THE PEW CHARITABLE TRUSTS

Virginia Commission on Employee Retirement Security & Pension Reform

July 10, 2017

Public Sector Retirement Systems Project
The Pew Charitable Trusts

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

2016 Recap & Introduction

- The Employee Retirement and Pension Reform Commission received and reviewed comprehensive 50-state and Virginia specific information and analysis on pension funding, benefits, and investments from Pew, VRS, and other stakeholders

- Today's presentation will provide updated funding and plan design analysis from both a 50-state and Virginia perspective

- Our goal is to further inform members of the commission, identify areas for further study, and revisit areas of discussion that remain important to the commission

- We remain available to meet individually with any member and greatly appreciate the opportunity to continue working with all of you on these important issues

Overview

- **Principles for Fiscal Sustainability and Retirement Security**
- **Pension Funding, Fiscal Health, and Investment Risk**
- **2016 Recommendations**
  - ✓ Adopt a Formal Stress Testing Policy
  - ✓ Further Improve Investment Transparency and Reporting Policy
  - ✓ Report Investment Performance and Carried Interest Fees
  - o Modify the Hybrid Plan to Improve Default Retirement Savings
  - o Create an Optional Defined Contribution Plan for New Hires
- **State Reforms Update**
- **Key Considerations Going Forward**

Principles for Fiscal Sustainability and Retirement Security

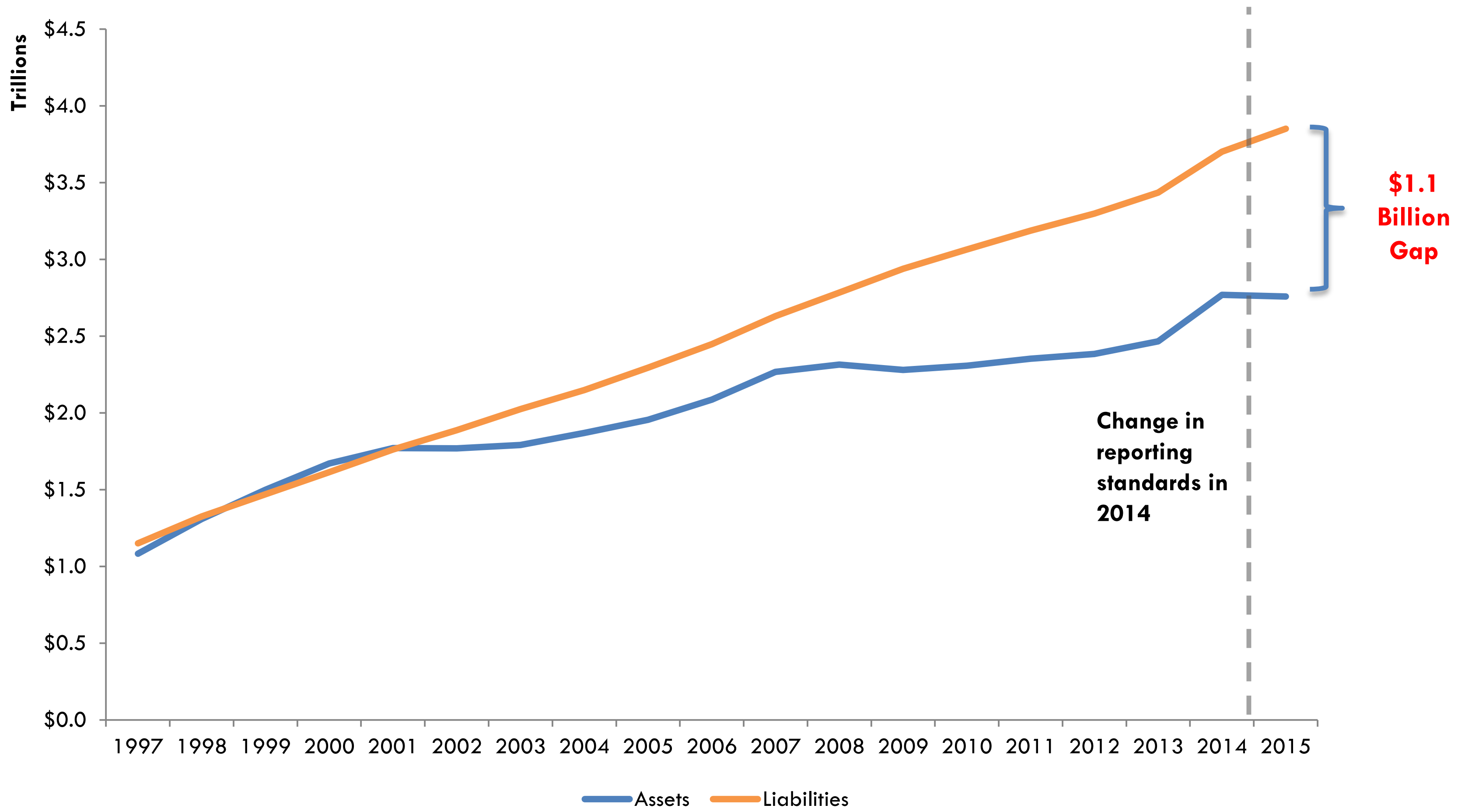
- No one-size-fits-all solution, but **key principles** can guide any reform process.

- **Fiscal sustainability principles**
  - Commit to fully funding and paying for pension promises.
  - Manage investment risk and cost uncertainty.
  - Follow sound investment governance and reporting practices.

- **Retirement security principles**
  - Target sufficient contributions and savings to help put employees on a path to a secure retirement.
  - Invest assets in professionally managed, pooled investments with low fees and appropriate asset allocations.
  - Provide access to lifetime income in retirement.

Pension Funding, Fiscal Health & Investment Risk

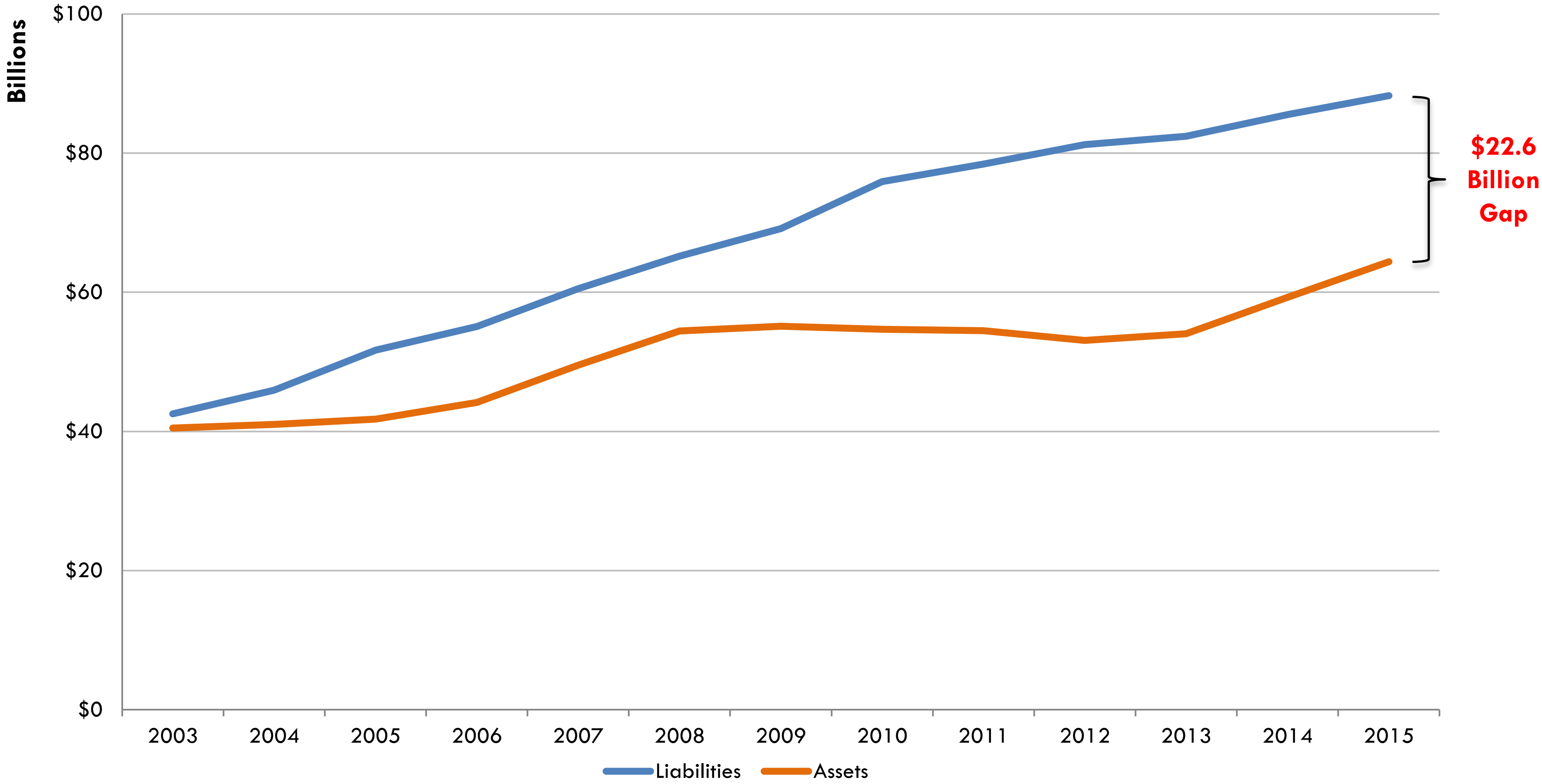
State Pension Funding Gap (Aggregate of 50 States)



Sources: Comprehensive Annual Financial Reports (CAFRs), actuarial reports and valuations, or other public documents, or as provided by plan officials.

