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Investments, Risk and Stress Testing

Milwaukee County Retirement Sustainability Taskforce

November 14, 2017

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Presentation Overview

➤ Introduction

➤ Investments

- National Trends
- WRS
- County and City

➤ Stress Testing

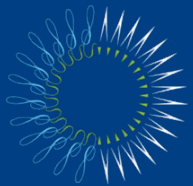
- Approach
- WRS Performance

The Pew Charitable Trusts

- More than 40 active, evidence-based research projects
- Projects include public safety, immigration, elections, transportation, pensions, and state tax incentives
- All follow a common approach: data-driven, inclusive, and transparent

Pew's Public Sector Retirement Systems Project

- Research since 2007 includes 50-state trends on public pensions and retiree benefits relating to funding, investments, governance, and employee preferences
- Technical assistance for states and cities since 2011



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Investments

Investments – Key Trends: More in Stocks and Less in Bonds

Public Pension Investments, 1954-2014

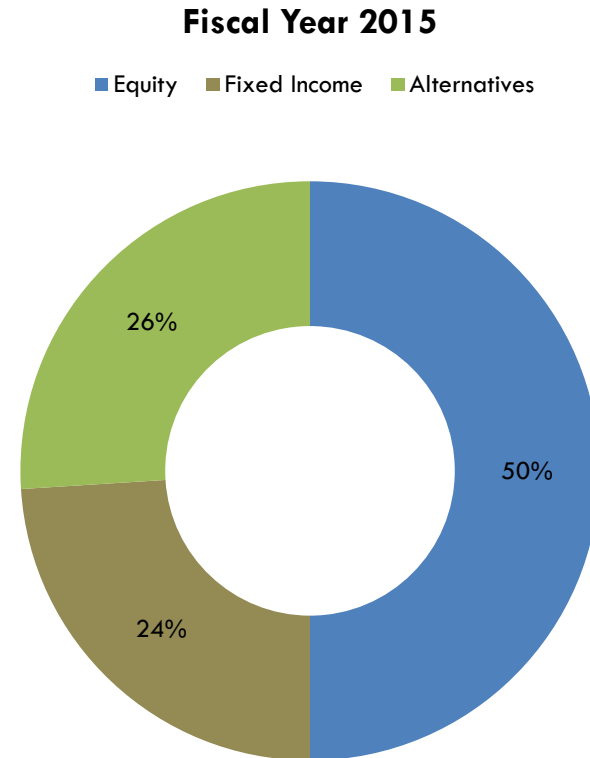
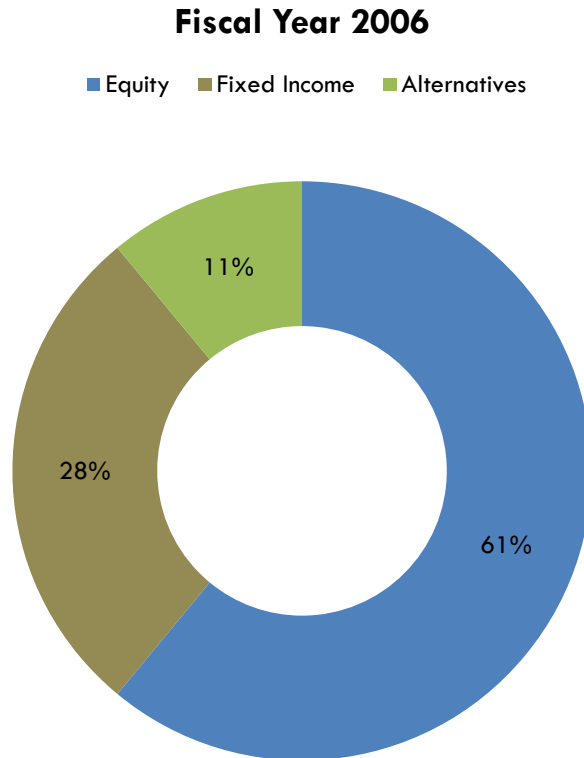
Allocations to equities and alternative investments have increased, while those to fixed-income investments have declined



Source: U.S. Board Of Governors of the Federal Reserve System, *Financial Accounts of the United States*, 1954 to 2014; Pew Analysis of State Financial Reports

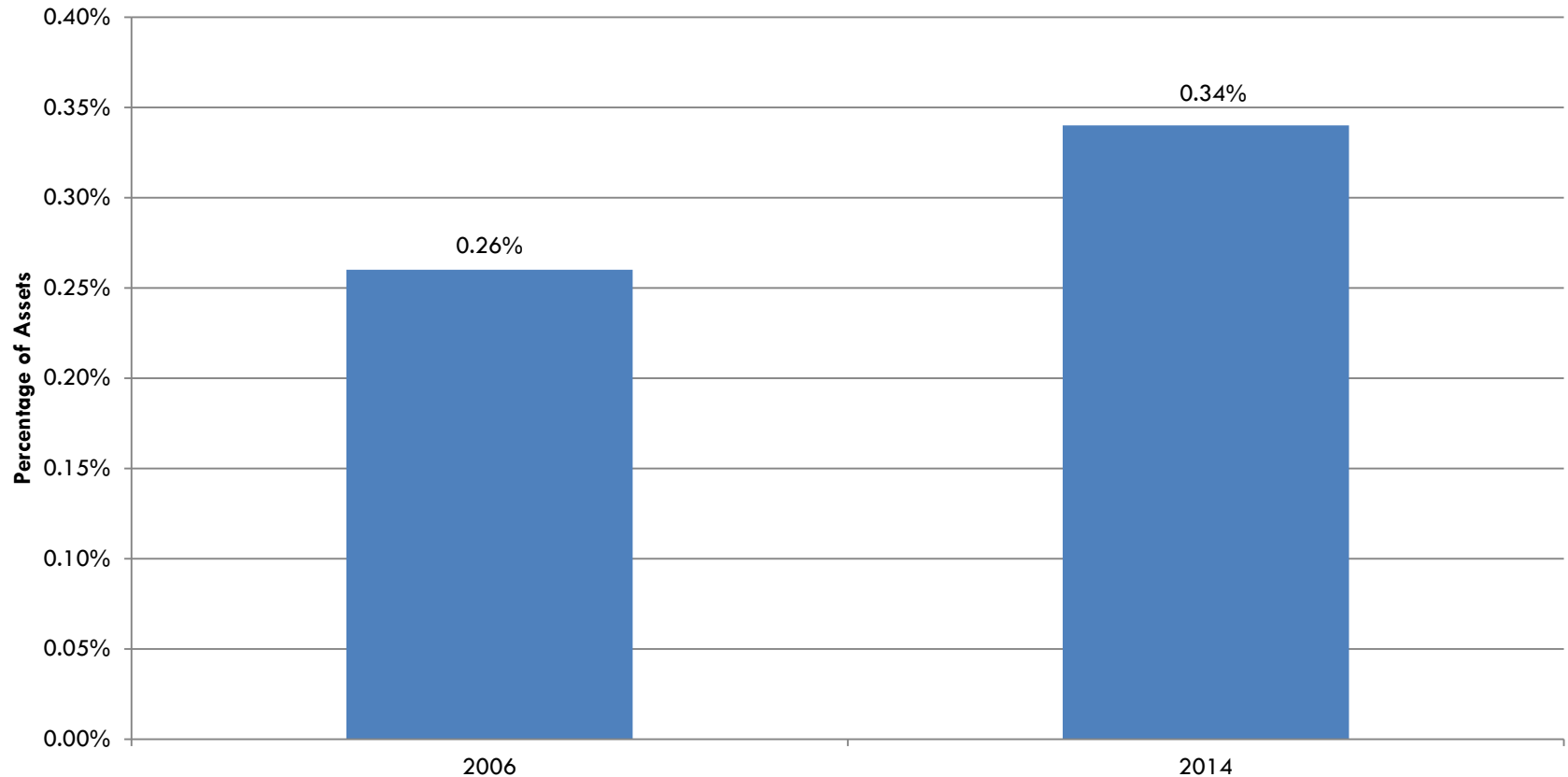
Allocation to Alternatives in US Public Pension Funds

