering these annual costs for the most recently reported year.

Chart 3
Assessing Funding Discipline



Blue: Pension contributions are actuarially based and usually meet or exceed required levels
Red: Pension contributions do not have an actuarial basis or are not usually fully funded

New York, South Dakota, Tennessee, and Wisconsin plans show strong progress in annual pension funding and these states are also notably among those states with the highest ranking pension funded ratios in fiscal 2016. Additionally,

these states have demonstrated a track record of funding required pension contributions based on actuarial recommendations. In general for the best funded plans maintain what we consider good funding policies. This is illustrated in a formal funding policy Tennessee adopted in 2014 which, among other things, required 100% payment of the ADC, a conservative amortization schedule, a realistic measurement of liabilities, and experience studies conducted every four years. It's worth noting that most of the states with the top five ranked funded ratios regularly update experience studies, employ reasonable amortization methods and use a discount rate that is lower than the national median with a history of revising discount rates in response to recent and projected investment return experience.

Conversely, New Jersey and Kentucky continue to reflect weak pension funding progress in fiscal 2016 as well as a weak funding framework and track record. Our ratings for these states have been lowered multiple times in the previous few years given structural budgetary imbalances and our view of the thin pension funded ratios and weak funding discipline that is likely to continue to significantly pressure future budgets.

The chart also highlights that even for states 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 craft an actuarially determined contribution are somewhat aggressive and do not incorporate recent experience or prudent industry standards.

Actuarial Assumptions and Methods

There are a number of actuarial assumptions and methods used to estimate pension liabilities. These assumptions and methods – including those relating to the rate of return, amortization methods, mortality rates, payroll growth, and more – drive a plan's estimated long-term pension liability. We believe proactive plan management includes the timely and comprehensive incorporation of updated demographic and economic assumptions from regular experience studies. A state that lags in its response to emerging long-term economic and demographic trends for the plan could fall behind in its funding and see more significant cost increases in the future.

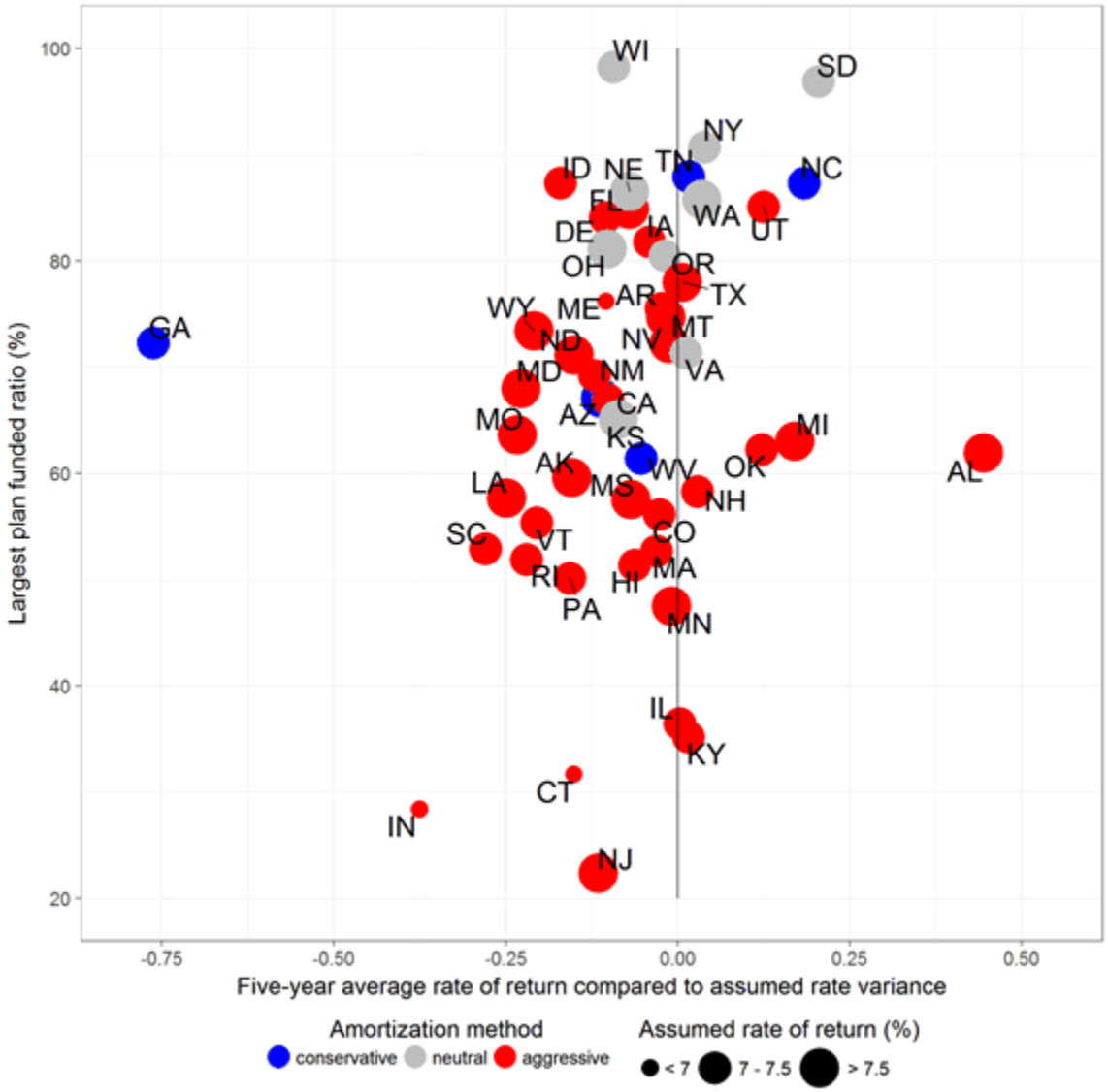
Rate of return assumptions and amortization methods are among the key actuarial drivers that, if currently misaligned with experience could result in significant growth in future reported pension liabilities and annual costs once revised to reflect more conservative assumptions. We believe that plans that not only meet full required pension contributions based on actuarial estimates, but manage their assumed rates of return to align with actual long-term rates of return, are more likely to stabilize pension funding over time.

