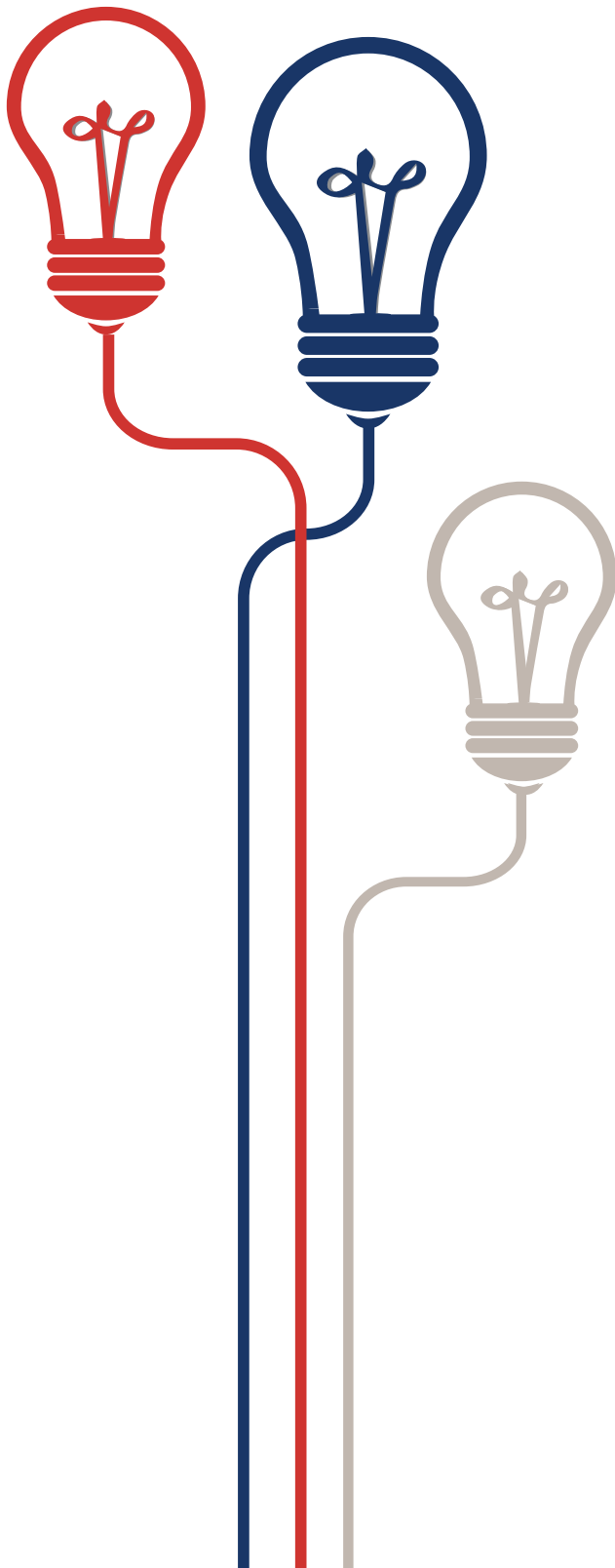


Securing Our Future: A Menu of Solutions to Connecticut's Pension Crisis

By Anthony Randazzo, Daniel Takash, and Adam Rich





Letter from the Yankee Institute

Connecticut's pension crisis has been devastating for the state. The rising costs of paying for the state's pensions have led lawmakers both to raise taxes and cut services, stalling economic growth and frustrating the state's citizens.¹

This paper provides fresh research and actuarial analysis of solutions to the problem with the current pension system. It offers state lawmakers a much-needed opportunity to analyze the causes of this crisis, and to find a lasting solution that will set Connecticut on a better path for the future.

Pension adjustments in 2011 and the December 2016 agreement between Governor Dannel P. Malloy and the State Employees Bargaining Agent Coalition (SEBAC) are not sufficient to put the state on a more sustainable path. Rising pension costs in coming years will again require either further service cuts or higher taxes. This cycle must be stopped if Connecticut is going to move past this crisis.

Of particular concern is that Connecticut's pension governance structure is much different than those of most other states. Taxpayers and their closest representatives – lawmakers in the state's General Assembly – have been largely cut out of the decision making process. Instead, the executive branch and government unions set pension benefits for years through the collective bargaining process. Also problematic is a pension board that lacks truly independent voices and balanced taxpayer representation.

To avoid perpetuating the current crisis, any reforms to the pension system must include two equally important elements: changes to how current benefits are set and paid for; and changes to what benefits future employees are offered.

Note: A full version of this paper is available at www.yankeeinstitute.com/pensionreform.

The complete report includes an in-depth analysis of the problems facing SERS today, how these challenges emerged politically and economically, and what steps Connecticut can take to meaningfully address the need for pension reform.

¹ An examination of some of these challenges can be found in Yankee Institute's 2014 study, *Born Broke: Our pension debt problem*, J. Scott Moody and Wendy P. Warcholik, PhD. <https://www.yankeeinstitute.org/wp-content/uploads/2014/08/Born-Broke-full-study.pdf>

EXECUTIVE SUMMARY

There are several challenges confronting Connecticut's State Employee Retirement System (SERS): (1) the pension plan's assumed rate of return has significantly overestimated investment performance and continues to be unrealistic; (2) actual contributions have consistently been less than actuarially recommended rates; and (3) the long-term actuarial experience of the plan has not matched the actuaries' estimated costs. Each year that new state employees are enrolled in this plan, future problems accrue.

Some changes have been adopted in an effort to address Connecticut's pension problems. A December 2016 collective bargaining agreement between Governor Malloy and the State Employee Bargaining Agent Coalition (SEBAC) recommended the lowering of the assumed return to 6.9%, a positive step that will reduce at least some risk. However, on its own, this and the other changes adopted in the SEBAC agreement are not enough to ensure the state breaks out of the cycle of unfunded liability growth — the new targeted rate of return remains unreasonably optimistic and the governance problems for how funding policy is determined remain.

The SEBAC agreement also increased the total amount Connecticut taxpayers will pay to provide retirement benefits to public workers by stretching out payments on certain unfunded pension liabilities over an extra 14 years. The process of shifting debt onto the shoulders of taxpayers in the 2030s and 2040s will cost at least an extra \$8 billion to \$9 billion in interest payments, even without adjusting for the plan's unrealistic assumptions, which significantly understate the amount of existing pension debt. What's more, the agreement did nothing to reform the benefit design of the current system — the feature that is undermining the solvency of the whole enterprise.

This paper provides a comprehensive look at a range of policy options for Connecticut lawmakers to consider if they are serious about enacting real pension reform that stops the long-term growth of unfunded liabilities for SERS.

Potential improvements to the existing pension plan include:

1. **Lowering the Assumed Rate of Return to Around 5%**
2. **Increasing Employee Contribution Rates**
Increasing SERS members' contribution rates to 6% would reduce taxpayer contributions by about \$4.3 billion over 30 years
3. **Adopting a Cap on Compensation Eligible for Pension Benefit Determination**
Applying a cap of \$100,000 for new hires would reduce employer contributions by about \$4.1 billion over 30 years
4. **Changing the Formula for Cost-of-Living Adjustments**
Setting the COLA at inflation up to a maximum of 2% would reduce employer contributions by around \$1.3 billion over 30 years
5. **Amending the Definition of Compensation to Remove Overtime**

Certainly, meaningful pension reform in Connecticut must improve the funding policy for the existing plan and adjust the benefit design to improve the solvency of SERS. But — of equal importance — Connecticut must resist any temptation to enroll new hires into the existing, broken system. A more sustainable plan design for new hires could adopt any of the following forms:

1. **A Tier IV Defined Benefit Plan** — priced with conservative actuarial assumptions and designed with cost sharing for unfunded liability amortization payments
2. **A Cash Balance Plan** — guaranteeing a fixed investment return for individual employee accounts plus revenue sharing for years with returns above the assumed rate
3. **A Defined Contribution Plan** — offering an employer rate similar to the current employer contribution plus an employee contribution that, together, would provide robust retirement benefits
4. **A Combined Defined Benefit / Defined Contribution Hybrid Plan**
5. **An Option for New Hires to Choose Between a DB-DC Hybrid Plan or Defined Contribution Only Plan**

Finally, pension reform for Connecticut must also include reforms to the governing structure for SERS. Potential adjustments include changing the management system so parties with the greatest liability — currently the taxpayers — have increased input in funding policy decisions, and reforming the process for determining contribution rates so employees and retirees share in the downside risk associated with funding policy.

