North Carolina Retirement Systems

Maintaining Retirement Security & Ensuring Sustainability

February 17, 2014

North Carolina Department of State Treasurer
Division of Communications and Special Programs

Learn. Invest. Grow. Prosper.

Purpose of Retirement Systems

- Help the State recruit and retain qualified employees for a career in public service
- Provide income after retirement
- Provide replacement income for disability
- Provide death benefits for an employee's survivors

Major Benefit Programs

- Teachers’ & State Employees’ Retirement System
  - Active Members: 310,627
  - Retired Members and Survivors: 171,786
- Local Governmental Employees’ Retirement System
  - Active Members: 121,638
  - Retired Members and Survivors: 51,700
- Consolidated Judicial Retirement System
  - Active Members: 566
  - Retired Members and Survivors: 562
- Legislative Retirement System & Legislative Fund
  - Active Members: 170
  - Retired Members and Survivors: 278

Other Benefit Programs

- Firefighters' & Rescue Squad Workers' Pension Fund
- National Guard Pension Plan
- Registers of Deeds Supplemental Pension Plan
- Disability Plan
- Death Benefit Plans
- Supplemental Defined Contribution Plans
- Supplemental Insurance Products

- NC 401(k)
- 457 Deferred Compensation Plan
- NC 403(b) Program
- UNC Optional Retirement Program (Not administered by DST)

Managing the State Retirement System

The Retirement System is managed by using:

Effective Administration of Benefits

+

Prudent Management of Investments

+

Conservative Fiscal Management

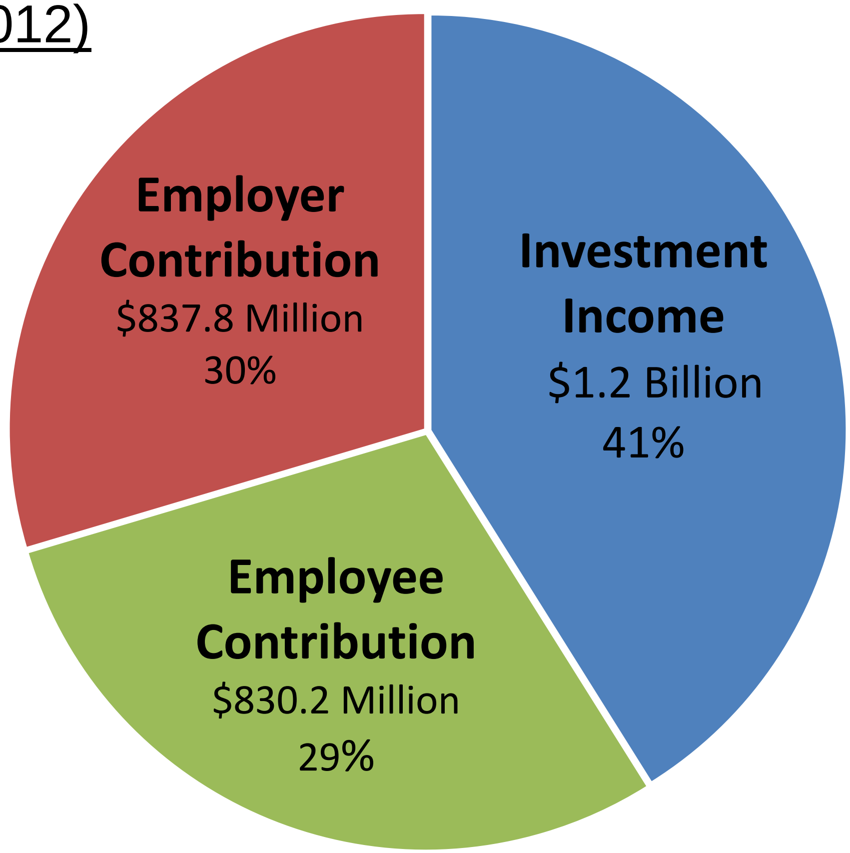
=

Retirement Security for Employees

How the Funding Process Works

<u>Three Annual Sources of Funding (2012)</u>

- Employee Contributions
- Investment Income
- Employer Contributions
  - o Appropriations by the General Assembly



Role of the General Assembly

- The General Assembly establishes the employer contribution rate annually.
    - o Consensus payroll estimates are developed by the Treasurer's office, the state budget office, and the Fiscal Research Division.
    - o The Annual Required Contribution (ARC) is estimated by the system's actuary.
    - o The Board of Trustees makes funding recommendations to the General Assembly.
- The General Assembly has only failed to meet the annual funding obligations of the retirement system for one year since the system's inception in 1941.
- Because of this responsible approach, N.C. remains among the top 10 best funded state plans.

