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## A Bumpy Road Lies Ahead For U.S. Public Pension Funded Levels

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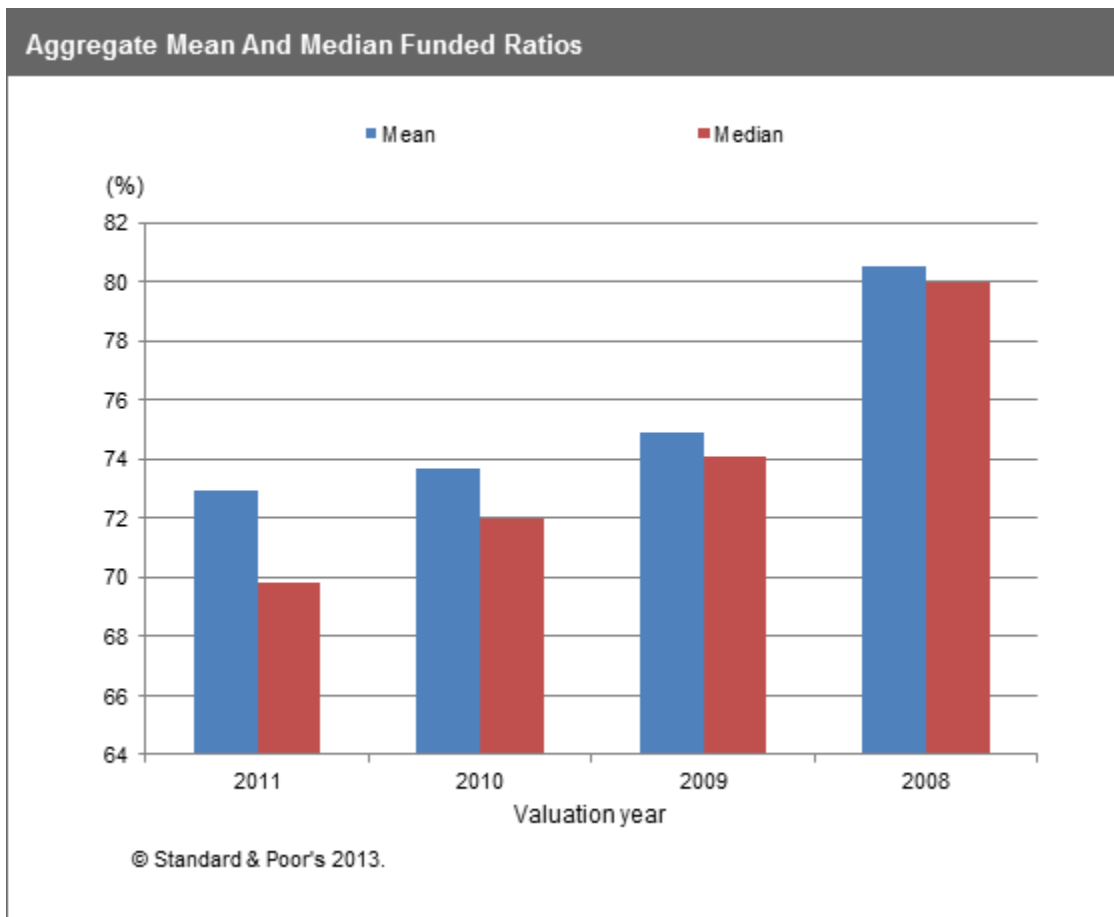
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# A Bumpy Road Lies Ahead For U.S. Public Pension Funded Levels

U.S. state pensions are showing some signs of stabilization, but significant improvement in funded levels will take many more years, according to Standard & Poor's Ratings Services' 2013 annual survey. The 50-state average funded ratio--or actuarial value of assets divided by the actuarial accrued liabilities--fell by about 1% to 72.9% in 2011 compared with 73.7% in 2010. This is slightly smaller than the 1.6% drop in 2010 and much smaller than the 7% decline from 2008 to 2009. The 50-state median fell by 2.2% to 69.8% from 72%--a similar rate of decline as in 2010 (2.1%) and much lower than the 6% decline in 2009 (see chart 1). This recent trend of smaller declines in the past three years could lead some market watchers to believe that the worst is over and that pension funded levels have bottomed out. Recent equity market performance could also suggest a similar conclusion.

Chart 1



In our view, however, the road to pension funded level improvement will be bumpy. Although a decelerating rate of decline is positive, we expect states will need to actively manage pension funds to ensure their long-term sustainability. Contributing to the ups and downs we expect in pension valuations are market volatility, the implementation of Governmental Accounting Standards Board (GASB) Statements 67 and 68, ongoing pension reform

efforts, and, for those with weaker funded systems, a problematic funding environment as growth in pension contributions consumes a larger part of those states' budgets. We believe this increased level of volatility will require a continued emphasis on pension liabilities management.

## Overview

- U.S. state pension funded levels have begun to stabilize but significant improvement will take many more years.
- GASB changes will introduce more volatility but should lead to better comparability and disclosure.
- Continued pension liability management will be key to achieving long-term sustainability.
- States' funding policy decisions and funding discipline will be crucial determinants of pension funded levels.

## Managing Pension Funding In A Tight Revenue Setting

States continue to operate cautiously, given uncertain revenues and expenditures. Although revenues for most states have returned to pre-recession levels, they have not kept pace with spending pressures. State officials face increasing budget challenges as they deal with demands to restore service levels, reduce taxes, and implement the provisions of the Affordable Care Act. Establishing a good baseline for fiscal 2014 revenues is difficult due to the uncertainty surrounding sequestration and the potential that fiscal 2013 revenue increases may have been a one-time event -- the result of taxpayers' efforts to take bonuses and capital gains in fiscal 2013 to avoid higher federal tax rates in fiscal 2014. As policymakers adjust to the current post-recession fiscal climate of slow and uncertain economic growth against a backdrop of federal funding uncertainty, the decisions they face are increasingly difficult and pension reform is among their options to rein in long- and short-term spending pressure.

We continue to incorporate governmental liability management--including pensions--into our rating analysis as we have for decades. Given the state sector's generally strong credit profile and the long-term nature of these obligations, we do not view pension liabilities as immediately jeopardizing state governments' capacity to fund their debt service obligations, but we believe they can weaken a state's relative credit profile if left unmanaged. When we've concluded that states are insufficiently managing their pension liabilities, it has detracted from our assessment of overall credit quality. Some states whose pension liabilities management has contributed to lower credit ratings or negative outlooks include Illinois, Kentucky, New Jersey, and Pennsylvania.

Overall, our interpretation of this year's survey results and the credit implications of liabilities for pension systems of the states reflect that:

- Pension funded ratios continue to decline as the investment losses from 2008 and 2009 are smoothed into actuarial value of assets. However, these declines seem to be decelerating.
- Efforts to reform pension systems are far from over and, if anything, are intensifying as more and more policymakers look to make structural changes to their systems that will significantly lower liabilities.
- The implementation of GASB pension reporting and accounting changes, in most cases, will result in the reporting of a greater and more volatile unfunded pension liability.

- States' decisions on what pension funding policy to adopt and their discipline in adhering to the policy are likely to shape the future direction of pension funded levels.
- Most states have sufficient assets in their pension trusts to fund benefits payments over the near to medium term and in many cases, long term. Under the new GASB statements, the crossover point used for discount rate blending will better identify situations when assets will no longer be available to fund benefits. Contributions to fund the state share of pension benefits typically represent a relatively manageable portion of state budgets and, consequently, do not hinder their ability to meet debt service obligations in the near term. However, we will continue to differentiate states' credit profiles with large and growing liabilities, insufficient contributions to effectively amortize the liability, and limited action on reform initiatives.
- Long-term liability management, including pensions, will remain a key component of our analysis.

## 2013 Pension Survey Results

Standard & Poor's has compiled the latest complete data (see tables 3A-3C), covering valuation data through 2011 for all state-sponsored plans. The data show that the average funded ratio continued to weaken, although only slightly. The data are from 2011 valuations and reported in the states' 2012 comprehensive annual financial reports (CAFRs), the latest year for which CAFRs are available. The wide spread between the highest and lowest funded state plans shows the significant variation among the funded ratios of state plans (see table 1).

In 2011, pension funded ratios dropped for 34 of the 50 U.S. states, remained unchanged for six, and increased for the remaining 10 states. The average funded ratio change for the 50 states was negative 0.8% but changes to individual plans ranged from a 7.3% decline to as much as an 11.6% increase (see table 2). When looking only at the states that had declines, we found that the average drop was 2.5% with a median decline of 2.2%. Of the 13 states that had increased funded levels, the average increase was 3.9% with a median increase of 1.6% and ranged from 0.2% to 11.6% increases in individual funded ratios.