Virginia Retirement System

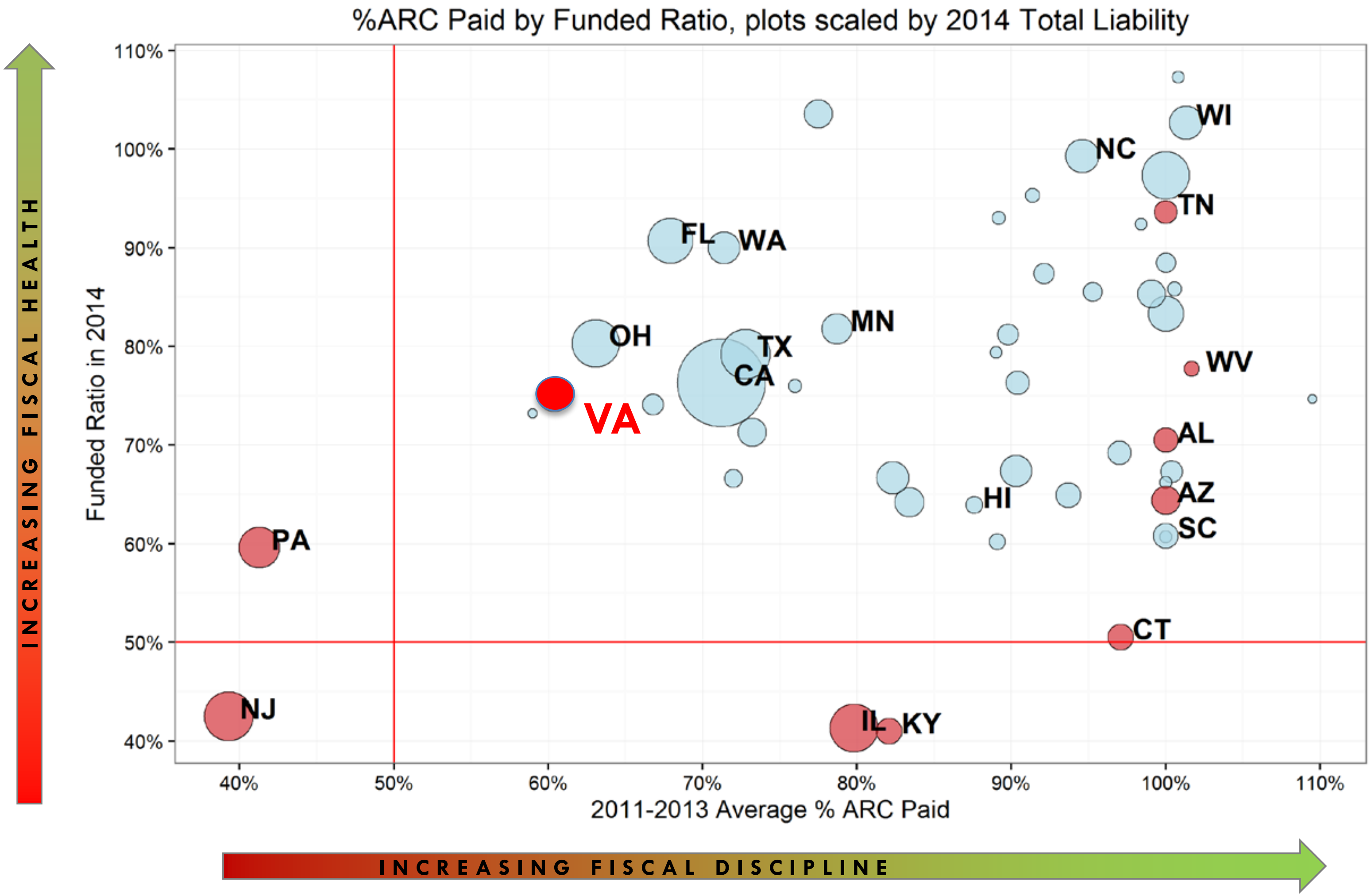
Assets & Liabilities: 2003 - 2015



Source(s): Comprehensive Annual Financial Reports (CAFRs), actuarial reports and valuations.

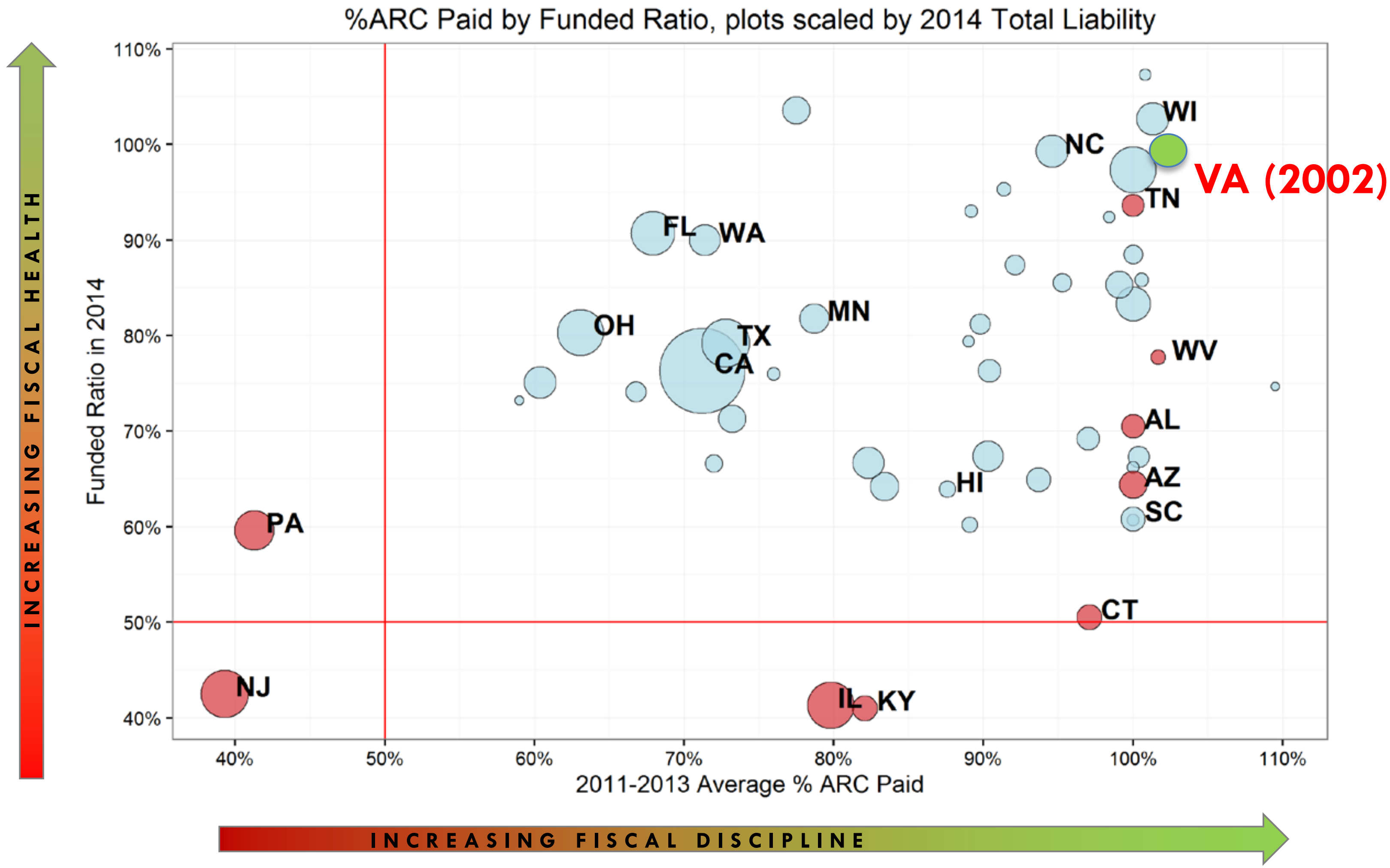
Fiscal Health and Discipline Across States

(Virginia highlighted in red)



Fiscal Health and Discipline Across States

(Virginia highlighted in green)



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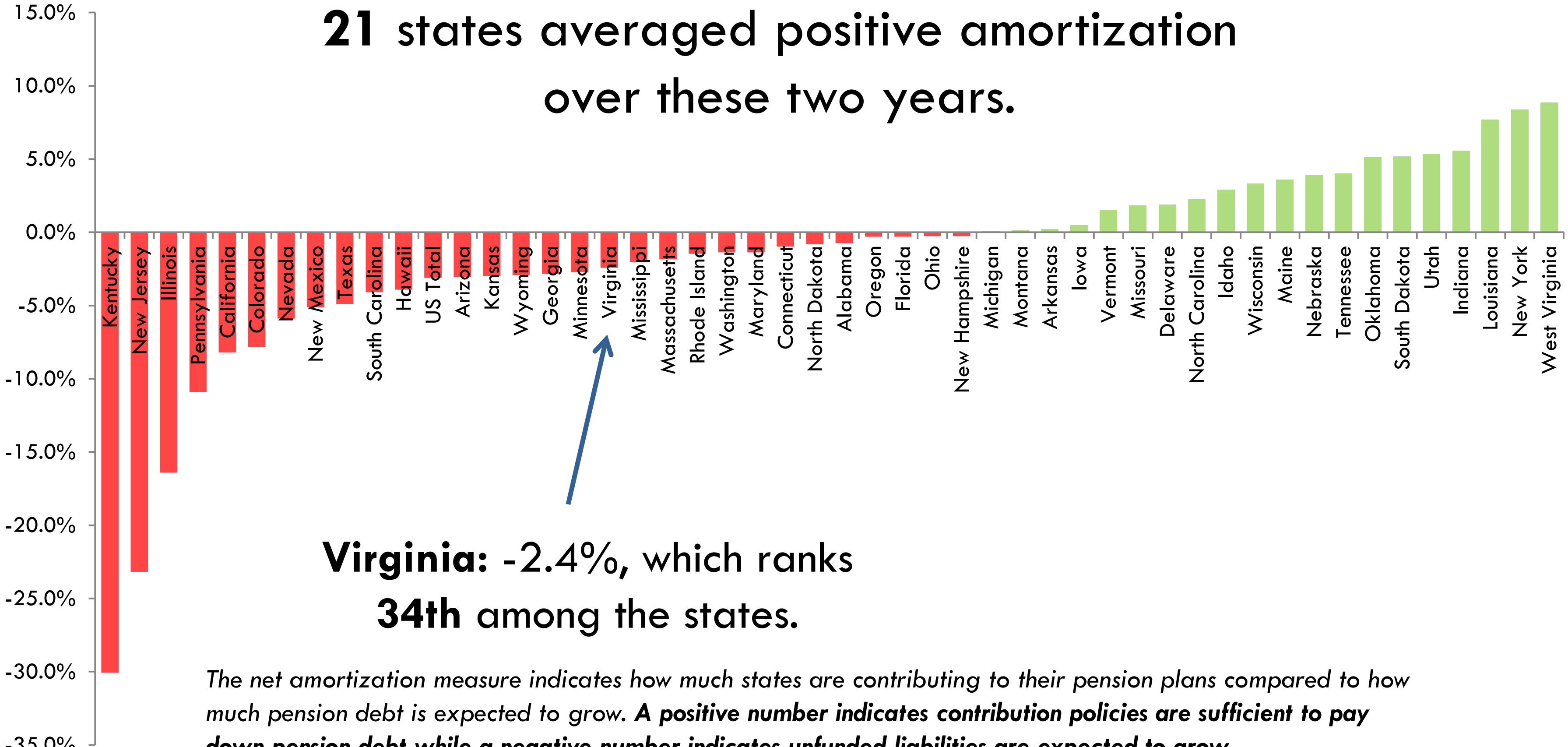
Net Amortization as a Share of Covered Payroll

