

The Academy Capitol Forum: Meet the Experts



How Did State & Local Pension Plans Become Underfunded?

Jean-Pierre Aubry

Assistant Director of State and Local Research
The Center for Retirement Research at Boston College

Don Fuerst, MAAA, FSA, FCA, EA
Senior Pension Fellow
American Academy of Actuaries

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Overview

- The Center for Retirement Research at Boston College
- State and Local Plans: Good News, Worrisome Things, and Who Knows?
- A New Tool to Analyze the Underfunding of State and Local Plans

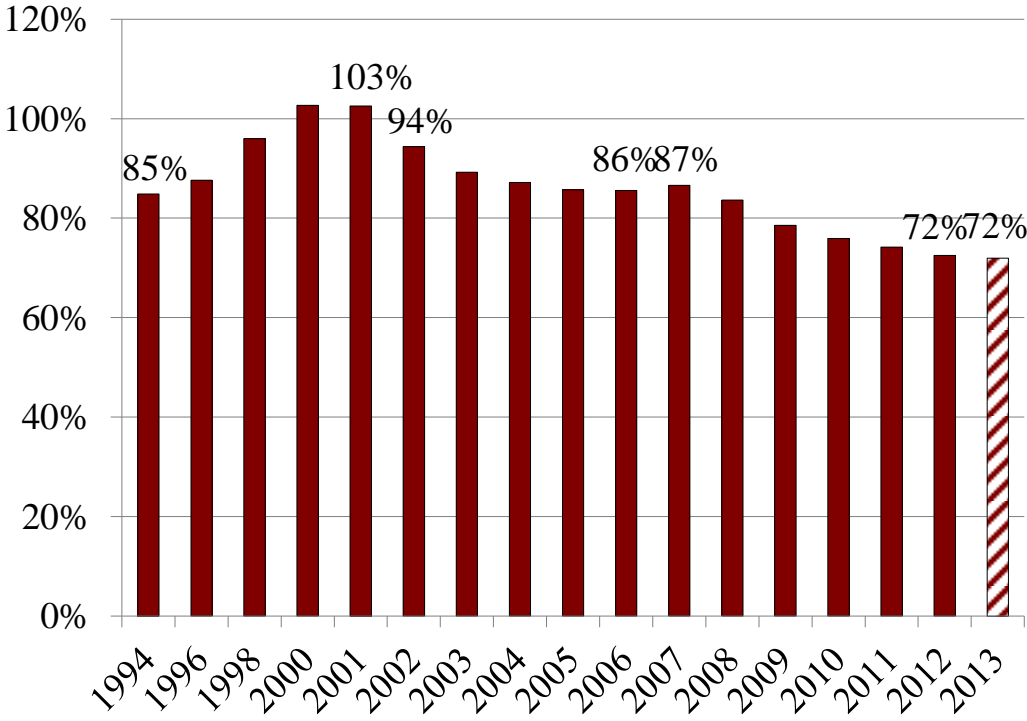
The Center for Retirement Research at Boston College

- Founded in 1998 through a seed grant from the Social Security Administration (SSA).
- Main research areas are: Social Security, State and local pensions, Health/long-term care, Financing retirement, and Older workers.
- Also studies the behavioral factors that drive individuals' retirement decisions to craft solutions that work in practice, not just in theory.
- Products include peer-reviewed research, working papers, issue briefs, databases, economic and actuarial models.

State and Local Plans: Good News, Worrisome Things, and Who Knows?

The funded status of state and local pensions still reflects two financial crises.

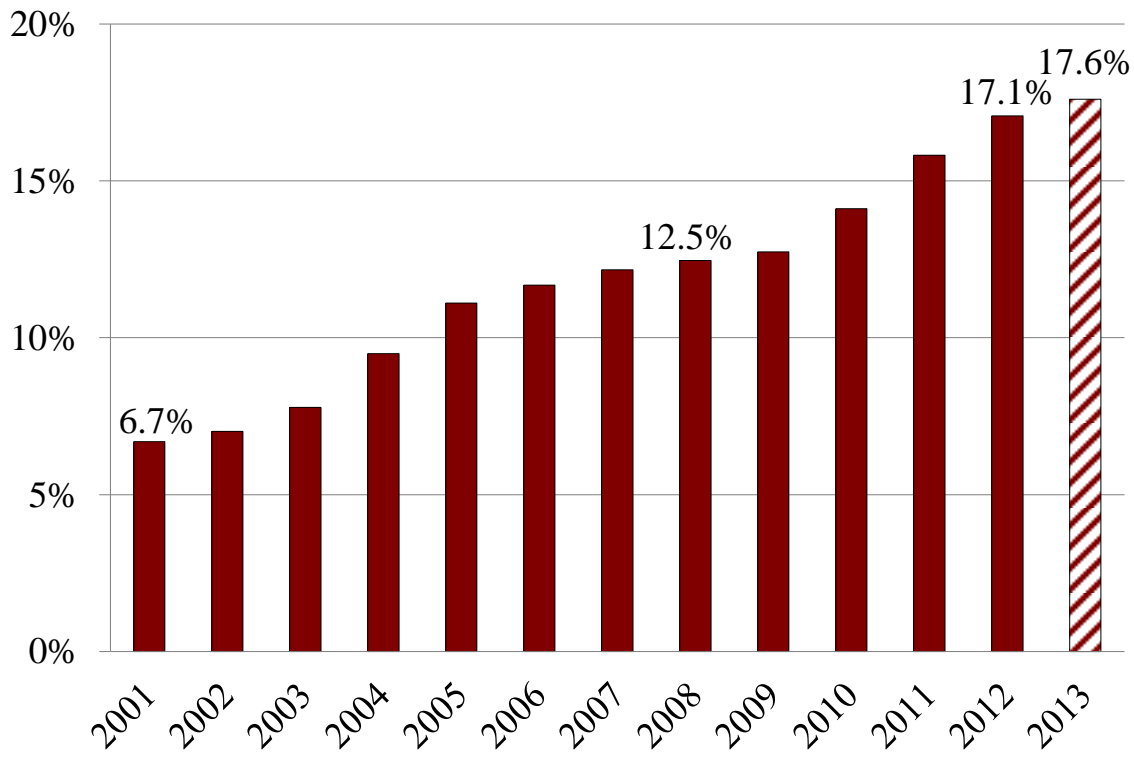
State and Local Funded Ratios, FY 1994-2013



Sources: Various 2013 actuarial valuations; *Public Plans Database* (PPD). 2001-2013. Center for Retirement Research at Boston College and the Center for State and Local Government Excellence; and Paul Zorn. 1994-2000. *Survey of State and Local Government Retirement Systems: Survey Report for Members of the Public Pension Coordinating Council*. Government Finance Officers Association.

And the cost of pensions – as measured by the ARC – continues to rise.