PROBLEMS CURRENTLY FACING SERS

The circumstances that have brought about the current crisis facing SERS are numerous, but they are not unique to Connecticut. Many pension systems across the country have faced similar problems and have responded in a manner similar to SERS. The following are the largest contributors to the crisis SERS faces today:

1. Assets Have Underperformed Relative to Expectations

From 2002 to 2016, SERS has achieved an average investment return of only 5.4%, compared to an assumed rate of return of 8.5% until 2008, when it was lowered to 8.25% and then further reduced to 8.0%. Even the 20-year average return was only 6.8%. This underperformance relative to the assumed rate of return is a driving factor in the growth of unfunded liabilities.

2. Assets are Likely to Continue Underperforming Because of the “New Normal” of Low Growth for Investment Returns

Over the past few decades, the yields on low-risk, fixed-income investments have fallen considerably, forcing investors like pension funds to invest in riskier and riskier assets. In the 1990s an investment portfolio could reasonably expect to earn 7% to 8% returns on bonds alone, traditionally recognized as the safest asset class. However, the likely return for bonds in the U.S. and abroad over the next few decades is generally expected to average less than 2%. SERS has reacted to this by realigning its portfolio over the past 15 years such that the asset allocation today does not reflect the way the pension fund earned returns in the 1980s or 1990s. Thus, long-term average returns beyond 15 years are not particularly relevant for future expectations. The 20-year return

for SERS is close to the recently adopted 6.9% assumed return — but based on recent trends even this is too high of an expectation and long-term underperforming investments are probable over the next two decades.

3. Future Employer Contribution Rates Face Increasing Long-Run Volatility

The cumulative effect of high-risk investments means employer contributions could deviate wildly from what current estimates project. An average return of 5.5% (about what SERS has achieved since 2002) would increase required contributions by over 7% of payroll by the year 2040.

4. SERS Currently Undervalues Its Pension Liabilities

Using the recently adopted discount rate of 6.9%, the total unfunded liability for SERS is reported to be about \$21.7 billion. However, this discount rate — based on the assumed return for assets — does not accurately reflect the risk associated with paying the liabilities of SERS, which should be closer to the yield on 30-year U.S. Treasuries plus a small risk premium. Using a more reasonable rate of 5%, the total unfunded liability for SERS is \$24 billion. If the total liability for SERS is properly valued, the plan's funded status drops from 35.5% funded to 30.1%.

5. Actual Experience Has Not Matched Actuarial Assumptions

Properly calculating contribution rates for a defined benefit plan requires making assumptions related to the retirement age, disability rate, payroll growth, mortality, and other demographic trends for employees and retirees. Unfortunately, the actual experience of SERS has deviated significantly from the assumptions made. For example, until 2008, SERS used mortality assumptions originally designed in 1994, and it has only had average payroll growth of 2.53%, compared to the assumed growth of 4% and 5%. The cumulative effect of these flawed assumptions has been growth of the size of promised pension benefits beyond what was originally projected — and thus growth in unfunded liabilities.

6. The State Has Failed to Pay Actuarially Required Contribution Rates

Due to a variety of fiscal and political constraints, SERS has chronically neglected to make the full actuarially determined contribution (ADC). The existing governance structure and decision-making process has allowed for explicit policies of underfunding SERS and has re-set the amortization schedule multiple times. The recent SEBAC agreement perpetuates this cycle that stretches back decades, a cycle of funding choices that has left SERS in a far worse position than it otherwise would have been had the state at least paid the full ADC every year.

7. Required Contributions Will Continue to Crowd Out Government Services

As SERS's ADC grows, it will continue to crowd out other government services. Since 2001, the ADC has grown faster than tax revenue and total government spending, including education and highway spending.

A FRAMEWORK FOR MEANINGFUL, LASTING PENSION REFORM

There is a range of potential adjustments to SERS, both to address the existing challenges and to prevent new problems from emerging. The roster of reform ideas often requires considering tradeoffs between risk, short-term costs, and long-term costs. Thus, any given proposal or set of ideas should be considered in the context of a framework for good pension reform. We propose the following six objectives as a set of benchmarks against which to measure any SERS reform plan:

1. Provide retirement security for all employees, current and future.

Paying promised pension benefits is not optional; they are deferred compensation that employers should ensure is honored. For future employees, the retirement benefit design should emphasize retirement security by minimizing volatility and risk, while also taking care to avoid the problems of the past — even if that means promising lower benefits.

2. Stabilize contribution rates for the long term.

Volatile contribution rates are challenging for state budgeting and can create a perverse incentive to skip out on portions of the actuarially determined contribution.

3. Reduce taxpayer and pension system exposure to financial risk and market volatility.

The ability of a pension plan to pay out promised benefits depends on ensuring that contributions will be supplemented with investment returns as expected. Pension plans should thus be responding to changes in the market that have lowered the yields of fixed income instruments by reducing investment risk and increasing contributions, not by maintaining unachievable assumed rates of return that lead to continued underfunding.

4. Reduce long-term costs for employers, taxpayers, and employees.

By minimizing the costs for all parties involved, policymakers free up future resources for other projects.

5. Ensure the ability to recruit 21st century employees.

For the government to run well, it must be able to attract talented employees. Changes in labor markets have altered the demand for fixed pensions versus flexible, portable retirement benefits, as well as preferences for a higher salary today over better long-term benefits. Lifestyle preferences vary by region, so an employer should consider the specific preferences of employees in their jurisdictions.

6. Improve governance.

During pension crises, it is easy for other political interests to hinder pension reform, making the whole government worse off. Ensuring the long-term solvency of SERS means aligning the incentives of the pension fund administrators and decision makers by fixing decision-making processes and ensuring that they have a stake in the long-term solvency of the plan.

A RANGE OF PENSION REFORM OPTIONS FOR CONNECTICUT SERS

How should Connecticut's government and taxpayers approach solving the problems facing SERS once and for all? There are many options available, most of which are non-exclusive and could form a comprehensive package of reforms to both address the current pension crisis and prevent future crises from emerging. Here is a list of reform ideas that Connecticut should consider, followed by some analysis forecasting how they might change the trajectory of the plan.

Potential Funding Policy Changes for the Existing Plan

1. Lower the Assumed Rate of Return

This would reduce financial market risks and taxpayer exposure to underperformance, allow normal costs to be more accurately priced, reduce contribution rate volatility, and increase the contribution inflows into the plan. Ideally, the state would build on the recent adoption of a 6.9% assumed return and gradually continue to lower it towards a 5% target that would require less investment risk and greater certainty in performance.

For forecasting analysis, see Scenario 1.

2. Increase Employee Contributions

Members of Tier III — those hired after July 1, 2011 — contribute only 2% of their salaries, while members of Tier III-Hazardous contribute 5% of their salaries. The state should consider increasing the share that employees pay for retirement benefits given the significant amount of decision-making power they have for how the benefits are funded. The national average for state employee contribution rates to their pension funds is 6%.