**Table 1**

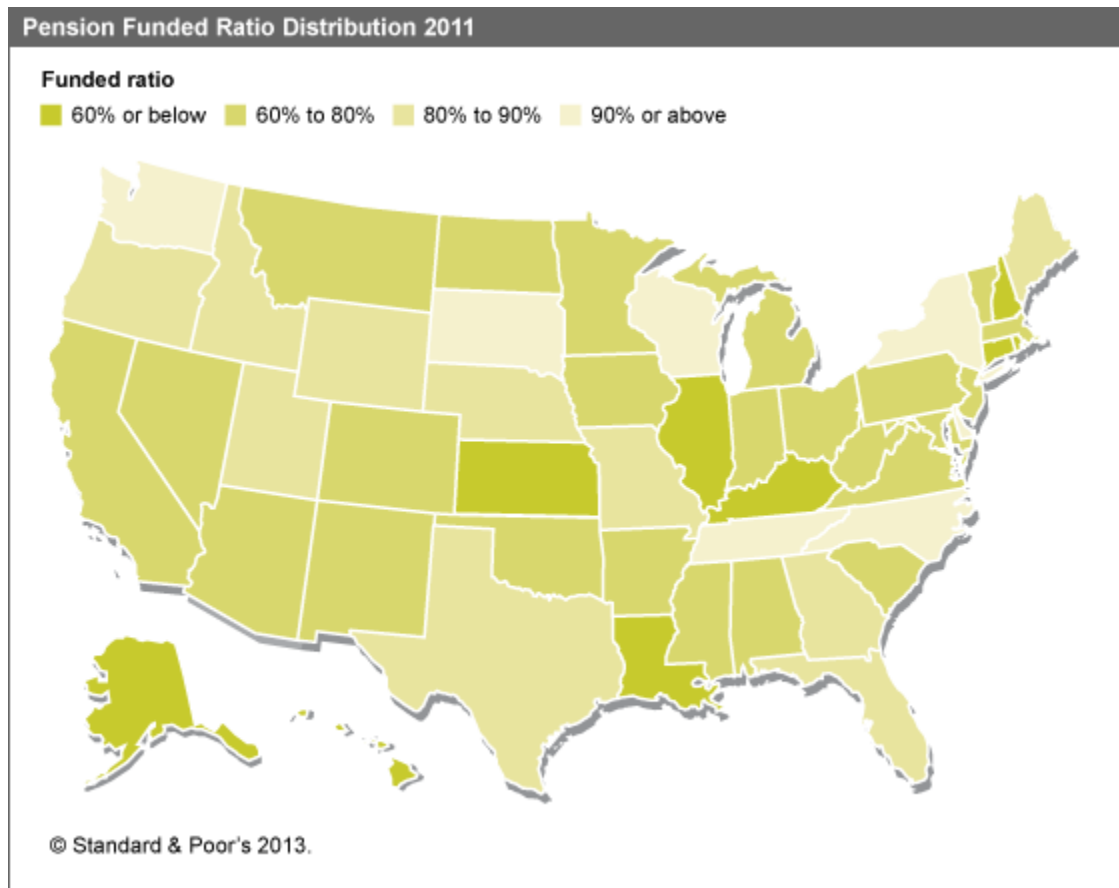
<b>Top Five And Bottom Five States By Funded Level</b>	
<b>Top five states</b>	<b>Funded level (%)</b>
Wisconsin	99.9
South Dakota	96.3
North Carolina	95.3
Washington	93.7
New York	92.7
<b>Bottom five states</b>	<b>Funded level (%)</b>
Illinois	43.4
Kentucky	53.4
Connecticut	55.0
Louisiana	56.2
New Hampshire	57.4

\*Does not include Puerto Rico, which is 11.1% funded.

**Table 2**

**Top Five And Bottom Five States By Change In Funded Level**

<b>Top five states</b>	<b>% change</b>
Idaho	11.6
Oklahoma	10.8
Maine	9.9
West Virginia	6.1
Massachusetts	3.5
<b>Bottom five states</b>	<b>% change</b>
Pennsylvania	(7.3)
Michigan	(6.5)
New Mexico	(5.4)
Oregon	(5.0)
Colorado	(4.7)



**Changes From GASB Statements 67 And 68**

On June 25, 2012, the GASB adopted Statements 67 and 68, related to financial reporting for pension plans and to

financial accounting and reporting for pensions, respectively. The statements do not change the employer's obligations or the employee's benefits, but rather how state and local governments' financial statements calculate, account for, and report pension plan liabilities. Among the major changes are:

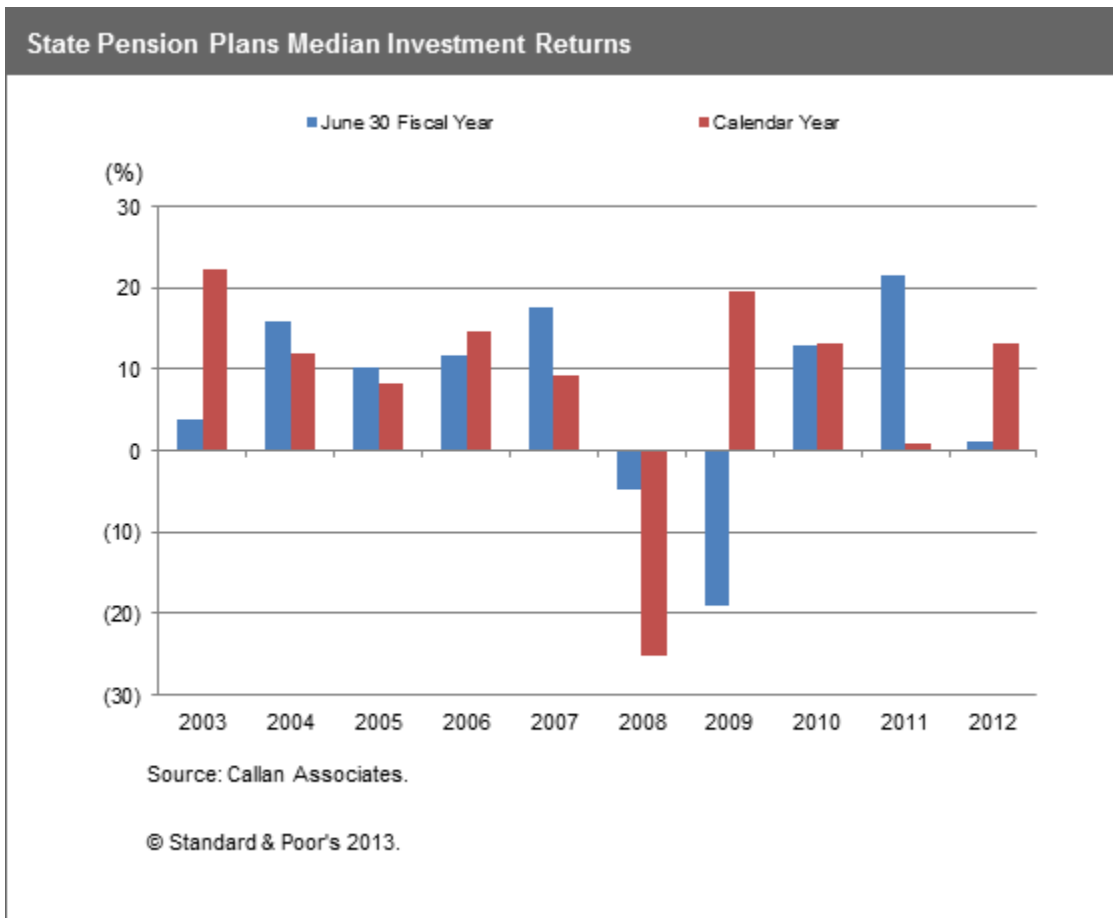
- Use of a blended rate to discount pension plan liabilities;
- Market valuation of assets;
- Elimination of a prescribed annual required contribution (ARC) calculation through the separation of pension funding from pension accounting and reporting;
- Use of one actuarial cost method;
- For multiemployer cost-sharing plans, the proportional reporting of the liability at the employer level; and
- Reporting of net pension liability on employers' balance sheets.

In our view, some of the changes will lead to more conservative liability estimates as well as enhanced comparability and disclosure. However, the use of market valuation of assets is likely to inject a greater degree of volatility into pension liability calculations. Likewise, the separation of pension reporting and accounting from pension funding will create two competing evaluations of the same liability, making the evaluation of pension liabilities more challenging. We believe the loss of a standardized ARC calculation could make pension funding practices more opaque from an analytical perspective and potentially be a setback to a government's funding discipline. (For more information on Standard & Poor's views on GASB changes and their potential impact on state ratings, please see "Credit FAQ: Standard & Poor's Approach to Pension Liabilities In Light Of GASB 67 And 68," published July 16, 2013, on RatingsDirect).