Annual Required Contribution as a Percent of Payroll, FY 2001-2013

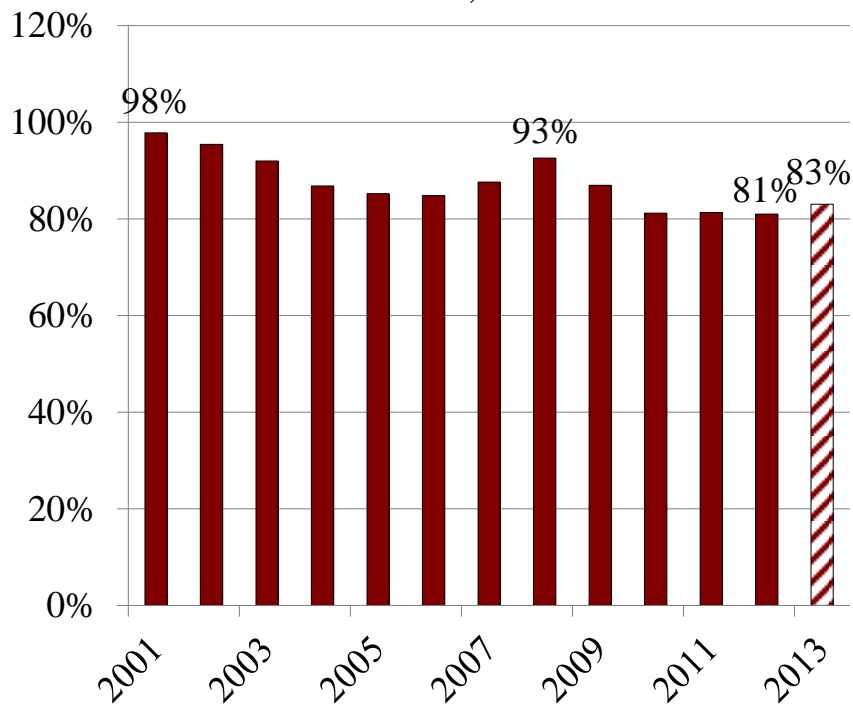


Source: Alicia H. Munnell, Jean-Pierre Aubry, and Mark Cafarelli. 2014. "The Funding of State and Local Pensions: 2013-2017." *State and Local Plans Issue in Brief* 39. Center for Retirement Research at Boston College.

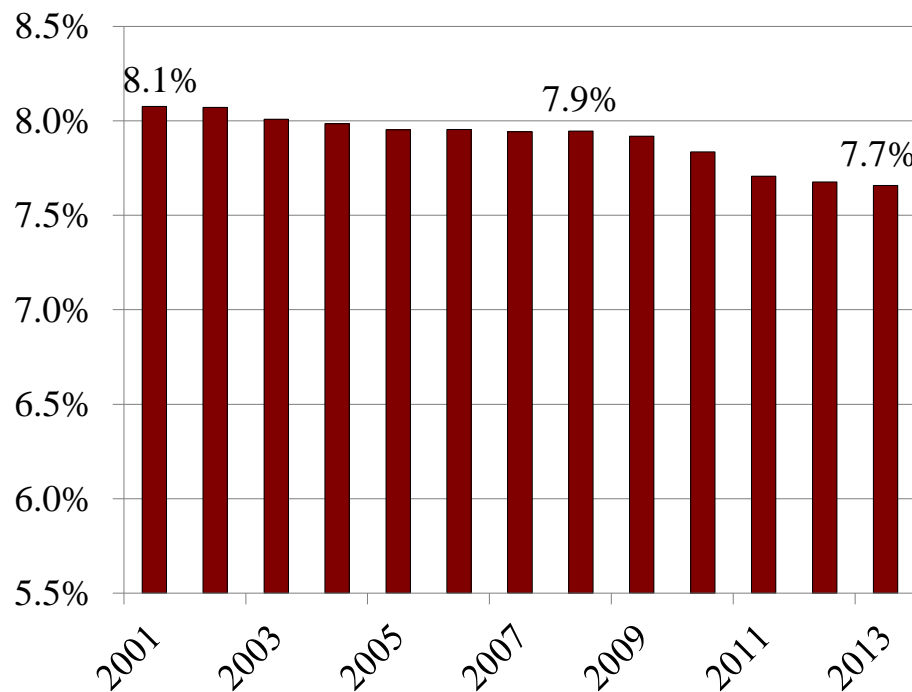
But we do have some good news...

Governments have started to increase the percent of ARC paid and plans have lowered their assumed return.

Percent of Annual Required Contribution Paid, FY 2001-2013



Average Discount Rates for Public Plans, FY 2001-2013

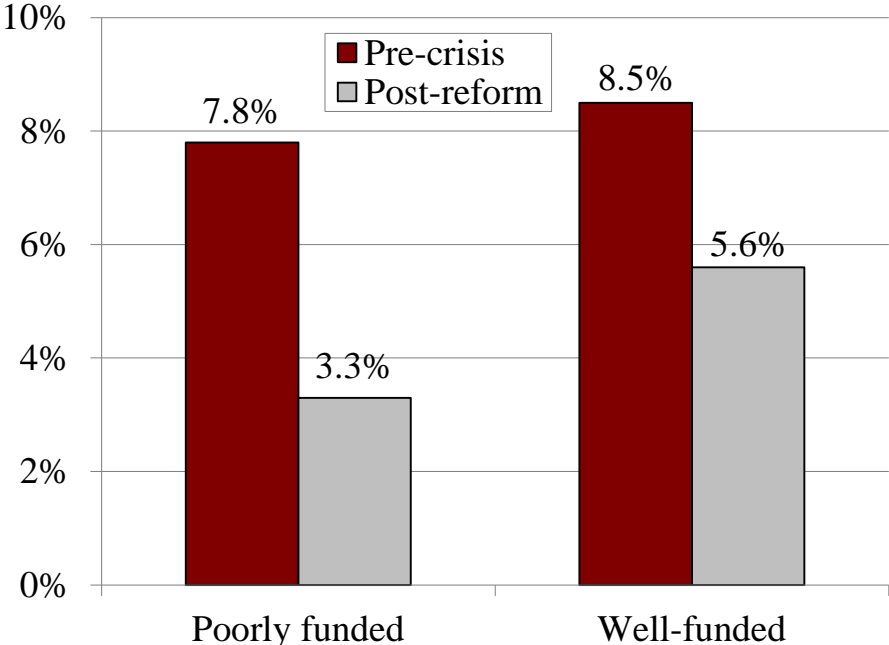


Sources: Various actuarial valuations; and PPD, 2001-2013. Center for Retirement Research at Boston College and Center for State and Local Government Excellence.

