2014 State Pension Funding Review

Southern Legislative Conference– 68th Annual Meeting

Little Rock, Arkansas

Presented by:

Chris Mier, Managing Director, Analytical Services Division

Monday July 28, 2014

Loop Capital Markets

Agenda

Wide Disagreement Persists on the Severity of Pension Problem

The financial performance of public pensions is at a critical juncture.

The interpretation of current and upcoming results may provide the critical mass to swing the debate on public policy initiatives in a given direction.

That direction may be towards the functional elimination of public pensions or, in the alternative, towards corrective solutions that maintain most of the current system.

Thus, now is an appropriate time to ask if there is still time for the correct interpretation of the data to influence positions on policy alternatives, or if opinions have already been set in concrete.

The Loop Public Pension Data Base

- **Loop Capital has been collecting pension data since 2003.**
- **Our data base currently covers 247 individual state pension plans from all 50 states.**
- **We are now covering 84 city pension plans of 25 large cities.**
- **Our database contains data on:**
  - Actuarial Value of Assets (AVA)
  - Unfunded Actuarial Accrued Liability (UAAL)
  - Funded ratio
  - Annually Required Contribution (ARC)
  - Plan Type
  - Plan Assumptions
    - Investment return
    - Inflation
    - Wage growth
    - Cost of Living Adjustment (COLA)
    - UAAL amortization method and amortization period
    - Choice of smoothing treatment
- **Our data comes directly from the source documents of state and local units of government.**

Loop Capital Pension Methodology

- **We provide the plan characteristics that analysts need to aid in making comparative assessments of the burdens on state and local governments.**
- **Our focus is on providing data for analysts, most often investors, to assess the performance of state and local units of government in meeting their pension burdens, as part of the overall determination of credit quality.**
- **We provide as much historical performance data as possible so that analysts can assess trends.**
- **Our approach is to remain agnostic on issues of plan construction.**
- **We focus on issues related to the size of the pension burden, the capacity of the governmental unit to meet the burden, and the recent observable performance in attempting to do so.**

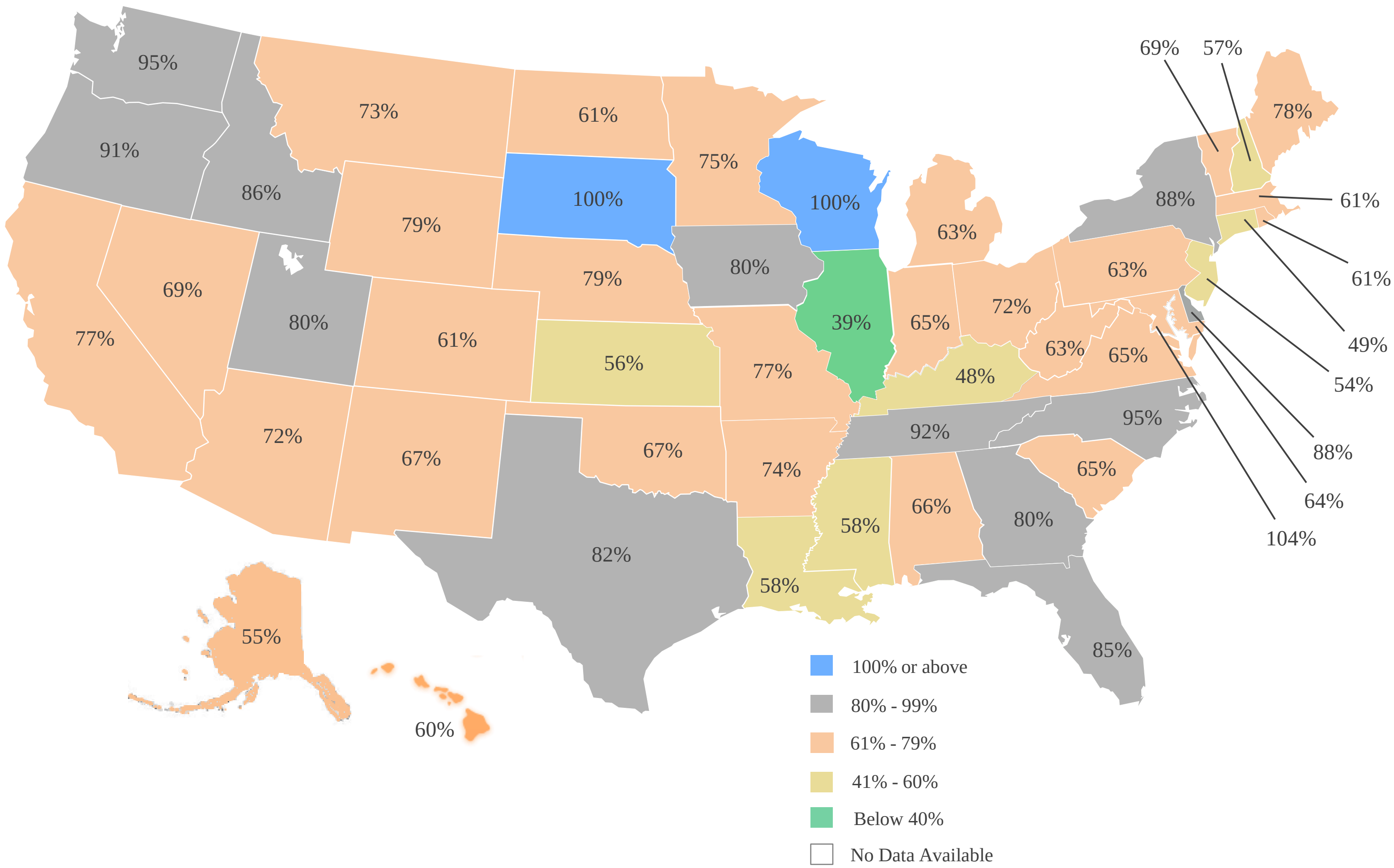
This year's Pension Fund Review—our Twelfth—will be released August 18th. All data in this presentation is from the upcoming report.