Alternatives have increased from 11% to 26% of US average allocation since 2006



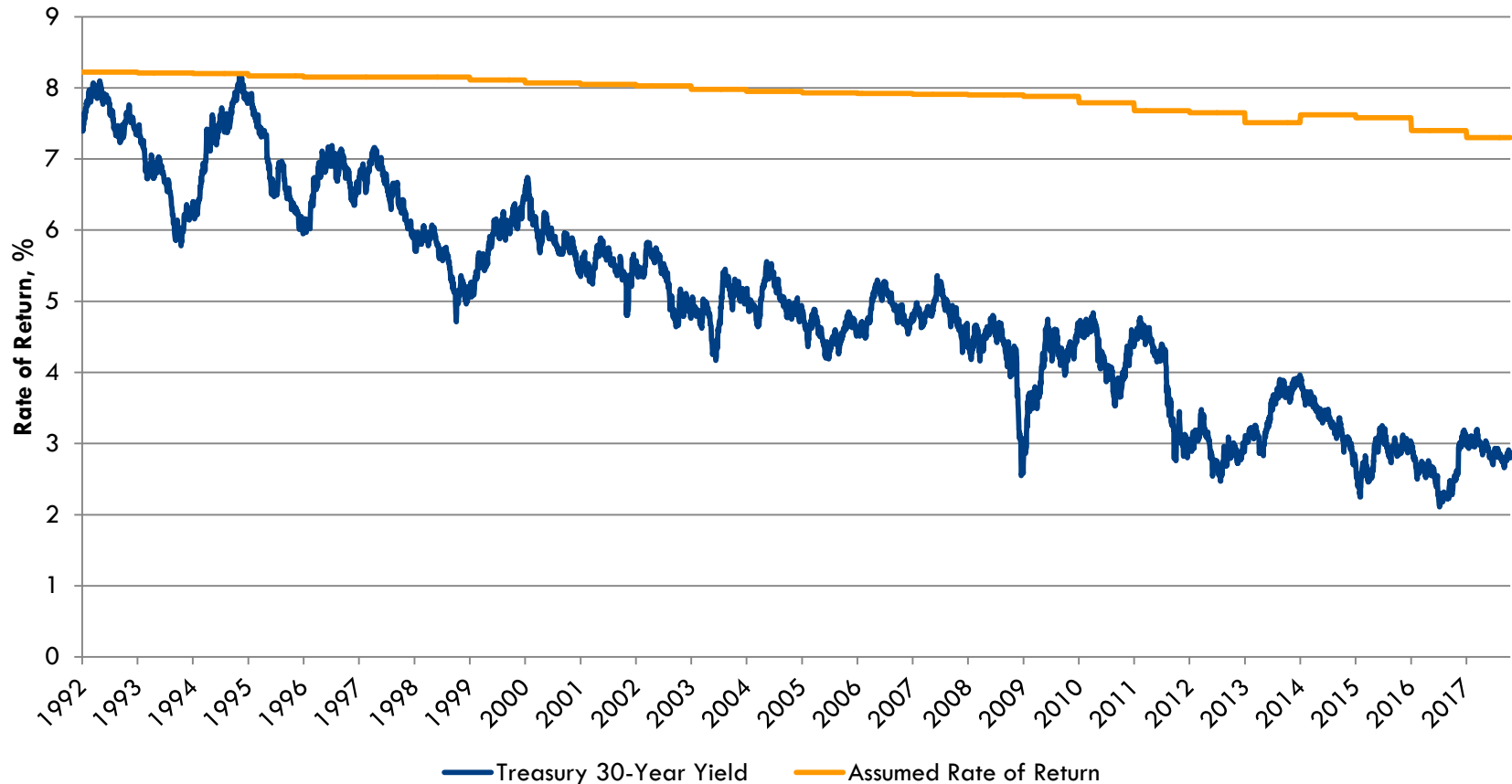
External Management Fees: Percent of Assets Under Management

Reported fees increased by around 30% to \$10 billion, as a percentage of assets from 2006 to 2014



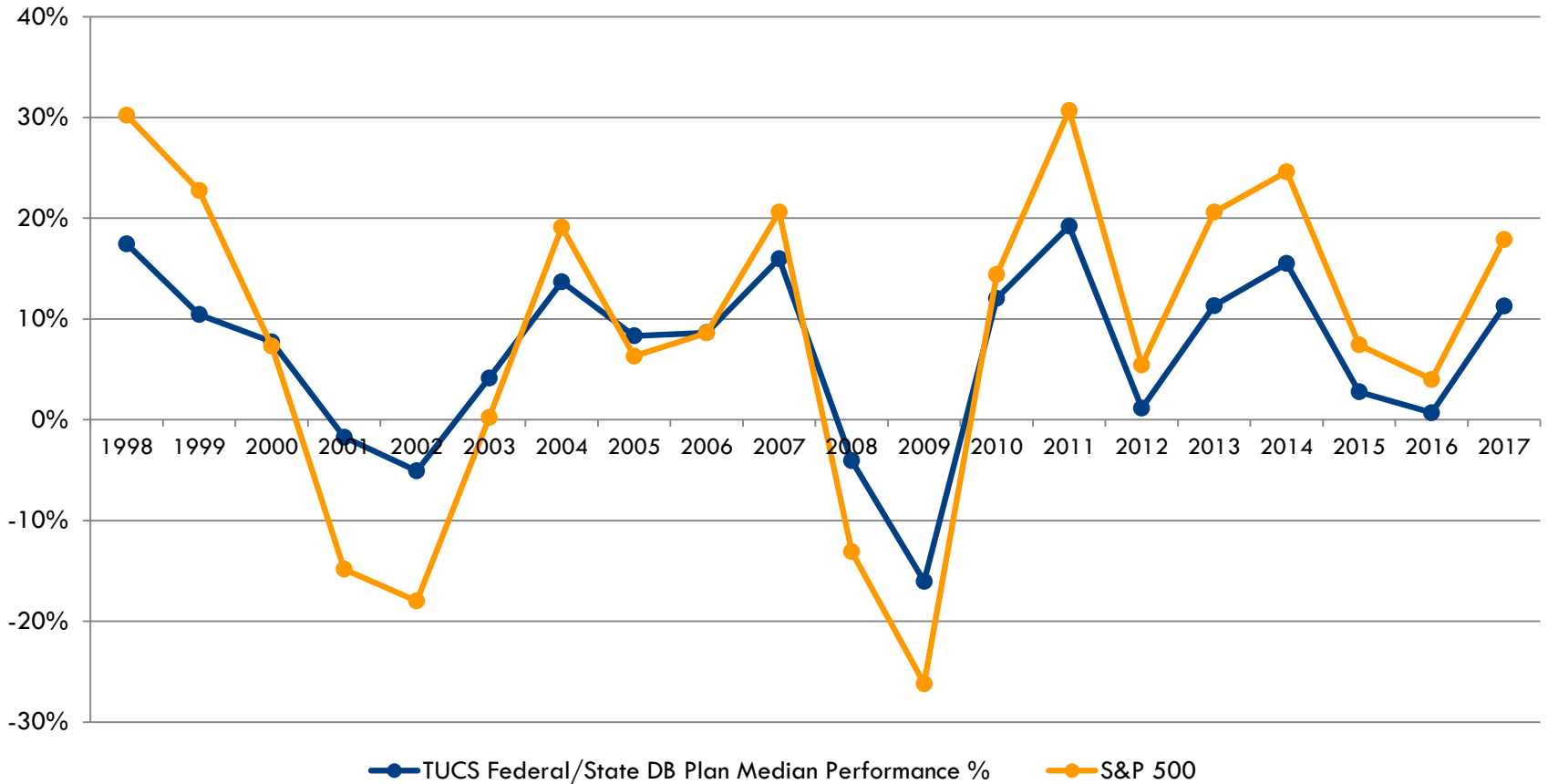
Pension Fund Risk Premium at Historic High