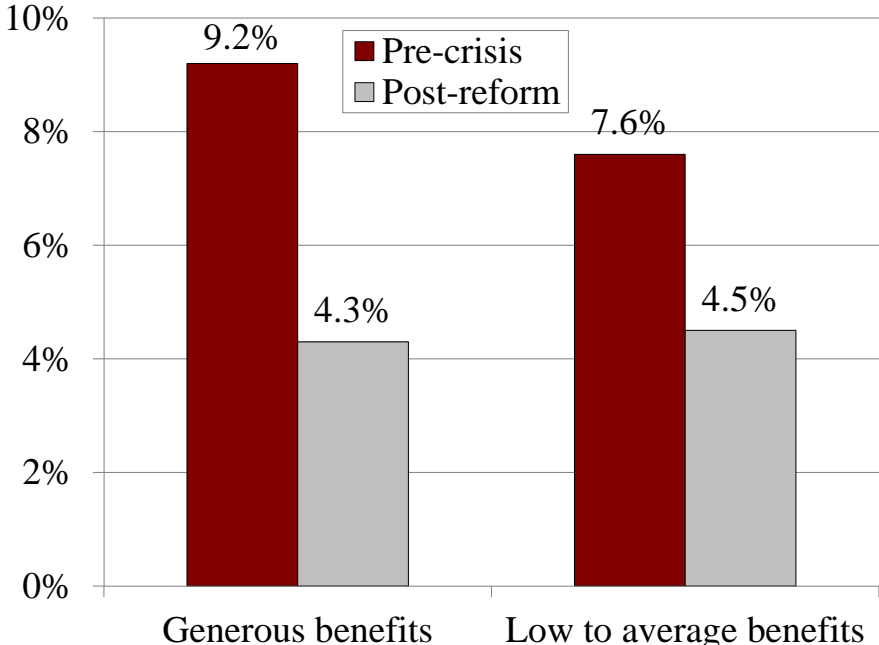
And, generally, plans have taken actions that are calibrated to their circumstances.

Employer Normal Costs as a Percentage of Payroll, Pre-Crisis and Post-Reform

By Plan Funded Status



By Plan Generosity

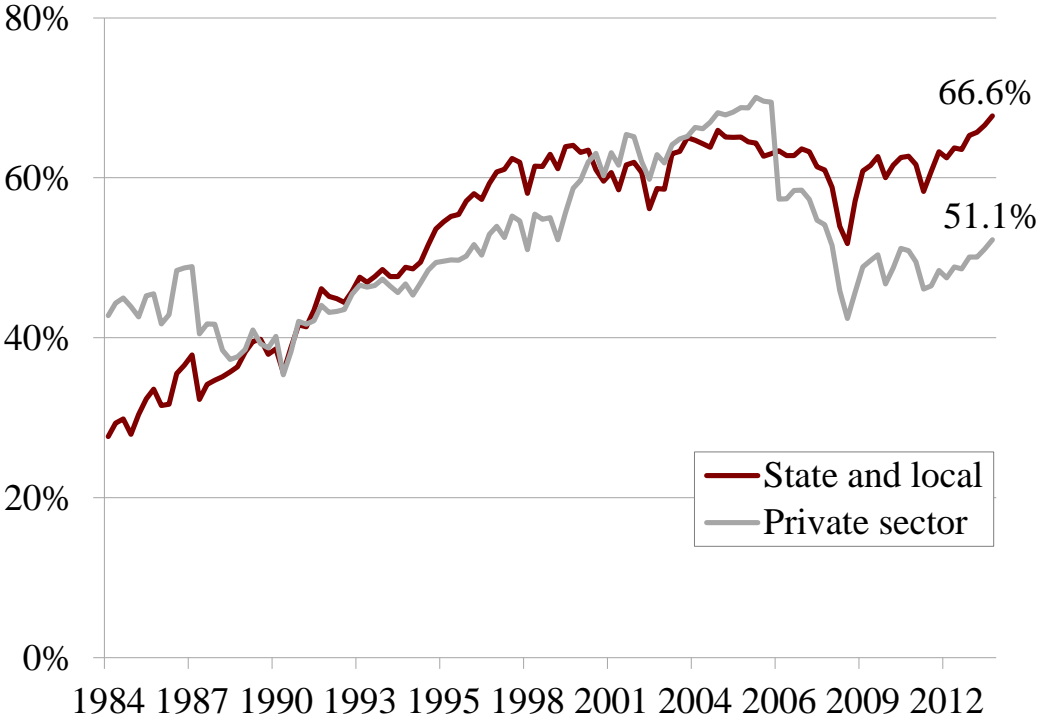


Source: Alicia H. Munnell, Jean-Pierre Aubry, Anek Belbase, and Joshua Hurwitz. 2013. "State and Local Pension Costs: Pre-Crisis, Post-Crisis, and Post-Reform." *State and Local Plans Issue in Brief* 30. Center for Retirement Research at Boston College.

On the other hand,
several things are worrisome.

State/local pension portfolios are too risky.

Percentage of State and Local and Private Pension Fund Assets Invested in Equities, 1970-2013

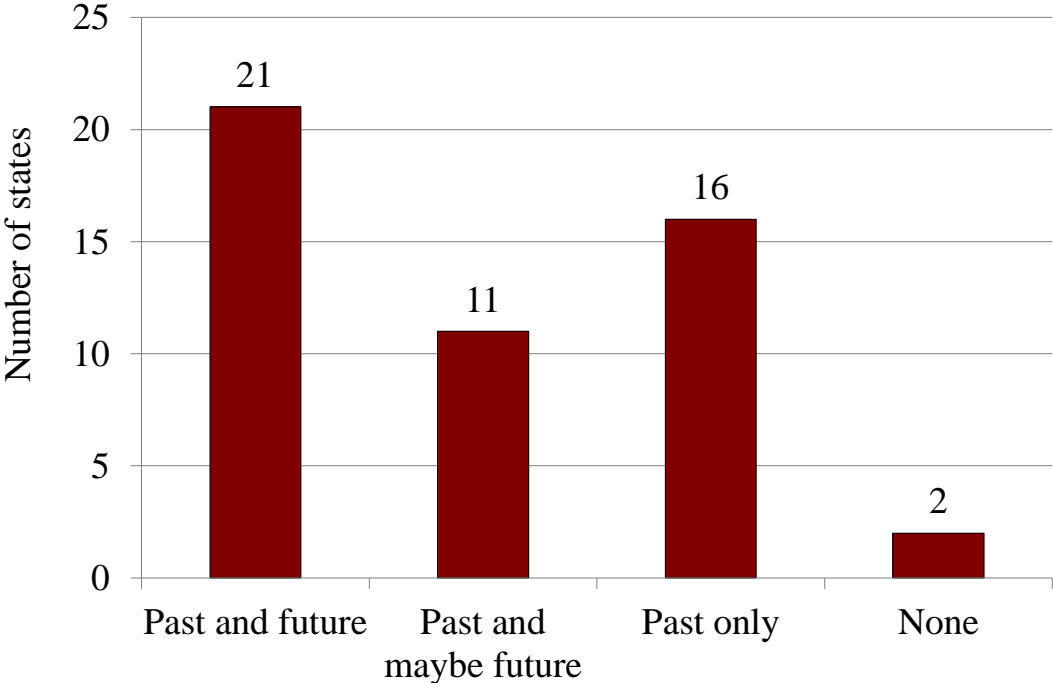


Notes: Assumes that equities account for approximately 80 percent of assets held in mutual funds. Before 1984, private sector pension funds include both defined benefit and defined contribution accounts.

Source: Author's calculations from U.S. Board of Governors of the Federal Reserve System, *Flow of Funds Accounts*. 1970-2013.

The inability to cut *future* benefits for current employees remains an obstacle to reducing costs.