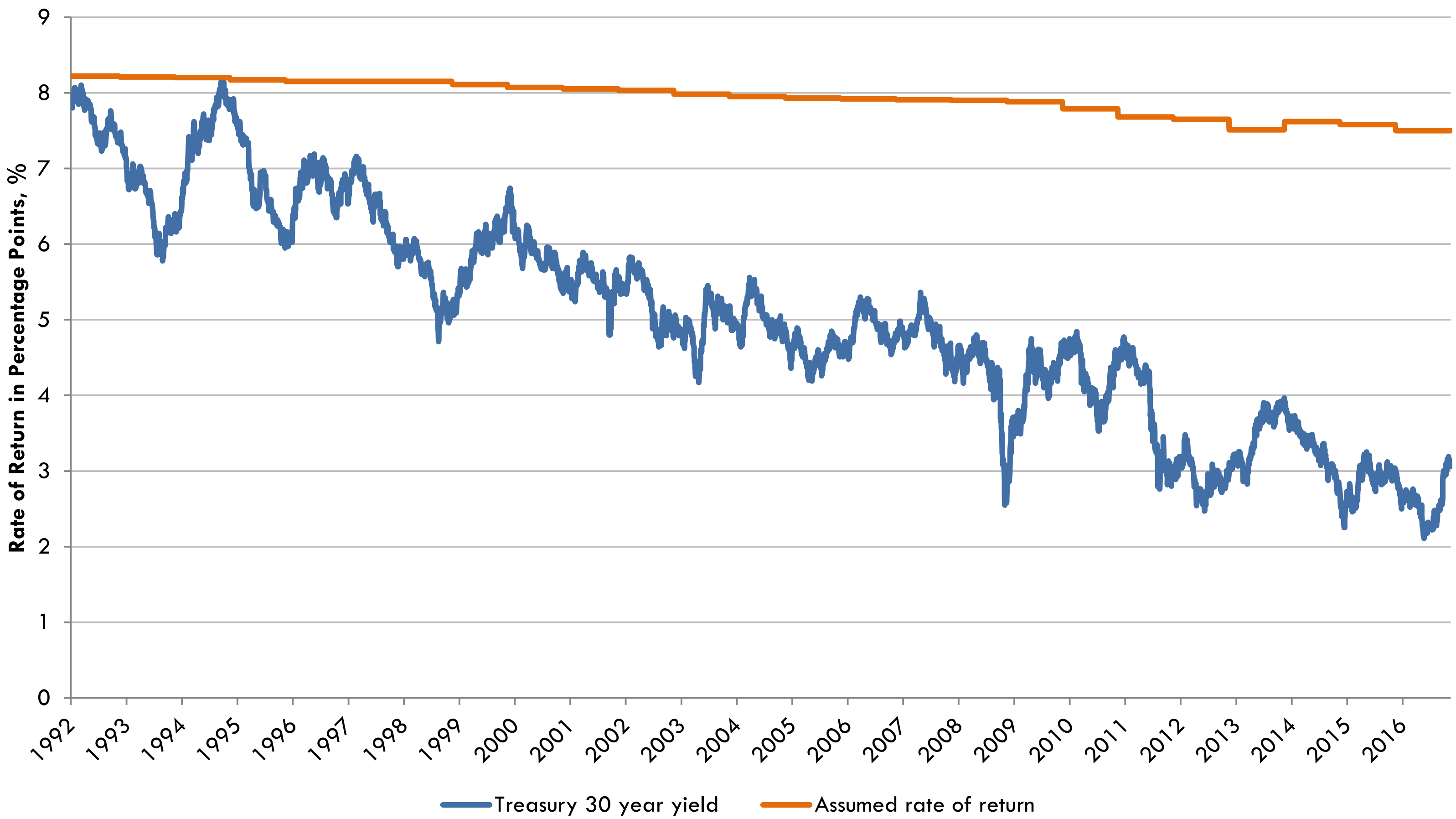
Rolling Average: FY 2014-2015



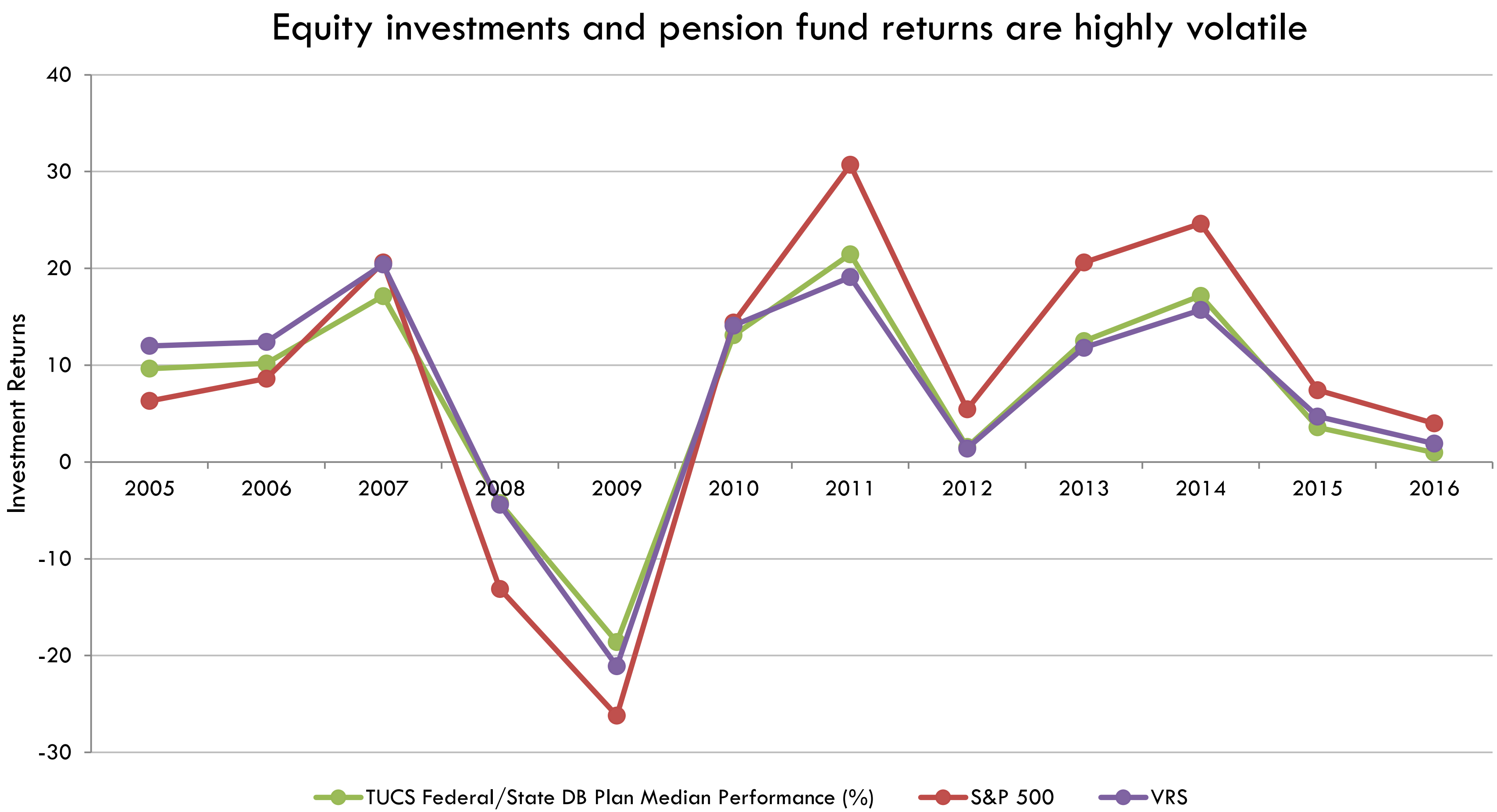
Sources: Comprehensive Annual Financial Reports (CAFRs), actuarial reports and valuations, or other public documents, or as provided by plan officials.
Notes: New York data not available for 2014 under latest GASB standards; graph presents 2015 only. Alaska excluded from graph due to a large one-time contribution in 2015.