US public fund average increasing risk premium – plan's assumed rate of return remains relatively stable, while bond yields have declined



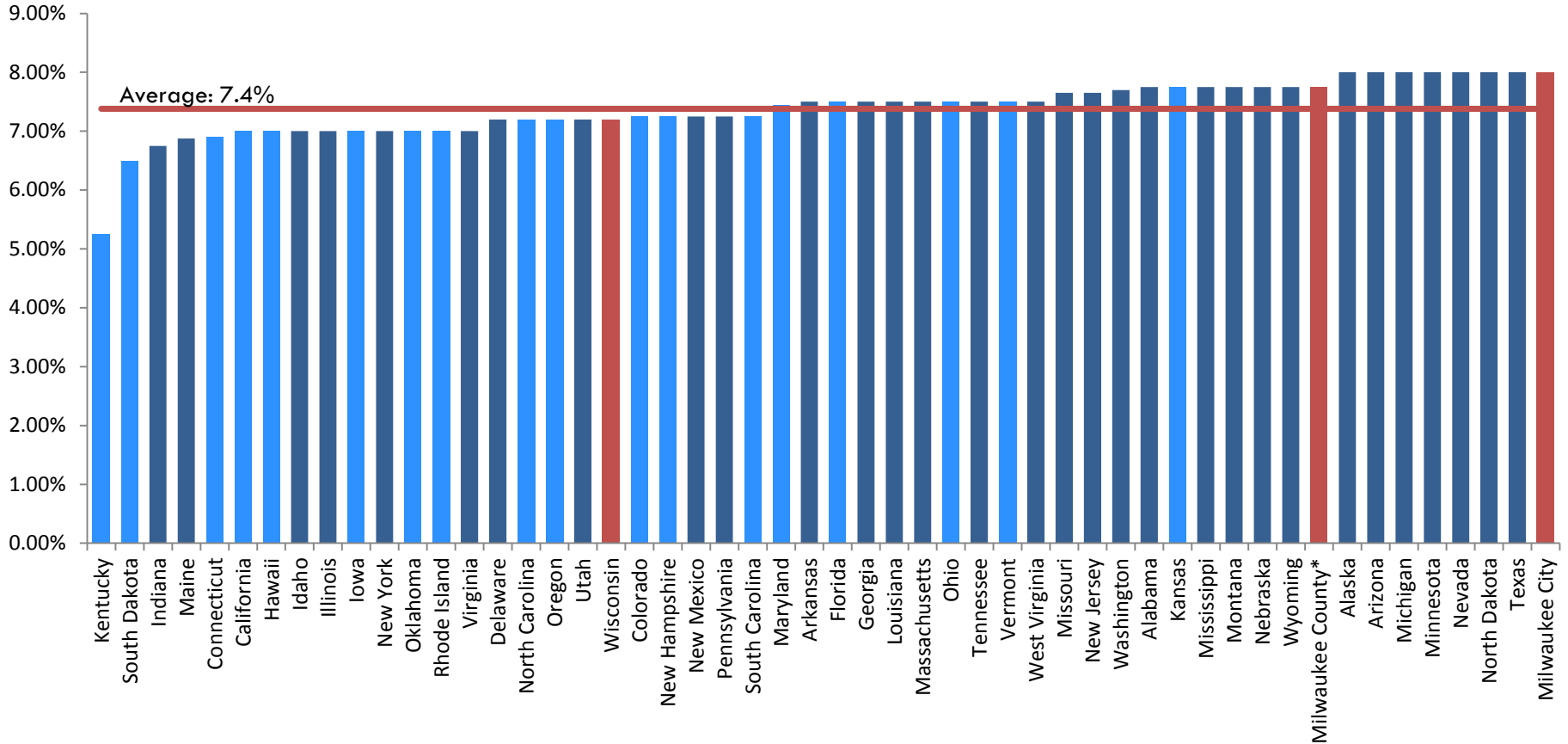
Average Stock Market and Pension Fund Returns, 1998 - 2017

Pension fund investment returns track the stock market



Assumed Rate of Return on Pension Investments

State employees plans compared to Wisconsin (7.2%), Milwaukee County (7.75%), City of Milwaukee (8.0%)



Notes: Rates shown represent most recent policy changes. Light blue bars have taken action in the last year.

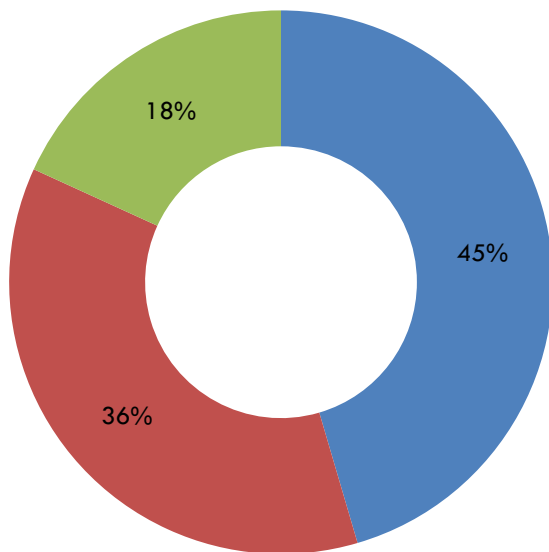
*Milwaukee County = 7.75% starting in 2017, changing to 7.5% in 2020.

WRS and U.S. Asset Allocation Comparison

WRS has higher a allocation to fixed income than average, and lower alternatives

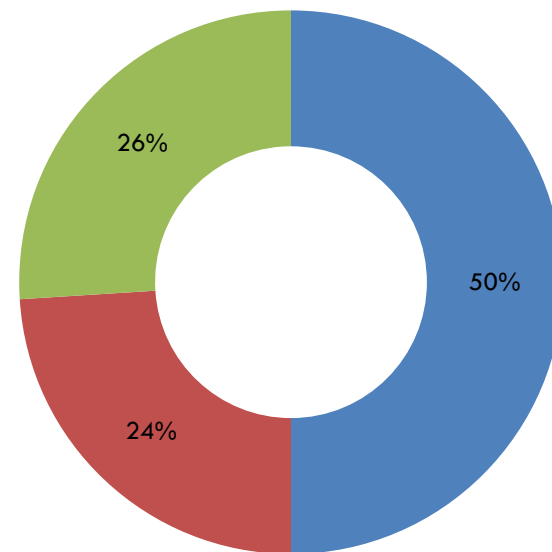
**Wisconsin Retirement System – Core Fund
Asset Allocation (2016)**