A conference call will take place on release date.

State Pension Performance Results—June 30, 2013

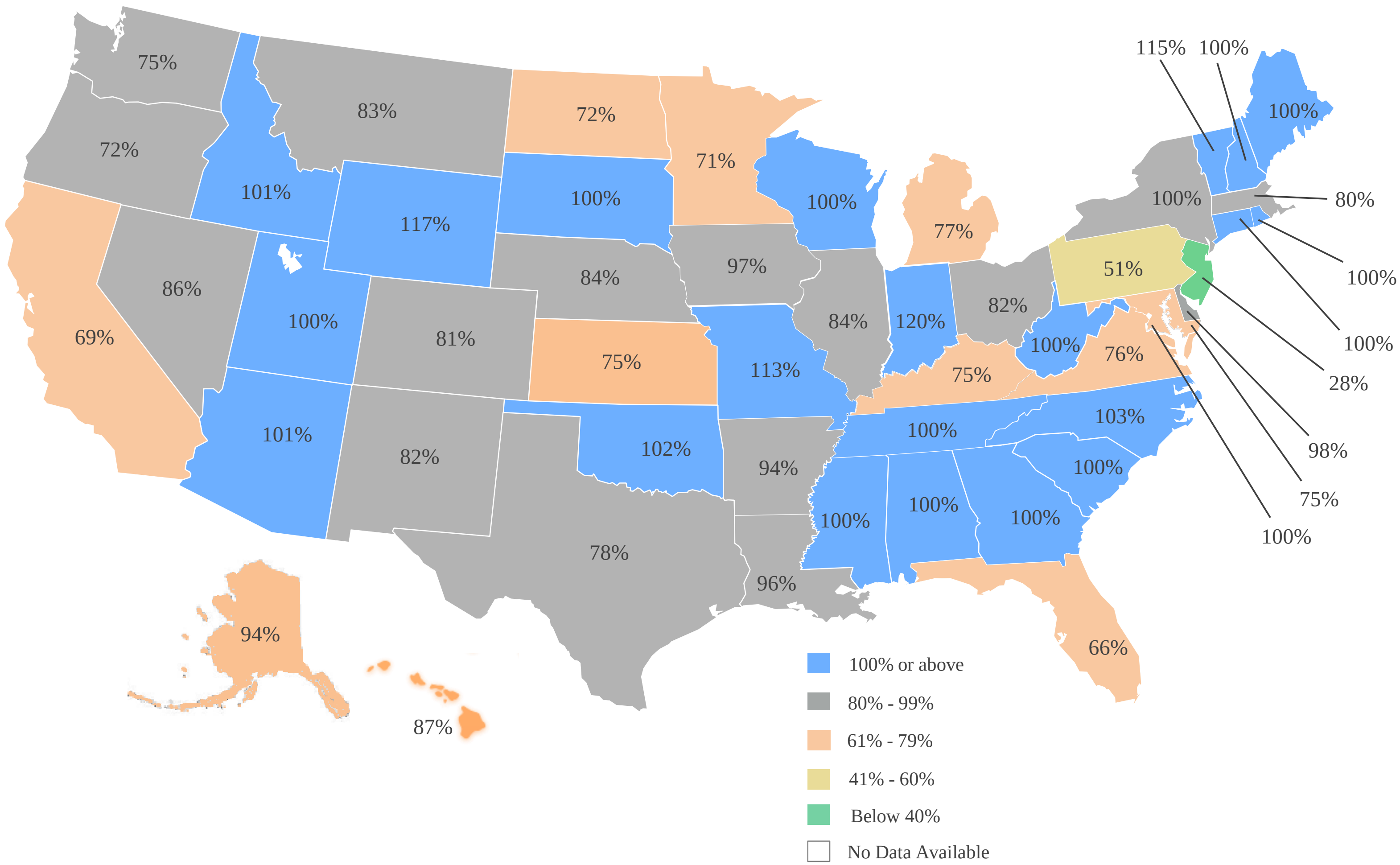
- **The Funded Ratio and the Annually Required Contributions (ARC) are the two basic metrics which describe state and local performance in meeting pension obligations.**
- **Using most recent results reported for the fiscal year ended June 30, 2013:**
  - Funded status (States)
    - The aggregate funded ratio for 247 state plans in our database fell to 73.1% from 73.5% for FY 2012.
  - Annually Required Contributions (States)
    - States paid 80.7% of the ARC in 2013, up from 78.1% for FY 2012.
    - The overall dollar value of ARC payments rose 10% this year.
  - Funded status (Local)
    - The aggregate funded ratio for local plans in our database fell to 65.3% from 65.6% for FY 2012.
  - Annually Required Contributions (Local)
    - Local governments paid 93.8% of the ARC in FY 2013, up from 92.7% for FY 2012.
    - The overall dollar value of ARC payments rose 7% this year.