Financial Report

Teachers' & State Employees Retirement System

Asset Data

Transactions	December 31, 2012	December 31, 2011
Additions		
Contributions	1,897,179,772	1,669,391,367
Net Investment Income	6,206,397,536	1,162,727,294
Total	8,103,577,308	2,832,118,661
Deductions		
Benefits Payments	3,725,310,777	3,538,048,036
Net Increase / (Decrease)	4,378,266,531	(705,929,375)
Net Assets Held in Trust for Pension Benefits		
Beginning of Year	53,402,204,951	54,108,134,326
End of Year	57,780,471,482	53,402,204,951
Estimated net investment return	11.82%	2.19%

Returns were more than the 7.25% assumed rate of return, resulting in lower contributions and higher funded ratio than anticipated as of December 31, 2012

Teachers' & State Employees Retirement System

Actuarial Value of Assets

1.	Actuarial Value of Assets as of December 31, 2011	$ 58,125,010,880
2.	2012 Net Cash Flow	
	a. Contributions	1,897,179,772
	b. Disbursements	3,725,310,777
	c. Net Cash Flow: (a) - (b)	(1,828,131,005)
3.	Expected Investment Return: [(1) x .0725] + [(2)c x .03625]	4,147,793,540
4.	Expected Actuarial Value of Assets as of December 31, 2012: (1) + (2)c + (3)	60,444,673,415
5.	Market Value of Assets as of December 31, 2012	57,780,471,482
6.	Excess of Market Value over Expected Actuarial Value of Assets: (5) - (4)	(2,664,201,933)
7.	20% Adjustment towards Market Value: (6) x .20	(532,840,387)
8.	Preliminary Actuarial Value of Assets as of December 31, 2012: (4) + (7)	59,911,833,028
9.	Final Actuarial Value of Assets as of December 31, 2012 [(8) not less than 80% of (5) and not greater than 120% of (5)]	59,911,833,028
10.	Rate of investment return on actuarial value	6.32%
11.	Rate of investment return on market value	11.82%

Historical returns

YE 12/31	AVA	MVA
2006	8.94%	11.41%
2007	8.87%	8.38%
2008	2.89%	(19.50%)
2009	4.74%	14.84%
2010	5.89%	11.47%
2011	5.15%	2.19%
2012	6.32%	11.82%
average	6.09%	5.16%
range	6.05%	34.34%

The actuarial value of assets smooths investment gains/losses, resulting in less volatility in the employer contribution. However, low returns in 2008 and 2011 result in $0.5 billion asset loss recognition this year.

buckconsultants

Teachers' & State Employees Retirement System

Employer Required Contribution Rates

Reconciliation of Change in Annual Required Contribution

Fiscal Year Ending June 30, 2014 Preliminary ARC (based on 12/31/11 valuation)	8.69%
Impact of Legislative Changes	0.00%
Fiscal Year Ending June 30, 2014 Final ARC	8.69%
Change Due to Demographic (Gain)/Loss	(0.43%)
Change Due to Investment (Gain)/Loss	0.54%
Change Due to Contributions Greater Than ARC	(0.04%)
Fiscal Year Ending June 30, 2015 Preliminary ARC (based on 12/31/12 valuation)	8.76%

Demographic Gain primarily due to salary increases less than assumed

Investment Loss is a recognition of deferred asset losses from 2008 and 2011

Refer to page 2 of the actuarial valuation report.