■ Equity ■ Fixed Income & Inflation Sensitive ■ Alternatives



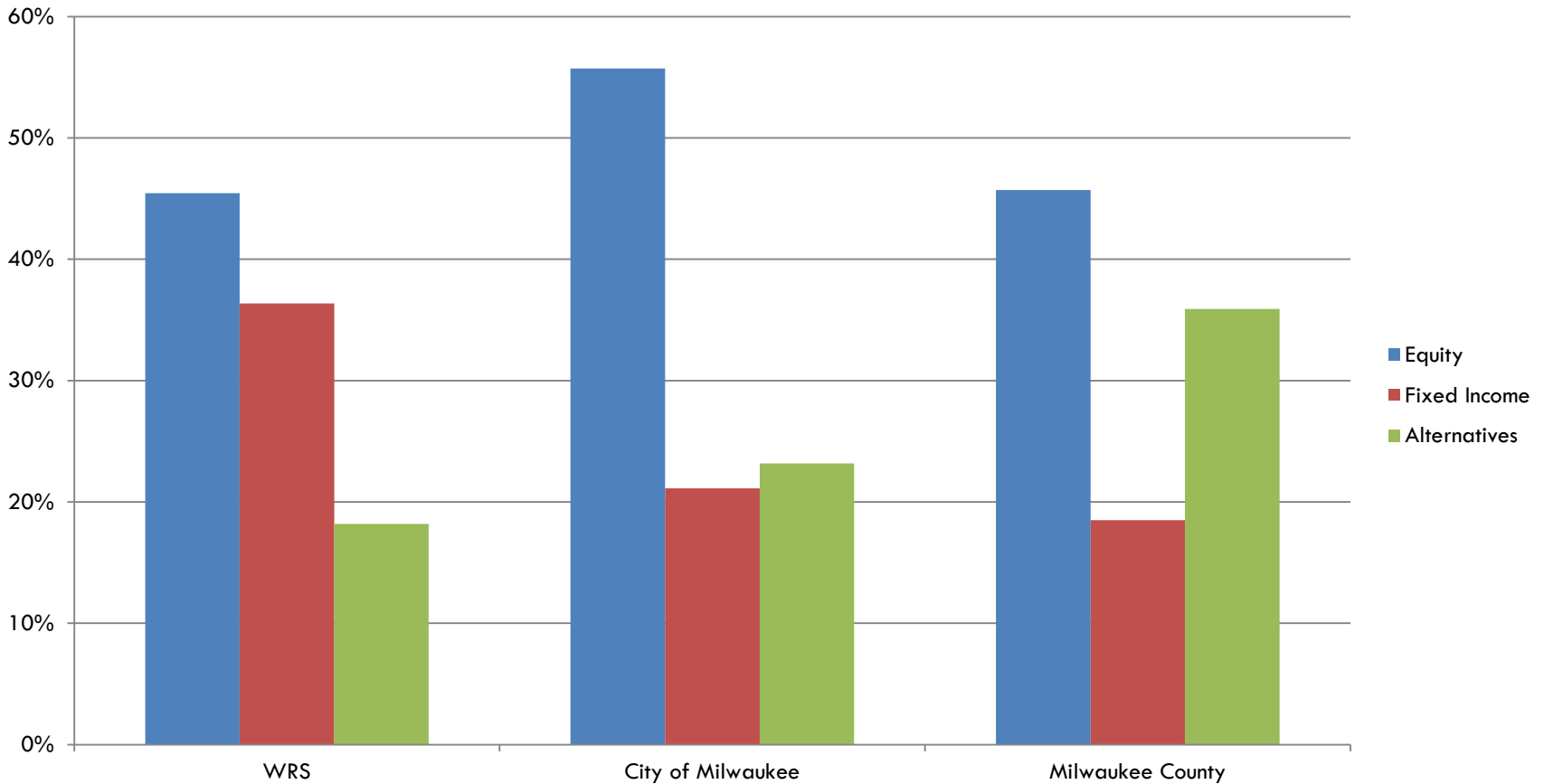
**US Average
Asset Allocation (2015)**

■ Equity ■ Fixed Income & Cash ■ Alternatives



2016 Asset Allocation Comparison

Comparison of funds across asset classes

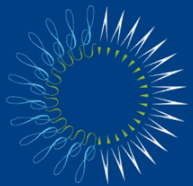


2016 Annualized Performance Comparison

	<u>1 Yr</u>	<u>5 Yr</u>	<u>10 Yr</u>	<u>Fees</u>
WRS	8.60%	8.10%	5.20%	Gross of Fees
Mil. County	6.80%	8.10%	4.90%	Net of Fees
City of Mil.	8.80%	9.27%	4.80%	Net of Fees
City of Mil.	9.11%	9.57%	5.10%	Gross of Fees
TUCS	7.88%	8.95%	5.44%	Gross of Fees

Investment Transparency Fundamentals

- Clear and detailed online statement of investment policy.
- Investment returns reported both gross and net of fees.
- Include 20-year return data.
- Report returns by asset class.
- Provide comprehensive disclosure of expenses, including performance fees.



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Stress Testing

Measuring and Managing Cost Uncertainty

- There is increased attention around both the level of risk in pension fund portfolios and the potential for unplanned costs if return targets are not achieved.

- Public pension funds have taken steps to address these concerns by:
 - Increasing contributions
 - Modifying investment return targets and/or asset allocations
 - Implementing changes to benefit plan design

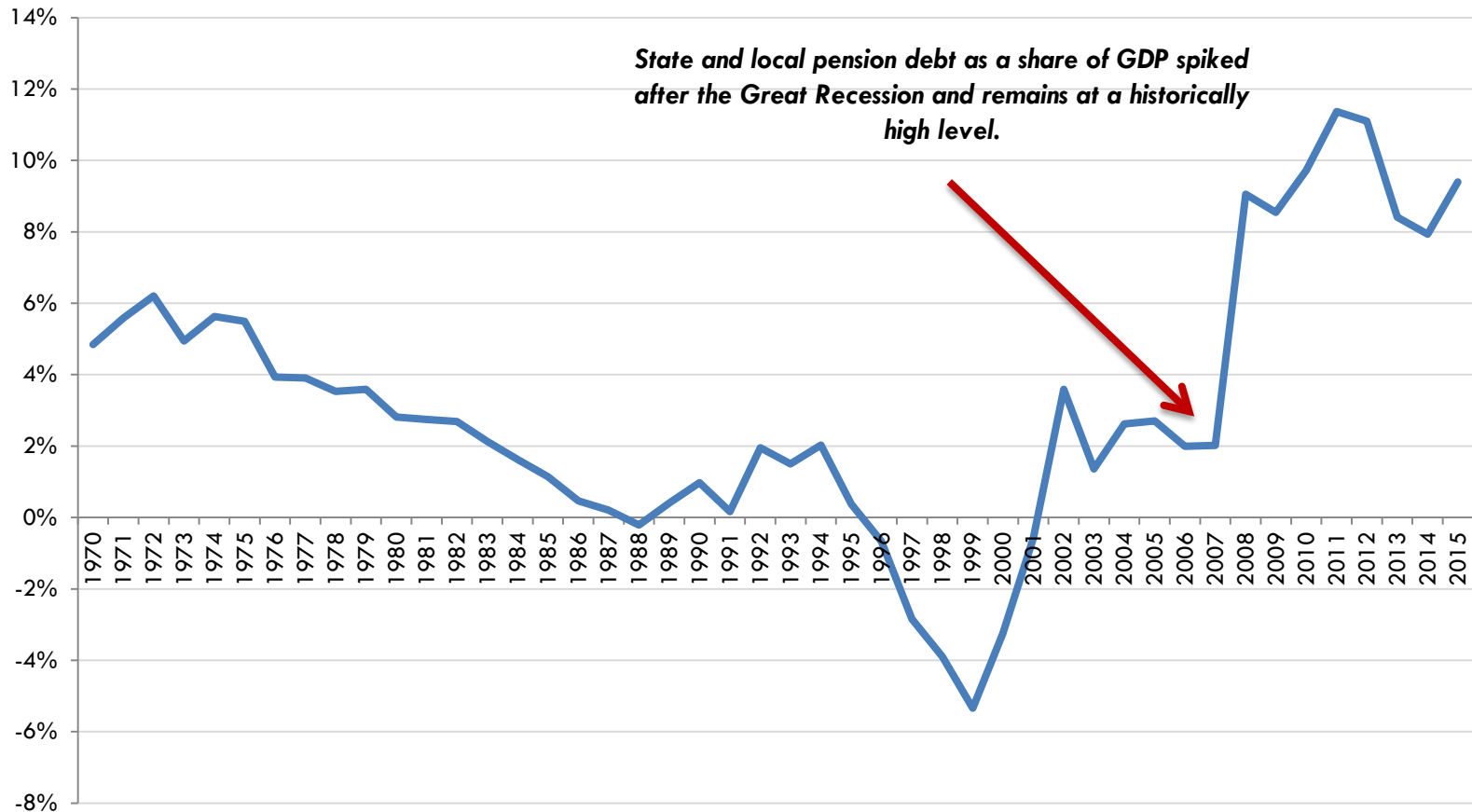
- Stress-testing investment returns and pension costs can further aid policymakers in their efforts to better understand and plan for cost uncertainty.
 - See: Society of Actuaries Blue Ribbon panel recommendations and established reporting in Washington state, CALPERs, and Colorado
 - Recent adopters: Virginia, Hawaii, Connecticut