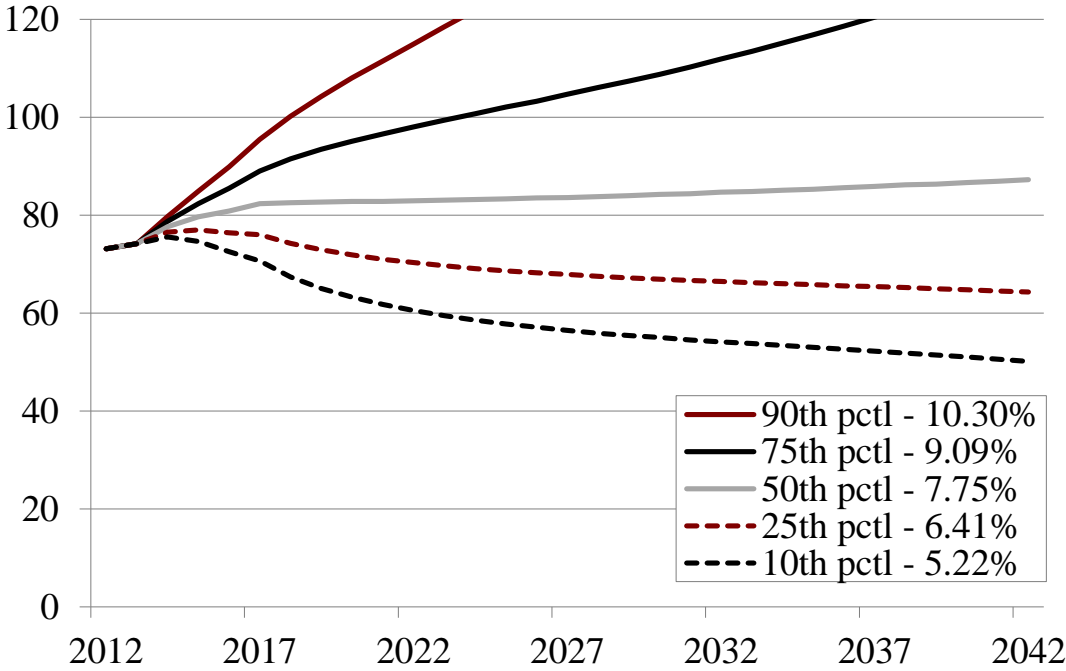
Protections of Public Pension Rights under State Laws



Source: Alicia H. Munnell and Laura Quinby. 2012. “Legal Constraints on Changes in State and Local Pensions.” *State and Local Plans Issue in Brief 25*. Center for Retirement Research at Boston College.

One-quarter of plans use back-loaded amortization, so may never reach full funding even with full ARC and assumed return.

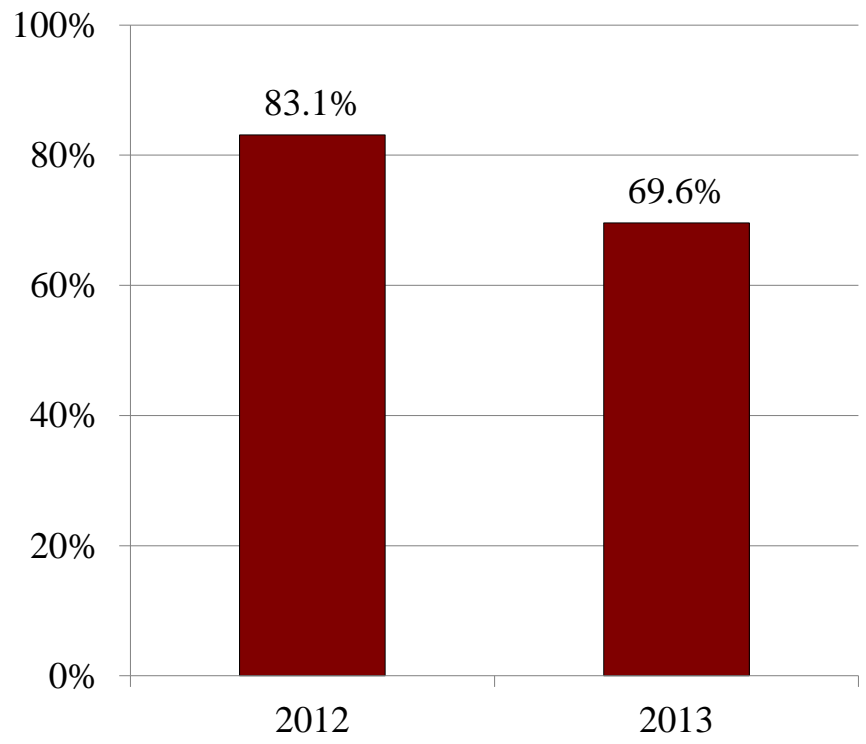
Projected State and Local Funded Ratios When Paying the Full ARC, by Percentile



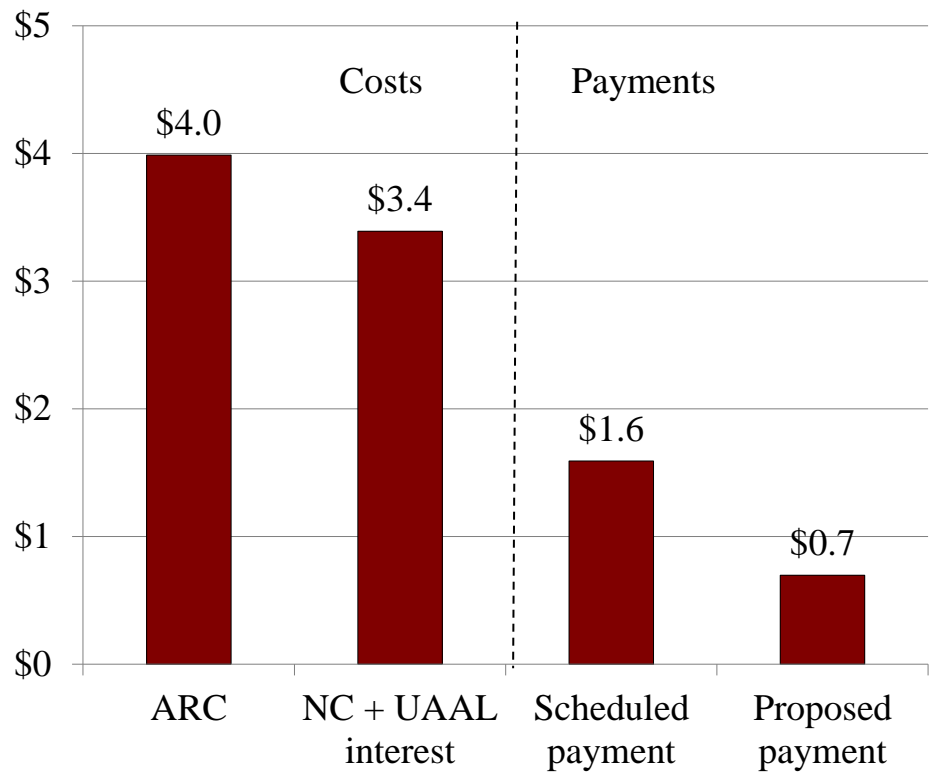
Source: Alicia H. Munnell, Jean-Pierre Aubry, and Josh Hurwitz. 2013. "How Sensitive Is Public Pension Funding to Investment Returns?" *State and Local Plans Issue in Brief* 34. Center for Retirement Research at Boston College.