For forecasting analysis, see Scenario 2.

3. Lower the Discount Rate

This would more accurately price accrued liabilities in current dollars and ensure that actuarially determined amortization payments are enough to pay down unfunded

liabilities of the system completely. On an accounting basis, the total liability of SERS would increase, but contribution rate volatility would decrease, and long-term costs for taxpayers and employers would be reduced because this change would more accurately recognize the liabilities that actually exist.

For sensitivity analysis, see Table 4 in the full version of this paper online at www.yankeeinstitute.com/pensionreform.

Potential Benefit Design Changes for the Existing Plan

1. Change the Formula for Cost-of-Living Adjustments

The current COLA for Tier III members has a minimum 2% annual increase with a cap of 7.5%, and is primarily calculated as 60% of the increase of CPI-W from year to year. Lowering the COLA could take the form of adopting a 2% cap on COLAs, with a new formula pegged to CPI-W.

For forecasting analysis, see Scenario 3.

2. Adopt a Cap on Pensionable Salaries

Capping pensionable salaries would mean setting a fixed value on which to base pension contributions and benefits. This would help reduce the harms associated with pension spiking and reduce the total liability of the pension system. Employees would not make contributions on compensation above the cap.

For forecasting analysis, see Scenario 4.

Note: An alternative approach would be to change the definition of pensionable salary to include regular pay only and explicitly exclude overtime and other additional forms of compensation. This would enable more accurate contribution rate determinations by actuaries because it is difficult to forecast what kind of overtime behavior employees will use and employers will allow over time.

Proposals to reduce the accrued retirement benefits of retirees or active members should be rejected. This would violate the promise made to those public sector employees.

What's more, there are reasonable steps that can be taken to improve the solvency of SERS and avoid adding additional liabilities to the troubled system.

Potential Benefit Design Changes for Future Hires

1. Create a Tier IV Conservatively Priced Defined Benefit Plan

Under this proposal, new hires would still be offered a defined benefit (DB) plan, but the new plan would be governed by conservative actuarial assumptions such that (a) the assumed return would be between 4% and 6%; (b) the discount rate would be based on a market value of liabilities; (c) the amortization method for any potential future unfunded liabilities would be on a level-dollar basis over a period of 10 to 15 years; and (d) the overall costs of the plan — including normal cost and any necessary future amortization payments — would be shared between the employer and employee such that the incentives for long-term solvency matched the decision-making power over actuarial assumptions.² The difficulty with this proposal is that the normal cost for the plan will be substantially higher than the current plan. Offering a lower benefit multiplier as a percentage of final average earnings may mitigate this challenge, but there is a floor to how low the plan's benefit multiplier can go while still providing retirement security.

2. Create a Cash Balance Plan

A cash balance (CB) plan is a defined benefit system that guarantees a certain rate of return for an individual member's accumulated contributions. If investment returns for a given time period were to fall below the guaranteed rate, Connecticut taxpayers would make up the difference — in this way CB plans are like DB plan guaranteed benefits. If investment returns were to exceed the guaranteed rate, however, Connecticut taxpayers would then split the surplus between plan members and SERS. The specific details on this “upside sharing” vary depending on the state adopting the CB approach. The Kentucky

Retirement System implemented a CB plan in 2014, where employee retirement accounts are guaranteed a minimum 4% return and all returns above 4% are split 75% and 25% between the member and system, respectively. Kentucky's plan uses its surplus investment return shares to build a rainy-day fund for times when the actual returns are less than 4%. The advantage of the CB approach would be in having a more affordable retirement plan that caps state liabilities for new hires while also providing some guaranteed retirement benefit.

3. Offer a Defined Contribution Plan

A defined contribution (DC) plan allows the employee or retiree to keep 100% of all contributions made on his or her behalf; keep all investment returns and losses; and gives more flexibility over aligning the investment strategy with the employee's retirement goals. Offering state employees this kind of retirement plan would mean public sector workers would have retirement benefits similar to most of their private sector peers. Well-designed DC plans offer a set of choices on investment strategies that include target date funds and mutual fund options that automatically re-allocate assets based on an employee's age and desired retirement date. It is best for DC plans to avoid requiring an employee to make complicated, micromanagement decisions related to their own retirement investments. The advantage of the DC approach is that over time, the state would no longer have any retirement liabilities and would be able to focus its resources on providing retirement guidance to employees and improving wages.

For forecasting analysis, see Scenario 5.

4. Offer a Combined Defined Benefit / Defined Contribution Hybrid Plan

The current hybrid plan available to certain SERS members is actually a defined benefit plan that can be converted into a portable, defined contribution account. This approach does not meaningfully cap the growth of liabilities, because it is still based on the aggressively optimistic assumptions of the existing plan. A more effectively designed hybrid would offer a base DB plan with conservative assumptions — such as a 0.5% to 1.5% multiplier

² The Arizona Public Safety Personnel Retirement System has a similarly designed plan with 50/50 cost sharing and equal representation between employers and employees on the plan's pension board.

for final average earnings — and a DC plan on top with matching employer and employee contributions with rates set to ensure a meaningful retirement benefit. An alternative approach would be a hybrid plan that offers a DB plan on earnings up to a certain compensation threshold — such as \$40,000 to \$60,000 — and contributions to a DC plan on additional compensation. The primary benefit of such hybrid approaches is to balance the amount of liabilities that taxpayers carry, while also setting the DB portion low enough that using appropriate actuarial assumptions is not cost prohibitive.

5. Offer New Hires an Option Between a DB-DC Hybrid Plan and Defined Contribution Only Plan

This approach would start by creating a DB-DC hybrid plan for new hires, and also allow new hires to opt into a defined contribution-only plan if that was more preferable based on their employment and retirement goals.

Potential Governance Policy Changes

The current process for establishing funding policy, contribution rates, and benefit design has granted a substantial share of decision-making power to parties with minimal liabilities related to SERS. Consider that the State Employees Retirement Commission (the Commission) administers SERS and has default authority over setting actuarial assumptions, unless the General Assembly acts to override a vote of the Commission. The membership of the Commission is primarily made up of six trustees who represent the employees and six trustees who are members of SERS appointed by the governor.³

In theory the trustees appointed by the governor are supposed to represent “management.” However, since they are required to be state employees and members of SERS, there are misaligned incentives for those individuals. Effectively, all voting members of the commission are state employees, explicit representatives for state employees, or nominated by state employees. The legislature — the closest representatives of the taxpayers at the state level — can act to override a vote made by the Commission, but this is politically challenging for a collective body like the General Assembly.

³ The remaining members are either recommended from these two groups of six or are non-voting ex officio members.