Background

- In aggregate, state and local pension systems are as exposed to the impact of an economic downturn as ever, based on measures of fiscal health and investment risk.
- Pension fiscal health varies considerably across states and cities and in some cases, among individual pension plans within a single jurisdiction.
- Reforms will have an increasing impact over time on lowering cost and reducing risk.

State and Local Pension Debt as a Share of Gross Domestic Product



Source: The Federal Reserve and U.S. Department of Commerce Bureau of Economic Analysis

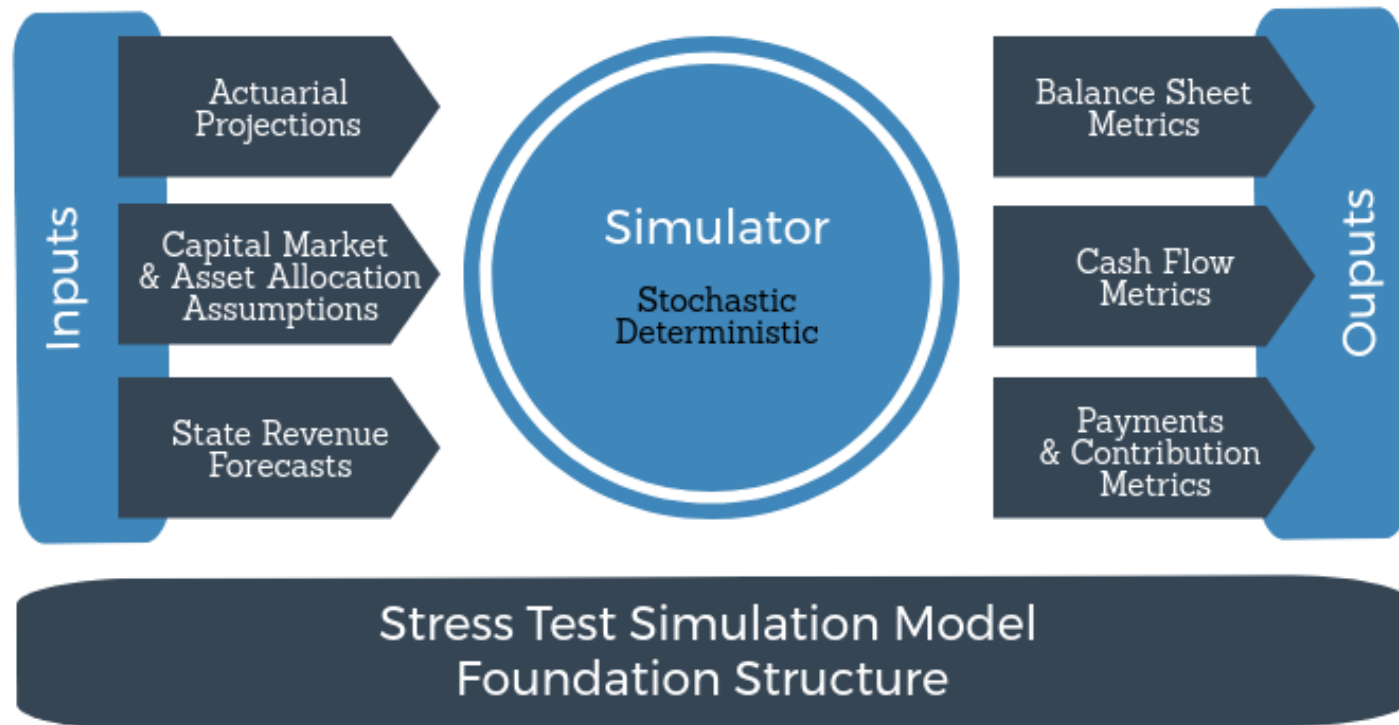
Research Questions

- How do we measure fiscal distress and which states are at risk?
- How might lower investment returns impact pension costs and therefore state budgets in the long term?
- What is the impact of economic volatility on pension fiscal health, given states' high exposure to stocks and other risky asset classes?



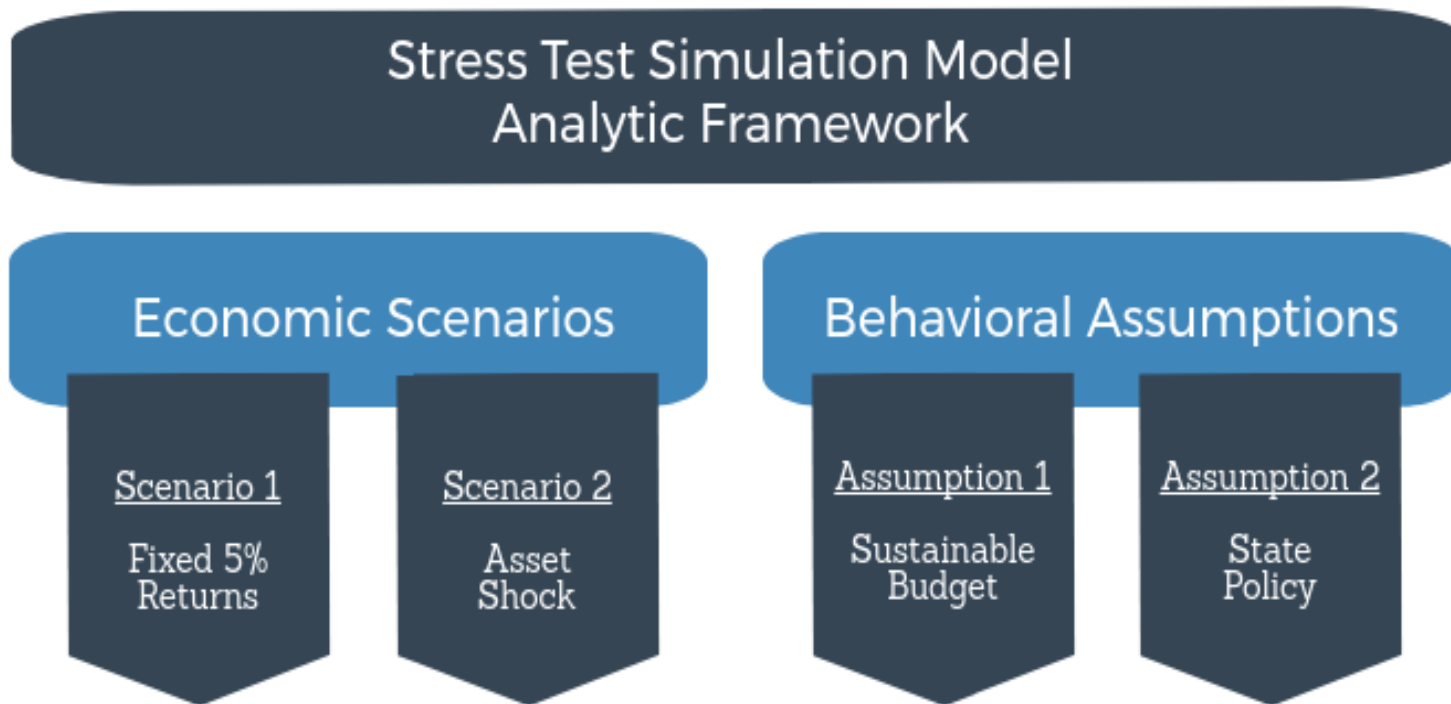
Stress Testing Simulation Model Foundation Structure