Nasty surprises and poor behavior by notable plans continue to undermine confidence.

CalPERS Funded Ratio, FY 2012-2013



2014 Pension Costs vs. Payments in New Jersey, in Billions of Dollars



Source: 2012 CalPERS State and Schools actuarial valuation, and author's calculations.

For some localities, pension contributions cause extreme budget pressure.

Sample Cities with Highest Pension Costs as a Percent of Revenue

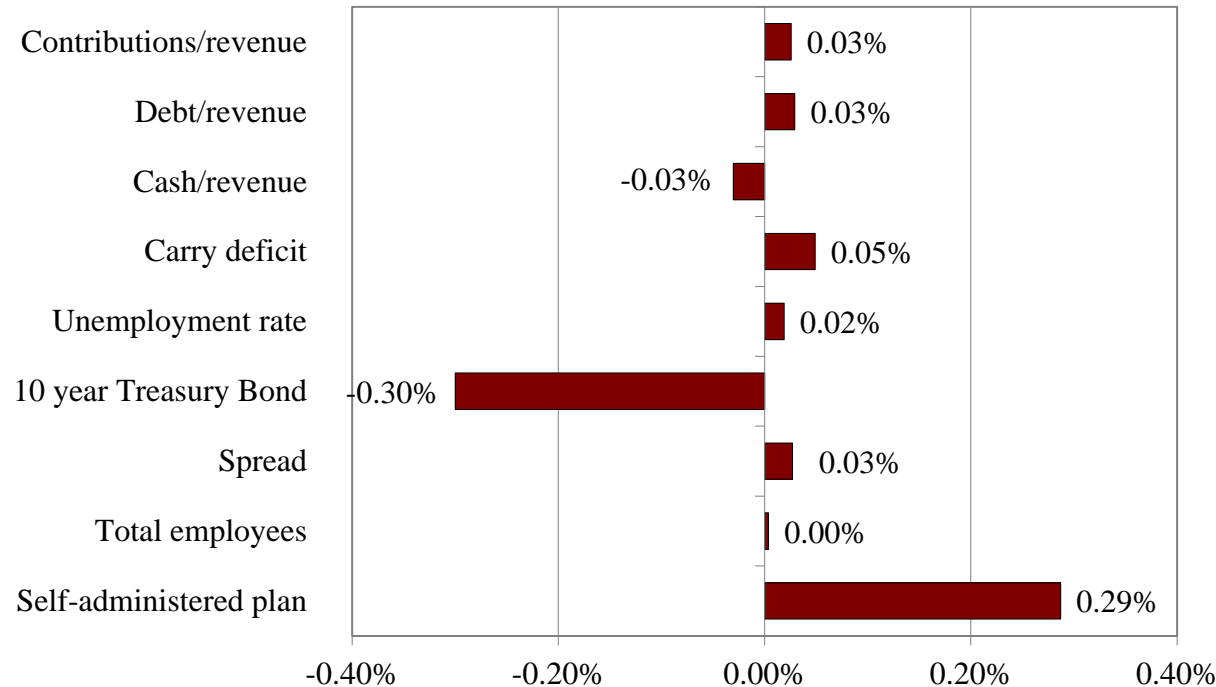
Rank	State	City	Pension costs/ revenue	Percent of pension costs going to state-administered plans
1	AR	Little Rock City	17.6%	47.3%
2	IL	Chicago City	17.0	0.0
3	IL	Aurora City	16.1	80.5
4	WV	Charleston City	15.7	13.8
5	NV	Reno City	15.5	100.0
6	MA	Springfield City	15.0	0.0
7	CA	Bakersfield City	14.5	42.2
8	CA	Stockton City	14.1	48.6
9	MI	Saginaw City	13.8	70.2
10	NY	New York City	12.9	0.0

Note: Estimates include all cities, overlapping counties, and school districts.

Source: Alicia H. Munnell, Jean-Pierre Aubry, Josh Hurwitz, and Mark Cafarelli. 2013. "Gauging the Burden of Public Pensions on Cities" *State and Local Plans Issue in Brief* 35. Center for Retirement Research at Boston College.

And POBs are used for the wrong reasons by those that cannot afford the additional risk.

Factors Affecting the Probability of Government Issuing a Pension Obligation Bond, 1992–2013



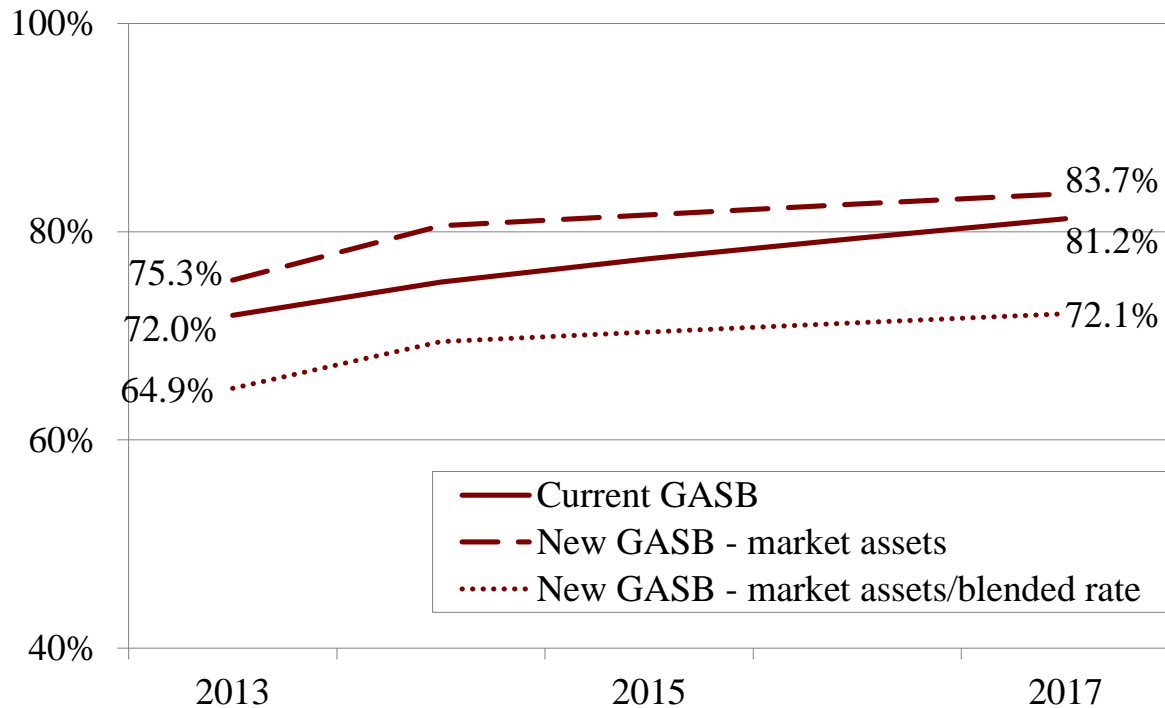
Note: All results are statistically significant at least at the 95 percent level. For dummy variables, the effects illustrated reflect a shift from 0 to 1. In the case of continuous variables, the effects illustrated reflect a one-standard-deviation change across the mean in one variable while holding the others at their mean.