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



VRS - Average Annual VRS, Stock Market, and Pension Fund Returns



Note: VRS data is reported *net of fees* while TUCS data is generally reported *gross of fees*.
Sources: VRS June 30th Investment Reports and the Wilshire®, Trust Universe Comparison Service®

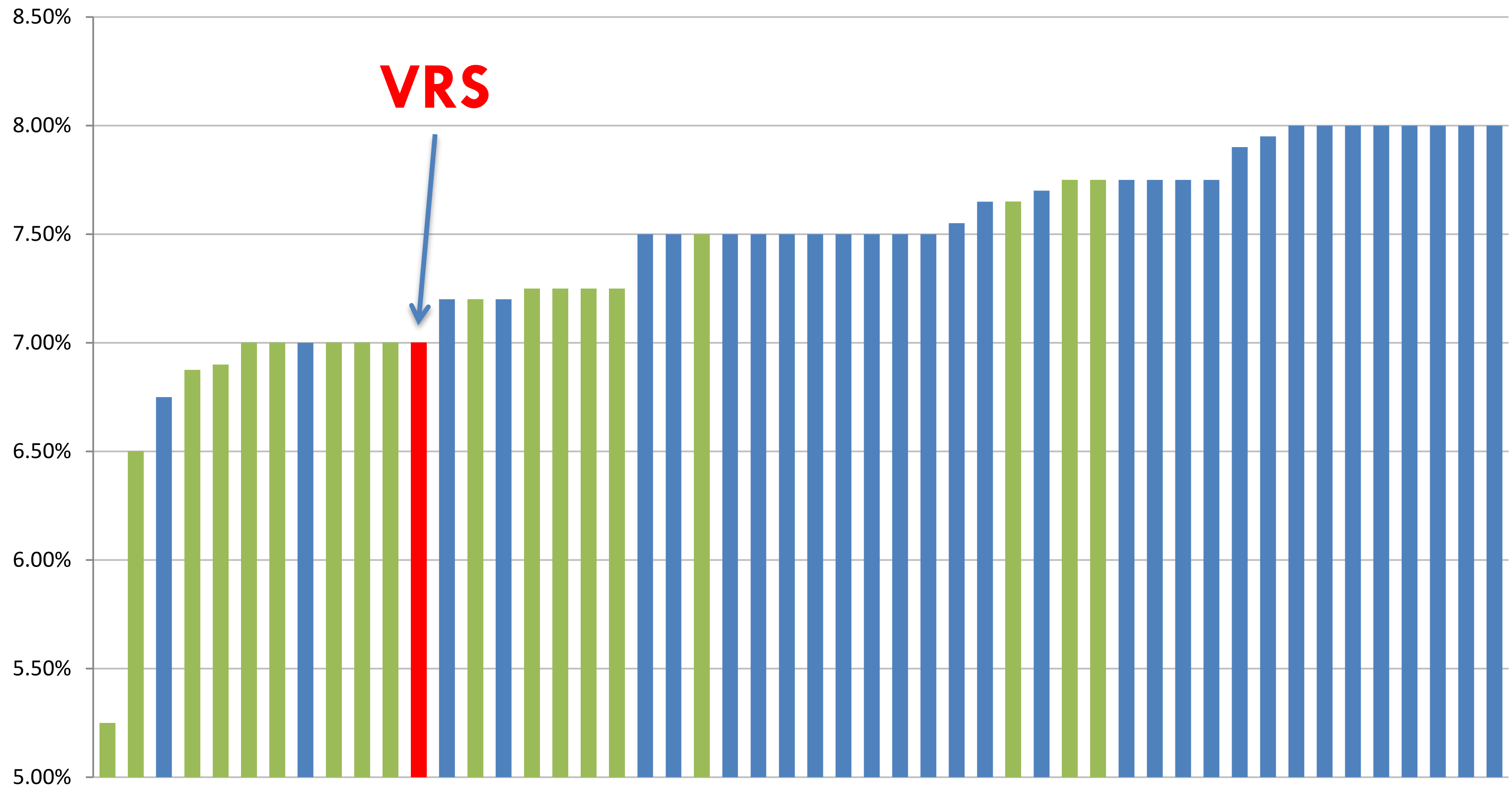
Measuring and Managing Cost Uncertainty

- With interest rates at historically low levels, 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 allocation
    - Wilshire TUCS recently estimated 10-year returns at 5.99%
  - Stress-testing investment returns and pension costs, which can further aid policymakers in their efforts to better understand and plan for cost uncertainty.
    - See: CALPERs, Hawaii, Virginia, Washington, and Society of Actuaries Blue Ribbon panel recommendations

- Evaluation and implementation of non-DB plans such as Risk Managed Hybrids

Assumed Rates of Return for State Employee Plans



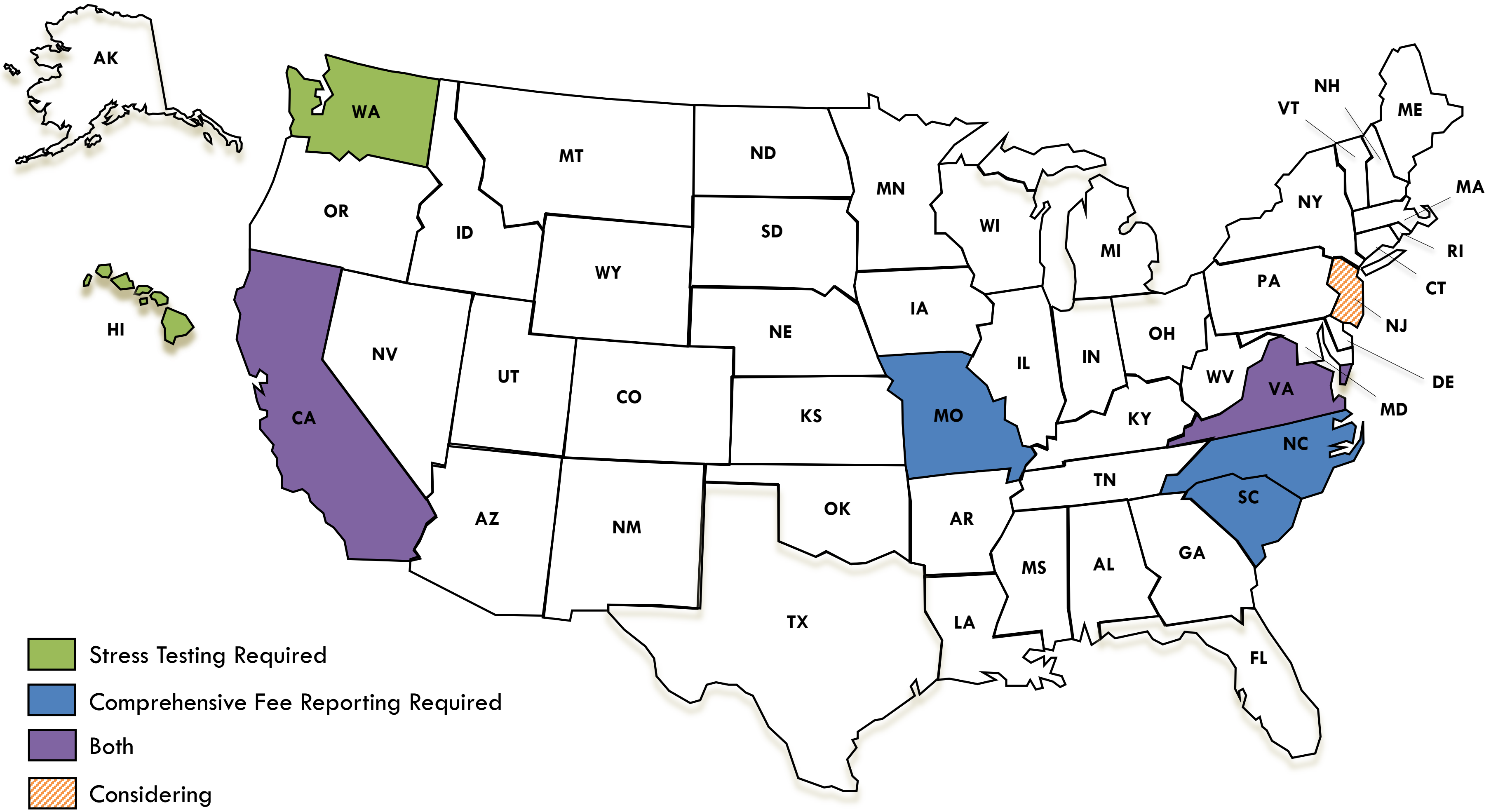
Note: Note: Based on FY15 reporting, with changes marked in green for the following states--Alabama, California, Colorado, Connecticut, Hawaii, Illinois, Iowa, Kansas, Kentucky, Louisiana, Maine, Missouri, New Hampshire, New Mexico, New York, North Carolina, South Carolina and South Dakota--to reflect policy changes since 2015.

Sources: Comprehensive annual financial reports, actuarial reports and valuations, or other public documents, or as provided by plan officials.

Measuring Retirement Security: Three Important Metrics

- **Potential replacement income.** What percentage of career-end take-home pay is replaced by retirement income?
- **Value of lifetime benefits.** What is the total amount of government-sponsored retirement income an employee can expect to receive over a lifetime?
- **Retirement savings rate.** What percentage of salary is available to a worker who leaves public service before reaching retirement age eligibility?

Virginia Among Few States with Formal Commitment to Risk Assessment



State Public Pension Funds Increase Use of Complex Investments: Pew Report

- Public pension funds should consider investment performance both in terms of long-term returns and cost predictability. Many fund portfolios are highly correlated with the up-and-down swings of the stock market, and expose state budgets to considerable risk and uncertainty.

- The use of alternative asset classes varies widely among pension funds, and has increased from 11 percent in 2006 to 25 percent in 2014.