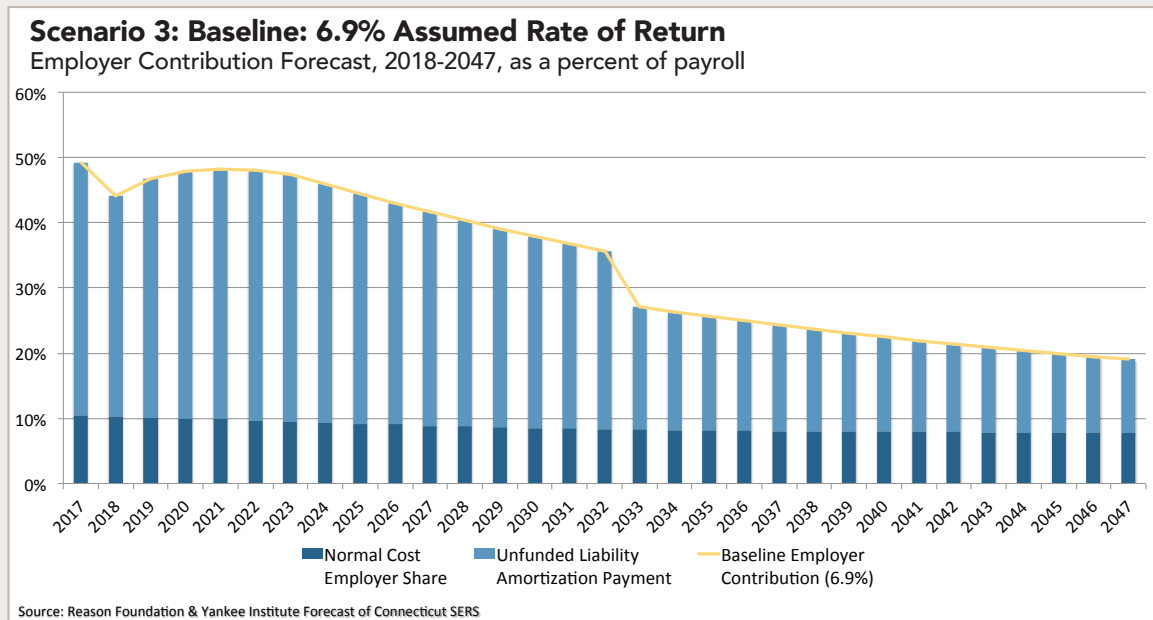
1. Change the Decision-Making Process so Parties with the Greatest Liability — Currently the Taxpayers — Have an Increased Voice in Funding Policy Decisions

The qualifications for State Employees Retirement Commission “management” trustees could be changed to require explicitly that they not be members of SERS. The General Assembly could be given more authority in setting funding policy. Additionally, the allocation of votes on the Commission could be changed to add more independent, non-employee trustee positions.

2. Change the Process for Determining Contribution Rates so Employees and Retirees Share in the Downside Risk Associated with Funding Policy

As an alternative to changing the decision-making process itself, employees and retirees could be required to share the risk associated with funding policy decisions. In Arizona, employees pay 50% of any unfunded liability amortization payment — which incentivizes lower assumed rates of return. In Wisconsin, retirees are promised a base pension benefit, and then can have that benefit increased when returns are strong, but decreased as low as the base benefit when returns underperform, meaning all parties share in the upside and downside of the investment allocation.

Other cost sharing models could be designed for SERS, so long as the paramount objective would be to incentivize better funding policy by linking decisions related to risk in the system with the liabilities created both by those decisions and by benefit design.



UNDERSTANDING THE FORECAST

Baseline: The yellow line running across the chart above is the total employer contribution, combining the normal cost plus the unfunded liability amortization payment. This line represents the expected baseline forecast under the current plan assumptions – including the 6.9% assumed rate of return adopted under SEBAC in December 2016. The yellow line baseline representation will remain constant throughout the forecasting scenarios.

Normal Cost: The dark columns at the bottom are the employer’s share of normal cost. For the current fiscal year ending 2017, the employer share of normal cost for all tiers is 10.3%. Specific normal cost rates vary depending on the kind of employee, but to consider how any given set of changes would change expected contributions, it is best to look at the combined system as a whole. Note that normal cost is forecast to decline slightly over time, as the normal cost for Tier III (5.5%) is slightly less than the normal cost for legacy tiers.

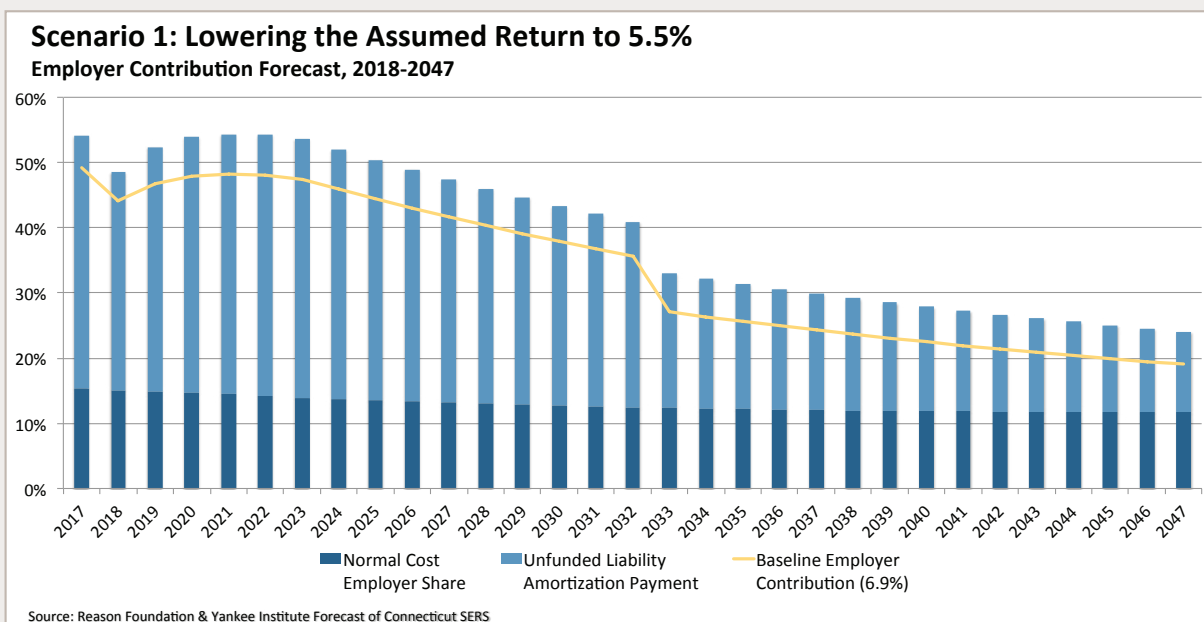
Unfunded Liability Amortization Payment: The light columns at the top are the amortization payments, and are always paid by the employer. For the current fiscal year ending 2017, the unfunded liability amortization payment is 38.7%. Under the baseline that existed prior to the passage of the December 2016 SEBAC agreement, these were scheduled to end in 2033. With the passage of the agreement, the amortization payments will be stretched out past 2047.

Scenario: This scenario forecast assumes that the actual experience for SERS over the next 30 years is exactly what the actuarial assumptions expect, including actual annual returns of 6.9% and average COLA of 2.3% for Tier III.

Limitations: In order to create an apples-to-apples comparison, we have adopted all assumptions used by the plan (unless expressly indicated otherwise), but that does not mean we endorse those assumptions. The accuracy of these forecasts is only as strong as the reasonableness of the assumptions currently used by SERS. In that respect, we consider all of these forecasts to have underlying limitations in accuracy in relation to the assumptions being used.

Thus, the primary value of these forecasts is in comparing the difference between the scenarios and how a limited change will change the outlook, rather than in the specificity of a dollar amount forecasted 10 or 20 years from now. As previously stated, changes to the demographic assumptions of SERS are necessary to improve solvency, but a detailed analysis of how to apply such changes is necessarily outside the scope of this paper.

Any forecast becomes less reliable the longer out in time it goes, and that is no less true in our forecast than for forecasts by SERS itself.



	Normal Costs (% payroll) Annual Average			Total Employer Contribution (in billions) Cumulative		
	6.9% ARR	5.5% ARR	Change	6.9% ARR	5.5% ARR	Cost/ (Savings)
2 Year (2018 to 2019)	10.2%	15.0%	+4.8%	\$3.2	\$3.6	\$0.4
5 Year (2018 to 2022)	10.0%	14.7%	+4.7%	\$8.4	\$9.5	\$1.0
10 Year (2018 to 2027)	9.6%	14.1%	+4.5%	\$16.7	\$18.8	\$2.1
30 Year (2018 to 2047)	8.6%	12.8%	+4.2%	\$38.1	\$44.7	\$6.6

Source: Reason Foundation & Yankee Institute Forecasting Analysis of Connecticut SERS.