Source: Alicia H. Munnell, Jean-Pierre Aubry, and Mark Cafarelli. 2014. “An Update on Pension Obligation Bonds.” *State and Local Plans Issue in Brief* 40. Center for Retirement Research at Boston College.

Who knows?

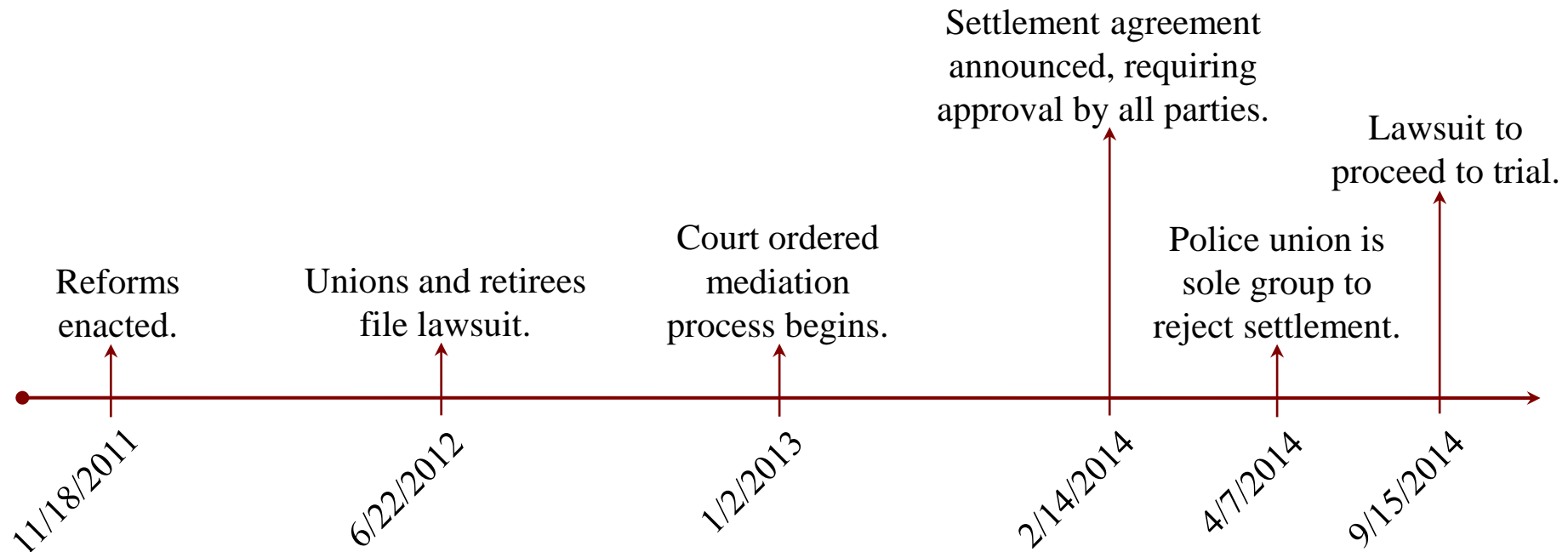
How will GASB 67 affect reported numbers?

Projected Funded Ratios for FY 2013-2017 under various GASB Standards



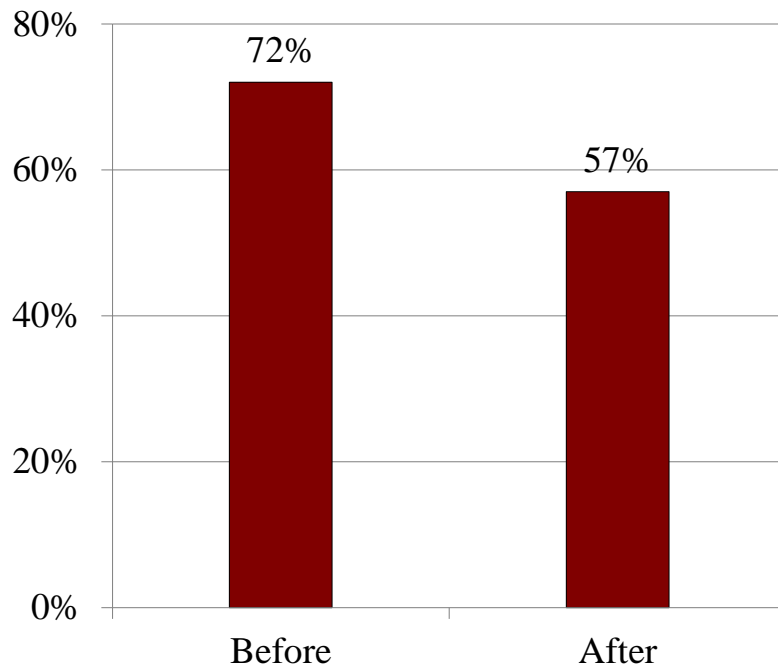
Source: Alicia H. Munnell, Jean-Pierre Aubry, and Mark Cafarelli. 2014. "The Funding of State and Local Pensions: 2013-2017." *State and Local Plans Issue in Brief* 39. Center for Retirement Research at Boston College.

How will Rhode Island's efforts to cut future benefits for current workers play out?

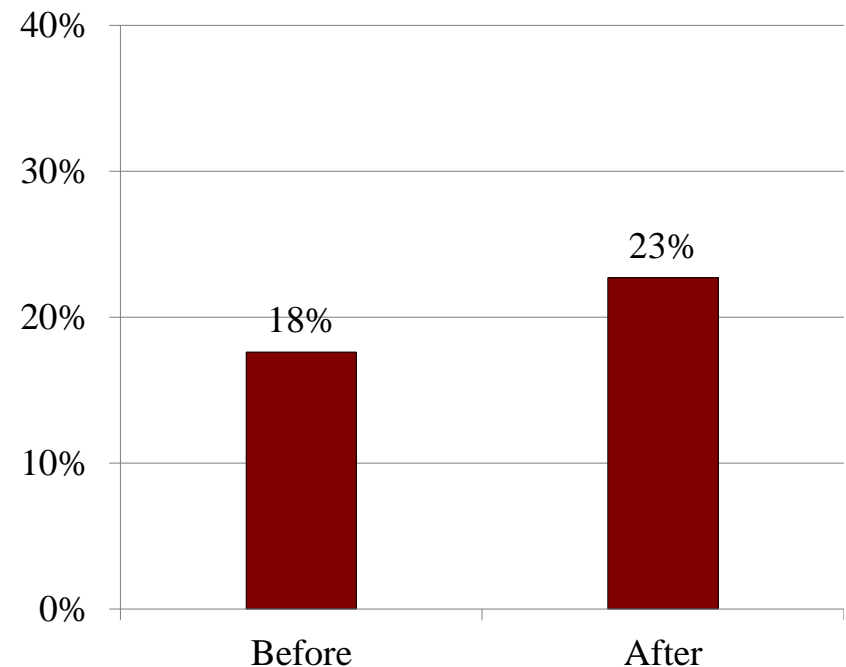


And what happens if (when) the stock market crashes again?