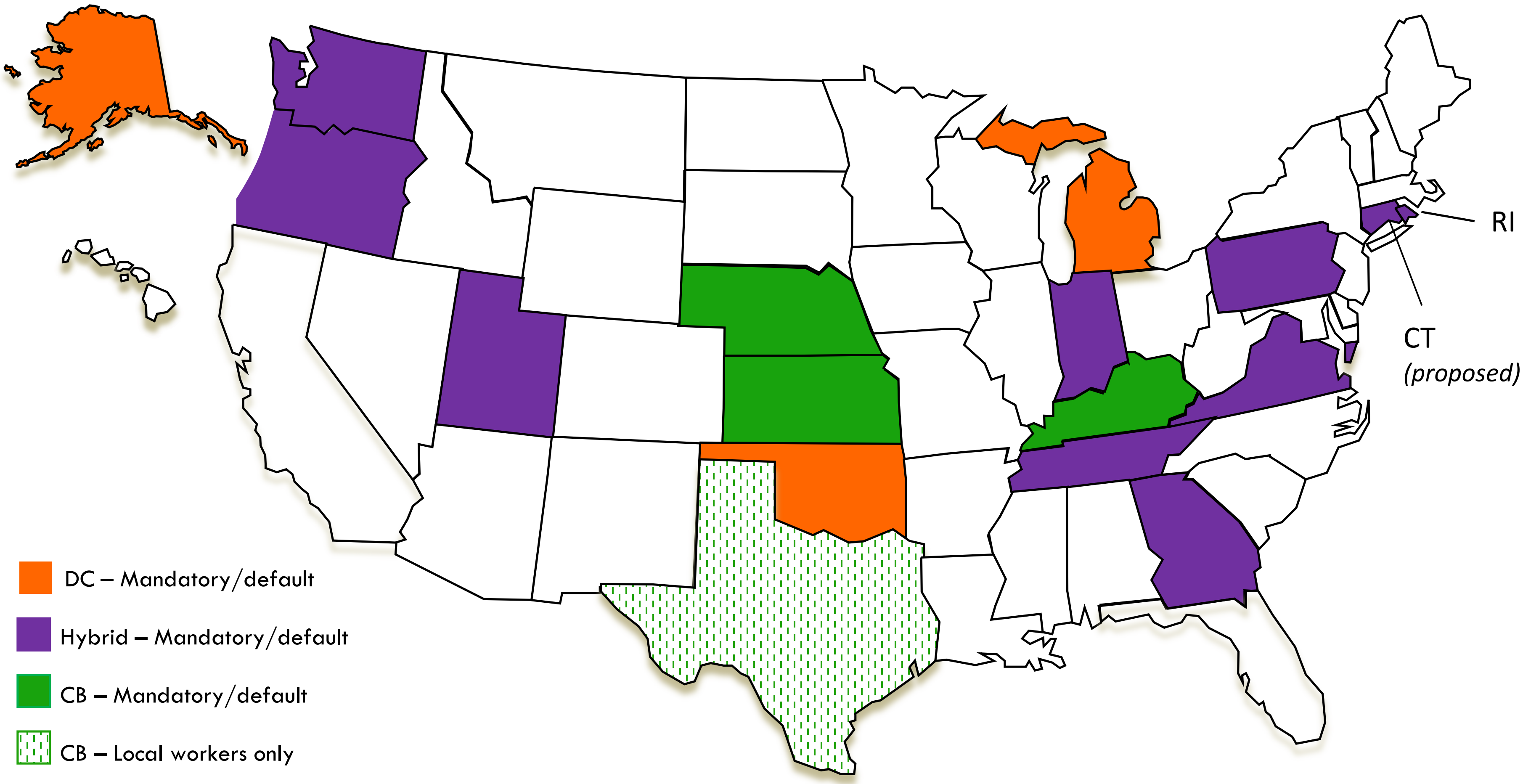
- The shift toward more complex investment vehicles has also brought higher investment fees. Reported fees and investment-related costs in 2014 amounted to more than $10 billion, an increase of 30 percent over the past decade, with another $4 billion unreported.

- Accounting and disclosure practices also vary widely among pension plans and have not kept pace with increasingly complex investments and fee structures. Full and accurate reporting of asset allocation, performance, and fee details is essential to determining public pensions' ability to pay promised retirement benefits.

State Reforms Update

States with Alternative Public Sector Retirement Plans

15 states currently have mandatory or default alternative plans for at least some workers



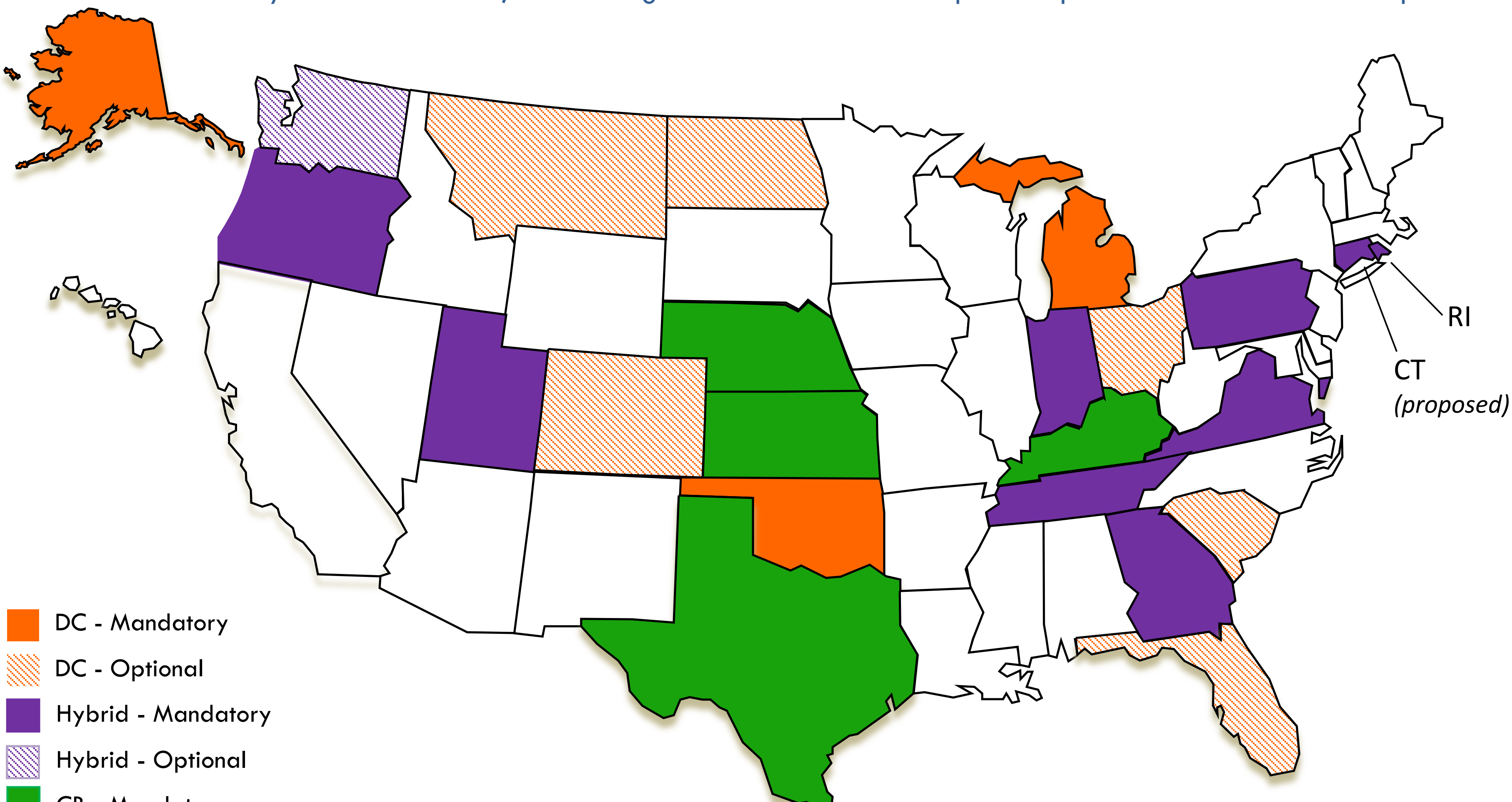
Notes:

- In addition, more detailed versions of this table from NASRA and NCSL make note of optional alternative states plans in the following states: Colorado (DC), Florida (DC), Montana (DC), North Dakota (DC), Ohio (DC and hybrid), and South Carolina (DC).
- In cases where a state has more than one alternative plan, the plan type with the greater number of participants is marked on the map. This includes Indiana where workers choose between a hybrid and DC plan, Michigan where state workers are in a DC plan and teachers are in a hybrid plan, and Utah where workers choose between a hybrid and DC plan
- Texas provides a cash balance plan to over 400,000 local workers through the state's Texas Municipal Retirement System and Texas County and District Retirement System.

Sources: NCSL, NASRA

States with Alternative Public Sector Retirement Plans

Twenty-two states have implemented an alternative plan for some workers. In fifteen states, the alternative plans are mandatory for some workers, while in eight states the alternative plan is optional and not the default plan.



Notes:

- In cases where a state has more than one alternative plan, the plan type with the greater number of participants is marked on the map. This includes Indiana where workers choose between a hybrid and DC plan, Michigan where state workers are in a DC plan and teachers are in a hybrid plan, and, Ohio where workers choose between a DB, hybrid or DC plan, and Utah where workers choose between a hybrid and DC plan.
- Texas's cash balance plan is only available to local workers.
- In addition, California provides an optional cash balance plan for part-time workers and adjunct educational employees.

Sources: NASRA, NCSL

Escalating Trends on Risk Managed Hybrids

- Since the Great Recession, there has been growing trend towards hybrid plans. In the last ten years, seven states have adopted a hybrid plan for at least some new workers.

- Most recently, states have begun designing new hybrid plans to include mechanisms to distribute risk. Under these plans, unexpected costs are shared between employers and employees and the DC component has a focus on retirement security for employees.

- Risk managed hybrid (RMH) plans have two primary elements:
  - DB component with formal mechanisms to distribute unexpected cost increases between the employer and employee.
  - DC component designed to minimize risk for employee through adequate default savings rate, low fee investment options, and appropriate distribution options, including access to lifetime income.

- As of 2017, three states – Pennsylvania, Tennessee, and Utah – have adopted an RMH as their default, primary benefit for at least some state employees.

- Pennsylvania is the latest example of a state adopting a RMH for new workers. The new plan combines a smaller DB component with a DC account with total employer and employee contributions of between 5% and 5.5%.