Teachers' & State Employees Retirement System

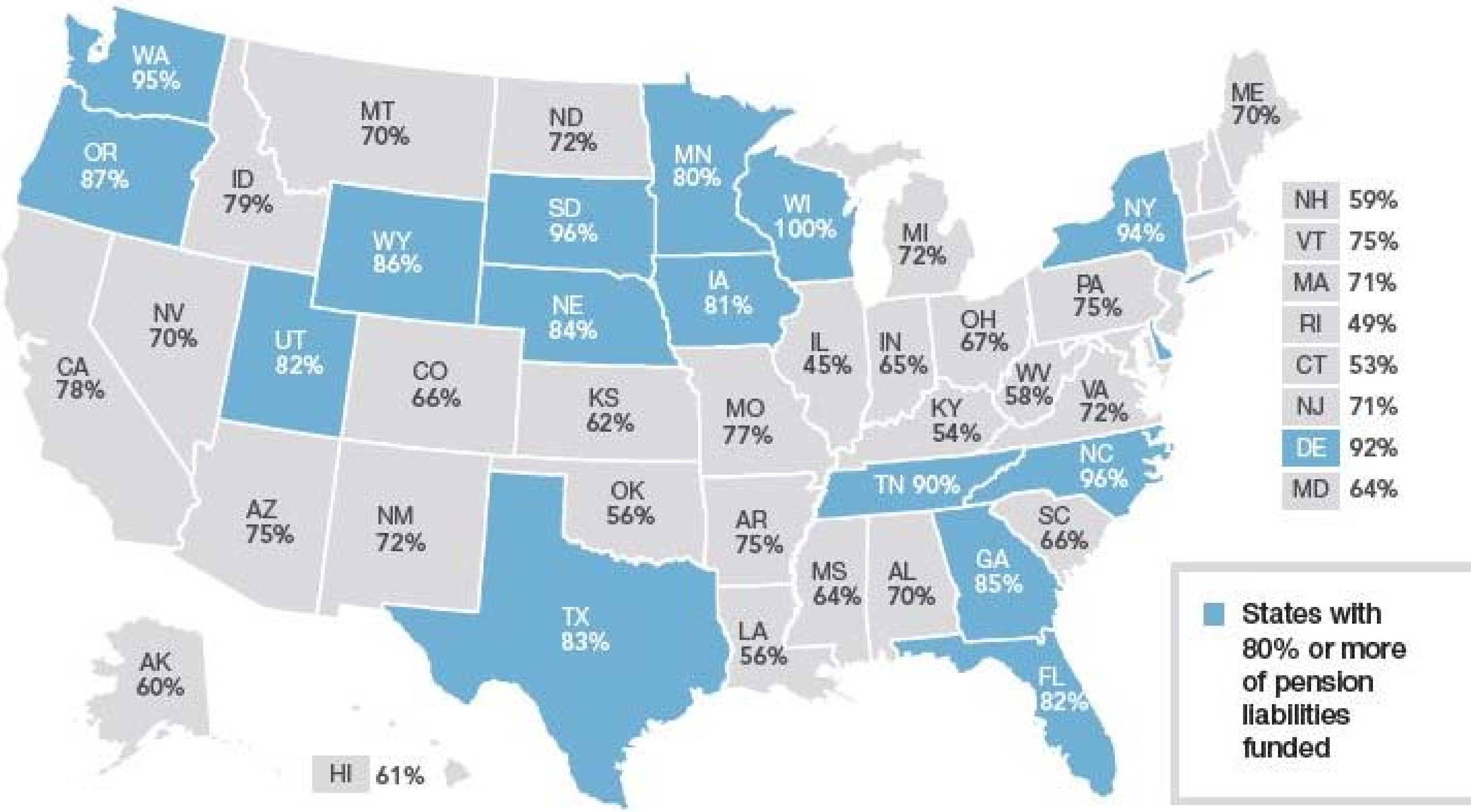
Key Takeaways

- Market value returns of 11.8%
  - Compared to 7.25% assumed
- Slight decrease in payroll
  - Compared to 3% assumed increase
- Lower ARC than expected
  - 8.76% actual vs. 9.72% in baseline projections
- Higher Funded Ratio than expected
  - 94.2% actual vs. 92.6% in baseline projections
- Overall, the ARC increased from 8.69% (FYE 2014) to 8.76% (FYE 2015)
- Overall, the Funded Ratio increased from 94.0% (12/31/2011) to 94.2% (12/31/2012)

How do we stack up against other states?

- Despite using some of the most conservative assumptions, we remain in the top 10 in funded status
  - We assume a 7.25% rate of return on investments, the fourth lowest among state plans.
  - We use an amortization period of 12 years, while the average among state plans is 26.5 years.
  - We use a more conservative actuarial cost method than many of the states that report a higher funded ratio.

Retirement System Funding



NOTE: Based on Fiscal Year 2010 Data
SOURCE: Pew Center on the States 2012

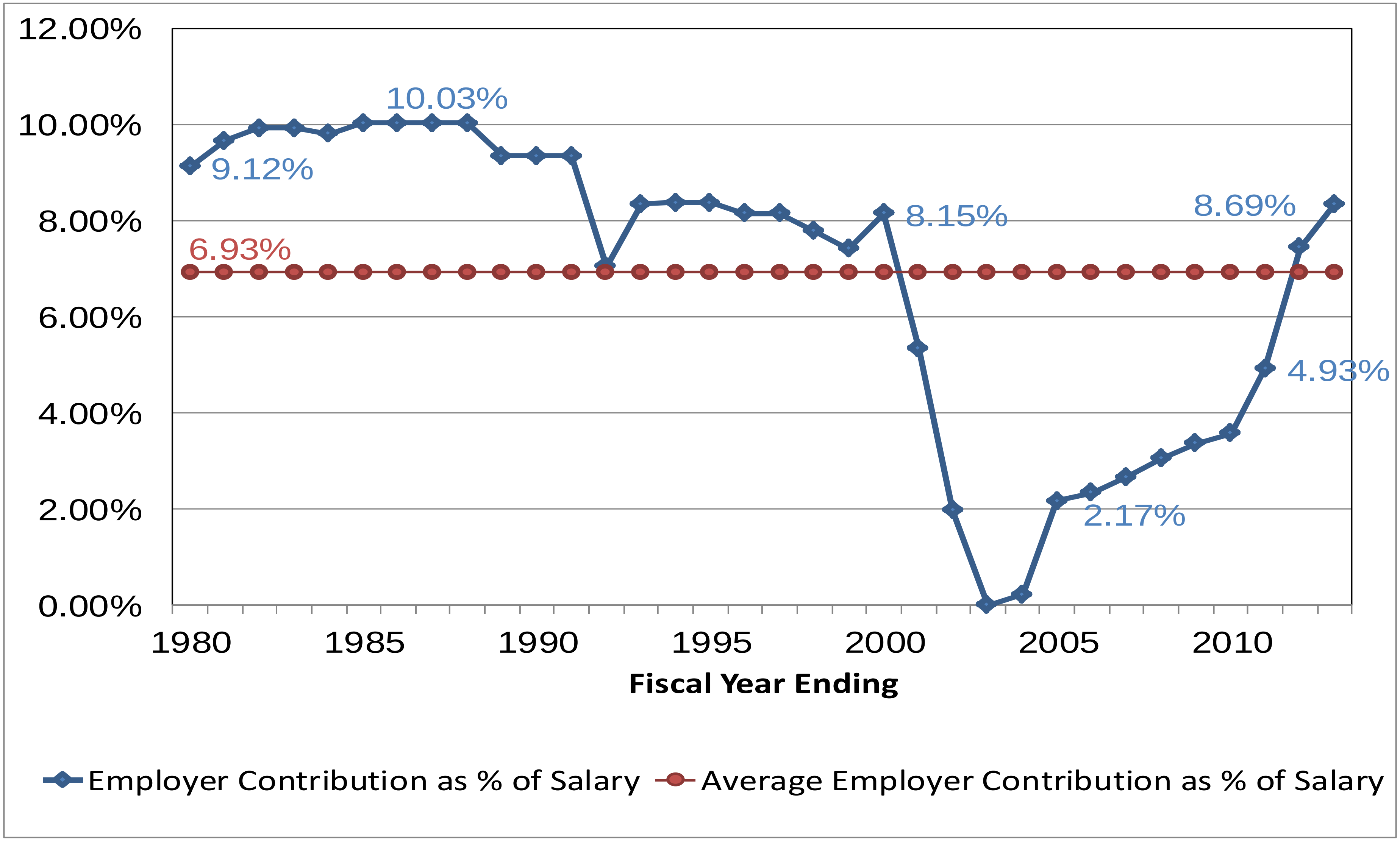
Alternative Ways to Measure Funding Strength