Additionally, the chosen amortization method helps determine if the actuarially determined contribution will ultimately pay down the unfunded liability in the future. We expect a rolling, or open, amortization with a long time horizon will not fully pay off the unfunded liability and can be a sign of poor funding discipline. Additionally, a plan that structures a closed amortization to a level percentage of payroll will typically rely on future payroll growth to lower contribution costs today in exchange for higher costs over time. If the payment horizon is longer than 20 years, this typically introduces a period of negative amortization where initial payments don't cover the interest on the unfunded liability, and the unfunded liability grows as a result. Furthermore, if demographic trends don't align with optimistic payroll

growth assumptions, employers are likely to bear higher contributions over time which can be a source of budget pressure.

Chart 4 reflects the percent variance in the average five-year rate of investment return compared to the actuarial assumed rate of return used in funding for each state's largest plan While some of the plans were able to beat their long term assumed rate of return, the majority fell short. Two-fifths of the largest state plans in our survey this year recently reduced their long-term rate of return assumptions which brings the median long term return assumption among these plans to 7.5%. The chart also highlights a handful of plans that employ a closed amortization schedule of less than 20 years with level dollar contributions, which we consider conservative. On the other hand, we believe an amortization schedule that exceeds 20 years or is structured as an open rolling schedule with level percentage of pay is more aggressive. In general, as illustrated below, most of the states' largest plans utilize an amortization method we characterize as aggressive.

Chart 4
Largest State Plans: Key Actuarial Drivers And Funded Status



Indiana's pre-1996 Teachers Retirement Fund is a closed plan that the state funds on a pay-as-you-go basis.

What's Next?

Despite a rebound in 2017, investment returns are not likely to sustain pre-2000 levels and funding decisions lag market trends since they are influenced by actuarial asset valuations which smooth investment performance over time. Given recent economic and demographic experience, plans are updating actuarial assumptions including updating mortality assumptions and gradually lowering assumed discount rates to align with experience. Some plans have made moved to close legacy plans and create defined contribution plans for new hires in order to limit future costs.

However, such efforts can further weaken funded ratios and require higher employer contributions for the current unfunded liability as contributions from active employees dwindle and the funding horizon shrinks. These trends have resulted in growing required pension contributions at the same time that states are experiencing thin budget margins in a slow economic recovery.