Pew's simulation tool incorporates a states' financials as inputs, simulates economic conditions, and produces projections and metrics



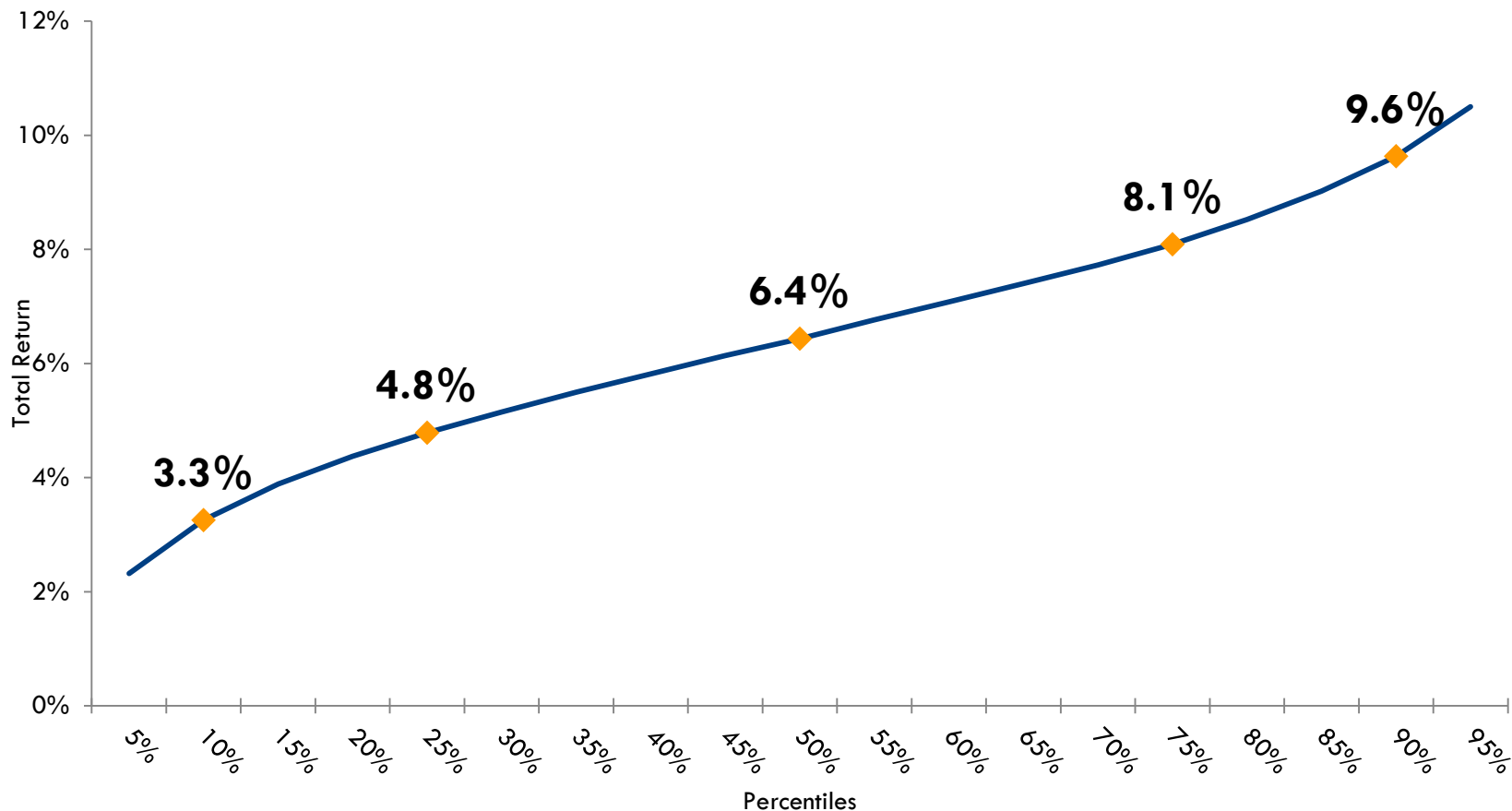
Pew's Analytic Framework

Two-part lens that helps generate broad range of likely outcomes



Distribution of Stochastic Returns for a Typical Portfolio over 20 Years

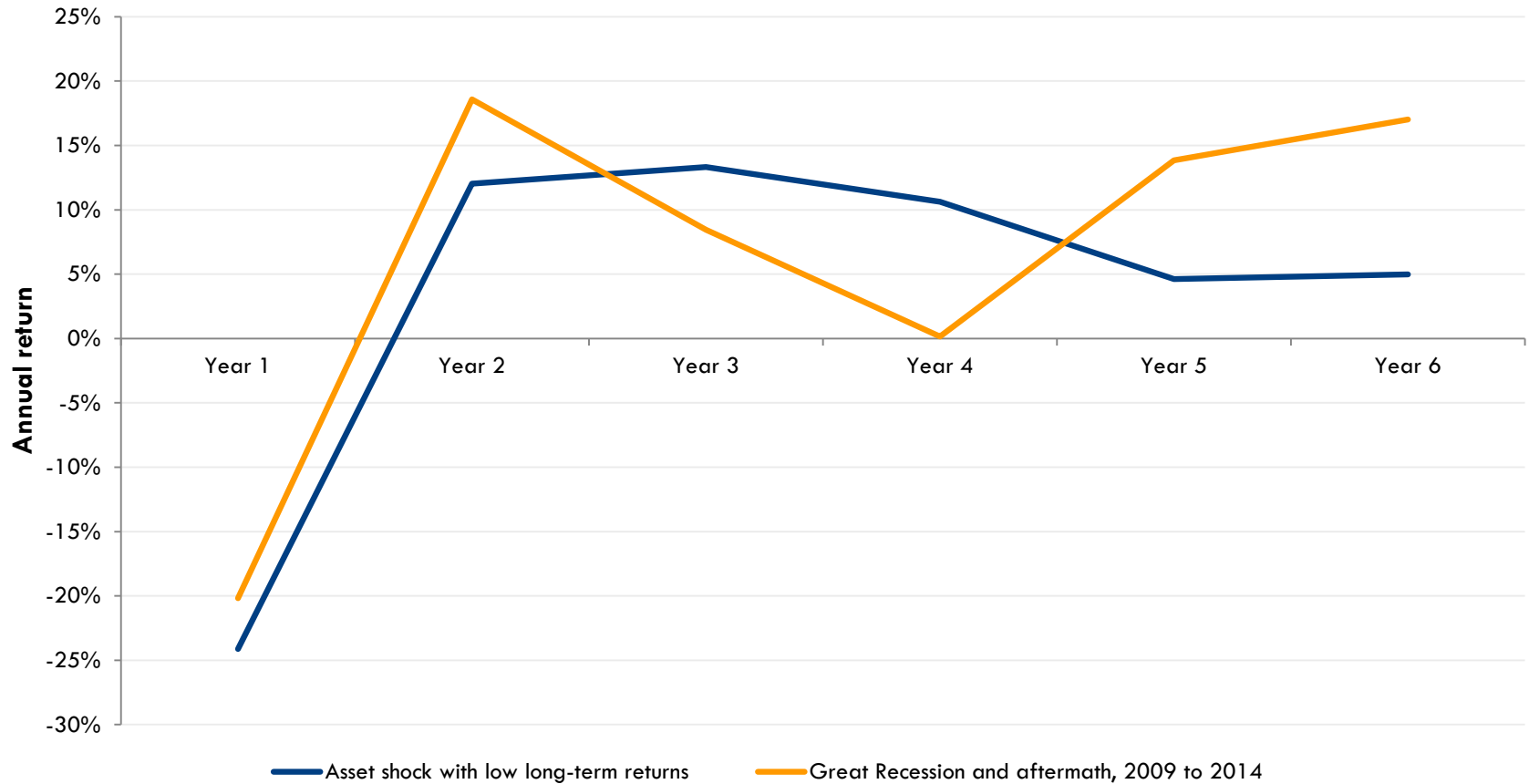
Typical portfolio has expected return of 6.4 percent and 4.8% at 25th percentile