- *Moody's Investors Service* said NC's "funding gap" amounts to 18.3% of the state government's annual revenue. That's well below the national average of 60.6% and the median of 45.1%

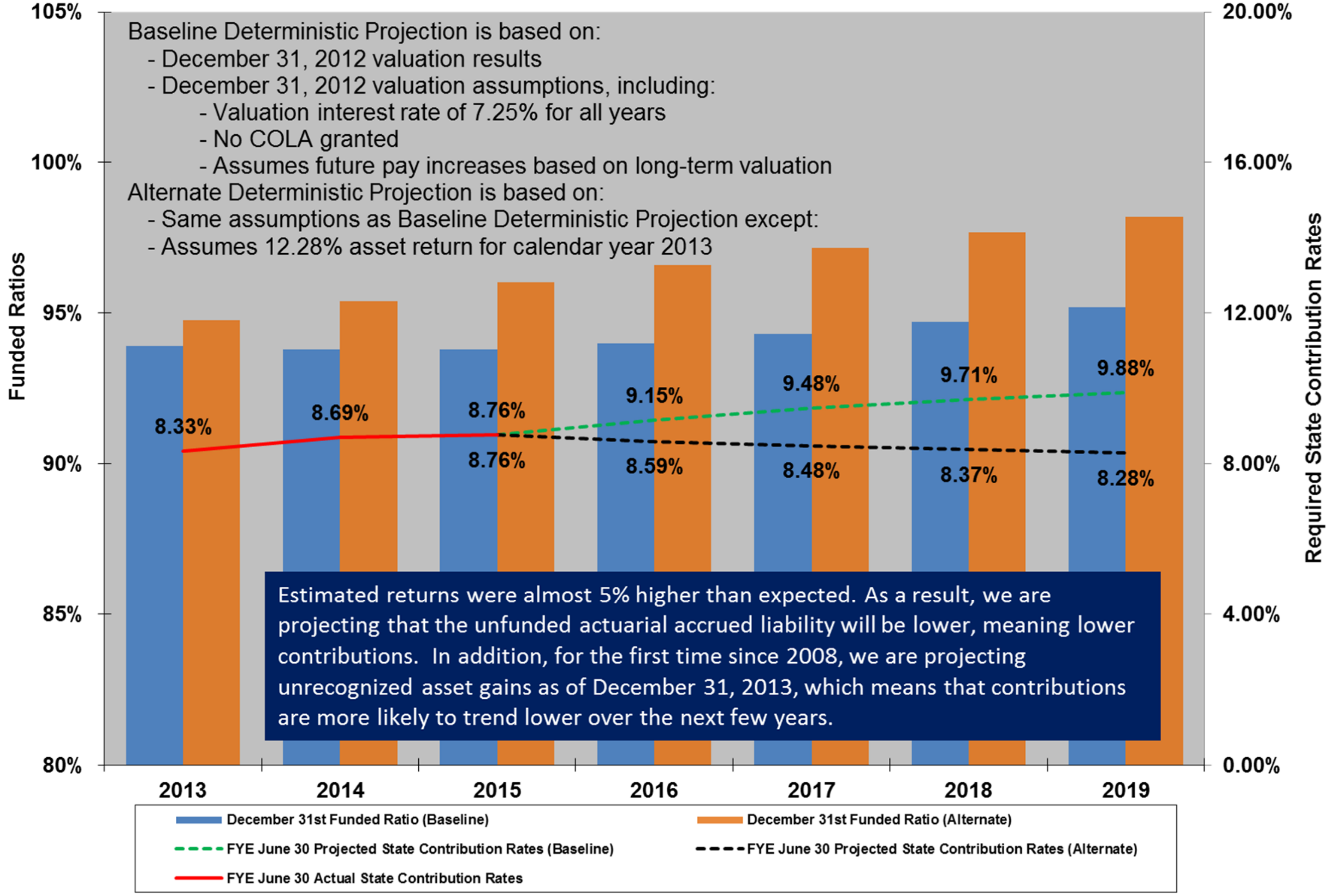
- *GASB*: Under new accounting standards coming into effect this year the State pension plan will still be 90% funded using a stricter measurement technique and the plan will not run out of money in less than 100 years.

- Using yet another method, *S&P* rated North Carolina's system the nations 3rd best funded state pension plan at 95.3% in a July 2013 report.