Funded Ratio



ARC



Source: Author's calculations.

Takeaways Regarding State and Local Plans

- The verdict on today's pension environment is mixed.
- Good news includes actions by plans to reduce or trim future costs.
- Worrisome things range from investment portfolios that are too risky to questionable amortization practices.
- Finally, several questions remain unanswered, such as GASB 67, court challenges, and future stock returns.

A New Tool to Analyze the Underfunding of State and Local Plans.

By taking annual data already provided in the actuarial valuations of most plans...

2012-2013 Change in the UAAL for Georgia TRS, from the Plan's Actuarial Valuation, Millions of Dollars

Item	Amount of increase/(decrease)
Interest (8.09%) added to previous unfunded accrued liability	\$977.8
Accrued liability contribution	(604.7)
Experience:	
Valuation asset growth	1,241.1
Pensioners' mortality	52.7
Turnover and retirements	378.2
New entrants	96.2
Salary increases	(715.2)
Method changes	(926.7)
Interest smoothing	915.9
Miscellaneous	124.4
Total	1,539.7

Source: Alicia H. Munnell, Jean-Pierre Aubry, and Mark Cafarelli. 2015. "How Did State/Local Plans Become Underfunded?" *State and Local Plans Issue in Brief* 42. Center for Retirement Research at Boston College.

...then organizing the data into groups and combining multiple years of data...

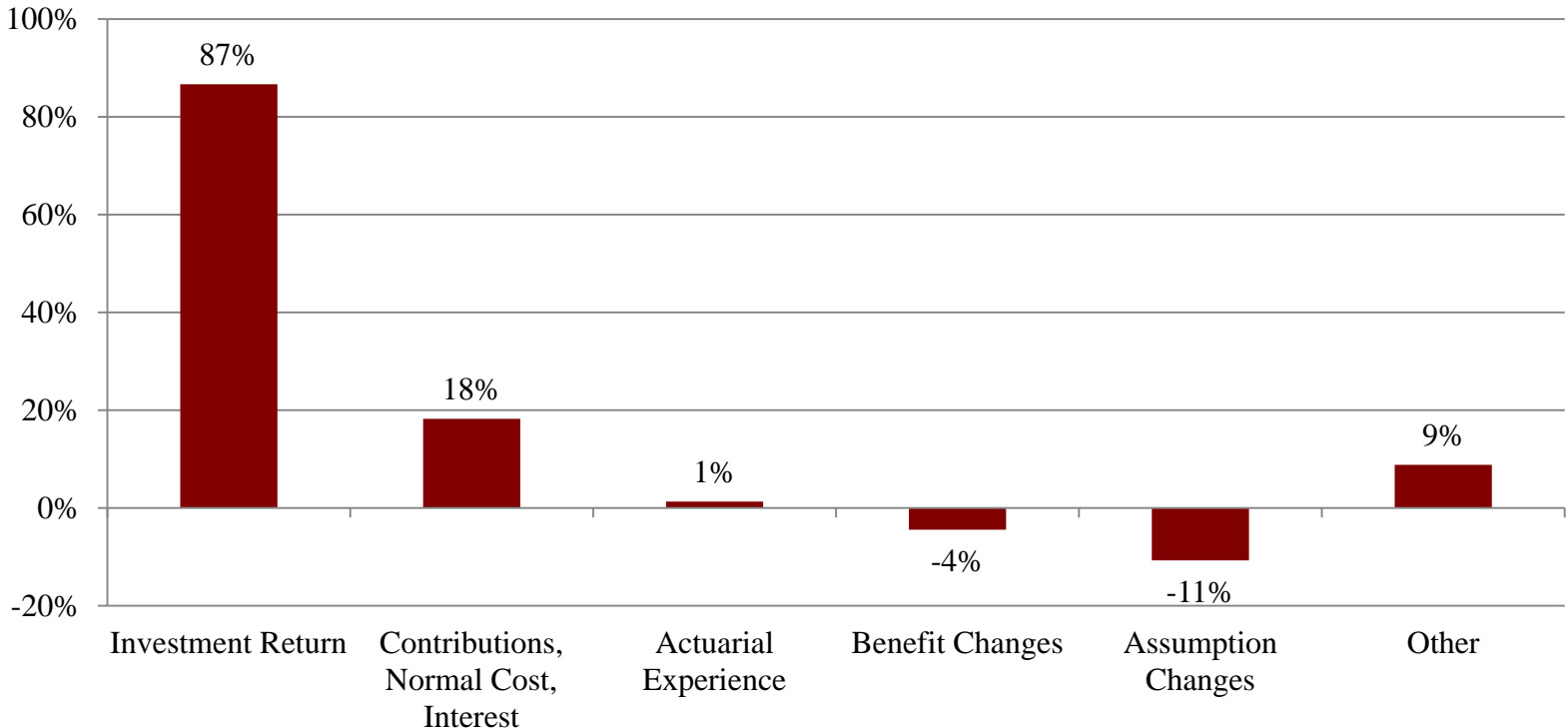
Change in the UAAL for Georgia TRS, 2001-2013, Millions of Dollars

Year	Investment return lower/(higher) than assumed	Contribution lower/(higher) than normal cost + interest on UAAL	Actuarial experience worse/(better) than assumed	Benefit changes	Changes to assumptions & methods	Other	Total change in UAAL	UAAL
2001	(\$296.4)	(\$229.1)	(\$791.3)	–	\$657.9	\$27.0	(\$631.9)	(\$1,431.4)
2002	667.7	(62.7)	30.6	–	–	–	635.6	(795.8)
2003	788.5	19.7	768.5	–	(1,247.9)	–	328.8	(467.0)
2004	507.5	44.6	(473.0)	–	–	–	79.1	(387.9)
2005	516.4	20.3	(77.6)	–	903.1	–	1,362.2	974.3
2006	675.3	125.0	312.7	48.5	(339.2)	–	822.3	1,796.6
2007	(132.3)	183.5	746.0	–	–	303.5	1,100.7	2,897.4
2008	548.9	83.1	771.4	–	–	478.7	1,882.1	4,779.5
2009	2,433.5	233.5	556.4	–	(2,062.3)	70.9	1,232.0	6,011.5
2010	1,674.9	187.1	(557.5)	–	1,472.4	274.2	3,051.1	9,062.6
2011	2,018.7	336.9	(181.8)	(685.5)	–	–	1,488.3	10,550.9
2012	1,855.1	402.7	(722.4)	–	–	–	1,535.4	12,086.3
2013	1,241.1	1,289.0	(188.1)	–	(926.7)	124.4	1,539.7	13,626.0
Total	12,498.9	2,633.6	193.9	(637.0)	(1,542.7)	1,278.7	14,425.6	–

Source: Alicia H. Munnell, Jean-Pierre Aubry, and Mark Cafarelli. 2015. “How Did State/Local Plans Become Underfunded?” *State and Local Plans Issue in Brief* 42. Center for Retirement Research at Boston College.

