Lessons from Well-Funded Public Pensions: An Analysis of Six Plans that Weathered the Financial Storm



NIRS Public Release Webinar Wednesday, June 29, 2011, 11:00 AM ET

Register at: https://www2.gotomeeting.com/register/731472850 Dial In: (909) 259-0012 Access Code: 414-390-832 Webinar ID: 731-472-850

Agenda

- Welcome
- Background on Public Pension Funding
 - Overview of key terms and issues
 - Review of recent state of pension funding
- Report Review
 - Key findings
 - Methodology and report details
 - Specific policies from two system directors
- Q&A



Speakers



Diane Oakley, Executive Director, NIRS



Dr. Jun Peng, Associate Professor, U. of Arizona



Ilana Boivie, Director of Programs, NIRS



Tom Lee, Executive Director, New York STRS



Ronnie Jung, Executive Director, Texas TRS



NATIONAL INSTITUTE ON
Retirement Security

What is a Funding Gap?

- A funding gap (unfunded liability) occurs when the benefits owed exceeds the amount of money the plan has saved to meet these obligations.
- Includes current and future benefits promised to all participants—retirees and active employees.





NATIONAL INSTITUTE ON Retirement Security

What is a Funded Ratio?

- A plan's "funded ratio" is calculated by dividing the plan's assets by obligations.
- Example: a plan with \$100 billion in obligations and \$90 billion in assets...



Pension Contributions

- Employer contributions are determined through actuarial analysis.
- "Normal cost" is the portion of the present value of benefits attributable to the current year.
- The plan may have additional costs due to a prior funding gap.
- Annual Required Contribution (ARC) consists of....



Payments on any Unfunded Liability





NATIONAL INSTITUTE ON Retirement Security

Pension Receipts Come from Three Sources

 Pension fund receipts between 1994-2008 have been composed of:



• Employers (taxpayers) contributed 21 cents on the dollar of total pension receipts.



NATIONAL INSTITUTE ON Retirement Security

Most Public Pensions Were Well-Funded Before Crisis



Source: Center for Retirement Research at Boston College (data not provided for 1995, 1997, 1999)

Majority of Public Plans Still Are Well-Funded



Source: Center for Retirement Research, Boston College

Public Pensions Showing Strong Recovery



Source: National Association of State Retirement Administrators

Strong Investment Returns: Over 8% Over Two Decades

Median annualized investment returns, periods ended 12/31/10



Source: NASRA based on Callan Associates Data

Public Pensions Are Small Portion of State/Local Budgets

Retirement Security

Reliable Research. Sensible Solutions.

SENSIBLE SOLUTIONS

Lessons from Well-Funded Public Pensions: An Analysis of Six Plans that Weathered the Financial Storm

By Jun Peng, Ph.D., and Ilana Boivie

June 2011

Why We Did This Study

- Increased attention to pensions—and pension funding—since financial crisis.
 - Most investors, and pensions, saw decline in funded levels
 - Misperception that taxpayers are fully responsible for covering investment losses
 - More attention on public pension benefit levels
- NIRS' mission—in part to explore sensible, common sense guidelines.

Why We Did This Study

- Lack of analysis of plans that remained wellfunded through the Great Recession.
- What led to better funding?
 - Study six well-funded plans
 - Tease out common elements in terms of funding policy, benefit design, and economic assumptions
- Demonstrate that sustainable funding occurs within DB structure—to media, policymakers.
- Refocus attention on what works, successes.

NATIONAL INSTITUTE ON Retirement Security

Key Findings

The following features helped the study plans remain well-funded over the long term:

- 1. Employer pension contributions that pay the full amount of the ARC, and that maintain stability in the contribution rate over time, that is, at least equal the normal cost;
- 2. Employee contributions to help share in the cost of the plan;
- 3. Benefit improvements, such as multiplier increases, that are actuarially valued before adoption and properly funded upon adoption;

Key Findings (continued)

- 4. Cost of living adjustments (COLAs) that are granted responsibly, ex. through a quickly amortized ad hoc COLA, or a capped automatic COLA;
- 5. Anti-spiking measures that ensure actuarial integrity and transparency;
- Economic actuarial assumptions, including both the discount rate and inflation rate, that can reasonably be expected to be achieved long term.