Given these pressures, perhaps more states will revisit attempts at changing benefits or benefit costs. In many states, previous benefit reform efforts have been blocked by legal challenges and repeal which makes meaningful near-term changes to benefit costs difficult. Several states align themselves with a longstanding State Supreme Court decision (the "California Rule") that poses a formidable hurdle to making any change to contractual existing pension benefits. Notably in August 2016, a California court of appeal ruling allowed pension reforms that reduced pension spiking provisions for CALPERS municipal employees in the context of maintaining a "reasonable" benefit level, which, if upheld, could provide flexibility to benefit changes not previously supposed by the "California Rule" precedent. However, it is still too early to tell whether the case will be upheld in its appeal to the state Supreme Court.

We have also seen examples of different types of pension reform measures that do not attempt to reduce benefits, but focusing on dedicating funding sources for pensions that can have various effects on the estimated pension assets and liability. For example, California recently used cash in a surplus money investment fund to make a $6 billion upfront supplemental contribution toward the state's liability in CalPERS, which the state is scheduled to repay over the course of 13 years. Assuming plan investment returns meet expectations, California expects the financing strategy will yield savings in general fund contributions to the pension obligations in the long run.

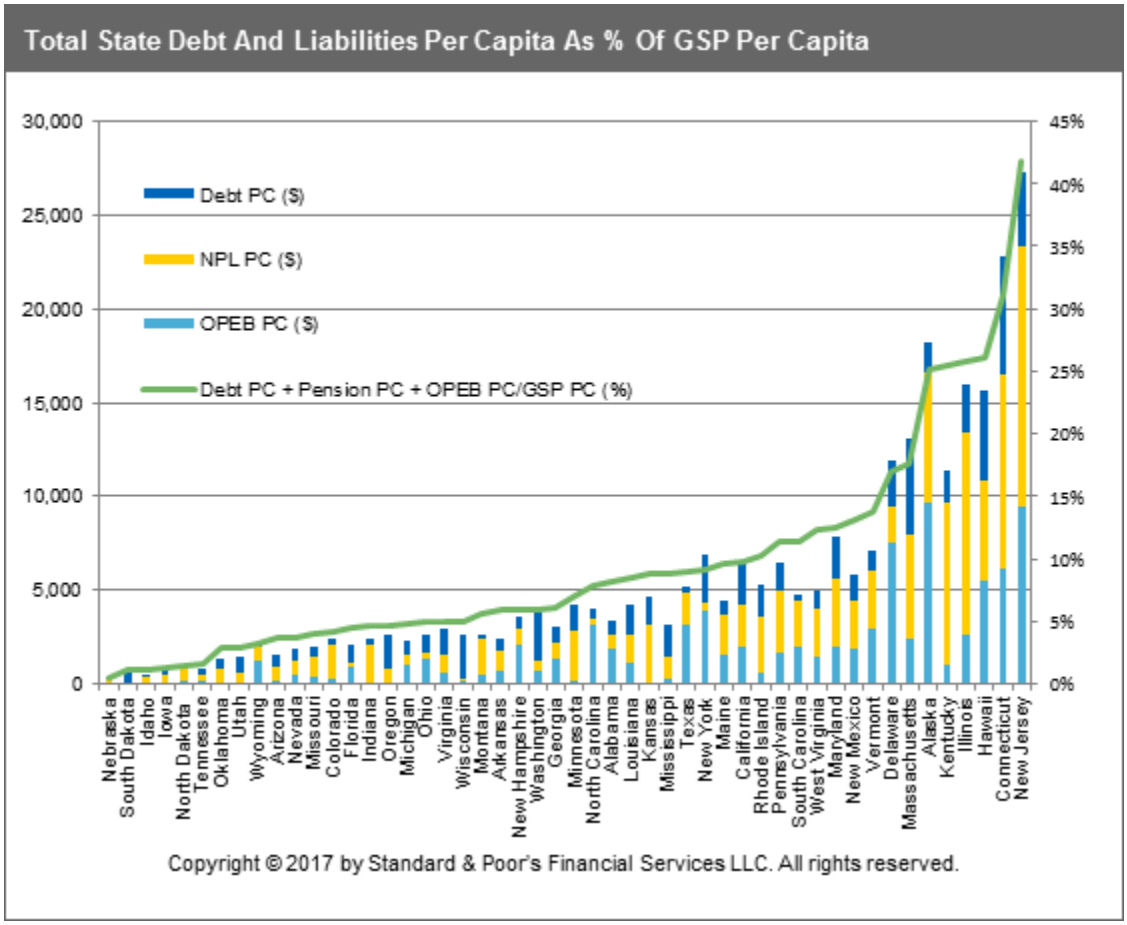
In another example of recent unique pension reform, New Jersey dedicated a transfer of its lottery enterprise revenue to the pension system for 30 years. This revenue dedication allowed the state to recognize a higher funded ratio using its own actuarial assumptions. However, we do not expect GASB valuations to recognize the transfer of the state's lottery enterprise revenue to the retirement funds as an investment "asset." While the current plan does not reduce overall annual contributions to the system, near term planned contributions still remain significantly below ADC levels.