State Funded Ratios—June 30, 2013



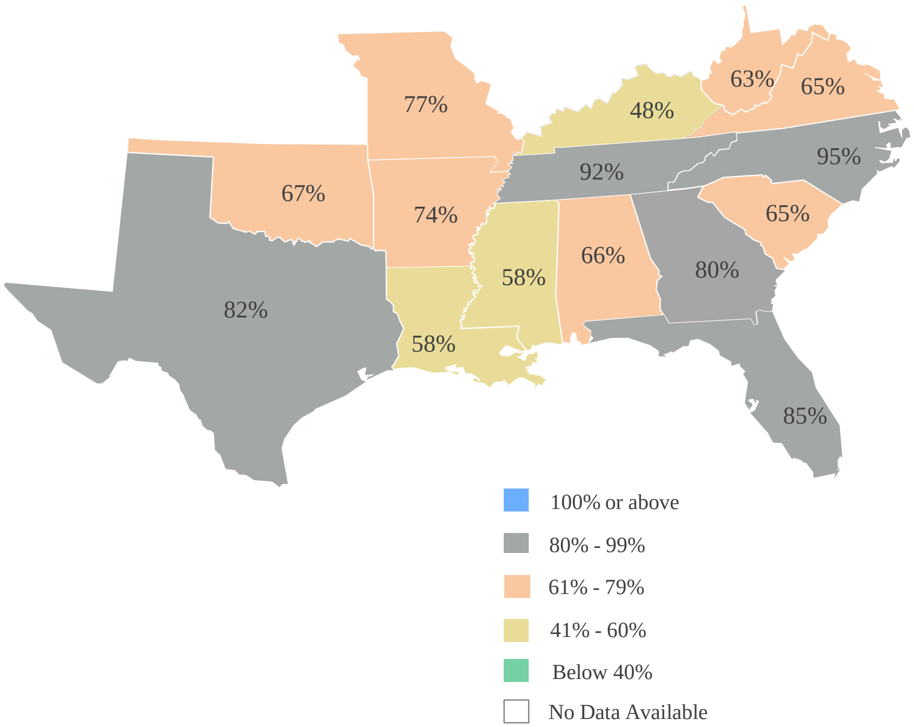
- **An 80% funded ratio has been cited as a benchmark for whether a pension plan is financially or "actuarially" sound, since government's taxing authority can always be used to cover the balance.**
- **Five years into the recovery, after consistent improvement in state general fund revenues, and with the benefit of four years of solid investment returns, still less than half the states are at even a 75% funded ratio or better. Why?**

State Annually Required Contributions—June 30, 2013



- **21 states have shown the commitment to pay 100% or more of their ARC.**
- **Other states chose instead to pay down bonded debt, replenish reserve funds, restore program spending, cut taxes, or fund capital improvements.**
- **There are a few states that contributed less than 60% of ARC in FY 2013.**

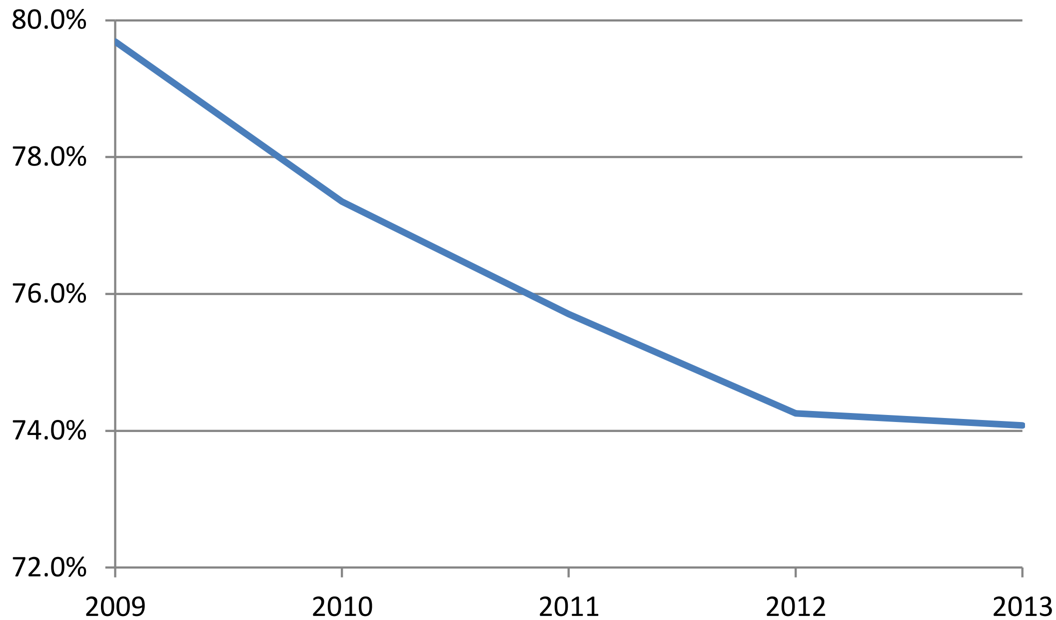
Southern Legislative Conference Member States—Funded Ratios