## **Smoothing Reduces Funding Volatility, For Now**

Due to the actuarial smoothing a majority of states employ, current pension valuations have not fully captured the rebound in equity markets that followed the large losses of 2008 and early 2009 (see chart 2). Smoothing methods allow public pension plans to phase in investment gains and losses over several years and moderate the effect of investment market volatility on actuarial valuation of assets and annual pension contributions. About 88% of public pension plans have a smoothing period of four years or longer, with five years being the most common. This smoothing allows governments time to adjust budgets over several years rather than absorb the pension fund gains or losses in one year (see "How "Smoothing" Can Ease The Pain Of Pension Fund Losses For State And Local Governments," Jan. 27, 2009). However, just as there was a lag between the market losses of 2008 and the increased pension contributions, we expect that it will also take time for improved investment performance to reduce the upward pressure on pension contributions. For systems that use five-year smoothing, the impact of the 2008 and 2009 market downturn will be reflected until the 2013 valuations. For fiscal 2014, pension plans will be reporting and accounting net pension liability based on market value of assets under the new GASB statements.

**Chart 2**



Under the new GASB pension reporting standards, assets will no longer be smoothed for accounting and reporting purposes. Market value of assets will result in much greater volatility in pension funded ratios. These standards will become effective in fiscal 2014 for pension plans and fiscal 2015 for pension reporting at the employer level. The separation of reporting and accounting of pensions from pension funding will create at least two separate sets of assumptions and results.

## The Dilemma Of Whether To Fund The ARC

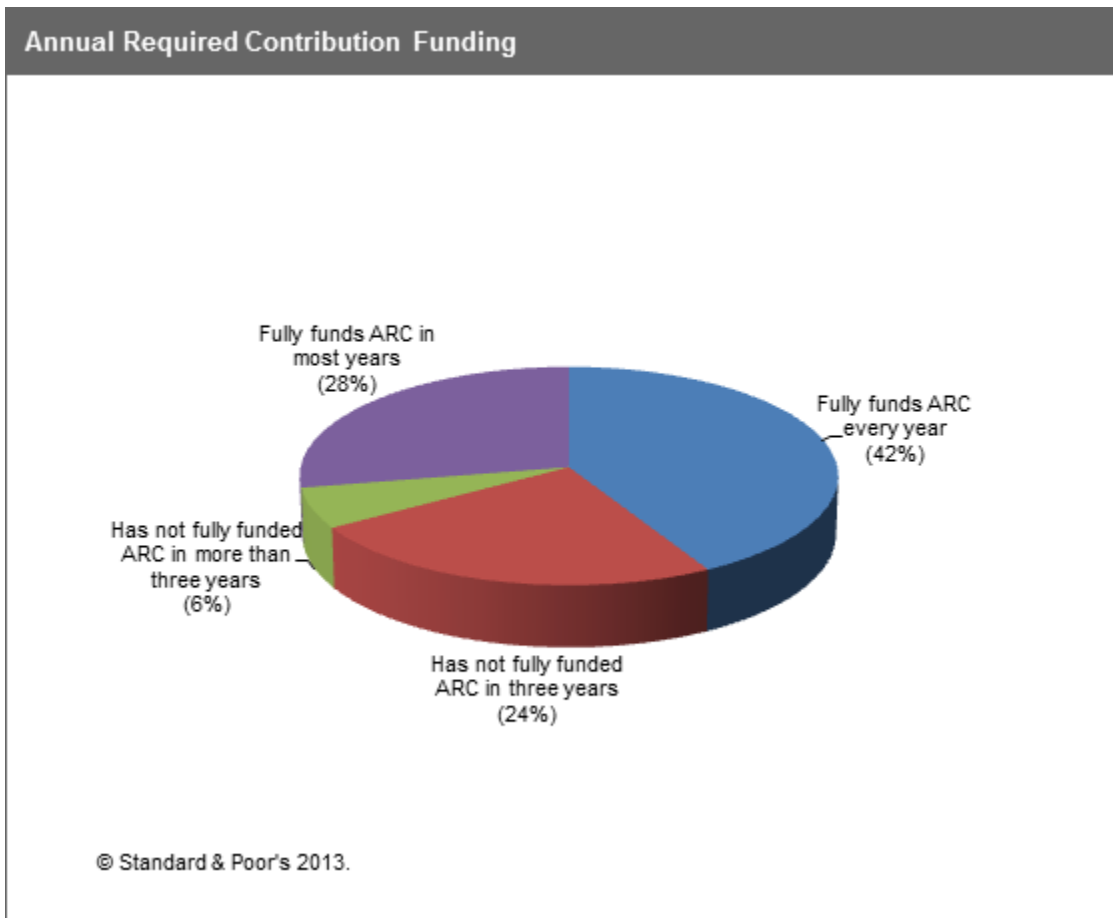
The question of how much of their resources to dedicate to funding pension liabilities continues to involve real and frequently difficult tradeoffs. Even as revenues for most states return to pre-recession levels, policymakers must decide between restoring service levels, reducing tax rates, and funding growth in current services. For some states that decided to achieve budgetary relief by underfunding their pensions during the Great Recession or more chronically, a significant portion of the new revenue would be absorbed by restoring higher contributions to their pension systems, making this decision even more difficult. The decision to underfund the ARC might have turned out to be a very costly one.

We evaluate the frequency with which a state fully funds its ARC as part of our review of overall debt and liabilities. Our analysis of pension funding levels suggests that a substantial number of states demonstrated a strong commitment to fully funding their actuarially determined ARCs even throughout the Great Recession (see chart 3). Although about one-quarter of the states might not have contributed their full ARC in some of the most recent years, they had demonstrated a commitment to full ARC funding in at least one of the past three years. And although some states might not be paying their full ARC, they are, nevertheless, typically paying a high percentage of their ARC. We've observed that persistent underfunding of ARC correlates highly with pension funding contributions that are statutorily or contractually determined. Even states whose pension funding contributions are not statutorily or contractually determined may opt for funding less than the ARC as a short-term budgetary management strategy. We believe that not fully funding the ARC is a short-term solution that will likely result in a larger unfunded actuarial accrued liability down the line.

For instance, for Pennsylvania, which has underfunded its ARC over the past eight years, funding the full ARC in fiscal 2014 would require an additional \$1.2 billion in funding. This is almost twice the actual growth in spending of \$678 million in the 2014 budget, which already includes more than \$200 million for pensions. If Pennsylvania were funding its pension ARC, the cost for fiscal 2014 would be \$2.6 billion or 9% of the total budget. New Jersey's 2014 budget, to provide another example, increased by \$754 million, or 2.3% in fiscal 2014; however, \$646 million, or 86% of the total growth in spending, was tied to increases in pension contributions. And current slow revenue growth amplifies even small increases in costs relative to growth in overall spending.



**Chart 3**



We believe the ARC has become an easily recognizable and understandable measure for governments both large and small. It has provided a certain discipline to pension funding strategies and helped to improve funding levels over time. Under the new GASB standards, plans that have a pension funding policy based on an actuarially determined required contribution will have to report the actuarially determined contribution, while those whose funding is based on statutorily or contractually determined contributions will not have to disclose an actuarially determined contribution. The elimination of the ARC reporting requirement could open the door for weaker funding discipline.

Given the increased attention that pensions have been receiving from taxpayers, government employees, pensioners, regulators, bond market investors, and industry groups, all eyes will be on policymakers as they develop their funding policies and make important decisions on their commitment to funding pensions. Policymakers face an interesting question: Will they use ARC or not to calculate pension funding? Industry groups, including the Big 7 state and local government associations (National Governors Association, the National Conference of State Legislatures, The Council of State Governments, the National Association of Counties, the National League of Cities, The U.S. Conference of Mayors and the International City/County Management Association), the Government Finance and Officers Association, and the Conference of Consulting Actuaries, are developing best practices and guidelines for pension funding. These groups recommend pension funding policies based on actuarially determined contributions. Because

GASB Statement 67 replaces GASB Statement 25, which set out the parameters for calculating the ARC, even those who continue to use the ARC could potentially make some changes to how they calculate their ARC, such as extending the amortization period, which in our view would indicate a weaker funding commitment. From a credit standpoint, a government's funding policy and discipline will continue to be an important element of our pension analysis.