State System Contributions



TSERS Employer Contribution Projection



Projected Legislative Budget Funding Needs

Teachers' & State Employees' Retirement System Only

Fiscal Year	New Money Requested	Biennial Total
2014	$36.0 million	$79.2 million
2015	$7.2 million	
2016	($18.0 million)	($48.0 million)
2017	($12.0 million)	
2018	($12.3 million)	($35.2 million)
2019	($10.4 million)	

Treasurer's Initiatives

DST, Investment Management Division

- As of December 2013, oversees about $100 billion in assets
  - $86 billion for North Carolina Retirement Systems (NCRS)
  - $14 billion for Cash Management Programs and ancillary programs
- Internal and external investment management
  - $40 billion managed internally in fixed income
  - $60 billion managed through external investment managers, funds, and partnerships across equities, real estate, alternative investments, credit strategies, and inflation protection strategies
- 28 staff complemented/supplemented by consultants
- Low cost provision of institutional quality investment services
  - NCRS has a total cost of ~0.53% (large plan peer median is ~0.63%)
  - Cash Management Program has a total cost of ~0.03%

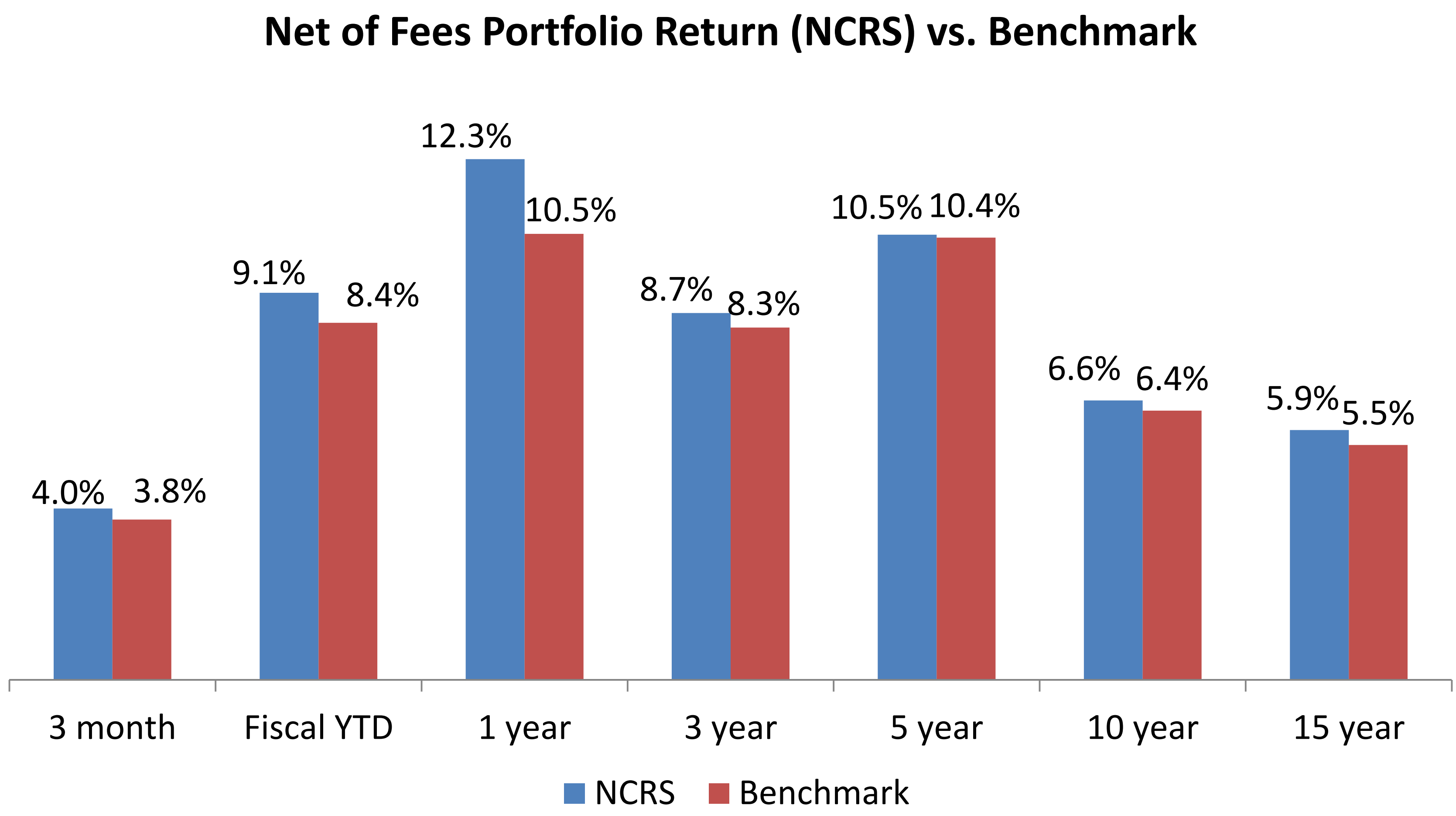
Overview of Investment Management Division

Internal vs. External Management of Investments: Assets in Billions and Number of Portfolios