- **Aggregate funded ratio for SLC member states is 76.1% vs. 71.7% for the remaining 35 states.**

State Level Plan Performance

Top 35 Pension Plans—Historical Aggregate Funded Ratios



- **Aggregate funded ratio for top 35 pension plans has stabilized in FY 2013.**
- **Several reasons may have contributed to stabilization:**
  - Pension investment returns were strong in 2013 and were generally quite strong over the last 5 years
  - Rising pension contributions due to recovering state budgets
  - Pension reform measures may have started producing cost savings
- **However, most states have not paid their full ARC. Had all states contributed 100% of ARC, the aggregate funded ratio for FY 2013 would have been 0.5% higher, erasing a 0.4% decline compared to FY 2012.**

State Level Plan Performance—Improvements

- **Aggregate funded ratios for 19 states improved in FY 2013.**
- **States with the highest increase in funded ratio:**

	FY 2013	FY 2012
– Montana	73%	64%
– Oregon	91%	82%
– South Dakota	100%	93%
– Ohio	72%	65%
– Indiana	65%	61%
– Utah	80%	77%
– New Mexico	67%	63%
– Arkansas	74%	71%

- **While these states have significantly unique attributes, there appear to be some common themes that describe them as a whole:**
  1. Most of these states appear to be relatively fiscally conservative.
  2. Some of these states were already funded above the 80% threshold, and were not distracted by the need to focus on damage control.
  3. These states are generally smaller in population (Ohio is an exception).
  4. These states are either “right-to-work” states, or have lower union concentration (again, Ohio is an exception).

State Level Plan Performance—Deterioration

- **Aggregate funded ratios for 26 states declined in FY 2013.**
- **States with worst declines in funded ratio:**

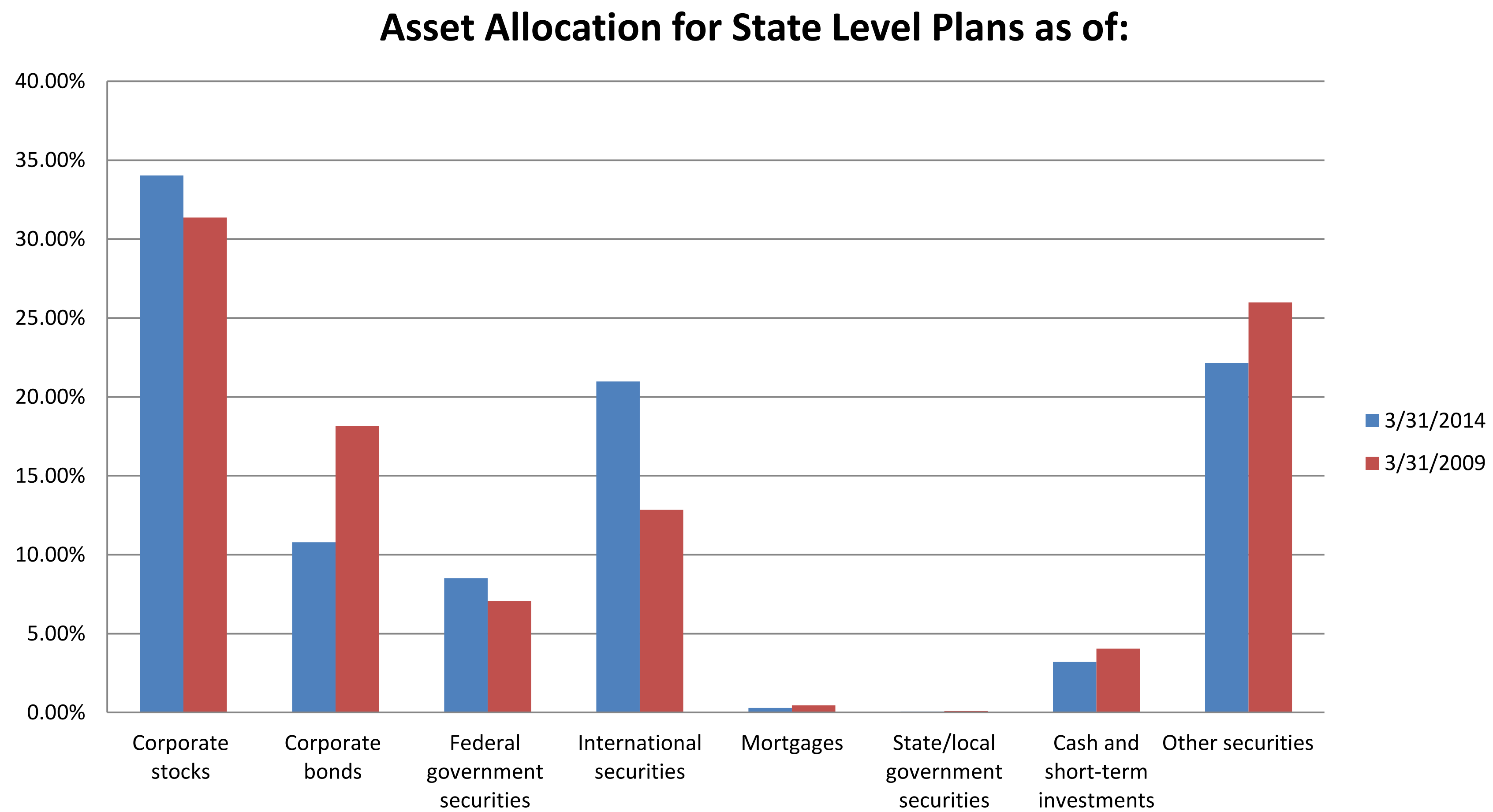
	FY 2013	FY 2012
– New Jersey	54%	61%
– Massachusetts	61%	66%
– New York	88%	93%
– Virginia	65%	70%
– Michigan	63%	66%
– Kansas	56%	59%
– South Carolina	65%	68%
– North Dakota	61%	63%