Jacksonville, Fla. also adopted pension reform earlier this year that dedicates future collections from a sales tax levy effective for pensions as of 2031 assumed to grow by 4.25% annually. The pension system treats the dedication of the future revenue stream as an immediate recognized asset which raises the actuarial funded ratio. As a result, the city's near-term required contributions to the system will also decrease, effectively deferring contributions into the future and taking on additional liquidity risk under the expectation that future surtax revenue growth will be sufficient to cover the difference (see "Jacksonville Adopts Pension Reform, But the Ultimate Impact On Credit Quality Remains Uncertain," May 24, 2017). We believe these examples of alternative pension reform measures can have positive elements, however, counting future revenue stream as actuarial assets in order to lower near-term contributions at the expense of long-term sustainability heightens the risk of escalating future costs if base assumptions don't hold.

We believe plans are likely to continue to incrementally lower assumed rates of return and update mortality assumptions in order to incorporate actual plan experience, which should demonstrate an improved commitment to funding but also drive state unfunded liabilities and budgetary costs higher. States that have already maintained relatively conservative pension plan assumptions to target future long-term pension liabilities and demonstrated strong

funding discipline to consistently pay actuarially determined pension contributions should be better positioned to operate within the stagnant revenue trends and rising cost pressures of the current recovery.

Chart 5



U.S. States' Pension Liabilities And Ratios

State	Funded ratio (%)	Vs. last year	NPL ($ mils.)	NPL pc ($)	Debt, pension and OPEB pc	Largest plan	GO or ICR rating/outlook
Alabama	66.75	Higher	3,345	688	3,411	AL ERS	AA/Stable
Alaska	63.11	Lower	5,115	6,895	18,164	AK PERS	AA/Negative
Arizona	65.06	Lower	5,185	748	1,582	AZ SRS	AA/Stable
Arkansas	74.40	Lower	3,152	1,055	2,362	AR PERS	AA/Stable
California	68.37	Lower	88,076	2,244	6,440	CA PERF	AA-/Stable
Colorado	56.19	Lower	10,252	1,850	2,452	CO State Division	AA/Stable
Connecticut	41.38	Lower	37,158	10,390	22,745	CT SERS	A+/Negative
Delaware	81.18	Lower	1,862	1,956	11,953	DE State Employees	AAA/Stable
Florida	84.88	Lower	4,535	220	2,049	FL RS	AAA/Stable
Georgia	75.77	Lower	8,421	817	3,068	GA ERS	AAA/Stable
Hawaii	51.28	Lower	7,653	5,357	15,656	HI ERS	AA+/Stable