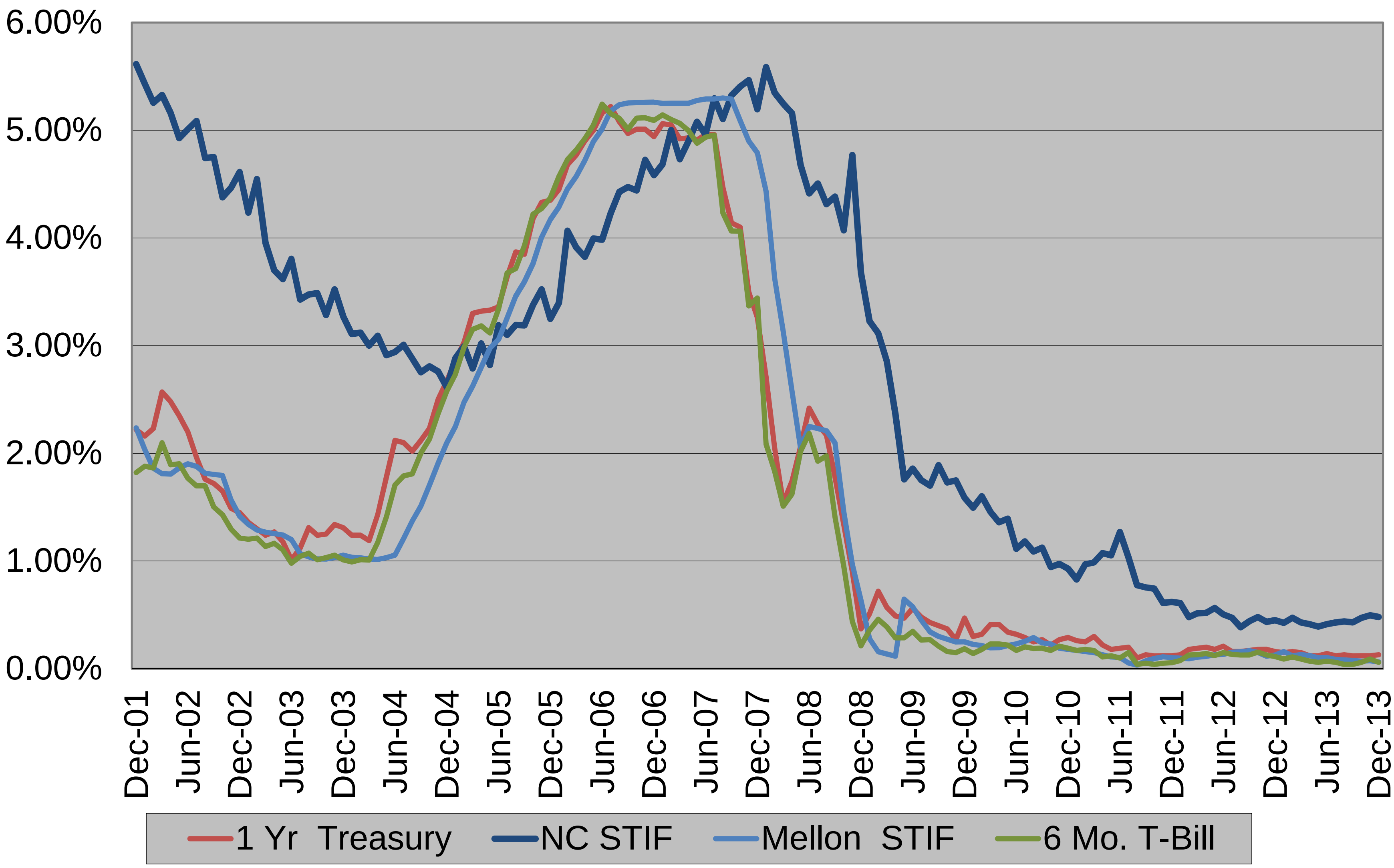
	Internal ($B/#)	External Direct ($B/#)	External Fund of Funds ($B/#)	Total ($B/#)
NC Retirement Funds	$26.74/2	$56.35/279	$2.40/19	$85.49/300
Short-term Operating Funds	$12.58/1	$0/0	$0/0	$12.58/1
Ancillary Funds	$1.22/1	$0.23/13	$0.01/1	$1.46/15
Total	$40.54/2	$56.58/292	$2.41/20	$99.54/314

Notes: November 2013 data. Certain totals do not foot because of commingling of accounts in internally managed funds.

NCRS Total Fund Performance to December 2013



STIF Cash Rate History ($13.5 billion AUM as of 12-31-13)



Investment Governance Commission: Goals

- Adopt best practices from the public, private, and nonprofit investment sectors
- Enhance the ability to produce efficient long-term growth of retirement assets with reasonable contribution rate volatility
- Improve the cost-effectiveness of investments and operational infrastructure
- Enhance investment control, compliance, and risk environments
- Maintain investment transparency and accountability
- Maintain a high-performing investment organization with access to best-in-class internal resources and external business partners

Investment Governance Commission: Scope

- Evaluating the sole investment trustee and investment advisory committee model versus an investment board of trustees or other model

- Evaluate resourcing and investment fiduciary independence (including state laws applicable to personnel, procurement, and budget decisions)

- Evaluate select exemptions to state open meetings and public records laws

- Evaluate enhancements to external investment oversight, reporting, and monitoring