## **Pension Reform: The New Normal**

States, for the most part, have strongly committed to managing their long-term liabilities, including pensions. The unprecedented amount of pension reform efforts in the past few years demonstrates this. Governments and employees alike once considered public employee benefits sacrosanct but are now revisiting them as lawmakers face the difficult trade-off between maintaining current benefits for their retired and active workforce and providing services or tax relief to their taxpayers. While pension reform efforts began to gain steam in 2009, in our view, they have intensified since and have become part of the new normal.

According to the National Conference of State Legislatures (NCSL), between 2009 and 2013, 48 states and Puerto Rico enacted some type of pension reform. Alaska and Idaho, the two states missing from this list, have proposed pension legislation in 2013 and Idaho already enacted its bill. According to NCSL's pension legislation database, all 50 states introduced pension legislation and approximately 1,260 bills so far in 2013; this compares with approximately 980 bills in 44 states in 2012. Of the retirement system bills introduced this year, 35 states, Puerto Rico, and DC have enacted more than 191 with some state legislatures still evaluating some of the proposed bills. Although the actual number of bills introduced is not as important as the measures included in the enacted bills, the number of bills introduced reflects legislators' willingness to address pension issues. Pension reform strategies have varied significantly by state and include:

- Modification of benefit levels for future employees and, in some cases, current employees,
- Increased vesting periods,
- Increased age and service requirements for current and future employees,
- Eliminating or limiting cost of living adjustments (COLAs),
- Increased employee contributions, and
- Closing of defined benefit plans or creation of hybrid defined benefit/defined contribution plans.

In our view, pension reform efforts emphasize sustainability; however, the financial impact on pension liabilities will vary based on the strategy or strategies employed. For the most part, states are considering a range of options as part of a more comprehensive approach to pension reform. To the extent that reform measures, such as increased vesting periods or age and service requirements, apply strictly to future employees, we believe that they could provide opportunity for cost containment over time. However, their impact on current pension liabilities is somewhat limited. Changes to pensions that affect current employees and retirees, such as reductions to or elimination of COLAs and increased employee contributions, are more likely to result in a more immediate reduction of current liabilities and ARC.

According to the NCSL, since 2009, 24 states have adopted current employee pension contribution increases while 11

states have enacted changes to or elimination of COLAs to current employees and retirees, with additional states making changes for at least some active employees or future hires. However, these reform measures also are more likely to be subject to litigation from current employees with the ultimate result not known until all legal venues have been exhausted. Colorado, Florida, Minnesota, and Puerto Rico have had success in court, which may contribute to broader initiatives relating to current employees. However, pension benefit protections vary from state to state, so achieving these changes might be more difficult in some states than others.

Although limited, there has been some shift from defined benefit to defined contribution plans, cash balance, or hybrid plans. These new plans typically offer less generous benefits than the plans they replace, making them more affordable in the long term. However, these changes bring with them some legacy costs and could potentially enlarge the unfunded actuarially accrued liability in the near term, creating an additional hurdle. Nevertheless, we believe that such reforms, despite potentially adding more near-term budgetary costs, can be important components of a government's overall liability management and contribute to greater plan affordability over time.

## **The Rate Debate Continues**

Public pension plans use their assumed long-term rate of return to both discount their liabilities and to determine the amount that will be funded by investment returns versus contributions that employers and employees fund. Investment earnings play an important part in a pension system's overall funding policy. Assumed rates of return have been hotly debated by market participants and observers in recent years due to both the divergence of assumed returns and actual experience over different timeframes and the return volatility of the past few years. The blending of the assumed rate with a high-quality, tax-exempt bond rate of return under the new GASB standards will ensure that this continues to be a topic of frequent and lively discussion in the years to come. Although it is just one of the many assumptions that states use to calculate a pension liability, it is important because it addresses numerous questions regarding a pension system's funding structure:

- How much should a pension plan rely on investment returns versus employer and employee contributions?
- Who should pay if the plan investments do not perform as assumed, the employee or the taxpayers, current employees or future employees?
- What is the right timeframe over which to measure investment performance?
- How much risk should a pension plan take to achieve its assumed rate of return?

In fiscal 2011, investment earnings accounted for 79.5% of total revenue for state-administered pension systems with government and employee contribution making up the balance (see charts 4, 5, and 6). Even when accounting for the losses of 2008 and 2009, investment earnings still contributed more than half of the revenues for public pension plans from fiscal 2007 to fiscal 2011.