Caveat: Every Plan Is Unique

- Each of the systems studied followed somewhat different practices
- Funding policy, benefit design, and economic assumptions all varied from plan to plan
- "One size doesn't fit all"

Methodology: What We Did

- Chose plans based on the following criteria:
 - Well-funded through the study period (2000-2009)
 - Used actuarial method "entry age normal"
 - One plan per state
- Analyzed plans' financial reports, interviewed staff to study:
 - Funding policy
 - Benefit design (COLAs and anti-spiking)
 - Economic assumptions

Methodology: What We Did

- Out of all plans that met criteria, 6 chosen:
 - Delaware State Employees Pension Plan
 - Idaho Public Employee Retirement Fund
 - Illinois Municipal Retirement Fund
 - New York State Teachers' Retirement System
 - North Carolina Teachers & State Employees Ret. Syst.
 - Teacher Retirement System of Texas
- These plans represent about 10% of all assets and members in public pension community.

Retirement Security

Actuarial Funded Level of Six Study Plans, 1999-2009

Pension Funding Policy: Employer Contributions

- Dual goal of maintaining a well-funded level and having contribution stability.
- Paying the full ARC each year is the best way to stay well-funded.
 - Texas TRS: Constitution mandates payment.
 - Illinois MRF: Statute mandates local government payment.
 - Idaho PRF: Statute mandates state government payment.

Pension Funding Policy: Employer Contributions

- Paying at least the normal cost each year can lead to more stability of contributions.
 - Idaho PRF: The employer rate cannot fall below the normal cost rate.
 - Illinois MRF: Only when the funding ratio is substantially above 100% can the amount above that level be used to reduce the normal cost rate.
 - Texas TRS: Requires that the employer contribution rate cannot fall below a certain level.

Membership, Assets, and Contribution Rates of Six Plans

	A					· · · · · · · · · · · · · · · · · · ·
	Delaware SEPP	Idaho PERF	Illinois MRF	New York STRS	North Carolina	Texas TRS
Total No. of Members	58,000	123,000	275,000	419,000	578,000	1,300,000
Total Assets under Management	\$5.8 billion	\$8.7 billion	\$22.3 billion	\$72.4 billion	\$50.4 billion	\$88.7 billion
Employee Contribution Rate	3% of salary over \$6,000	60% of employer rate	4.5%	Tier 4: 3% for the first 10 years; Tier 5: 3.5%	6%	6.4%
Employer Contribution Rate	5.50%	10.44%	9.27%	7.63%	3.36%*	6.58%

*North Carolina's employer contribution rate will be 7.44% as of July 1, 2011.

Funding Example: Texas TRS

- State constitution requires that the Texas legislature set the employee contribution rate.
 - Rate may not be less than 6% of compensation.
 Current rate established by the legislature is 6.4%.
- State constitution requires that the State of Texas contribute not less than 6% nor more than 10% of compensation.

Funding Example: Texas TRS

- In an emergency (as determined by the governor) the legislature may appropriate such additional sums as are actuarially determined to be required to fund benefits authorized by law.
- The impact of these provisions have been that contribution rates have been stable (not fluctuating much) in the last 15 years.
 - In last 15 years, the state contribution exceeded the ARC in 10 of the years and was below the ARC in 5 of the years.

NATIONAL INSTITUTE ON Retirement Security

Pension Funding Policy: Employee Contributions

- Employee contributions help for the cost of the pension benefit to be shared.
- Most employee rates are fixed.
- To share cost volatility the employee rate can be made variable.
 - Idaho PRF: Adjustable employee rate.
 - Alternative option: Rate has two components: a set portion of the normal cost, plus an additional rate for potential cost volatility.