Notes: Returns at the 10th, 25th, 50th, 75th, and 90th percentile. Model portfolio has 51 percent stocks, 27 percent fixed income/cash, and 22 percent in alternatives)

Investment Returns in Hypothetical Asset Shock and Great Recession

Asset losses larger and market rebound gains smaller in asset shock scenario



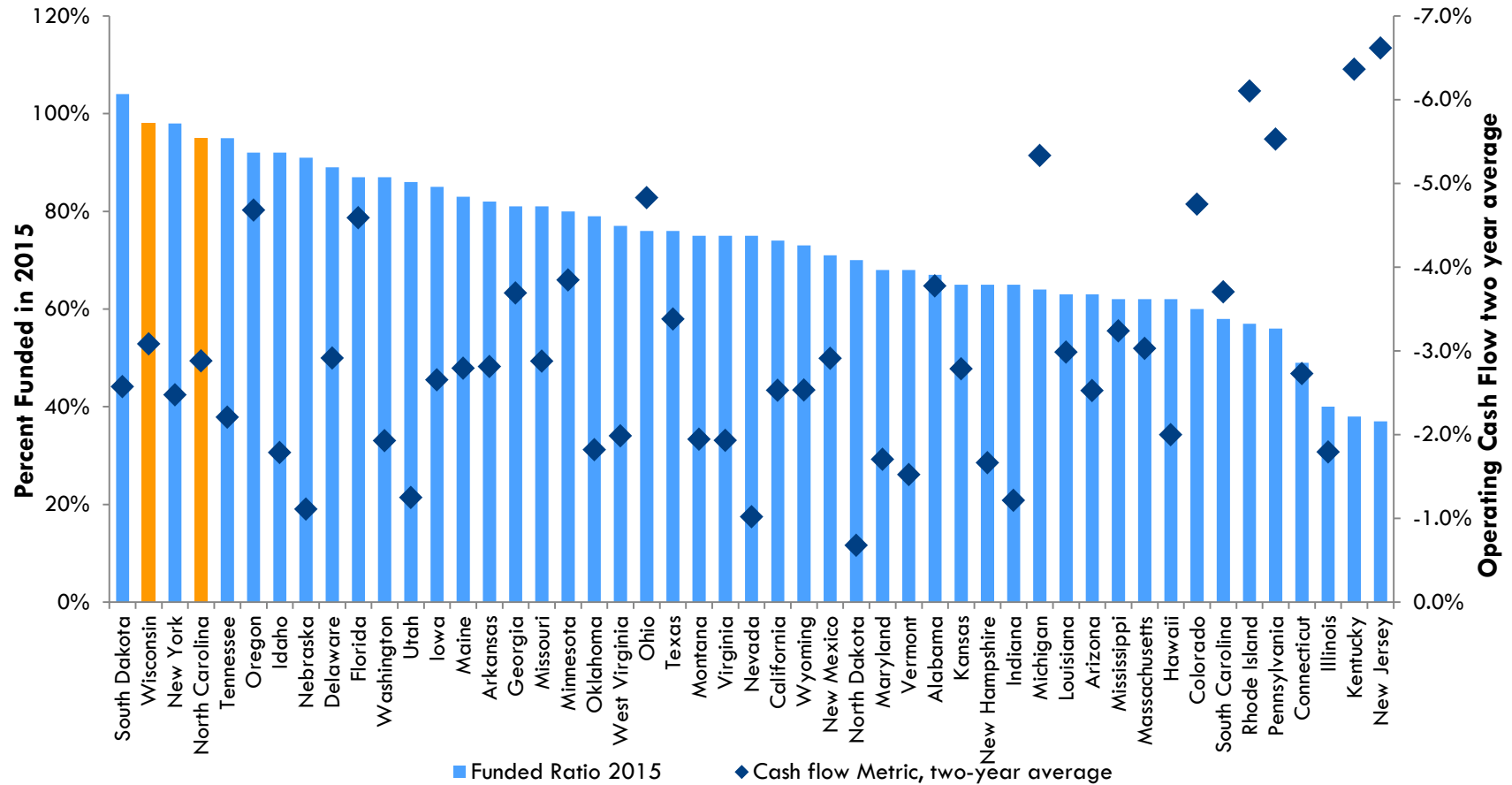
Comparison for Discussion: North Carolina and Wisconsin

Policies to manage cost and volatility

- Consistently among the best-funded pension systems with minimal risk of fiscal distress.
- Commitment to fiscal discipline in both states.
- Achieved fiscal health through different paths.
 - North Carolina: strict adherence to robust actuarial funding policy.
 - Wisconsin: strict funding policy and risk-managed defined benefit plan.