**Chart 4**

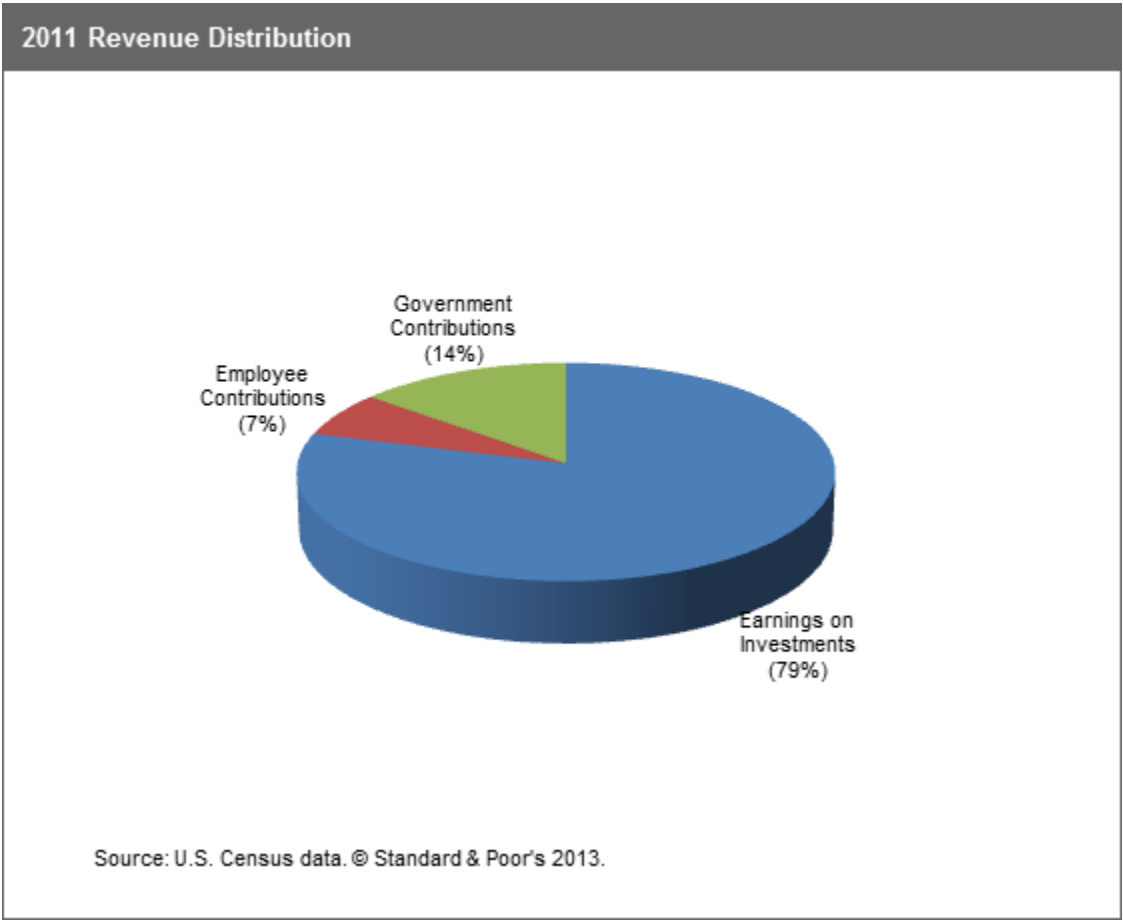
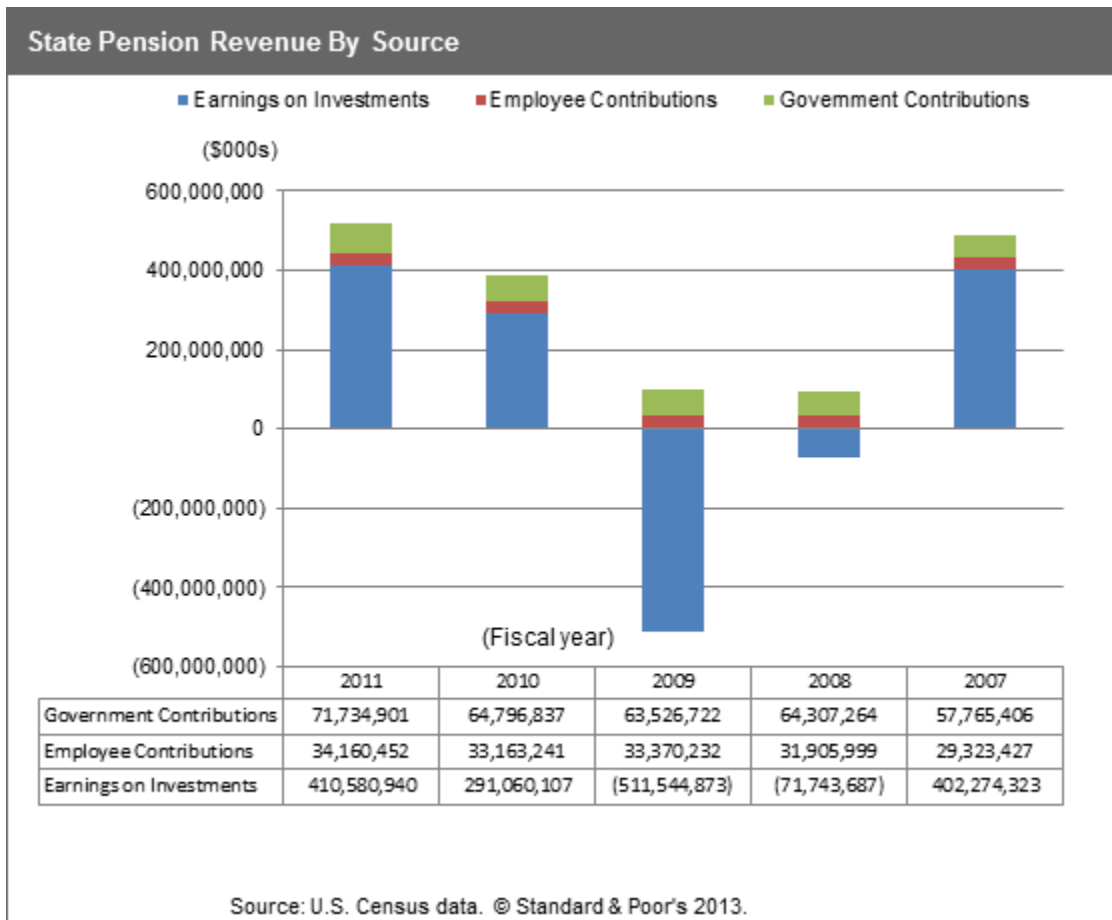
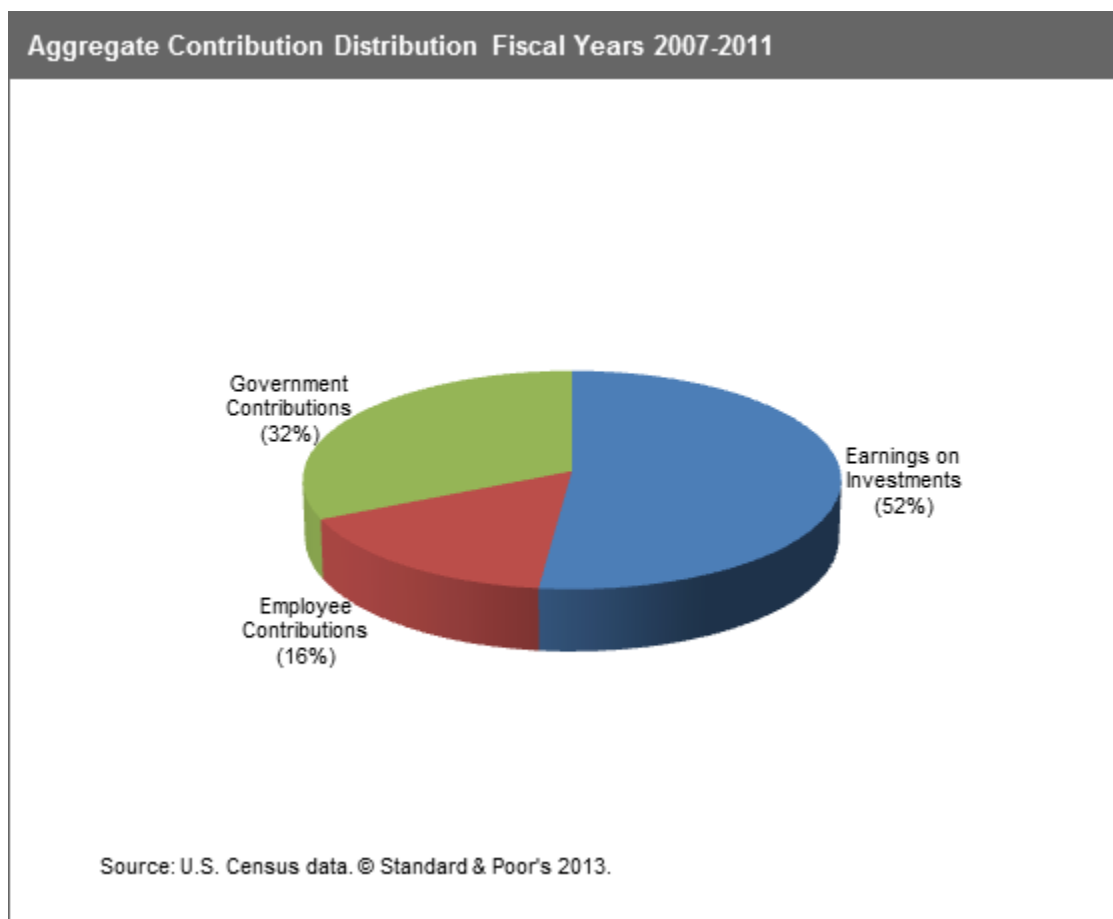


Chart 5



**Chart 6**



We consider the discount rate in our overall view of a sponsor state's management of its pension liabilities. Relatively high discount rates that reflect rate-of-return assumptions that a plan's historical investment performance or current asset allocation don't support could result in current contribution requirements that are artificially depressed and expose the plan to increased risk to achieve the desired return. Likewise, a risk-free rate of return assumption may not align with a plan's actual and future investment performance and could substantially increase required contribution levels. Overfunded plans in the past have led to pressure from participants or other stakeholders to increase benefit levels.

Given low interest rates and in light of recent market volatility, some policymakers are re-evaluating their rate of return assumptions. Most of the public pension plans in our survey use between a 7.5%-8% rate of return assumption. According to the National Association of State Retirement Administrators, the median public pension annualized investment return for 2012 was 7.5% over 10 years, 7.9% over 20 years, and 8.9% over 25 years, which suggests that long-term investment performance is close to the 7.5%-8% range that most plans assume. However, due to compounding, even if pension systems are meeting their average rate of return target, losses of asset value could still occur.

We expect that any changes to rate of return assumptions will be gradual as plan sponsors try to balance the interest of

all of their stakeholders. However, the disclosure of a relatively higher liability based on GASB standards might encourage policymakers to reconsider their assumed rates of return. To the extent that policymakers revise current rates of return downward, actuarial accrued liabilities and thus, ARCs, will increase. Depending on management's response to these increases, the result could be higher costs to taxpayers, higher contributions from employees, or reduced benefits to employees.

## **State Pension Funding History: Funded Levels Were Low Previously**

Most state governments have a long-term track record of making adjustments and improving funding ratios. Before GASB accounting changes in the 1980s, many public sector pension plans had weak funded ratios and limited asset accumulation by today's standards. According to a Federal Reserve study, in 1975 the aggregate funded ratio of public pensions for states was 51%. However, as Baby Boomers reach retirement age, and given increased longevity, the risks from weaker funded ratios are higher now than they were in the 1970s.

State pension funded ratios made what we consider strong gains in the 1990s, climbing to funded ratios above 100% by 2000, compared with approximately 80% a decade earlier. Above-average investment returns, particularly from equities, contributed to this rapid increase. From 1990 to 2000, the average annual increase of the S&P 500 Index of domestic equities was 15%, compared with an average actuarial return assumption of about 8%. Public pension fund investment allocations to domestic equity rose to about 60% (from 40%) over the same period. This combination of factors, coupled with steadily declining interest rates, helped to produce strong fixed-income returns as well, enabling public funds to exceed their investment return assumptions and achieve the actuarial gains that led to the dramatically improved funded ratios.

During the past decade, however, the funded ratio trend shifted quite rapidly when public pension funds suffered a number of setbacks, including two recessions. In terms of investment yields, the S&P 500 fell 16% in fiscal 2001 and was down 19% in fiscal 2002. Furthermore, the index fell 14.9% in fiscal 2008 followed by a 28.5% decline in fiscal 2009. In addition to these drops in asset values, other factors, such as plan members' increased longevity and the phasing-in of previously granted benefit enhancements for employees, led to rising liabilities. The combination of falling assets and rising liabilities caused average state pension funding levels to fall from their peak in 2000.