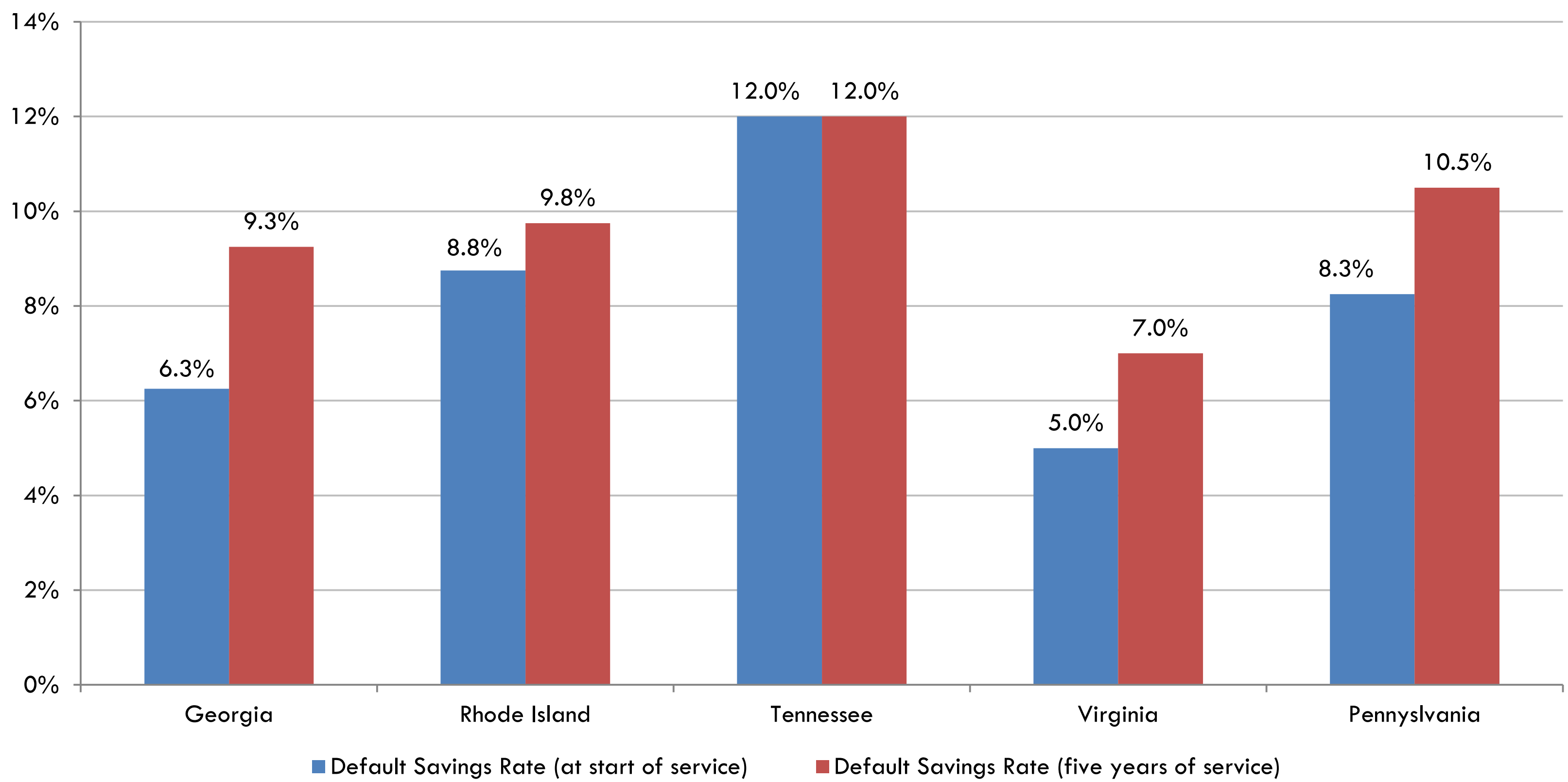
Growing Number of Hybrid Plans Distribute Risk

	Multiplier	COLA	DB Risk Managed	Employer Contribution to DC	Default Employee Contribution to DC	Total Default Contribution to DC	Employee Contribution to DB
Georgia Employee's Retirement System	1%	No	No	3% matching (0% mandatory)	5%	8%	1.25%
Tennessee Consolidated Retirement System	1%	Yes	Yes	5%	2%	7%	5%
Rhode Island Employee Retirement System	1%	Ad hoc	No	1%	5%	6%	3.75%
Virginia Retirement System	1%	Yes	No	3.5% matching (1% mandatory)	1%	2%	4%
Pennsylvania State and School Employees	1.25%	No	Yes	2.25%	2.75% - 3.25%	5% - 5.5%	5% -5.5%
Michigan Public Schools Retirement System	1.50%	No	Yes	1%	3%	4%	50% of total cost (6.2%)
Connecticut State Retirement System (Proposal)	1.30%	Yes	Yes	1%	1%	2%	5%-7%
Federal Government Retirement System	1%	Yes	No	5% matching (1% mandatory)	3%	7%	0.80%

Notes: Other data points on hybrid plans, including investment and distribution options, and retirement age are available in the Pew Charitable Trusts' brief "Hybrid Public Pension Plans," available at http://www.pewtrusts.org/~/media/assets/2015/04/hybrid-public-pension-plans_brief.pdf.
For Pennsylvania State Employees and School Employees, the table only includes the default hybrid plan. The Michigan Public Schools hybrid plan is not the default option, new employees are defaulted in a DC plan but can choose the hybrid plan instead.

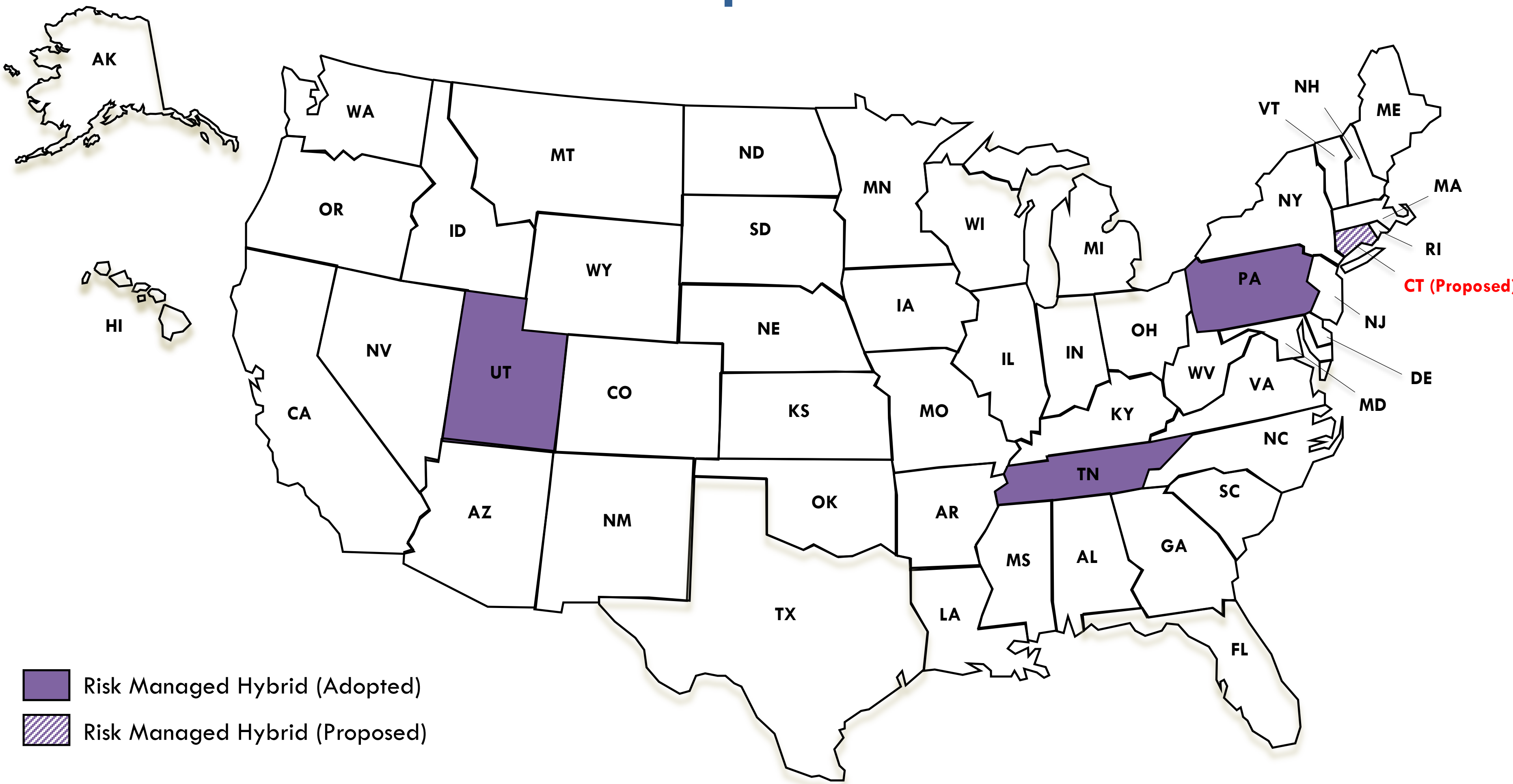
Mandatory Hybrid Plan Default Savings Rates

At Employment & 5 Years of Service



Notes: Rhode Island hybrid plan members who do not contribute to Social Security have a total savings rate of 13.75% instead of 9.75%. Interest rates on employee contributions to the DB component are as follows: Georgia 4%, Rhode Island 0%, Tennessee 5%, Virginia 4%, Pennsylvania 4%. Under the Virginia hybrid plan, employee contributions will automatically increase by 0.5% every three years until reaching the maximum employee voluntary contribution of 4%. An employee with voluntary contributions of 4% receives a 2.5% matching employer contribution. In Pennsylvania, new employees can also opt to participate in an optional hybrid plan with a lower benefit and savings rate.

States With Risk Managed Hybrids as the Default Option



Note: Michigan also recently adopted a risk managed hybrid plan for teachers. However, the risk managed hybrid plan is not the default. New teachers are defaulted into a defined contribution plan with the option to select the hybrid plan.

Key Considerations Going Forward

- **Modify the existing hybrid with the following goals in mind:**
  - Increasing overall savings rate for workers
  - Reducing overall complexity
  - Managing risk for both employees and the state
    - Continue to emphasize sensitivity analysis to evaluate both cost and retirement security
  - Managing long-term costs under different economic and investment return scenarios
    - Compare projected cost of active worker benefit accruals against current cost levels

- **Consider an optional DC plan for state workers**

- **Consider all proposed reforms as part of the larger workforce compensation discussion**

Appendix

Overview of Virginia's Hybrid Plan

- ➢ The Virginia hybrid plan has the lowest retirement savings rate for public sector hybrid plans in the country. Although the plan includes an auto-escalation mechanism to increase savings, it currently takes over two decades to reach its maximum intended savings rate.

- ➢ Policymakers have indicated that there is little flexibility to increase contributions from employee paychecks, due to flat salary levels and associated concerns around retention.

- ➢ Increasing employer contributions requires review through the fiscal note process. Pew has recommended that this review emphasize (1) benefit costs for all current workers across tiers *separate* from the state payments to reduce the unfunded liability; and (2) sensitivity analysis to highlight the range of potential benefit costs under different investment return scenarios.

- ➢ Contributions could be raised by 2% of pay with increasing the expected average cost for new workers. This is because the state cost of benefits for the DB only plans is higher than the average cost for the hybrid plans.