- **It would seem that deterioration occurs under progressive and conservative administrations alike.**
- **Except for New York, states with funded ratios that have deteriorated the most in FY 2013 were weak performers to begin with.**
- **These are mostly "older" states from the Northeast and Atlantic.**

Individual State Performance—Funded Ratio FY 2013

- **Top 5**
  - South Dakota (100%)
  - Wisconsin (100%)
  - North Carolina (95%)
  - Washington (95%)
  - Tennessee (92%)
- **Bottom 5**
  - Alaska (55%)
  - New Jersey (54%)
  - Connecticut (49%)
  - Kentucky (48%)
  - Illinois (39%)
- **It should be noted that individual state performance is 'sticky'. For example, 4 of the 5 struggling states were in the bottom quartile of states in 2005, with the exception of Kentucky. Likewise, 4 of the top 5 states were in the top quartile in 2005, with exception of Wisconsin, who improved its status by implementing the pension reform.**
- **Finding common attributes among either the Top 5 or the bottom 5 is difficult.**
- **Pension performance appears to be a very state-specific feature.**

Asset Allocation for State-Level Plans



- **There does not appear to be a substantial increase in the risky components of the average pension fund's investments over the last 5 years, as is often asserted.**

* Source: U.S. Census Bureau

State Level Plans Ranked By Size

#	State Pension System	AVA ($ mil)	UAAL ($ mil)
1	California Public Employees' Retirement Fund (PERF)	$282,991	$57,438
2	California State Teachers' Retirement Fund (STRP)	$144,232	$70,533
3	Florida Retirement System	$131,681	$22,445
4	Texas Teachers' Retirement System (TRS)	$121,730	$28,936
5	New York State & Local Employees' Ret. System (ERS)	$125,751	$18,419
6	Ohio State Teachers' Retirement System (STRS)	$62,591	$31,776
7	Illinois Teachers' Retirement System (TRS)	$38,155	$55,732
8	New York Teachers' Retirement System (PERS)	$82,871	$9,380
9	Pennsylvania Public School Employees' Ret. System (PSERS)	$57,353	$32,599
10	Ohio Public Employees' Retirement System (OPERS)	$67,855	$16,023
11	Wisconsin Retirement System (WRS)	$78,613	$70
12	Virginia Retirement System (VRS)	$51,212	$26,647
13	Georgia Teachers' Retirement System	$56,262	$12,086
14	North Carolina Teachers' & State Employees' Retirement System	$59,912	$3,718
15	Michigan Public School Employees' Retirement System (PSERS)	$38,450	$24,266
16	Oregon Public Employees' Retirement System	$54,784	$5,621
17	New Jersey Teachers' Pension & Annuity Fund	$30,606	$23,040
18	Pennsylvania State Employees' Retirement System (SERS)	$25,975	$17,899
19	Nevada Public Employees' Retirement System (PERS)	$29,109	$12,876
20	Arizona State Retirement System (ASRS)	$30,111	$9,801
21	South Carolina Retirement System (SCRS)	$25,541	$13,917
22	Massachusetts Teachers' Retirement System (MTRS)	$21,787	$17,348
23	Missouri Public School Retirement System (PSRS)	$29,443	$7,315
24	Mississippi Public Employees' Retirement System (PERS)	$20,491	$15,052
25	Maryland Teachers' Retirement System	$23,846	$11,685
26	Colorado School Retirement System (School Division)	$21,369	$14,068
27	Illinois State Employees' Retirement System (SERS)	$11,877	$22,843
28	Illinois State University Retirement System (SURS)	$14,263	$20,110
29	Tennessee State Employees, Teachers, and Higher Education Employees' Pensio	$30,118	$2,589
30	Texas Employees' Retirement System (ERS)	$24,668	$6,320
31	Iowa Public Employees' Retirement System (IPERS)	$24,711	$5,787
32	Massachusetts State Employees' Retirement System (SERS)	$20,317	$9,068
33	Kentucky Teachers' Retirement System - Retirement Funds (KTRS)	$14,963	$13,854
34	Alabama Teachers' Retirement System (TRS)	$18,786	$9,465
35	Louisiana Teachers' Retirement System	$14,669	$11,349