Investment Governance Commission: Members

- Michael Kennedy, Chair, Senior Client Partner of Korn/Ferry International, Chair of the Federal Retirement Thrift Investment Board (2011-present)
- Rhoda Billings, former Associate Justice and Chief Justice of North Carolina Supreme Court (member of Consolidated Judicial Retirement System)
- Dr. Linda Combs, former Controller of the United States (2005-2007)
- Representative Nelson Dollar, R-Wake (member of the Legislative Retirement System)
- Greg Gaskins, Chief Financial Officer, City of Charlotte (member of Local Governmental Employees' Retirement System)
- Representative Rick Glazier, D-Cumberland (member of the Legislative Retirement System)
- Senator Ralph Hise, R-Mitchell (member of the Legislative Retirement System)
- Mark Jewell, Vice President of North Carolina Association of Educators (member of Teachers and State Employees' Retirement System)
- Senator Floyd McKissick, D-Durham (member of the Legislative Retirement System)
- Charles Perusse, Chief Operating Officer, University of North Carolina (member of Teachers and State Employees' Retirement System)
- Neal Triplett, President and CEO of DUMAC Inc., Duke University's endowment

Investment Governance Commission: Resources

- Hewitt EnnisKnupp is accountable to the Commission:
  - Providing independent advice regarding workable governance alternatives
  - Identifying and providing relevant research
  - Facilitating meetings
  - Assisting the Commission with drafting the final assessment and recommendations
  - Performing any duties authorized under the Charter as directed by the Commission

2013 NCRS Asset Liability Study

- Provides an understanding of the dynamic relationship between NCRS assets and liabilities over time

- Provides an evaluation of the impact of NCRS's level of risk on future economic cost (i.e., contributions)

- Translate the results of the Asset Liability Study into an actionable, "Strategic Asset Allocation"
  - Efficiently and prudently implement a mix of return-seeking, risk-reducing, and inflation-sensitive strategies
  - Improve risk/reward trade-off with better diversification and skill-based strategies

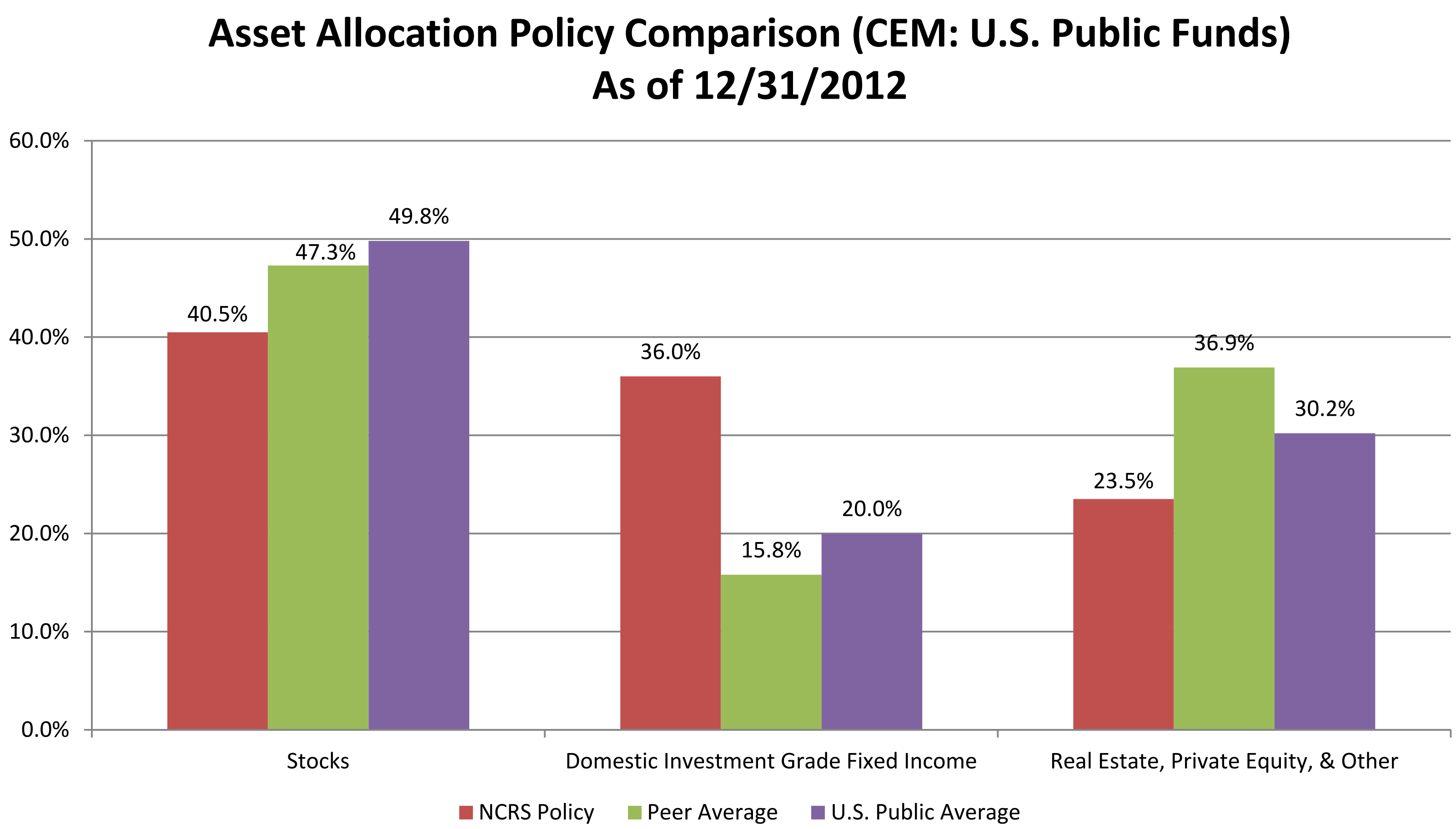
- Update the Investment Policy Statement