Scenario 1: Lowering the Assumed Return to 5.5%

This forecast adopts a 5.5% assumed rate of return starting with FYE 2018, and then assumes the actual experience for SERS over the next 30 years aligns with actuarial assumptions, including actual annual returns of 5.5%, a 5.5% discount rate for valuing liabilities, and an average COLA of 2.3% for Tier III.

The fiscal effect of this change would be to increase gross normal cost for all tiers combined by 4.8% percentage points. We assume no change to the employee contribution rate in this scenario, so the employer would pay for the increase to a more accurately-priced normal cost and contribute 15.1% in fiscal year ending 2018 towards normal cost. The scenario would also change

the discount rate to 5.5%, resulting in the recognition of more unfunded liabilities and therefore increase the amortization payment from 44.2% to 48.7% of payroll.

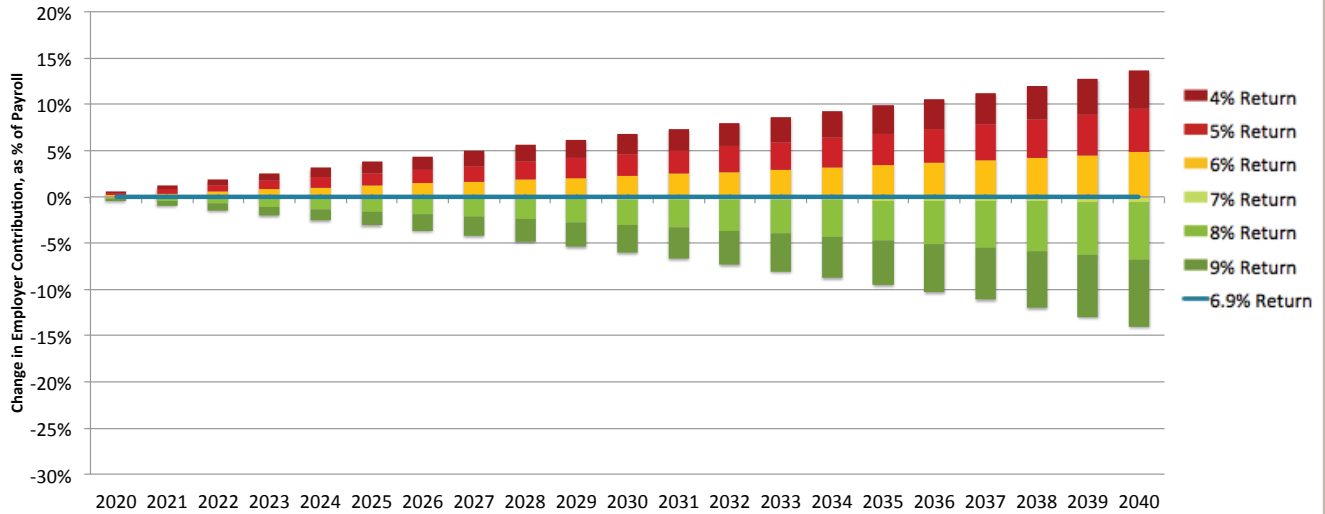
The solvency effect of this would be to reduce market risk exposure and contribution rate volatility while also improving the accuracy of normal cost pricing of benefits.

Scenario 1 Volatility Analysis: The volatility effect of this change would be to reduce the range of probable increases in employer contribution rates because the asset allocation would change to include more stable investment vehicles, decreasing investment risk. The figures below compare volatility illustrations for the change in employer contributions rates given varying actual returns.

Volatility Scenario: 6.9% Assumed Return

New Hire Employer Contribution Rate, 2020 to 2040

Change in Employer Contribution Rate Given Various Actual Rates of Return

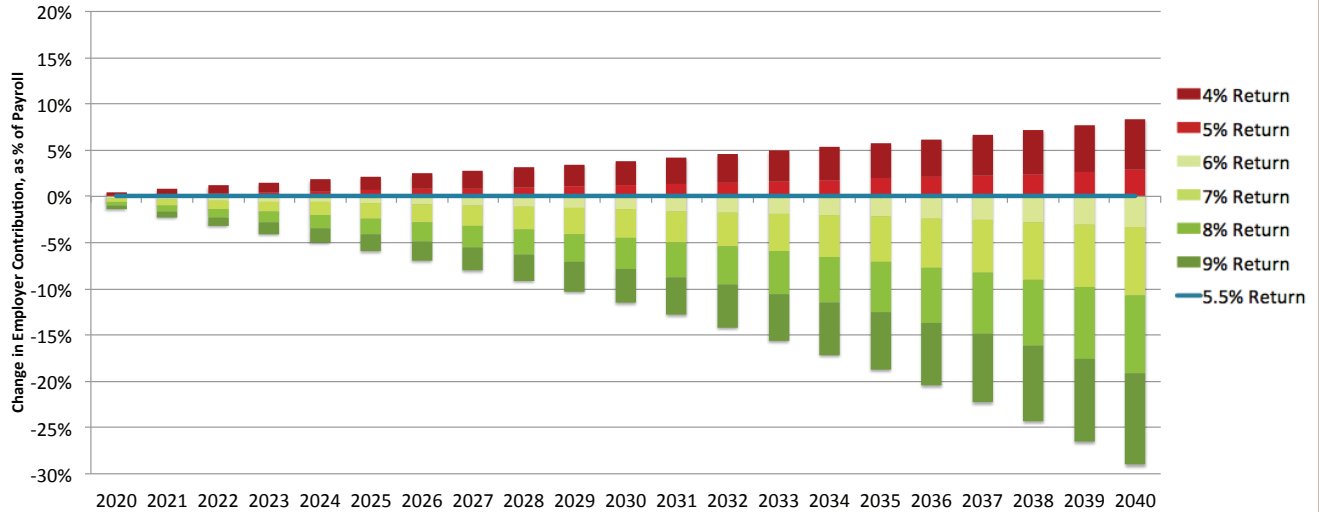


Source: Reason Foundation & Yankee Institute Forecast of Connecticut SERS

Volatility Scenario: 5.5% Assumed Return

New Hire Employer Contribution Rate, 2020 to 2040

Change in Employer Contribution Rate Given Various Actual Rates of Return



Source: Reason Foundation & Yankee Institute Forecast of Connecticut SERS

Scenario 2: Increasing Employee Contributions to 6%

This scenario forecast changes all employee contributions to 6% starting with FYE 2018, and then assumes that the actual experience for SERS over the next 30 years aligns with actuarial assumptions, including actual annual returns of 6.9% and an average COLA of 2.3% for Tier III.

The fiscal effect of this change would be to decrease the employer share of normal cost from 10.3% to 6.2%, producing taxpayer savings in the short-term and long-term.

The solvency effect of this change would be based on how the state utilized the savings from the change. If the savings were put back into the retirement system, then the unfunded liability would be reduced faster.