...we highlight key factors in the growth of the UAAL over the past 12 years

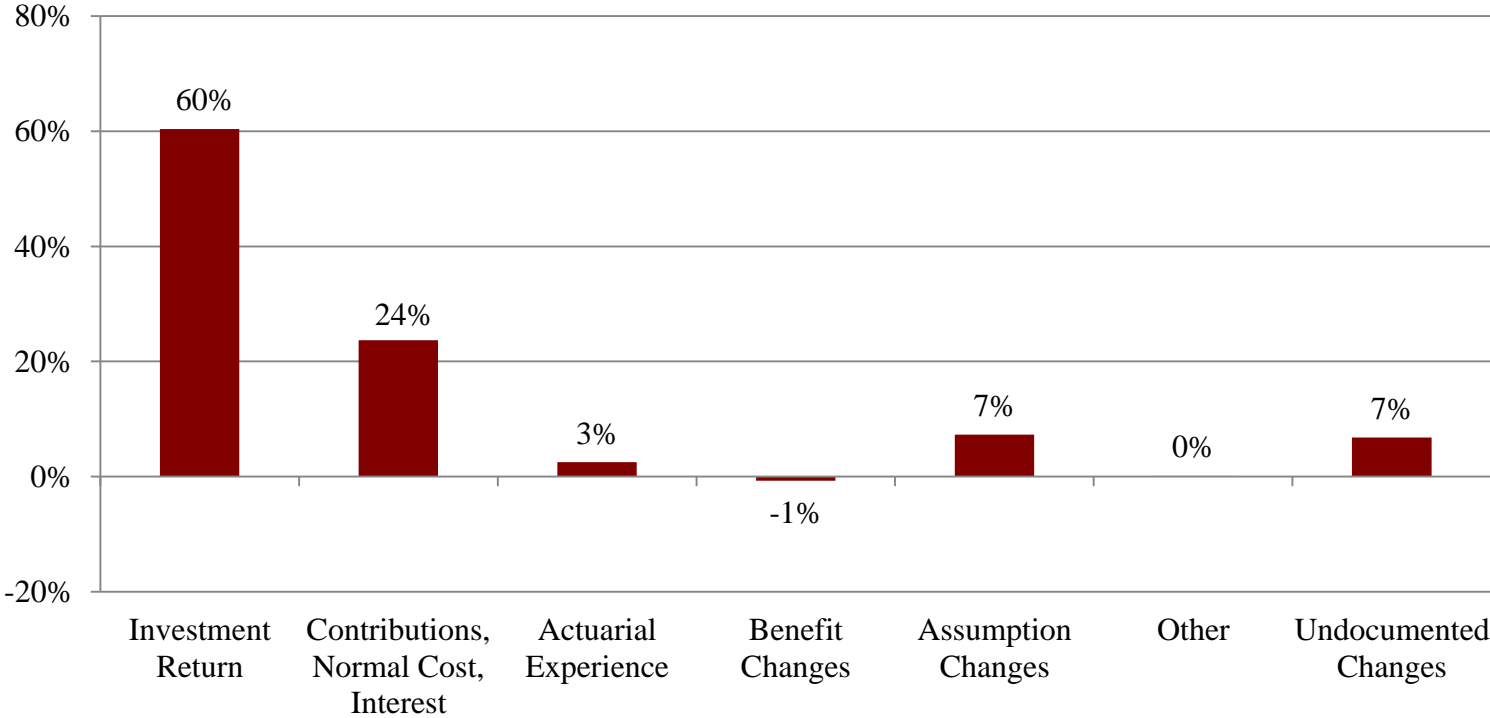
Reasons for Change in the UAAL from 2001-2013 as Percent of Overall Change, Georgia TRS



Source: Author's calculations.

In the aggregate, contributions and investment returns played the largest role

Reasons for Change in the UAAL from 2001-2013 as Percent of Overall Change



Source: Author's calculations.

Inadequate contributions played a relatively larger role for poorly funded plans.

Reasons for Change in the UAAL for Plans in the Top, Middle, and Bottom Thirds, 2001-13

Plan type	Investment return lower/(higher) than assumed	Contribution lower/(higher) than normal cost + interest on UAAL	Actuarial experience worse/(better) than assumed	Benefit changes	Changes to assumptions and methods	Other	Total
Good	69.0%	13.4%	(0.1)%	5.3%	7.8%	4.7%	100.0%
Average	59.0	23.0	(0.6)	(0.2)	6.6	12.1	100.0
Bad	55.4	32.5	7.5	(6.3)	7.5	3.4	100.0
Total	60.4	23.7	2.4	(0.8)	7.2	7.1	100.0

Source: Alicia H. Munnell, Jean-Pierre Aubry, and Mark Cafarelli. 2015. "How Did State/Local Plans Become Underfunded?" *State and Local Plans Issue in Brief* 42. Center for Retirement Research at Boston College.

For more information and research...

The Center for Retirement Research at Boston College

<http://crr.bc.edu>

State and Local Pension Research

http://crr.bc.edu/special_projects/state_and_local_pension_plans.html

The Public Plans Database (PPD)

<http://crr.bc.edu/data/public-plans-database/>

Jean-Pierre Aubry

Assistant Director of State and Local Research

The Center for Retirement Research at Boston College

aubryj@bc.edu

Academy Resources

- The 80% Pension Funding Standard Myth
- Measuring Pension Obligations
- Objectives and Principles for Funding Public Sector Pension Plans
- Public Pension Plans E-Guide



The 80% Pension Funding Standard Myth

- Issue Brief published July 2012
 - http://actuary.org/files/80_Percent_Funding_IB_071912.pdf
- Discusses meaning of a funded ratio
- Most useful in conjunction with other relevant information
 - Size of obligation relative to sponsor
 - Financial health of sponsor
 - Contribution policy
 - Investment strategy
- Target funding should usually be 100%



Measuring Pension Obligations

- Issue Brief published November 2013
 - http://www.actuary.org/files/IB_Measuring-Pension-Obligations_Nov-21-2013.pdf
- Discusses meaning of alternative measures
 - Solvency measurement
 - Budget measurement
- Difference is a measure of risk and reward
- Benefit security also dependent on financial strength of sponsor



Objective and Principles for Funding Public Sector Pension Plans

- Issue Brief published February 2014
 - http://www.actuary.org/files/Public-Plans_IB-Funding-Policy_02-18-2014.pdf
- Discusses contribution allocation procedure
 - Actuarial cost method
 - Asset smoothing method
 - Amortization method
- Discusses competing objectives:
 - Benefit security
 - Contribution Stability and Predictability
 - Generational Equity



Public Pension Plans E-Guide

- Academy resources organized at one website
 - <http://www.actuary.org/category/site-section/public-policy/pension/pension-plan-e-guide>
- Background
- Public Statements
- Additional Resources



How Did State & Local Pension Plans Become Underfunded?

Questions and Discussion