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

State	Funded ratio (%)	Vs. last year	NPL ($ mils.)	NPL pc ($)	Debt, pension and OPEB pc	Largest plan	GO or ICR rating/outlook
Idaho	87.19	Lower	547	325	472	ID PERSI	AA+/Stable
Illinois	35.64	Lower	138,390	10,810	15,923	IL TRS	BBB-/Stable
Indiana	58.98	Lower	13,399	2,020	2,370	IN TRF Pre-1996	AAA/Stable
Iowa	81.64	Lower	1,293	412	752	IA PERS	AAA/Stable
Kansas	65.10	Lower	8,885	3,056	4,664	KS PERS	AA-/Negative
Kentucky	31.21	Lower	38,328	8,638	11,380	KY Teachers	A+/Negative
Louisiana	60.02	Lower	7,003	1,496	4,215	LA LASERS	AA-/Negative
Maine	76.34	Lower	2,925	2,197	4,379	ME PERS	AA/Stable
Maryland	65.79	Lower	22,171	3,685	7,855	MD TRPS	AAA/Stable
Massachusetts	57.33	Lower	37,694	5,534	13,129	MA MTRS	AA/Stable
Michigan	67.73	Higher	5,931	597	2,334	MI SERS	AA-/Positive
Minnesota	52.10	Lower	14,964	2,711	4,250	MN SERF	AA+/Stable
Mississippi	57.54	Lower	3,437	1,150	3,189	MS PERS	AA/Negative
Missouri	59.98	Lower	6,004	985	1,991	MO MSEP	AAA/Stable
Montana	71.20	Lower	2,003	1,921	2,577	MT PERS-DBRP	AA/Stable
Nebraska*	85.53	Lower	426	223	242	NE Schools	AAA/Stable
Nevada	72.26	Lower	2,229	758	1,866	NV PERS	AA/Stable
New Hampshire	58.27	Lower	1,106	829	3,529	NH RS	AA/Stable
New Jersey	30.93	Lower	123,925	13,855	27,293	NJ TPAF	A-/Stable
New Mexico	65.43	Lower	5,485	2,636	5,814	NM PERA	AA/Negative
New York **	93.55	Lower	7,712	391	6,883	NY ERS	AA+/Stable
North Carolina	87.23	Lower	2,289	226	4,012	NC PERS	AAA/Stable
North Dakota	65.89	Lower	535	706	918	ND PERS	AA+/Stable
Ohio	73.53	Lower	4,114	354	2,635	OH PERS	AA+/Stable
Oklahoma	72.56	Lower	3,196	815	1,342	OK Teachers	AA/Stable
Oregon	80.53	Lower	2,963	724	2,583	OR PERS	AA+/Stable
Pennsylvania	52.84	Lower	43,349	3,391	6,416	PA SERS	A+/Stable
Rhode Island & Providence Plantations	53.75	Lower	3,137	2,969	5,316	RI ERS - State	AA/Stable
South Carolina	53.78	Lower	12,094	2,438	4,793	SC RS	AA+/Stable
South Dakota*	96.89	Lower	76	88	598	SD RS	AAA/Stable
Tennessee	88.04	Lower	1,816	273	806	TN CSHEPP	AAA/Stable
Texas	73.02	Lower	46,870	1,682	5,207	TX TRS	AAA/Stable
Utah	85.67	Lower	1,525	500	1,483	UT URS Non-Cont	AAA/Stable
Vermont	62.10	Lower	1,960	3,139	7,126	VT Teachers	AA+/Stable
Virginia	70.45	Lower	7,875	936	2,906	VA VRS	AAA/Negative
Washington	83.75	Lower	4,028	553	3,818	WA PERS 2/3	AA+/Stable
West Virginia	71.89	Lower	4,625	2,526	5,002	WV TRS	AA-/Stable
Wisconsin	98.20	Lower	457	79	2,642	WI RS	AA/Stable
Wyoming	74.10	Lower	480	819	2,040	WY PERS	AA+/Stable
Total			760,000				

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

State	Funded ratio (%)	Vs. last year	NPL ($ mils.)	NPL pc ($)	Debt, pension and OPEB pc	Largest plan	GO or ICR rating/outlook
Median	68.05		4,580	1,102	3,470		
Average	68.13		15,200	2,373	5,493		

*NE and SD excludes OPEB liability. **NY as of March 31, 2016 (March 31, 2017 reflects improvement to 96.05% total funded ratio).

Survey Methodology

We derived our calculation of pension liabilities from pension plan and state CAFRs reporting under GASB 67/68 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. 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 the state's net pension liability. Given varying reporting dates between some plan CAFRs and state government CAFRs, we use plan report measurement dates that were released within the respective state's fiscal 2016 year.

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' net pension liability, 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 plan net pension liabilities as of fiscal 2015, we assume the same percentage share applied to fiscal 2016 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 plan or agent employer plans are relatively small and updated GASB reported information is available only as of fiscal 2016 in the states' fiscal 2016 CAFRs. Given the relative size of these plans, if updated information is not available for fiscal 2016, we carry forward fiscal 2015 net pension liabilities to fiscal 2016 to maintain relative comparability between years.

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 net pension liability ÷ 30). (see states methodology paragraph 71, table 27 and glossary. If the aggregate beginning unfunded pension liability across plans is negative, beginning plan net pension liability ÷ 30 would be treated as zero. Likewise, for funded ratios at or above 100% in fiscal 2016, the interest cost factor would be zero.

Chart 4 reflects information specific to the largest pension plan in which the state participates (see table 1), measured by its share of the state's total estimated net pension liability.

Research assistance was provided by Matthew Martin and Artur Schaaf