- **Top 35 (one-seventh) of 247 state pension plans in our database account for almost ¾ of the total.***
- **Just two largest plans, CalPERS and CalSTRS, account for 16% of the total.**
- **There is no correlation between the size of the pension fund and its level of fundedness.**

* Pension plans are ranked by Actuarial Accrued Liability (AAL), AVA – Actuarial Value of Assets

Local Pension Fund Performance

Local Pension System	Funded Ratio	Liabilities ($mil)	Assets ($mil)	UAAL ($mil)	UAAL/ Person ($)
New York City	61.2%	186,111	113,950	72,162	8,585
Los Angeles	76.8%	94,739	72,734	22,005	5,665
Chicago	46.3%	68,771	31,850	36,921	13,580
San Francisco	80.6%	20,225	16,303	3,921	4,683
San Diego	75.1%	19,372	14,542	4,830	3,562
Houston	76.2%	12,467	9,496	2,971	1,353
Philadelphia	47.4%	10,386	4,925	5,461	3,516
Detroit	83.4%	9,153	7,631	1,522	2,210
Dallas	78.9%	8,934	7,045	1,889	1,502
Baltimore	75.3%	8,590	6,471	2,119	3,407
Boston	61.4%	7,902	4,855	3,047	4,717
San Jose	71.5%	6,783	4,853	1,930	1,933
Phoenix	60.9%	6,484	3,946	2,538	1,677

Local Pension System	Funded Ratio	Liabilities ($mil)	Assets ($mil)	UAAL ($mil)	UAAL/ Person ($)
San Antonio	90.1%	5,628	5,069	559	397
Jacksonville	49.7%	5,448	2,707	2,741	3,253
Memphis	79.6%	5,379	4,281	1,098	1,680
Austin	68.0%	4,571	3,108	1,463	1,653
Fort Worth	63.9%	2,902	1,855	1,047	1,321
Denver	76.4%	2,593	1,980	613	944
Nashville	84.7%	2,581	2,185	396	624
El Paso	75.7%	2,563	1,941	622	923
Indianapolis	7.9%	886	70	816	967
Oklahoma City	98.2%	567	557	10	16
Charlotte	74.0%	515	381	134	169
Little Rock	50.4%	157	79	78	393

- **We have collected pension fund information for 25 large cities.**
- **City pension plans are sorted by size (total liability), with funded ratios that are smaller than 65% highlighted.**
- **It is important to look at the unfunded liability on a per capita basis. For many cities pension burden per capita exceeds bonded debt per capita.**

GASB Statements 67 and 68 Alter Reporting of Pension Activity

- **Goal of new standards is to improve the accounting and financial reporting of government pension plans.**
  - Statement No. 67 revises existing financial reporting guidelines for most pension plans. Phase in period began June 2013.
  - Statement No. 68 revises and establishes new financial reporting requirements for most governments that provide their employees with pension benefits. Phase in period began June 2014.
- **Key GASB Changes:**
  - Elimination of Annual Required Contribution (ARC).
  - Net pension liability (NPL) will become the primary pension expense required by GASB.
    - Must be reported on balance sheet and be accompanied by funding projections.
  - Employers participating in a CSME plan must now report their portion of the plan's NPL, pension expense, and other metrics.
  - Entry age normal as a level percentage of payroll as the sole allocation method used for reporting purposes.
  - If a state or local government has not set aside enough money to cover projected future benefits, they have to use a combination of the historical rate of return and municipal borrowing rate.
  - Discontinued use of the smoothing period to determine asset levels, assets now valued at market.
  - Massive expansion of the note disclosure and required supplementary information sections.
- **The new regulations take an "accounting-based" approach to evaluate a plan's ability to ensure the overall costs of providing current and future benefits are accounted for. This is in contrast to the old "funded-based" approach, which focused on annual contributions and relied heavily on various, often vague, actuarial assumptions.**