## **Rating Criteria Consider Pension Liabilities**

Pension liabilities and the annual costs associated with funding them are important credit factors in our review of state governments. Standard & Poor's views pension obligations as long-term liabilities that must be funded over time. Although the funding schedule can be more flexible than that for a fixed-debt repayment, it can also be more volatile and may cause fiscal stress if not managed, in our opinion. Under our U.S. state ratings criteria (see U.S. State Ratings Methodology, Jan. 3, 2011), a state's debt and liability profile is one of the five major factors that determine a rating. Within this factor, debt, pension liabilities, and other postemployment benefits, which we score individually, are the key metrics. Because pension and retiree health benefits are long-term obligations that must be funded over time, our analysis equally weights the size and management of these liabilities with debt.

Strictly quantitative comparisons are difficult due to the significant variation in how we calculate these liabilities, however. Actuarial treatment of investment returns and governments' smoothing methods also exhibit high variability and can materially affect estimated state pension liabilities. For this reason, we do not evaluate a state's reported unfunded pension and retiree health benefit liabilities plus existing debt in the aggregate when computing debt ratios. Instead, we analyze the state's management of its debt portfolio, pension liabilities, and retiree health benefits liabilities individually before consolidating our view of the state's debt and liability profile. For pensions specifically, we measure a state's pension funded ratio, its track record of fully funding its actuarially required contributions, and unfunded actuarial accrued liability (UAAL) per capita and as a percentage of personal income.

States have varying degrees of responsibility for funding pension plans that they report on in their financial disclosure. For example, in the case of multiemployer agent systems, a state would make contributions to plans that include its employees only, with local agencies contributing to their respective plans. For multiemployer cost-sharing systems, which can include a number of local jurisdictions like school districts with contributions from both employers and employees, the state may be a non-employer contributor. Therefore, with some exceptions, states are generally not directly responsible for fully funding the liabilities of these pension systems. However, even in cases where pensions are direct liabilities of and funded from local agencies, a portion of the local agencies' funding often derives from the states.

## **Pension Liabilities And State Debt**

Our data are mostly as of 2011 valuations as reported in the fiscal 2012 state CAFRs (fiscal year-end 2011 for debt data), which is the most recent year with complete data availability (see tables 3A-3C). We combine the pension data for the state-sponsored, defined-benefit pension funds: generally the public employees' retirement system, including state and local employees in most cases, plus the teachers' retirement system. In some cases, a state may have just one combined system for all employees, while others may have additional systems for specific categories of employees, such as public safety officials, judges, and legislators among others.

In our annual survey, we have reported state debt and unfunded pension liabilities separately and on a combined basis in recent years to give a comparative framework for these liabilities. The pension information includes the systems' funded ratio for each state and the UAAL; the UAAL is also expressed on a per capita basis. We break out tax-supported debt for each state in total as well as on a per capita basis. Pension and debt figures are combined on a per capita basis and then expressed as a percent of per capita income and per capita gross state product as measures of economic resources to meet these obligations.

Highlights of the data include:

- State debt rose to \$474 billion in fiscal 2011 from \$466 billion in fiscal 2010, a 1.7% increase.
- Unfunded pension liabilities totaled \$833 billion as of 2011 and were up from \$757 billion, an increase of 10%.
- Average debt per capita increased modestly to \$1,334 in fiscal 2012 from \$1,322 in fiscal 2011, a 2% increase.
- The average UAAL per capita was \$2,902 in 2011 compared with \$2,725 in 2010, a 6.5% increase.
- Even with the aggregate decline in funded ratios, seven states remain more than 90% funded, 24 states retain funded ratios of 70% or higher, and 41 states have funded ratios of 60% or higher.



- In relation to the resources available to service these requirements, debt per capita and the per capita unfunded pension liability relative to per capita gross state product had a 50-state average of 9% in 2011, up from 8.8% in 2010.

**Table 3A**

**State Retirement Systems And Debt Statistics: 2011**

(Alphabetical)

State	(%)		(\$)				(%)		GO rating	
	Funded ratio	Increased/Decreased/Unchanged Funded ratio relative to prior year	UAAL (mil.)	UAAL PC	Debt (mil.)	Debt PC	Debt PC + UAAL PC	Debt PC + UAAL PC / Income PC		Debt PC + UAAL PC / GSP PC
Alabama	66.9	Decreased	14,415	3,001	3,579	745	3,746	10.7	10.4	AA/Stable
Alaska	59.2	Decreased	7,082	9,799	1,853	2,564	12,363	27.1	17.4	AAA/Stable
Arizona	72.7	Decreased	13,390	2,065	5,663	874	2,939	8.4	7.4	AA-/Stable
Arkansas	72.5	Decreased	6,928	2,358	989	337	2,695	8.0	7.5	AA/Stable
California	77.4	Decreased	124,011	3,290	88,932	2,359	5,650	12.9	10.9	A/Stable
Colorado	60.0	Decreased	22,912	4,478	2,653	518	4,996	11.3	9.7	AA/Stable
Connecticut	55.0	Increased	20,215	5,645	18,371	5,131	10,776	18.6	16.8	AA/Stable
Delaware	90.7	Decreased	787	867	2,175	2,398	3,265	7.9	4.5	AAA/Stable
Florida	86.9	Unchanged	18,956	995	25,250	1,325	2,320	5.9	5.9	AAA/Stable
Georgia	82.5	Decreased	14,684	1,496	9,227	940	2,436	6.8	5.7	AAA/Stable
Hawaii	59.4	Decreased	8,154	5,931	5,427	3,947	9,878	23.0	20.3	AA/Stable
Idaho	89.9	Increased	1,302	822	233	147	969	2.9	2.7	AA+/Stable
Illinois	43.4	Decreased	82,907	6,442	33,633	2,613	9,056	20.7	17.4	A-/Negative
Indiana	63.0	Decreased	14,590	2,239	3,052	468	2,707	7.6	6.3	AAA/Stable
Iowa	79.5	Decreased	5,910	1,930	1,123	367	2,296	5.6	4.7	AAA/Stable
Kansas	59.2	Decreased	9,228	3,214	3,411	1,188	4,402	10.8	9.7	AA+/Stable
Kentucky	53.4	Decreased	23,604	5,402	8,387	1,920	7,322	21.5	19.4	AA-/Negative
Louisiana	56.2	Unchanged	18,512	4,046	5,300	1,158	5,205	13.5	9.6	AA/Stable
Maine	80.2	Increased	2,688	2,024	972	732	2,756	7.2	7.1	AA/Stable
Maryland	63.9	Increased	18,771	3,221	9,577	1,643	4,864	9.6	9.4	AAA/Stable
Massachusetts	71.4	Increased	18,307	2,779	30,803	4,676	7,455	13.9	12.5	AA+/Stable
Michigan	65.1	Decreased	28,358	2,871	6,557	664	3,535	9.7	9.1	AA-/Positive
Minnesota	78.6	Decreased	12,935	2,420	6,338	1,186	3,606	8.1	6.8	AA+/Stable
Mississippi	62.1	Decreased	12,676	4,256	4,845	1,627	5,882	18.4	17.9	AA/Stable
Missouri	81.9	Increased	9,892	1,646	4,689	780	2,426	6.4	5.8	AAA/Stable
Montana	66.3	Decreased	3,861	3,868	174	175	4,042	11.2	10.6	AA/Stable
Nebraska	81.9	Decreased	1,899	1,031	27	15	1,046	2.5	2.0	AAA/Stable
Nevada	70.1	Unchanged	11,038	4,053	2,037	748	4,801	13.0	10.0	AA/Stable
New Hampshire	57.4	Decreased	4,258	3,230	702	532	3,762	8.2	7.8	AA/Stable
New Jersey	67.8	Decreased	41,087	4,658	33,719	3,823	8,480	16.2	15.4	AA-/Negative
New Mexico	67.0	Decreased	10,689	5,133	2,958	1,421	6,554	19.2	17.2	AA+/Stable
New York	92.7	Decreased	18,589	955	50,477	2,593	3,548	6.9	6.0	AA/Positive