50 State Analysis – Funded Ratio (2015) and Operating Cash Flow to Asset Ratio (FY 2014 and 2015)

Wisconsin ranks second among the 50 states



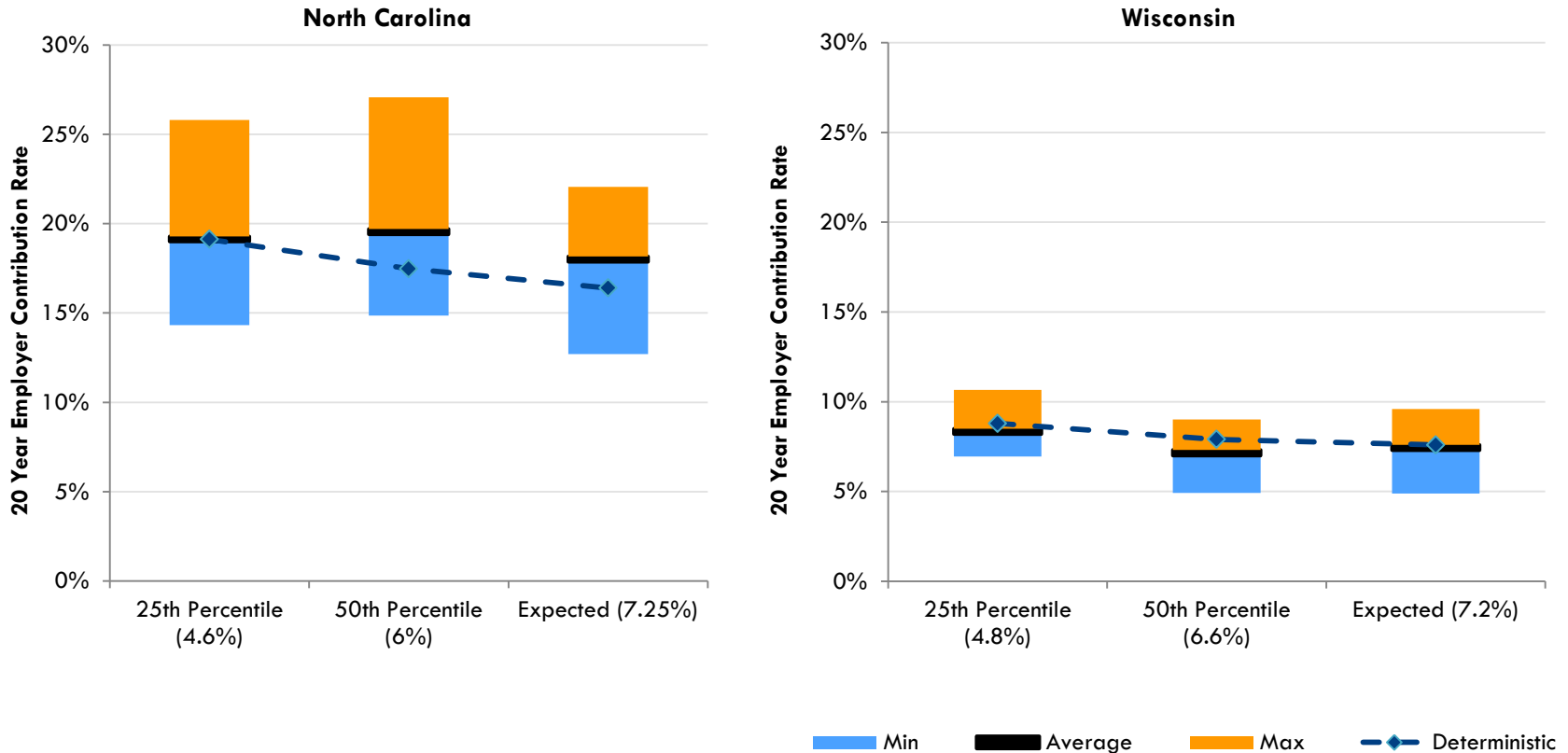
WRS Risk Management Features

Policies to manage cost and volatility

- Commitment to making full actuarial contributions and a funding policy that calls for addressing unfunded liabilities more quickly than most states.
- Contribution cost sharing that splits unexpected gains or losses 50/50 between employee and employer.
- Post-retirement benefit increases tied to plan investment performance.
 - Guaranteed base benefit, with annual adjustments for investment returns.
 - Previously granted increases can be rolled back when investments underperform, but not below the base amount.

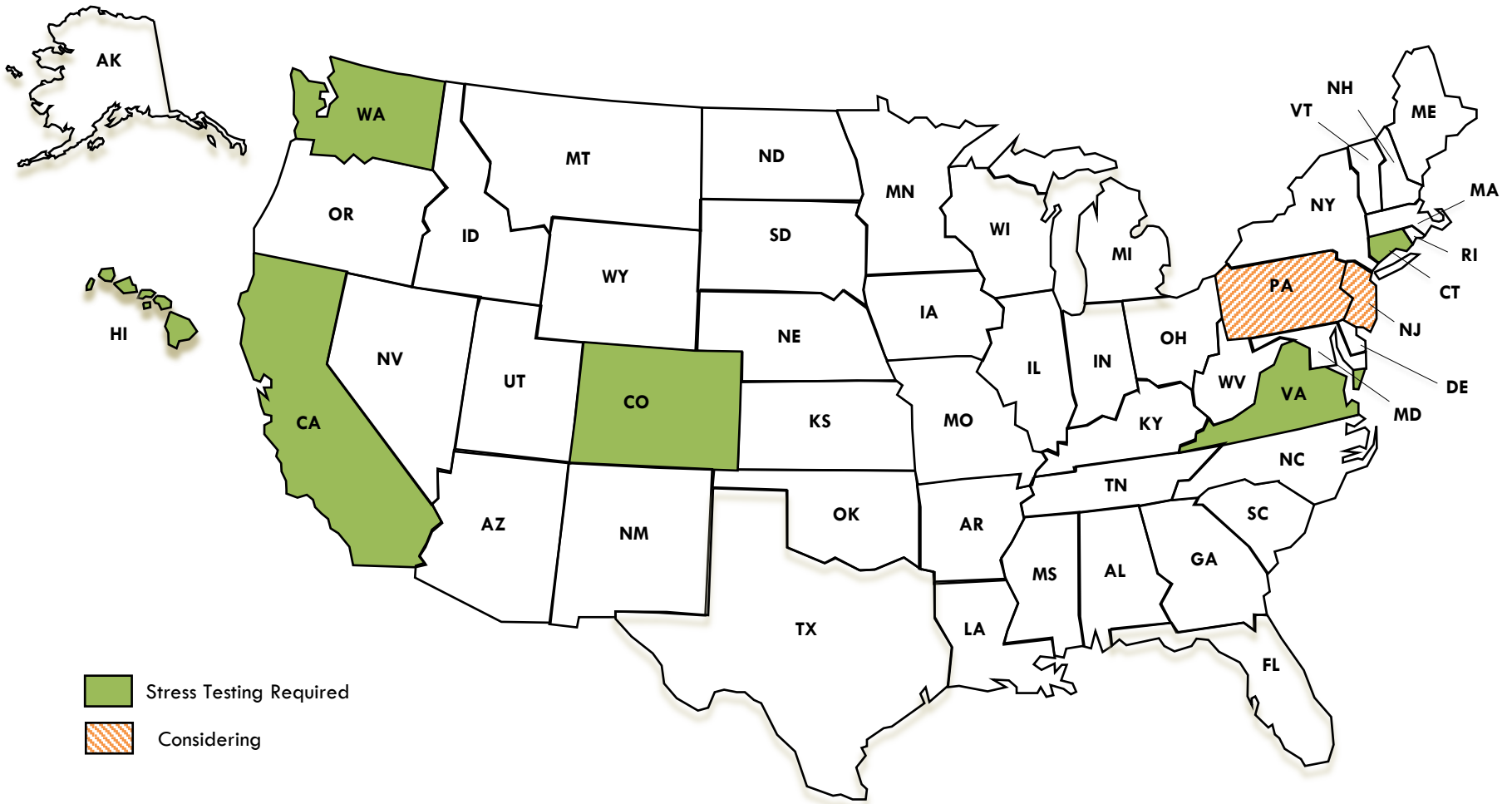
Projected Impact of Volatility of Costs for North Carolina and Wisconsin

Risk-sharing provisions limit costs and volatility for Wisconsin



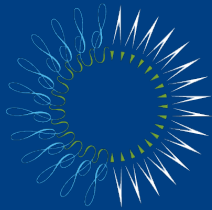
NOTE: Pew to review final results with WRS.

States That Have Adopted Stress Test Reporting



Conclusion

- State and local pension funds are more exposed than ever to the fiscal impact of an economic downturn, based on measures of fiscal health and investment risk.
- Most experts forecast lower returns on pension investments going forward.
- Stress testing can aid administrators and policymakers in planning for the next downturn, as well as protect plans from the worst possible outcome: insolvency.
- Stress testing can also inform good funding policies and practices and provide a useful tool for considering a range possible economic scenarios when scoring proposed reforms



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