- ➢ Sensitivity analysis can help to demonstrate that the cost of the hybrid plan is also more predictable. Further, policymakers can also follow the risk managed hybrid approach adopted by other states to help support increasing the overall savings rates.

Hybrid Plans – Basic Definitions and Impacts

- Hybrid plans combine a defined benefit (DB) with a separate defined contribution (DC) savings account. Typically, the separate DB and DC components of a hybrid plan provide a smaller benefit than they would in a stand-along DB or DC plan.

- Hybrid plans have been adopted in part to reduce state exposure to investment risk and increase predictability of employer costs.

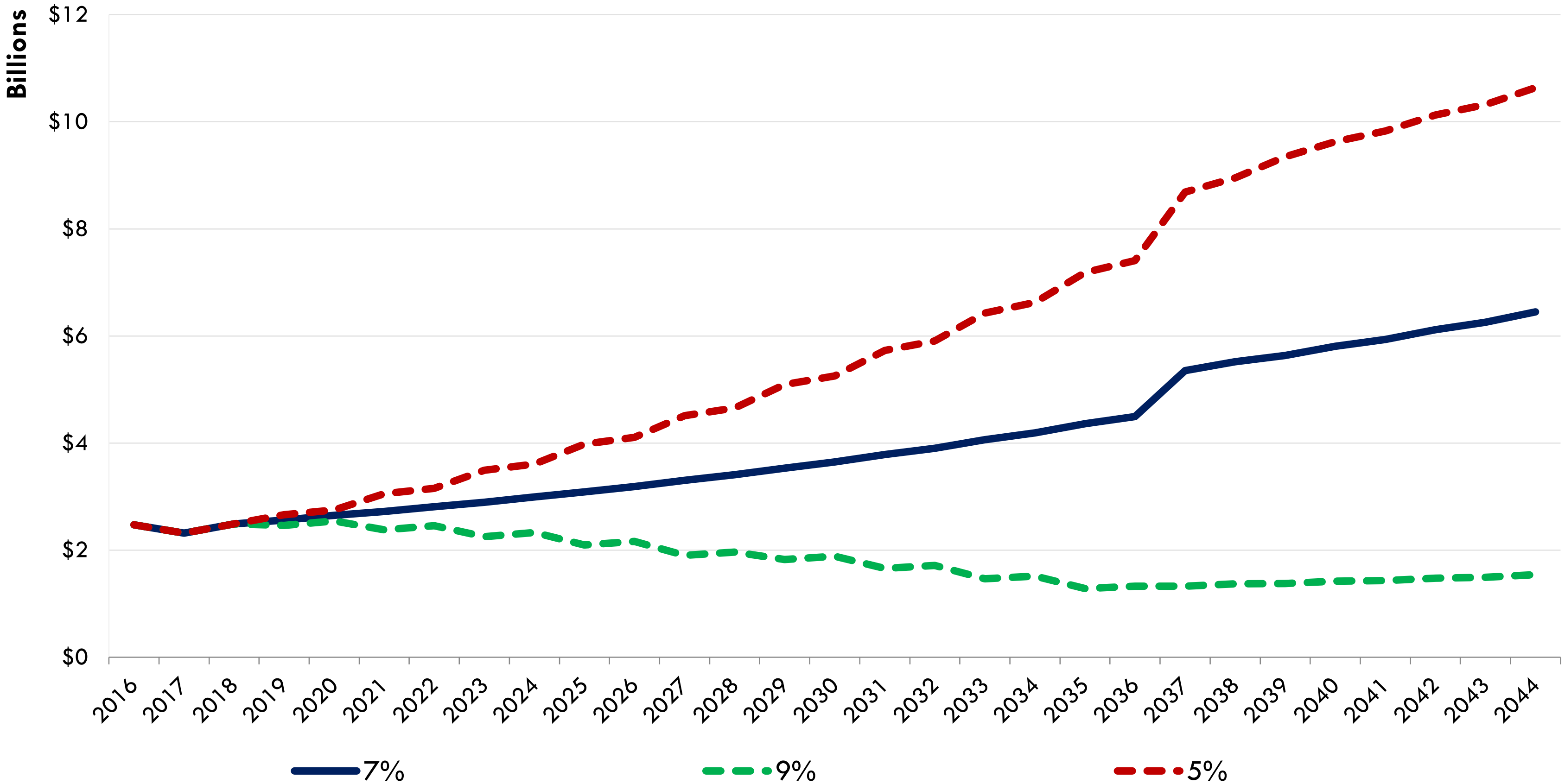
- In addition, hybrid plans provide higher savings rate for workers, particularly beneficial to workers who withdraw from employment early or mid-career.

- Since the Great Recession, there has been growing trend towards hybrid plans. In the last ten years, seven states have adopted a hybrid plan for at least some new workers.

- In the last few years, states have begun designing new hybrid plans to includes mechanisms that distribution risk. Under these plans, unexpected costs are shared between employers and employees and the DC component has a focus on retirement security for employees.

VRS State, Teacher and Political Subdivision Plans

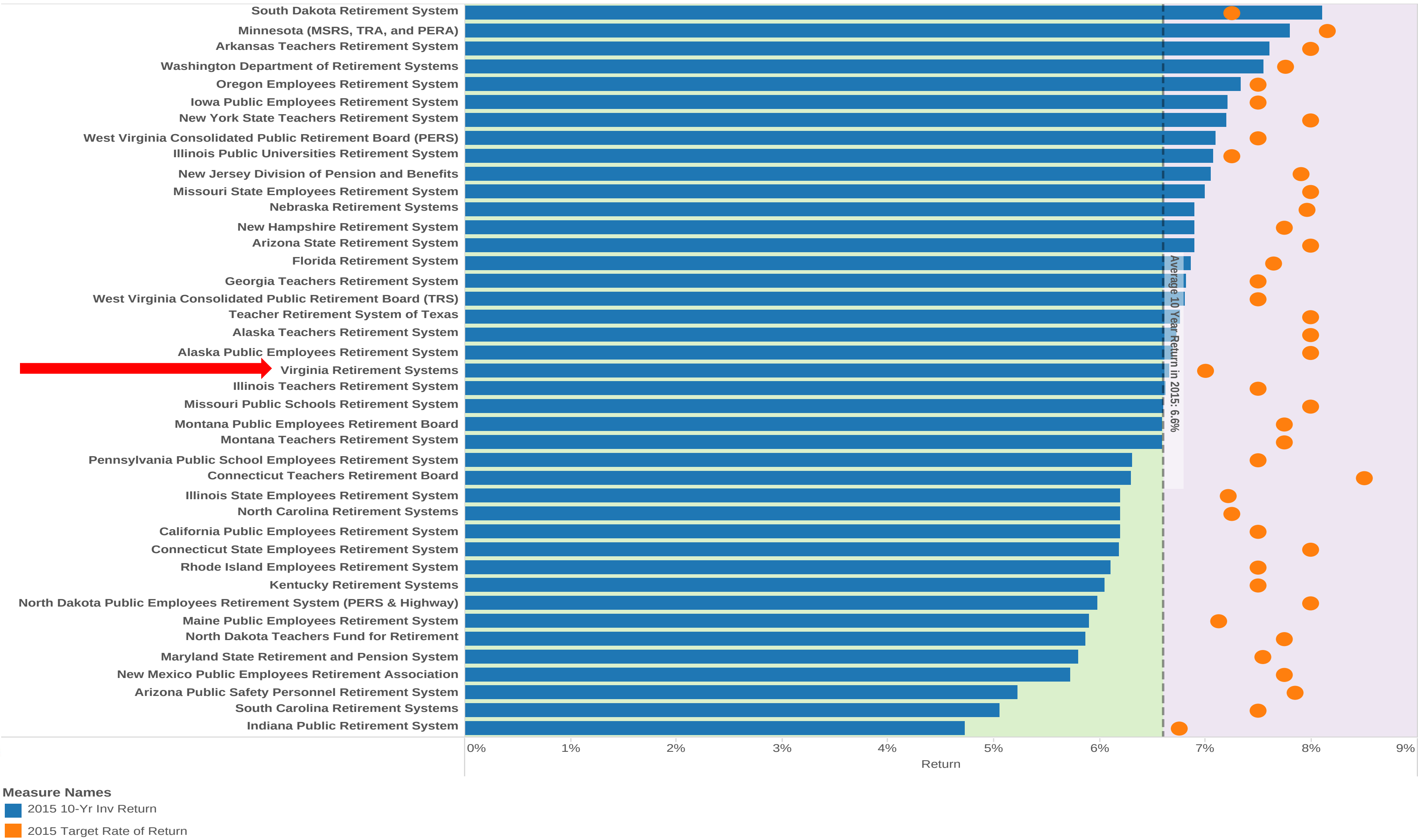
Estimated Contributions at Varying Investment Returns Under Current Law



Note: These results only contain estimates for the Virginia State Employees, Teachers, and Political Subdivision plans. State Police (SPORS), Virginia Law Officers (VaLORS), and the Judicial (JRS) plans are all excluded, as these plans comprise only 4% of VRS' total liability.