**Table 3A**

State Retirement Systems And Debt Statistics: 2011 (cont.)										
North Carolina	95.3	Decreased	3,897	404	7,090	734	1,138	3.2	2.5	AAA/Stable
North Dakota	68.8	Decreased	1,627	2,380	237	346	2,726	5.8	4.6	AA+/Positive
Ohio	67.3	Unchanged	70,423	6,100	10,677	925	7,025	18.6	16.8	AA+/Stable
Oklahoma	66.7	Increased	10,568	2,787	1,707	450	3,237	8.6	7.9	AA+/Stable
Oregon	82.0	Decreased	11,030	2,849	6,823	1,762	4,611	12.3	9.2	AA+/Stable
Pennsylvania	67.8	Decreased	41,163	3,230	13,422	1,053	4,284	10.1	9.4	AA/Negative
Rhode Island	59.2	Decreased	4,369	4,156	1,835	1,746	5,901	13.5	12.4	AA/Stable
South Carolina	67.9	Increased	13,973	2,986	2,344	501	3,487	10.4	9.8	AA+/Stable
South Dakota	96.3	Unchanged	288	350	134	163	513	1.2	1.1	AA+/Stable
Tennessee	91.5	Increased	3,389	529	2,036	318	847	2.3	2.0	AA+/Positive
Texas	82.9	Decreased	28,871	1,124	10,005	390	1,514	3.8	3.0	AA+/Stable
Utah	82.8	Decreased	4,404	1,563	3,442	1,222	2,785	8.3	6.3	AAA/Stable
Vermont	70.4	Decreased	1,192	1,902	492	785	2,688	6.5	6.5	AA+/Positive
Virginia	69.5	Decreased	23,950	2,958	8,720	1,077	4,035	8.8	7.6	AAA/Stable
Washington	93.7	Decreased	4,103	601	16,119	2,360	2,961	6.7	5.7	AA+/Stable
West Virginia	64.2	Increased	5,709	3,077	2,125	1,145	4,223	12.6	11.7	AA/Stable
Wisconsin	99.9	Unchanged	99	17	11,751	2,057	2,075	5.2	4.7	AA/Stable
Wyoming	85.9	Decreased	1,090	1,918	36	63	1,982	4.1	3.0	AAA/Stable
Puerto Rico	11.1	Decreased	32,796	2,574	36,936	9,914	12,487	78.3	72.6	BBB-/Negative
Average of states	72.9		16,656	2,902	9,443	1,334	4,236	10.3	9.0	
Median of states	69.8		10,860	2,818	4,134	997	3,577	8.7	7.9	
Total liability			832,779							

Puerto Rico is not included in the average and median. For Puerto Rico, this calculation includes Employees' Retirement System and Teachers' Retirement System, which for 2010 were 13.5% funded. Changes in funded ratio of less than 0.5% in either direction are shown as unchanged. UAAL--Unfunded accrued actuarial liabilities. PC--Per capita. GSP--Gross state product. Ratings are as of April 2, 2013

**Table 3B**

State Retirement Systems And Debt Statistics: 2011										
(Ranked by Funded Ratio)										
State	Funded Ratio		(\$)				(%)			
	Funded ratio	Funded ratio relative to prior year	UAAL (mil.)	UAAL PC	Debt (mil.)	Debt PC	Debt PC + UAAL PC	Debt PC + UAAL PC/Income PC	Debt PC + UAAL PC/GSP PC	GO rating
Wisconsin	99.9	Unchanged	99	17	11,751	2,057	2,075	5.2	4.7	AA/Stable
South Dakota	96.3	Unchanged	288	350	134	163	513	1.2	1.1	AA+/Stable
North Carolina	95.3	Decreased	3,897	404	7,090	734	1,138	3.2	2.5	AAA/Stable
Washington	93.7	Decreased	4,103	601	16,119	2,360	2,961	6.7	5.7	AA+/Stable
New York	92.7	Decreased	18,589	955	50,477	2,593	3,548	6.9	6.0	AA/Positive
Tennessee	91.5	Increased	3,389	529	2,036	318	847	2.3	2.0	AA+/Positive

**Table 3B**

State Retirement Systems And Debt Statistics: 2011 (cont.)										
Delaware	90.7	Decreased	787	867	2,175	2,398	3,265	7.9	4.5	AAA/Stable
Idaho	89.9	Increased	1,302	822	233	147	969	2.9	2.7	AA+/Stable
Florida	86.9	Unchanged	18,956	995	25,250	1,325	2,320	5.9	5.9	AAA/Stable
Wyoming	85.9	Decreased	1,090	1,918	36	63	1,982	4.1	3.0	AAA/Stable
Texas	82.9	Decreased	28,871	1,124	10,005	390	1,514	3.8	3.0	AA+/Stable
Utah	82.8	Decreased	4,404	1,563	3,442	1,222	2,785	8.3	6.3	AAA/Stable
Georgia	82.5	Decreased	14,684	1,496	9,227	940	2,436	6.8	5.7	AAA/Stable
Oregon	82.0	Decreased	11,030	2,849	6,823	1,762	4,611	12.3	9.2	AA+/Stable
Missouri	81.9	Increased	9,892	1,646	4,689	780	2,426	6.4	5.8	AAA/Stable
Nebraska	81.9	Decreased	1,899	1,031	27	15	1,046	2.5	2.0	AAA/Stable
Maine	80.2	Increased	2,688	2,024	972	732	2,756	7.2	7.1	AA/Stable
Iowa	79.5	Decreased	5,910	1,930	1,123	367	2,296	5.6	4.7	AAA/Stable
Minnesota	78.6	Decreased	12,935	2,420	6,338	1,186	3,606	8.1	6.8	AA+/Stable
California	77.4	Decreased	124,011	3,290	88,932	2,359	5,650	12.9	10.9	A/Stable
Arizona	72.7	Decreased	13,390	2,065	5,663	874	2,939	8.4	7.4	AA-/Stable
Arkansas	72.5	Decreased	6,928	2,358	989	337	2,695	8.0	7.5	AA/Stable
Massachusetts	71.4	Increased	18,307	2,779	30,803	4,676	7,455	13.9	12.5	AA+/Stable
Vermont	70.4	Decreased	1,192	1,902	492	785	2,688	6.5	6.5	AA+/Positive
Nevada	70.1	Unchanged	11,038	4,053	2,037	748	4,801	13.0	10.0	AA/Stable
Virginia	69.5	Decreased	23,950	2,958	8,720	1,077	4,035	8.8	7.6	AAA/Stable
North Dakota	68.8	Decreased	1,627	2,380	237	346	2,726	5.8	4.6	AA+/Positive
South Carolina	67.9	Increased	13,973	2,986	2,344	501	3,487	10.4	9.8	AA+/Stable
Pennsylvania	67.8	Decreased	41,163	3,230	13,422	1,053	4,284	10.1	9.4	AA/Negative
New Jersey	67.8	Decreased	41,087	4,658	33,719	3,823	8,480	16.2	15.4	AA-/Negative
Ohio	67.3	Unchanged	70,423	6,100	10,677	925	7,025	18.6	16.8	AA+/Stable
New Mexico	67.0	Decreased	10,689	5,133	2,958	1,421	6,554	19.2	17.2	AA+/Stable
Alabama	66.9	Decreased	14,415	3,001	3,579	745	3,746	10.7	10.4	AA/Stable
Oklahoma	66.7	Increased	10,568	2,787	1,707	450	3,237	8.6	7.9	AA+/Stable
Montana	66.3	Decreased	3,861	3,868	174	175	4,042	11.2	10.6	AA/Stable
Michigan	65.1	Decreased	28,358	2,871	6,557	664	3,535	9.7	9.1	AA-/Positive
West Virginia	64.2	Increased	5,709	3,077	2,125	1,145	4,223	12.6	11.7	AA/Stable
Maryland	63.9	Increased	18,771	3,221	9,577	1,643	4,864	9.6	9.4	AAA/Stable
Indiana	63.0	Decreased	14,590	2,239	3,052	468	2,707	7.6	6.3	AAA/Stable
Mississippi	62.1	Decreased	12,676	4,256	4,845	1,627	5,882	18.4	17.9	AA/Stable
Colorado	60.0	Decreased	22,912	4,478	2,653	518	4,996	11.3	9.7	AA/Stable
Hawaii	59.4	Decreased	8,154	5,931	5,427	3,947	9,878	23.0	20.3	AA/Stable
Kansas	59.2	Decreased	9,228	3,214	3,411	1,188	4,402	10.8	9.7	AA+/Stable
Rhode Island	59.2	Decreased	4,369	4,156	1,835	1,746	5,901	13.5	12.4	AA/Stable
Alaska	59.2	Decreased	7,082	9,799	1,853	2,564	12,363	27.1	17.4	AAA/Stable
New Hampshire	57.4	Decreased	4,258	3,230	702	532	3,762	8.2	7.8	AA/Stable
Louisiana	56.2	Unchanged	18,512	4,046	5,300	1,158	5,205	13.5	9.6	AA/Stable