NATIONAL INSTITUTE ON Retirement Security

Pension Benefit Design

- Benefit adequacy is often measured by the "replacement rate"—percentage of pre-retirement income replaced by all forms of post-retirement income.
- Replacement rate should be 77%-90%.
- Study plans provide pension benefits that replace between 55% and 69%.
- It is prudent to actuarially value benefit improvements before adoption and properly fund them upon adoption.

Benefit Design of Six Plans

	Delaware SEPP	Idaho PERF	Illinois MRF	New York STRS	North Carolina	Texas TRS
Benefit Formula	2% for years prior to 1997 and 1.85% after that	1.67%: up to 9/30/92; 1.75%: 10/1/92 -9/30/93; 1.83%:10/1/93 -9/30/94; 1.92%: 10/1/94 - 6/30/00; 2%: after 7/1/00	1.67% of FAS for the first 15 years and 2% after	Tier 4 ('83-'10) 1.67% for less than 20 years; 2% for first 30 years and 1.5% for years after; Tier 5: after 2010: 1.67% for less than 25 years; 2% for first 30 years and 1.5% for years after	1.82%	2.3%
Social Security Coverage	Yes	Yes	Yes	Yes	Yes	No
Replacement Rate**	55.5%	60%	55%	60%	54.6%	69%

**Replacement rate includes just the DB pension benefit, and not any Social Security benefits. It is for someone hired now and retires after 30 years of service.

NATIONAL INSTITUTE ON Retirement Security

What is a Cost of Living Adjustment (COLA)?

• A COLA is a change in a retiree's monthly pension benefit to account for inflation.

The Effect of 3% Inflation on a \$2,000 Benefit

Pension Benefit Design: COLAs

- COLA design can maintain balance between inflation protection and affordability.
 - Automatic COLA: Benefit increases automatically every year by certain percentage.
 - Ad hoc COLA: Granted at the discretion of the plan sponsor.
 - Simple COLA: Adjustment each year is calculated based on the original benefit.
 - Compound COLA: Includes past benefit increases in each new COLA calculation.

Pension Benefit Design: COLAs

- Prefunding and capping automatic COLAs:
 - New York STRS: Automatic compound COLA of half of CPI, applied to the first \$18,000.
 - Illinois MRF: Simple 3% COLA. (For members hired in 2011 the COLA is a simple 3% or half of CPI, whichever is less.)
- Amortizing ad hoc COLAs quickly:
 - Delaware SEPP: Amortized over 5 years.
 - North Carolina: Amortized over 9 years.

Pension Benefit Design: Pension "Spiking"

- "Spiking" refers to an abnormal and unanticipated increase in a pension benefit.
 - Can be harmful to the financial health of the plan.
 - Unfair to other participants and taxpayers.
- Spiking is uncommon, as most plans have at least a 3 year final average salary.
 - However, high level of attention can create the impression of widespread abuse.

Pension Benefit Design: Spiking

- Spiking can be minimized in several ways:
 - 1. Final average salary that is used to determine pension benefits cannot include a one-time payment at the time of termination.
 - 2. Growth rate in total salary in the final years including overtime cannot exceed a certain percentage (e.g., average salary growth for the entire government), or a preset percentage (e.g., 10%).
 - 3. Final average salary is capped.

Anti-Spiking Example: New York STRS

- Final average salary is highest 3 consecutive years, and excludes:
 - Bonuses, unused leave, and payments made outside contract terms and on the eve of retirement.
 - Yearly increases in regular salary exceeding 10% of the average of the previous two years' salaries (for employees hired after 1976).
- For employees hired before 1976, several legislative changes have curbed salary spikes.

NATIONAL INSTITUTE ON Retirement Security

Anti-Spiking Example: New York STRS

- 1971: Bars use of payments for unused leave and other payments on the eve of retirement from benefit calculations.
- 1973: Bars use of compensation other than regular wages and of any school year compensation earned in excess of 120% of the average of the previous 2 years' salaries in benefit calculations.
- 1976: Further limits calculations by barring the use of school year compensation earned in excess of 110% of the average of the previous 2 years' salaries.
- 1996: Implements the IRS compensation limit (currently \$245,000) on compensation used to calculate benefits.
- All changes effective for members joining on or after the implementation date.