GASB 67 and 68—Benefits

- **The GASB changes:**
  - Will provide more information and detail on the components of pension related expenditures.
  - Require that actuarial data, like the ARC, will have to be disclosed, if used, in Supplemental Information. Anecdotally, there is no evidence to suggest that governments would stop calculating ARC.
  - Simplifies analysis since the only post-Statement 68 actuarial method allowed will be the entry age normal as a level percentage of payroll.
  - Analysts will be able to evaluate the impact of various factors (asset appreciation, annual contribution, change in benefits, accounting changes etc.) on pension plan performance.
  - Market value of assets will provide a more accurate funded ratios. The downside is that funded ratio will become more volatile. While it seems reasonable to assume that transition from smoothed valuation to market valuation may improve funded ratios as historical stock market gains are recognized, improvements in funded ratios could be modest.
- **On balance, we believe that the new methodology will provide meaningful information to users, but at a cost of greater confusion and with a loss of historical data comparability.**

GASB 67 and 68—Some Concerns

- **The GASB changes:**
  - Create a degree of confusion among many important constituencies—investment analysts, policy analysts, journalists, politicians, etc.
  - Create a break in data since the new statements will not require governments to provide revised historical data.
  - Provide no resolution regarding the controversy over the appropriate rate to discount liabilities.
  - Create the possibility that the discount rate used by a government can change from year to year, complicating time series analysis of funded ratios and other pertinent metrics.
  - Complicate both time series and cross-sectional data analysis (panel data) making comparative performance analysis between governments problematic. On the other hand, the existing methodology has its own share of problems due to different ways to calculate ARC, changing actuarial assumptions, smoothing of market returns, etc.
- **It will take several years of using the new reporting system to generate sufficient amount of data to make meaningful comparisons.**

Are There Indications that Pension Conditions Are Improving?

- **Pointing towards an improvement:**
  - Five years of good investment returns (beyond most smoothing periods).
  - Pension reforms are beginning to show cost savings.
- **COLA busters:**
  - Between 2010 and 2013, 17 states reduced, suspended or eliminated COLA's.
  - A simple model suggests that eliminating a 2-percent compounded COLA reduces lifetime benefits by 15-17 percent*

Change in Total Lifetime Benefits due to COLA Reduction

	Discount Rate				
COLA	7.75%	7.00%	6.00%	5.00%	4.00%
From 3% to 2%	-7.00%	-7.20%	-7.50%	-7.70%	-8.00%

* Source: Center for Retirement Research at Boston College

- **Revenue improvements have helped:**
  - Catch up payments for states that fell behind 100% payment of ARC during the great recession.
  - Reduce burden on overall finances for states that stayed current on their ARC payments.
- **A small number of plans are experiencing outright decline in ARC requirements.**

Illinois Supreme Court Ruling Shows Pension Reform is High Stakes Game

States responded to pension crisis in 2009 and 2010 with blizzard of reforms, creating optimism regarding pension reform progress. Since 2012 alone, 46 states have enacted a total of 447 bills regarding public pensions.

- **But legal battles have made real change difficult by postponing cost savings until litigation is resolved, and in rolling back some reforms.**
- **7 States have constitutional pension protections—Alaska, Arizona, Hawaii, Illinois, Louisiana, Michigan, and New York.**
- **All 7 clauses protect past benefits while the Alaska, Illinois and New York constitutions also protect future benefits for public employees, meaning the structure of an employees retirement benefits can never change from their first day.**
- **While 17 States have reduced, suspended, or dropped COLA from their plans, 12 have had to go to court over it. Other states have lost COLA litigation.**
- **Progress is difficult to gauge systemically because each state faces different degrees of statutory and/or constitutional pension protection, making pension reform progress a state-by-state skirmish.**

Potential Impact of Municipal Bankruptcies

- **Municipal bankruptcies remain very rare for local governments. However, there are currently a handful of ongoing high profile city bankruptcies. The examples below are especially relevant to pension liabilities.**

Detroit:

- **In Michigan, pension benefits are protected by the state constitution. The bankruptcy judge has ruled however that these protections are superseded by federal bankruptcy law. Recently, Detroit pension beneficiaries voted to accept benefit reductions as included in the City's proposed Plan of Adjustment to emerge from bankruptcy. The pension reductions agreed upon are modest with roughly 4.5% reduction in pension payments for general retirees as well as the elimination of cost-of living adjustments for pension beneficiaries.**

San Bernardino:

- **San Bernardino missed a portion of its required contributions to CalPERS after it declared bankruptcy. Failure to repay these contributions would be an impairment of the pension fund. CalPERS believes it should be fully repaid while the city wants to include them with its other creditors, likely leading to CalPERS receiving only a portion of the missed payments.**

Potential Impact

- **The resolution of these cases may have an impact on how pension liabilities and state protection of benefits are viewed in municipal bankruptcy proceedings, although this could vary from state to state. It may potentially also lead to greater negotiating leverage for struggling entities seeking pension reforms.**

Conclusions

- **The financial performance of public pensions has stabilized, but remains precarious in a handful of states.**
- **While median funded ratio for states is 69%, nine states have ratios below 60%, three of them below 50% and one below 40%. In these states a decisive legislative action is needed to restore fiscal stability.**
- **States with lowest aggregate funded ratios have not contributed the full ARC in FY 2013. Considering that these states failed to provide sufficient funding during the economic expansion, it is a concern whether they will do so during future difficult times.**
- **The 5-year rally in the stock market will some day inevitably come to an end. That will exacerbate the funding problem, as the ARC will have to increase in order to make up for asset appreciation that fails to meet assumed investment assumptions (usually between 7% and 8%). The states that have underfunded ARC have failed to take advantage of strong asset appreciation over the last 5 years.**
- **The resolution of municipal bankruptcies, which remain very rare, may have an impact on how pension liabilities and state protection of benefits are viewed in municipal bankruptcy proceedings, although this could vary from state to state.**