Context for Asset Liability Study

- Very well funded plan and conservative investment policy
- Baseline focus on 10-, 20-, and 30-year economic/financial outlook
  - Initially very low interest rates moderately rising over intermediate term
  - Moderately rising inflation
  - Modest public equity market returns by long-term historical standards for intermediate term
  - Some benefits to diversification, but all investments approaches are impacted by low return environment

- Risk Scenarios: Fragility due to continued high reliance on global policy makers in face of unprecedented interventions, cyclical headwinds, and structural imbalances
  - U.S. economy has less momentum than expected; emerging market BOP issues and delayed European normalization; systemic shock
  - Inflation rises more than expected; global growth surprises on upside; supply shocks

Peer Comparisons



<u>CEM Peer Group for NCRS:</u>

- 16 U.S. public sponsors
- Fund sizes range from $38 billion to $249 billion
- Median size of $71 billion

Updated Investment Objectives

- Provide investment returns sufficient for the Fund to make timely payment of statutory benefits to current and future members and keep contribution rates at a reasonable level over the long-term. To achieve this, long-term projected investment returns should be generally consistent with the actuarial assumed rate of return, unless otherwise determined by the Treasurer
- Avoid excessive volatility in contribution rates over the intermediate-term by maintaining a moderate risk profile and diversifying with respect to economic and financial risk factors. It is acceptable to limit the use of return-seeking strategies in order to avoid excessive volatility
- Achieve cost-efficiency in the overall investment program
- Exceed composite benchmark returns for the Fund and broad categories of investments within reasonable risk limits and over market cycles
- Ensure sufficient liquidity to meet the Fund's obligations over all time periods
- Comply with all governing statutes as consistent with fiduciary obligations

Asset Liability Study Metrics Reflect Objectives

- Employer contribution cost of pension obligations
  - Inflation adjusted long-term cost
  - Uncertainty of contribution rates

- Funded ratio

- Asset risks relevant to managing the investment program
  - Equity beta
  - Bond beta
  - Inflation beta
  - Relationships between expected returns and range of possible returns

Focus of Asset Allocation Modeling

- Status quo
  - Strategic Asset Allocation policy
  - Actual asset allocation
- Changing the fixed income structure
  - Holding only 1- to 5-year bonds
  - Quasi-barbell and reallocation between subsectors
- New policy options for Treasurer and Investment Advisory Committee's consideration
  - Enhanced status quo
  - De-risking
  - Return-seeking

Tentative Conclusions of Asset Liability Study

- Balancing risk and return expectations over the intermediate-term and long-term is essential
- The Strategic Asset Allocation should remain conservative, but better positioned to withstand potential risk scenarios
  - Lower, and restructured, fixed income allocation
  - Dedicated cash allocation
  - Slightly higher growth-oriented investments , but different mix
  - Higher inflation sensitive and diversifiers allocation (TIPS and core real estate)
  - Flexible multi-strategy mandates
- Any actual asset allocation changes will be modest and gradual

Fraud, Waste & Abuse Prevention

- Study by Buck Consultants
- Recommended a compliance unit within the System
- Recommended a Pension Spiking prevention legislation

Pension Spiking

Pension Spiking Prevention Options

- Lengthen final average pay period, or change the method to determine Average Final Compensation
- Implement dollar compensation cap
- Implement maximum cumulative increase in compensation during the averaging period
- Limit compensation increase to a dollar limit per year
- Eliminate certain types of pay from pension compensation
- Benefit cap/recovery of cost of pension spiking to system

Pension Spiking Prevention Recommendations

- Implement a transparent annual targeted pension spiking review process
- Contribution-based benefit cap
- Permit employer payments for excess benefits where new limits would otherwise apply
- Cap sick leave conversion of 12 days of sick leave for retirement purposes only
- Standardize some service definitions to match Office of State Human Resources policies

Teacher & State Employee Vesting

10-Year Vesting is Ineffective

- The vesting period for Teachers & State Employees was increased from 5 years to 10 years in 2011.
  - Primarily done as a cost-savings measure, it is not saving much money.
  - Last year, the one-year savings estimate was 1 basis point, maxing out after >10 years at 7 basis points.
- 10-year vesting is a disincentive to seek employment as a teacher or state employee
- Discriminates against newly hired employees

10-Year Vesting is Impractical

- Delayed vesting deprives short-term employees of retirement protection
    - The Center for Retirement Research estimates that an employee in a plan with 5-year vesting is 5 times more likely to remain until vesting than an employee in a plan with 10-year vesting
    - Less than 40% of new employees will remain in employment long enough to become vested under the 10-year vesting law.
- Difficult for elected judiciary and executive leadership

10-Year Vesting is Inconsistent with HR Goals

- The length of the vesting period is an important factor for job-seekers
  - Workers are more mobile these days.
  - When starting a new job, people have a hard time imagining that they will stay with their employer for 10 years or more.
  - 10-year vesting makes it more difficult to hire highly-skilled workers.

10-Year Vesting is Uncompetitive

- A long vesting period reduces the market competitiveness of the Retirement System relative to other public and private pension plans.
  - The 2012 Comparative Study of Major Public Employee Retirement Systems reports that a total of 56 plans, or 64.4% of the 87 included plans, require five or less years of service to vest.
  - By federal law, the vesting period in private sector defined benefit plans cannot exceed 7 years.

Questions?

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