Economic Assumptions: Pension Investments

- Pension contributions are invested in a diversified portfolio, and earnings on investments help to pay for benefits over time.
- Accurately assessing expected investment returns is important.
- A mismatch between the interest rate assumption and the actual interest earned will likely lead to a mismatch between the size of the plan's assets and its liabilities.

Economic Assumptions: Inflation and Discount Rates

- Rate of return assumption is used as the discount rate.
- Inflation assumption is a component of the salary increase assumption.
- Difference between discount rate and inflation rate is the real rate of return assumption.

Economic Assumptions: Inflation and Discount Rates

- Study systems have return assumptions that are achievable over the long term.
- The asset allocation for the six study plans is in line with their rate of return assumptions.
- 4 systems use real rates of 4.25% or less:
 - Delaware SEPP: Real rate of 4.25%
 - Idaho PERF: Real rate of 3.25%
 - Illinois MRF: Real rate of 3.5%
 - North Carolina: Real rate of 3.5%

Year	Delaware SEPP	Idaho PERF	North Carolina	New York STRS	Texas TRS	Illinois MRF
2000	16.8%	13.2%	9.0%	6.9%	7.9%	1.9%
2001	-5.1%	-6.1%	-2.0%	-5.7%	-5.0%	-6.1%
2002	-6.3%	-7.1%	-4.0%	-6.8%	-6.4%	-8.7%
2003	3.4%	3.7%	7.6%	4.0%	4.7%	22.6%
2004	16.3%	18.1%	12.0%	16.1%	15.7%	12.4%
2005	10.0%	10.9%	9.9%	10.6%	9.5%	8.7%
2006	12.4%	12.3%	7.2%	11.8%	10.4%	13.9%
2007	15.9%	20.0%	14.8%	19.3%	17.5%	8.5%
2008	-1.3%	-4.2%	-2.1%	-6.4%	-2.1%	-24.8%
2009	-15.8%	-16.0%	-14.2%	-20.5%	-21.9%	24.5%
Ten-year average, 2008	6.1%	6.8%	6.1%	6.0%	6.1%	3.9%
Ten-year average, 2009	4.2%	3.8%	3.4%	2.2%	2.4%	4.2%
Twenty-five year average, 2009	9.3%**	9.2%	N/A***	9.8%	9.2%	9.4%

Table 3. Investment Returns of Six Study Plans (Fiscal Year Ending June 30*)

*Illinois MRF's return numbers are quite different from those of the other five systems, primarily because its fiscal year ends on the last day of the calendar year, rather than June 30, making it difficult to compare to other funds. Although the pension systems of North Carolina and Texas TRS end their fiscal year on a date other than June 30, they also calculate the investment return as of June 30 of each fiscal year.

**Average 20-year return.

***Data from North Carolina is not available as the system only publishes its 10-year returns. Also, North Carolina has changed its asset allocation substantially over this period, making the return less comparable to the other systems.

Conclusions: Key Features Include:

- 1. Employer pension contributions that pay the full ARC, and that at least equal the normal cost;
- 2. Employee contributions, to help share the plan cost;
- 3. Benefit improvements that are actuarially valued before adoption and properly funded upon adoption;
- 4. COLAs that are granted responsibly;
- 5. Anti-spiking measures that ensure actuarial integrity and transparency; and
- 6. Economic actuarial assumptions that can reasonably be expected to be achieved long term.

rement Security

Each Plan Is Unique

- For example, New York STRS and Texas TRS...
 - Both have an 8% rate of return assumption
 - Have nevertheless maintained high funded levels
 - (Actual return of over 9% over 25 years)
- One size doesn't fit all

Questions?

June 2011