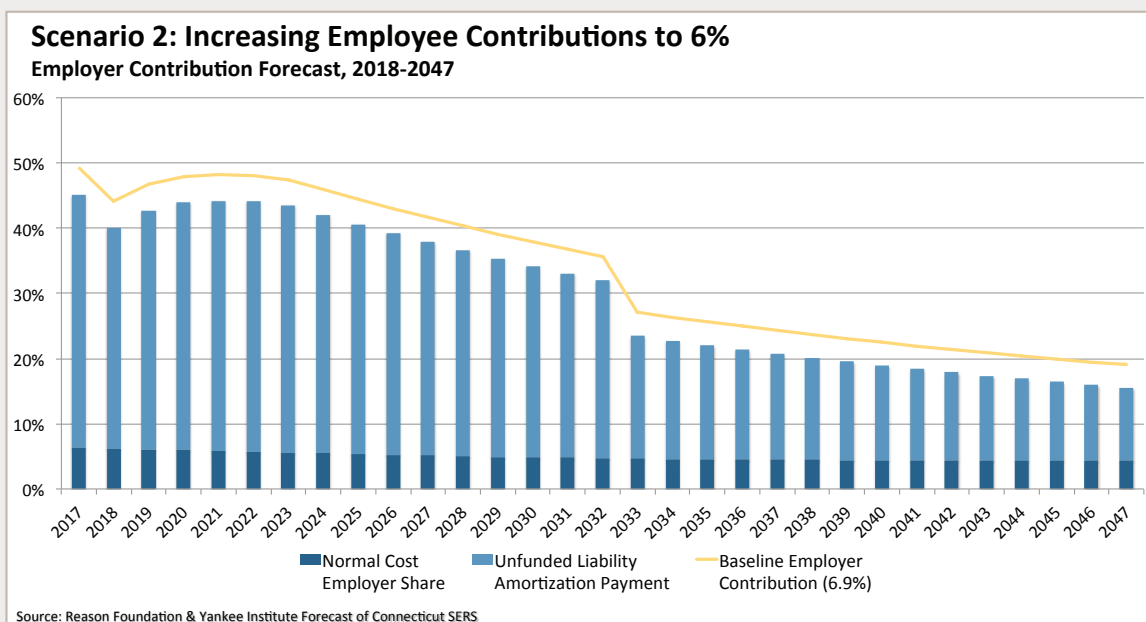


Table S2: Cost/Savings Analysis

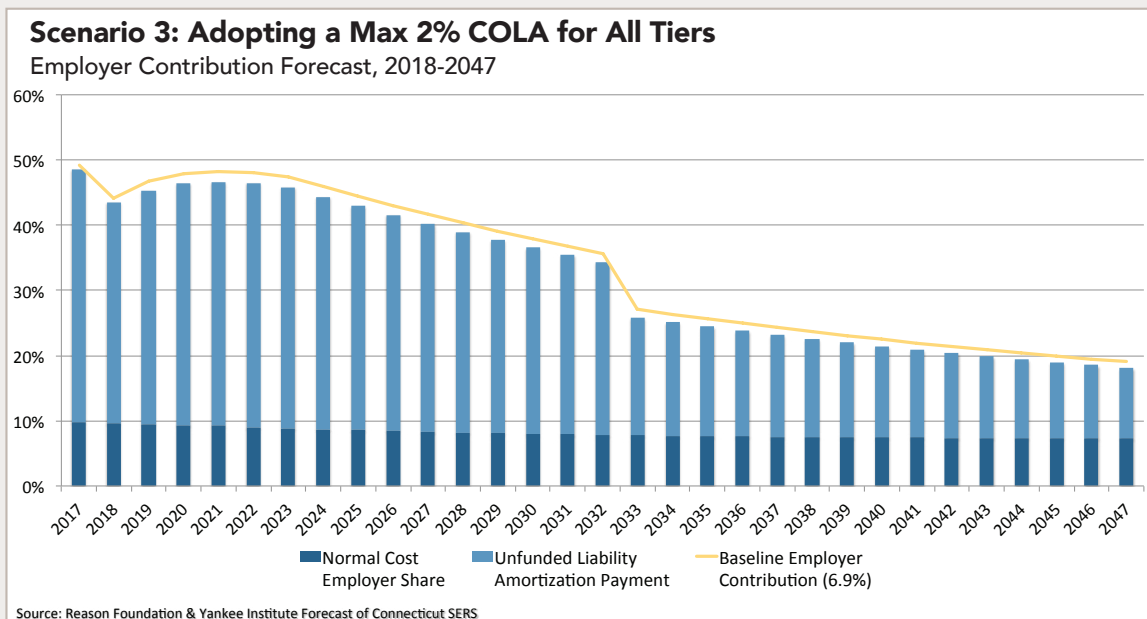
	Employer Contribution (% payroll) Annual Average		Employer Contribution (in billions) Cumulative		
	Status Quo Employee Rate	6% Employee Rate	Status Quo Employee Rate	6% Employee Rate	Cost/(Savings)
2 Year (2018 to 2019)	45.5%	41.4%	\$3.2	\$2.9	(\$0.29)
5 Year (2018 to 2022)	47.0%	43.0%	\$8.4	\$7.7	(\$0.7)
10 Year (2018 to 2027)	45.8%	41.8%	\$16.7	\$15.3	(\$1.4)
30 Year (2018 to 2047)	32.9%	29.2%	\$38.1	\$33.8	(\$4.3)

Source: Reason Foundation & Yankee Institute Forecasting Analysis of Connecticut SERS. Assumes a 6.9% discount rate.

Scenario 3: Adopting a Max 2% COLA for All Tiers

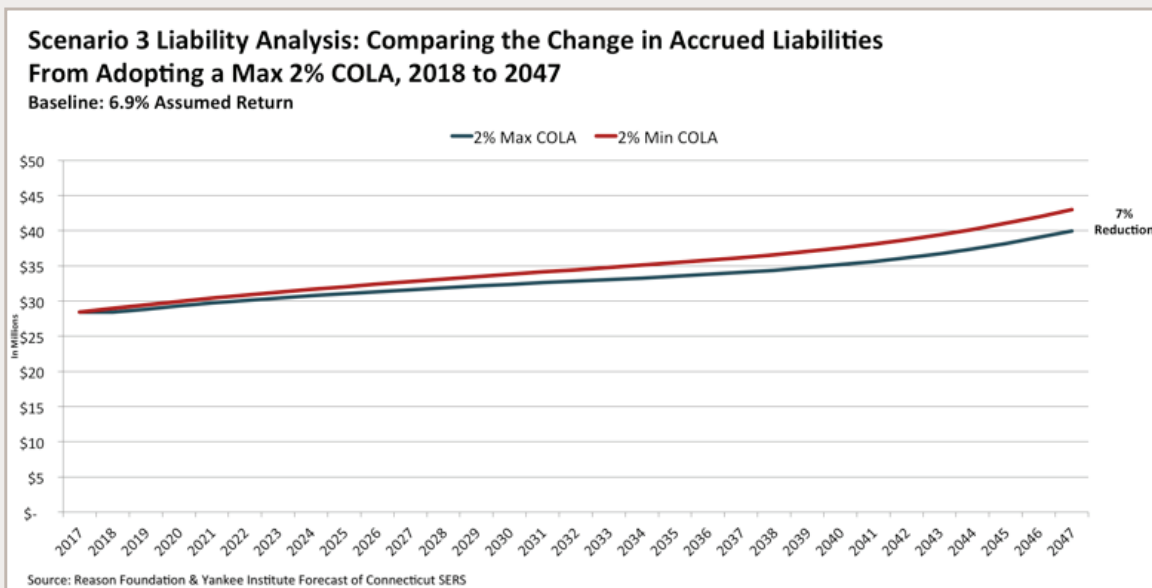
This scenario forecast changes the COLA formula to be a maximum 2% benefit adjustment based on the change in CPI-W starting with FYE 2018, and then assumes the actual experience for SERS over the next 30 years aligns with actuarial assumptions, including actual annual returns of 6.9%. The average assumed COLA for all tiers in this scenario is 1.75% since the long-term average for inflation would likely be less than the 2% max.