Ten-Year Performance - Net of Fee, June 30 Reporters

For 2015, VRS Under-performed against its target rate of return, but matched the average of its 41 fund peer group

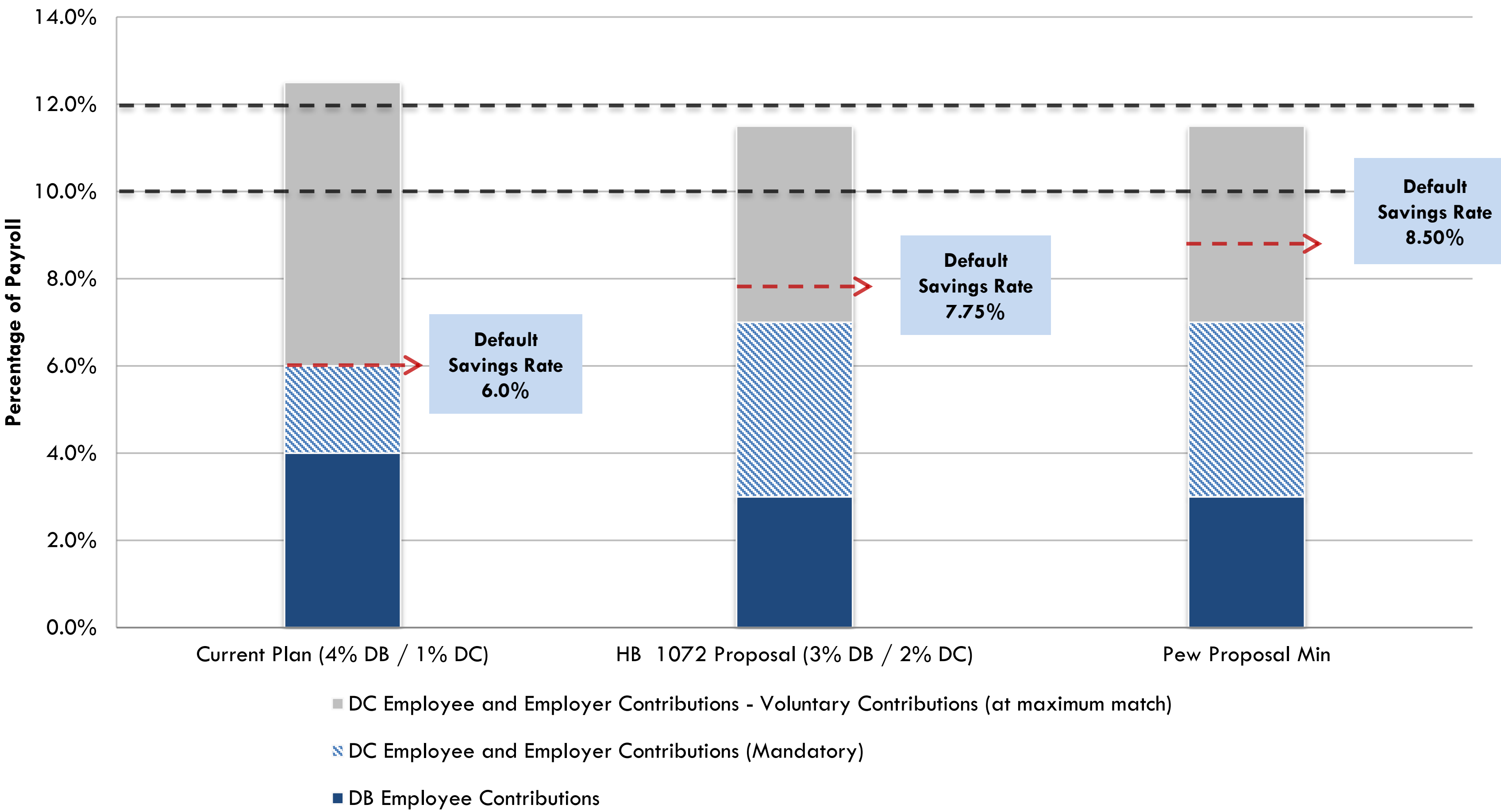


Pensions and State GO Bond Ratings

State	S&P	Moody's	Fitch	Quote
Connecticut	A+ Outlook Stable	2017 Series C: A1 Stable Outlook	A+ Outlook Stable	"Unfunded pension liabilities and debt outstanding are among the highest, relative to revenues, of any state in the country." (Moody's, *Rating Action: Moody's assigns A1 to $300M CT GO bonds 2017 series C; outlook stable, 6/21/2017)*
Illinois	BBB- Watch Negative	Baa3 Outlook Negative	BBB Negative Rating Watch	"The review process will also address the likelihood of further deterioration in Illinois' most pressing credit challenges: its severely underfunded pensions and a backlog of unpaid bills, which has doubled during the past year." (Moody's, *Rating Action: Moody's Places Illinois' GO and Related Ratings Under Review for Possible Downgrade*, 7/5/2017)
Kentucky	A+ Negative Outlook	Aa2 Stable	AA-	"The state has not fully funded annual required contributions for its teachers' retirement system (it's largest pension plan) since 2008 and continued liquidity pressures for the states' retirement systems may lead to future budgetary pressures if meaningful pension reform is not adopted in a timely manner to address these liabilities." (S&P, *Kentucky Outlook Revised To Negative On Lower Pension Funding Levels, Budgetary Pressure, 1/11/2017)*
New Jersey	A-	A3 Outlook Stable	A Outlook Stable	"Despite the continued pension underfunding, the $650 million increase in the pension contribution consumes half of the total budget growth, leaving minimal flexibility for growth in other governmental spending." (Moody's, *State of New Jersey: Ratings Update – Moody's downgrades New Jersey's GO rating to A3; outlook stable, 3/27/2017)*
Pennsylvania	AA- Watch Negative	Aa3 Outlook Stable	AA- Outlook Stable	"The commonwealth is likely to struggle to balance its budget annually as its pension contributions ramp up and expenditures grow more quickly than revenues." Commonwealth of Pennsylvania: New Issue: Moody's assigns Aa3 to Pennsylvania's $986M 2016 GO Bonds; outlook stable, (11/28/2016)
Virginia	AAA	Aaa Outlook Stable	AAA	

Savings Rate for Younger Workers in the Hybrid Plan

Default Rates Lower than Minimum Standards



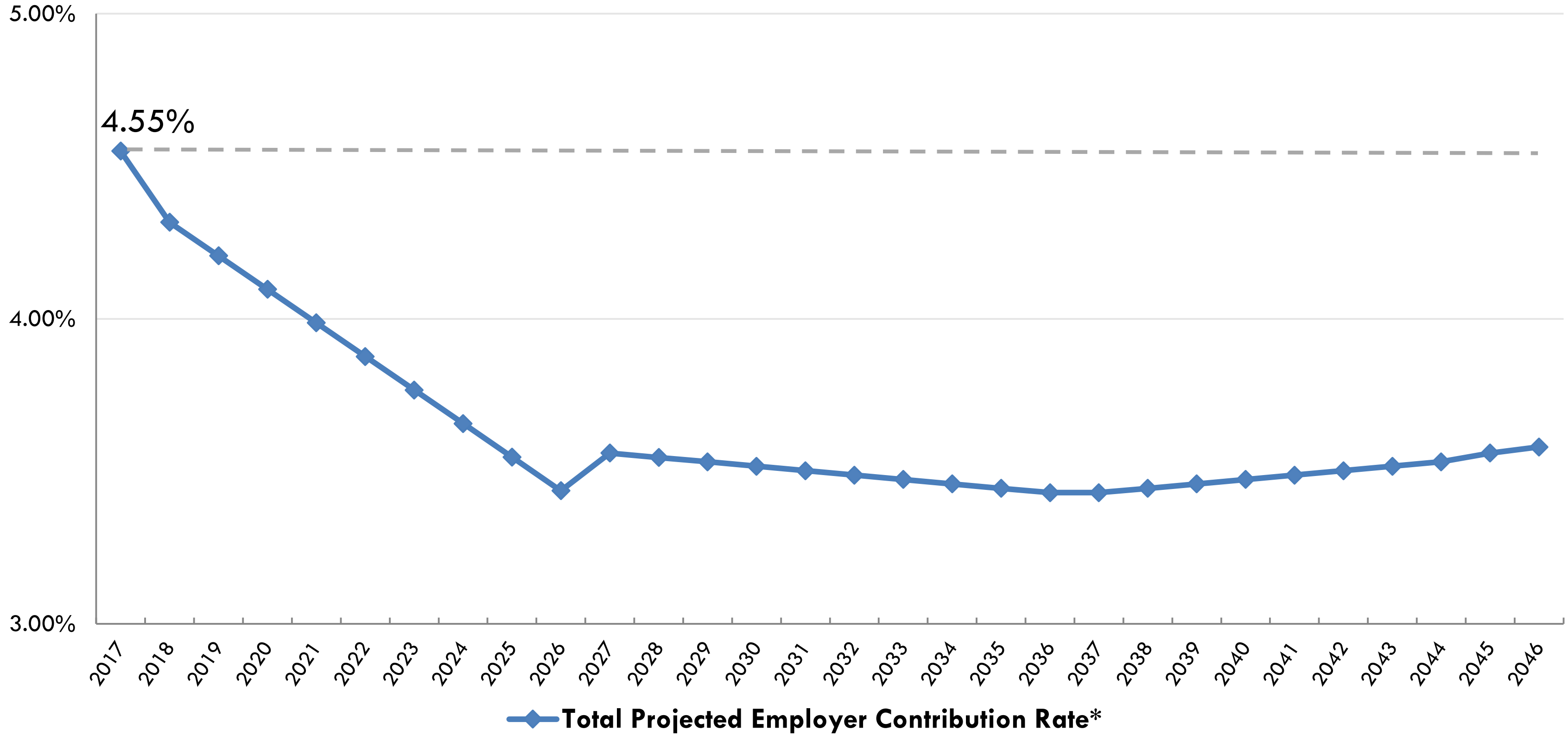
Source: The Pew Charitable Trusts based on HB 1072 Fiscal Impact Statement.

Examples of Formal Cost Sharing Mechanisms

Cost-Sharing Mechanism	Participating Systems	Description
Employer-Employee Split	Arizona, Iowa, South Carolina, Wisconsin	• **AZ –** Employees contribute 50% of total cost • **IA –** Employees contribute 40% of total cost • **SC –** Employees contribute 50% of cost increases but Board may reduce contribution rate when funding level exceeds 90% • **WI –** Employees contribute 50% of total cost
Variable Benefits	Maryland, Minnesota, Wisconsin	• **MD –** COLA is capped at 2.5% if returns meet or exceed expectation and capped at 1% in downside scenarios • **MN –** COLA is capped at 2.5% if funding level is above 90% and capped at 1% when funding level is below 90% • **WI –** Post-retirement annuity + / - based on investment returns

VRS State Retirement Plan

Estimated Employer Contribution Rates under Current Plan Design



	2017	2027	2037	2045
Employer Normal Cost Rate	4.45%	2.35%	1.67%	1.47%
DC Employer Component	0.10%	1.21%	1.76%	2.09%
Total Employer Contribution Rate	4.55%	3.56%	3.43%	3.56%

Notes: *Employer Contribution rate includes total Employer Normal Cost Rate plus Employer DC Component. Data sourced from VRS presentations on Jan. 12, 2017, titled, VRS Overview- Presented to the Compensation and Retirement Subcommittee of House Appropriations. As VRS notes in the presentation and as depicted above, defined benefit normal cost decreases over time as hybrid plan membership grows.