**Table 3B**

State Retirement Systems And Debt Statistics: 2011 (cont.)											
Connecticut	55.0	Increased		20,215	5,645	18,371	5,131	10,776	18.6	16.8	AA/Stable
Kentucky	53.4	Decreased		23,604	5,402	8,387	1,920	7,322	21.5	19.4	AA-/Negative
Illinois	43.4	Decreased		82,907	6,442	33,633	2,613	9,056	20.7	17.4	A-/Negative
Puerto Rico	11.1	Decreased		32,796	2,574	36,936	9,914	12,487	78.3	72.6	BBB-/Negative
Average of states	72.9			16,656	2,902	9,443	1,334	4,236	10.3	9.0	
Median of states	69.8			10,860	2,818	4,134	997	3,577	8.7	7.9	
Total liability				832,779							

Puerto Rico is not included in the average and median. For Puerto Rico, this calculation includes Employees' Retirement System and Teachers' Retirement System, which for 2010 were 13.5% funded. Changes in funded ratio of less than 0.5% in either direction are shown as unchanged. UAAL--Unfunded accrued actuarial liabilities. PC--Per capita. GSP--Gross state product. Ratings are as of April 2, 2013

**Table 3C**

**State Retirement Systems And Debt Statistics: 2011**

(Ranked By Per Capita Debt and UAAL)

State	Funded ratio		Increased/Decreased/Unchanged		(\$)				(%)		GO rating
	Funded ratio	Funded ratio relative to prior year	UAAL (mil.)	UAAL PC	Debt (mil.)	Debt PC	Debt PC + UAAL PC	Debt PC + UAAL PC/Income PC	Debt PC + UAAL PC/GSP PC		
South Dakota	96.3	Unchanged	288	350	134	163	513	1.2	1.1	AA+/Stable	
Tennessee	91.5	Increased	3,389	529	2,036	318	847	2.3	2.0	AA+/Positive	
Idaho	89.9	Increased	1,302	822	233	147	969	2.9	2.7	AA+/Stable	
Nebraska	81.9	Decreased	1,899	1,031	27	15	1,046	2.5	2.0	AAA/Stable	
North Carolina	95.3	Decreased	3,897	404	7,090	734	1,138	3.2	2.5	AAA/Stable	
Texas	82.9	Decreased	28,871	1,124	10,005	390	1,514	3.8	3.0	AA+/Stable	
Wyoming	85.9	Decreased	1,090	1,918	36	63	1,982	4.1	3.0	AAA/Stable	
Wisconsin	99.9	Unchanged	99	17	11,751	2,057	2,075	5.2	4.7	AA/Stable	
Iowa	79.5	Decreased	5,910	1,930	1,123	367	2,296	5.6	4.7	AAA/Stable	
Florida	86.9	Unchanged	18,956	995	25,250	1,325	2,320	5.9	5.9	AAA/Stable	
Missouri	81.9	Increased	9,892	1,646	4,689	780	2,426	6.4	5.8	AAA/Stable	
Georgia	82.5	Decreased	14,684	1,496	9,227	940	2,436	6.8	5.7	AAA/Stable	
Vermont	70.4	Decreased	1,192	1,902	492	785	2,688	6.5	6.5	AA+/Positive	
Arkansas	72.5	Decreased	6,928	2,358	989	337	2,695	8.0	7.5	AA/Stable	
Indiana	63.0	Decreased	14,590	2,239	3,052	468	2,707	7.6	6.3	AAA/Stable	
North Dakota	68.8	Decreased	1,627	2,380	237	346	2,726	5.8	4.6	AA+/Positive	
Maine	80.2	Increased	2,688	2,024	972	732	2,756	7.2	7.1	AA/Stable	
Utah	82.8	Decreased	4,404	1,563	3,442	1,222	2,785	8.3	6.3	AAA/Stable	
Arizona	72.7	Decreased	13,390	2,065	5,663	874	2,939	8.4	7.4	AA-/Stable	
Washington	93.7	Decreased	4,103	601	16,119	2,360	2,961	6.7	5.7	AA+/Stable	
Oklahoma	66.7	Increased	10,568	2,787	1,707	450	3,237	8.6	7.9	AA+/Stable	
Delaware	90.7	Decreased	787	867	2,175	2,398	3,265	7.9	4.5	AAA/Stable	

**Table 3C**

<b>State Retirement Systems And Debt Statistics: 2011 (cont.)</b>										
South Carolina	67.9	Increased	13,973	2,986	2,344	501	3,487	10.4	9.8	AA+/Stable
Michigan	65.1	Decreased	28,358	2,871	6,557	664	3,535	9.7	9.1	AA-/Positive
New York	92.7	Decreased	18,589	955	50,477	2,593	3,548	6.9	6.0	AA/Positive
Minnesota	78.6	Decreased	12,935	2,420	6,338	1,186	3,606	8.1	6.8	AA+/Stable
Alabama	66.9	Decreased	14,415	3,001	3,579	745	3,746	10.7	10.4	AA/Stable
New Hampshire	57.4	Decreased	4,258	3,230	702	532	3,762	8.2	7.8	AA/Stable
Virginia	69.5	Decreased	23,950	2,958	8,720	1,077	4,035	8.8	7.6	AAA/Stable
Montana	66.3	Decreased	3,861	3,868	174	175	4,042	11.2	10.6	AA/Stable
West Virginia	64.2	Increased	5,709	3,077	2,125	1,145	4,223	12.6	11.7	AA/Stable
Pennsylvania	67.8	Decreased	41,163	3,230	13,422	1,053	4,284	10.1	9.4	AA/Negative
Kansas	59.2	Decreased	9,228	3,214	3,411	1,188	4,402	10.8	9.7	AA+/Stable
Oregon	82.0	Decreased	11,030	2,849	6,823	1,762	4,611	12.3	9.2	AA+/Stable
Nevada	70.1	Unchanged	11,038	4,053	2,037	748	4,801	13.0	10.0	AA/Stable
Maryland	63.9	Increased	18,771	3,221	9,577	1,643	4,864	9.6	9.4	AAA/Stable
Colorado	60.0	Decreased	22,912	4,478	2,653	518	4,996	11.3	9.7	AA/Stable
Louisiana	56.2	Unchanged	18,512	4,046	5,300	1,158	5,205	13.5	9.6	AA/Stable
California	77.4	Decreased	124,011	3,290	88,932	2,359	5,650	12.9	10.9	A/Stable
Mississippi	62.1	Decreased	12,676	4,256	4,845	1,627	5,882	18.4	17.9	AA/Stable
Rhode Island	59.2	Decreased	4,369	4,156	1,835	1,746	5,901	13.5	12.4	AA/Stable
New Mexico	67.0	Decreased	10,689	5,133	2,958	1,421	6,554	19.2	17.2	AA+/Stable
Ohio	67.3	Unchanged	70,423	6,100	10,677	925	7,025	18.6	16.8	AA+/Stable
Kentucky	53.4	Decreased	23,604	5,402	8,387	1,920	7,322	21.5	19.4	AA-/Negative
Massachusetts	71.4	Increased	18,307	2,779	30,803	4,676	7,455	13.9	12.5	AA+/Stable
New Jersey	67.8	Decreased	41,087	4,658	33,719	3,823	8,480	16.2	15.4	AA-/Negative
Illinois	43.4	Decreased	82,907	6,442	33,633	2,613	9,056	20.7	17.4	A-/Negative
Hawaii	59.4	Decreased	8,154	5,931	5,427	3,947	9,878	23.0	20.3	AA/Stable
Connecticut	55.0	Increased	20,215	5,645	18,371	5,131	10,776	18.6	16.8	AA/Stable
Alaska	59.2	Decreased	7,082	9,799	1,853	2,564	12,363	27.1	17.4	AAA/Stable
Puerto Rico	11.1	Decreased	32,796	2,574	36,936	9,914	12,487	78.3	72.6	BBB-/Negative
Average of states	72.9		16,656	2,902	9,443	1,334	4,236	10.3	9.0	
Median of states	69.8		10,860	2,818	4,134	997	3,577	8.7	7.9	
Total liability			832,779							

Puerto Rico is not included in the average and median. For Puerto Rico, this calculation includes Employees' Retirement System and Teachers' Retirement System, which for 2010 were 13.5% funded. Changes in funded ratio of less than 0.5% in either direction are shown as unchanged. UAAL--Unfunded accrued actuarial liabilities. PC--Per capita. GSP--Gross state product. Ratings are as of April 2, 2013

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