The fiscal effect of changing the benefit formula would reduce outflows from plan assets and link COLAs with actual inflation instead of a percentage of change in inflation. The current formula has a minimum of 2% to 2.5% and maximum of 6% to 7.5% depending on hire date, and is based on a percentage of the change in CPI-W. However, for almost every year over the past two decades, inflation has been below the minimum COLA rate. From this perspective, COLAs are not benefit adjustments to keep up with inflation, they are simply a benefit increase.



	Normal Costs (% payroll) Annual Average			Employer Contribution (in billions) Cumulative		
	2% Min. COLA	2% Max COLA	Change	2% Min. COLA	2% Max COLA	Cost/ (Savings)
2 Year (2018 to 2019)	10.2%	9.6%	-0.6%	\$3.23	\$3.15	(\$0.1)
5 Year (2018 to 2022)	10.0%	9.3%	-0.6%	\$8.4	\$8.2	(\$0.3)
10 Year (2018 to 2027)	9.6%	9.0%	-0.6%	\$16.7	\$16.2	(\$0.5)
30 Year (2018 to 2047)	8.6%	8.1%	-0.6%	\$38.1	\$36.7	(\$1.4)

Source: Reason Foundation & Yankee Institute Forecasting Analysis of Connecticut SERS. Assumes a 6.9% discount rate.



Scenario 3 Liability Analysis: The liability effect of this change would be a reduction in the forecast of accrued liabilities, since the expected adjustment of benefits would be less under a system with a maximum 2% COLA compared to a minimum 2% COLA. As shown below, there would be a 7% change in liability growth over the next 30 years as a result of adopting a maximum 2% COLA.

The solvency effects would be lower benefit outflows from plan assets, allowing previously accrued contributions made in anticipation of higher COLA payments to be applied towards overall plan solvency, and lower growth in liabilities that are exposed to the aggressively optimistic actuarial assumptions of SERS.

Scenario 4: Adopting a \$100,000 Pensionable Pay Cap for New Hires

This scenario forecast adopts a cap on pensionable compensation for new hires only at \$100,000 starting with FYE 2018, and then assumes the actual experience for SERS over the next 30 years aligns with actuarial assumptions, including actual annual returns of 6.9% and an average COLA of 2.3% for Tier III. The scenario also assumes that new-hire employee contributions are based on only the first \$100,000 of salary.

The fiscal effect of creating a Tier IV employee class with a pensionable compensation cap would depend on where the cap is placed and how many employees would become subject to the cap. The 2016 current cap from the IRS is \$265,000, which applies to very few state employees. Lowering the pensionable compensation cap to a fixed \$100,000 would mean paying out lower benefits, since the largest final average earnings figure would be the \$100,000 limit.

The solvency effect would be based on lower growth in liabilities that are exposed to the aggressively optimistic actuarial assumptions of SERS.

Scenario 4 Liability Analysis: The liability effect of adopting a lower pensionable compensation cap would be a reduction in the forecasted accrued liabilities, since the expected benefits for the new Tier IV would be less than the benefits expected for new hires into Tier III. As shown in the figure below, there would be a 24.6% change in liability growth over the next 30 years as a result of adopting \$100,000 pensionable compensation cap.

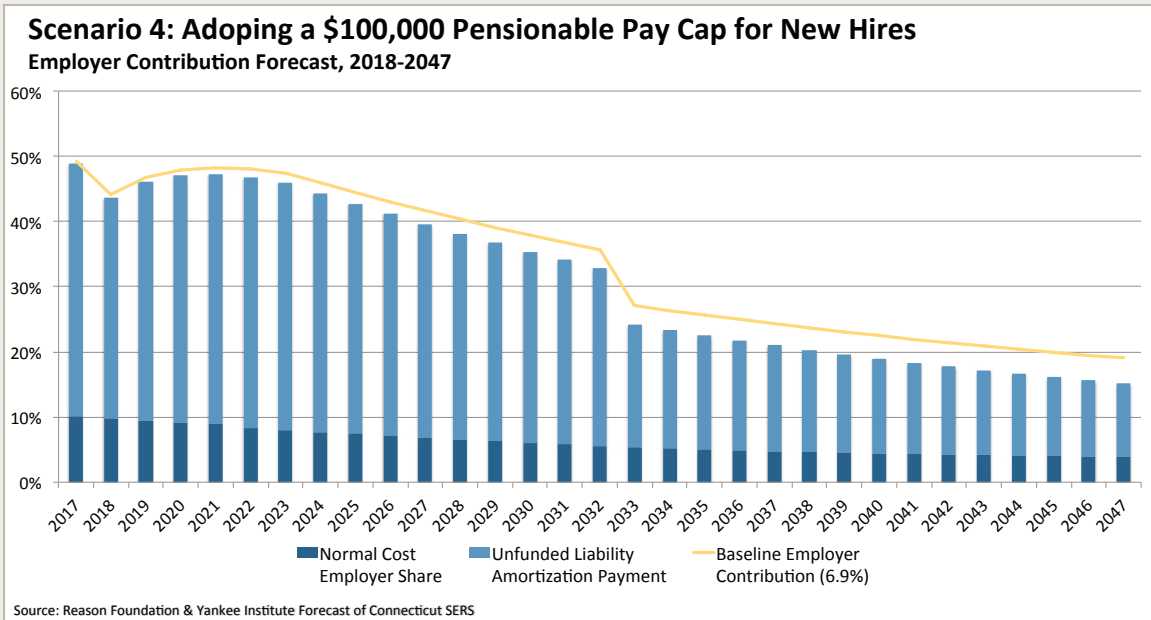
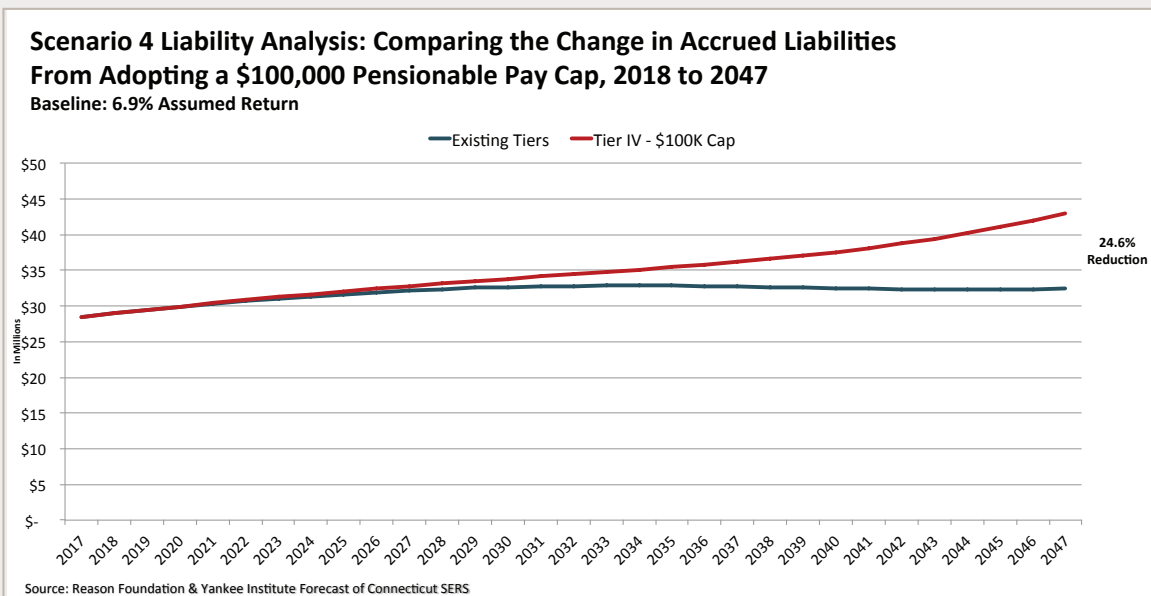
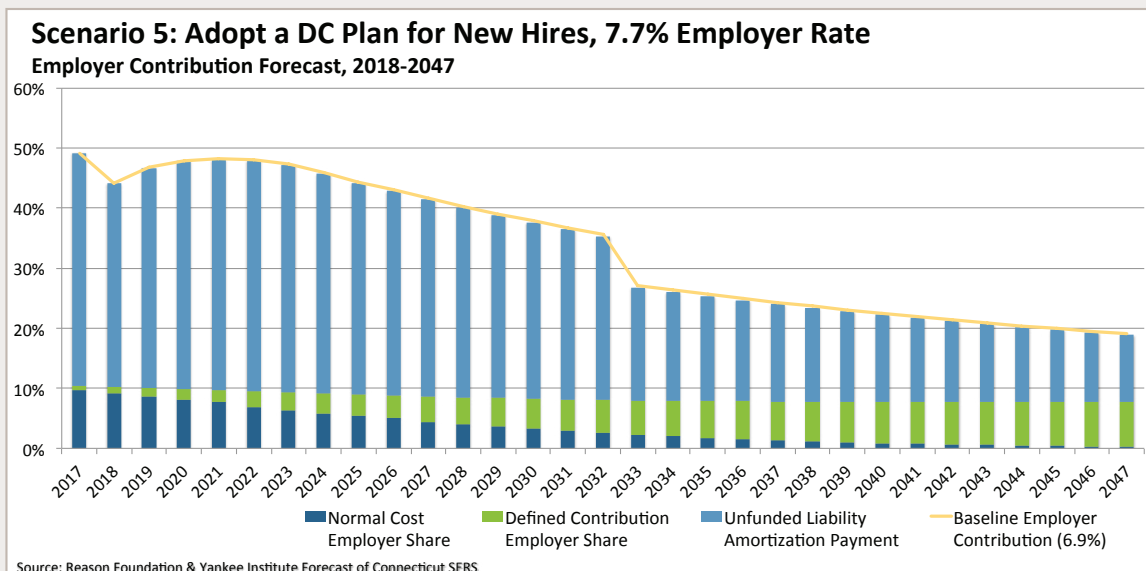