Questions

Analytical Services Division

Chris Mier, CFA, Managing Director
312.356.5840 | christopher.mier@loopcapital.com

Ivan Gulich, CFA, Senior Vice President
312.913.2204 | ivan.gulich@loopcapital.com

Rachel Barkley, Vice President
312.913.2297 | rachel.barkley@loopcapital.com

Dimitra Stamatoukos, Econometrician
312.913.2236 | dimitra.stamatoukos@loopcapital.com

Vania Petkova, Analyst
312.913.2229 | vania.petkova@loopcapital.com

Disclaimer

Loop Capital® is a registered trademark of Loop Capital Holdings, LLC. Securities and investment banking services are offered through Loop Capital Markets LLC. Loop Capital Markets LLC is a registered broker-dealer and a member of the Financial Industry Regulatory Authority (FINRA), the Municipal Securities Rulemaking Board (MSRB) and the Securities Investor Protection Corporation (SIPC). Swap related services are offered through Loop Capital Strategies, LLC. Loop Capital Strategies is an Introducing Broker registered with the Commodity Futures Trading Commission (CFTC) and member of the National Futures Association (NFA).

Loop Capital prepared this document for informational purposes only. This document and the information herein (collectively "Information") is not a research report and it should not be construed as such. The Information has been gathered from sources believed to be reliable, but is not guaranteed and is not a complete summary of all available data. Any historical price(s) or value(s) are also only as of the date indicated and from any source that may be noted. Loop Capital is under no obligation to update opinions or other information. Any opinions expressed by Loop Capital represent our present opinions as of the date of this Information and are subject to change without further notice. The Information, including proposed terms and conditions, are indicative and for discussion purposes only. Finalized terms and conditions of any transaction or engagement are subject to further discussion and negotiation and will be evidenced by a formal agreement.

The Information is confidential. By accepting the Information, you agree that you will, and you will cause your directors, partners, officers, employees and representatives to use the Information only to evaluate your potential interest in the strategies described herein and for no other purpose and will not divulge the Information to any other party except as otherwise permitted herein. Any reproduction, redistribution or transmission of the Information, in whole or in part, without the prior written permission of Loop Capital is prohibited. Except as required to comply with applicable law or regulation, Loop Capital makes no warranty whatsoever (including but not limited to, warranties as to quality, accuracy, performance, timeliness, continued availability or completeness) as to the Information contained herein.

The Information contained is not an offer to buy or sell or a solicitation of an offer to buy or sell any security or instrument or to participate in any trading strategy. Loop Capital does not provide accounting, tax or legal advice; however, you should be aware that any proposed indicative transaction could have accounting, tax, legal or other implications that should be discussed with your advisors and or counsel. The Information should not be relied upon for the maintenance of your books and records or for any tax, accounting, legal or other purposes. Subject to applicable law, you may disclose any aspects of any potential transaction or structure described herein that are necessary to support U.S. federal income tax benefits.

The fact that Loop Capital has made the Information or other information available to you constitutes neither a recommendation that you enter into or maintain a particular transaction or position nor a representation that any transaction is suitable or appropriate for you. Transactions involving derivative or other products may involve significant risk and you should not enter into any transaction unless you fully understand the risks and have independently determined that such transaction is appropriate for you.

Loop Capital shall have no liability, contingent or otherwise, to you or to any third parties, or any responsibility whatsoever, for the correctness, quality, accuracy, timeliness, pricing, reliability, performance or completeness of the Information, data or formulae provided herein or for any other aspect of the performance of the Information. In no event will Loop Capital be liable for any damages (including special, indirect, incidental or consequential damages) which may be incurred or experienced on account of your use of the information provided herein or this document, even if Loop Capital has been advised or the possibility of such damages. Loop Capital will have no responsibility to inform you of any difficulties experienced by Loop Capital or any third parties with respect to the use of the Information or to take any action in connection therewith.

Loop Capital and its affiliates, officers, directors, and employees, including persons involved in the preparation of this document, may from time to time have "long" or "short" positions in and buy or sell, the securities, derivatives (including options) or other financial products thereof, of entities mentioned herein. In addition, Loop Capital and/or its affiliates may have served as manager or co-manager of an offering of securities by any such entity. Further information may be obtained upon request.

Unless otherwise agreed in writing between you and Loop Capital, Loop Capital is acting solely as a principal/underwriter in an arm's length commercial transaction in which Loop Capital has financial and other interests that differ from yours. Loop Capital is not acting as a municipal advisor, financial advisor or fiduciary and the information provided should not be construed as "advice" within the meaning of Section 15B of the Securities Exchange Act of 1934.