Table S4: Cost / Savings Analysis

	Gross Normal Cost (in millions) New Hire Only, Annual Average			Employer Contribution (in billions) Cumulative		
	Tier III Status Quo	Tier IV \$100K Cap	Cost/ (Savings)	Tier III Status Quo	Tier IV \$100K Cap	Cost/ (Savings)
2 Year (2018 to 2019)	\$52.2	\$28.7	(\$23.5)	\$3.23	\$3.18	(\$0.04)
5 Year (2018 to 2022)	\$79.1	\$43.6	(\$35.5)	\$8.44	\$8.28	(\$0.16)
10 Year (2018 to 2027)	\$131.6	\$72.1	(\$59.5)	\$16.7	\$16.2	(\$0.5)
30 Year (2018 to 2047)	\$396.0	\$200.9	(\$195.1)	\$38.1	\$35.0	(\$3.1)

Source: Reason Foundation & Yankee Institute Forecasting Analysis of Connecticut SERS. Assumes a 6.9% discount rate.





Scenario 5: Adopt a DC Plan for New Hires, 7.7% Employer Rate

This scenario forecast adopts a Tier IV defined contribution plan only for new hires starting with FYE 2018, and then assumes the actual experience for SERS over the next 30 years aligns with actuarial assumptions, including actual annual returns of 6.9% and an average COLA of 2.3% for Tier III. The defined contribution plan modeled here would have an employer contribution of 7.7%, which is roughly equivalent to the employer's share of normal cost for new hires into Tier III. The forecast assumes existing unfunded liabilities would be amortized over total payroll, with the same method and schedule as the status quo.

The fiscal effect of creating a defined contribution plan for new hires primarily depends on the contribution rate offered by the employer. If the DC employer rate exceeds expected (though probably underpriced) normal cost for new hires, then there will be a forecasted cost increase. If the DC employer rate is less than expected normal cost for new hires, then the forecast will expect savings.

The solvency effect created by switching to a defined contribution plan is also important for understanding the fiscal effects. Bringing all new hires into a plan with zero accrued liabilities means that, over time, the amount of pension promises exposed to the aggressive current actuarial assumptions of SERS will decrease rather than increase. Reducing the liabilities that will likely be underfunded by the current funding policy means that, over time, SERS will be better funded with a DC plan in place for new hires relative to the status quo.

Note: The same kind of solvency effects would be created by a cash balance plan or a DB-DC hybrid plan, though to a lesser extent.

Scenario 5 Liability Analysis: The liability effect of adopting a defined contribution plan for new hires would be a directional change in the forecast of accrued liabilities, since new hires into Tier IV would produce no liabilities. As shown in the below figure, liabilities will grow slightly in the first few years following the adoption of a DC plan for new hires, because members already in the defined benefit tiers of SERS would continue to accrue pension benefits until they retire. After about 10 years, the liabilities begin to decline and eventually fall to zero.

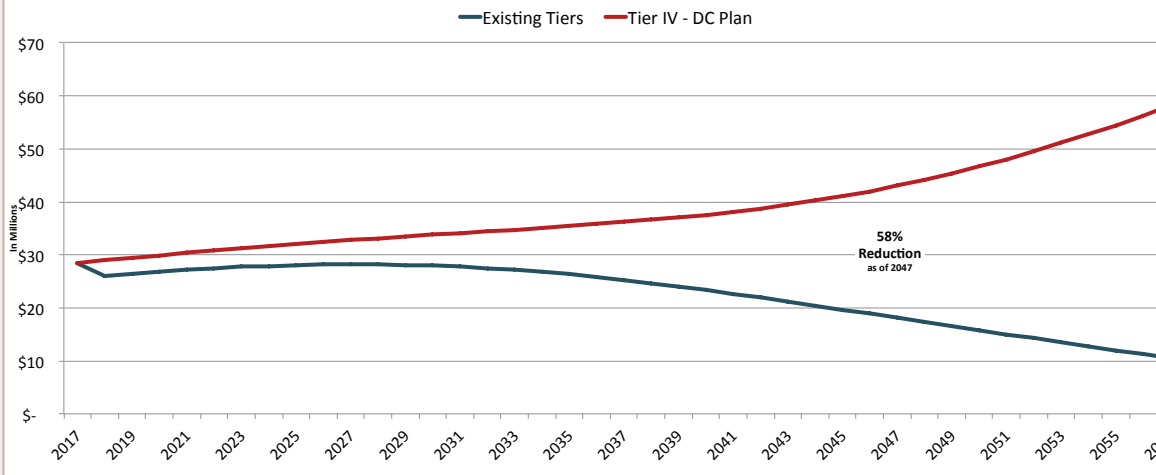
Table S5: Cost / Savings Analysis

	New Hire Normal Cost (1% payroll) Annual Average			Employer Contribution (in billions) Cumulative		
	Tier III Status Quo	Tier IV DC Plan	Cost/ (Savings)	Tier III Status Quo	Tier IV DC Plan	Cost/ (Savings)
2 Year (2018 to 2019)	7.7%	7.7%	0.0%	\$3.23	\$3.23	(\$0.00)
5 Year (2018 to 2022)	7.7%	7.7%	0.0%	\$8.44	\$8.43	(\$0.01)
10 Year (2018 to 2027)	7.7%	7.7%	0.0%	\$16.7	\$16.6	(\$0.10)
30 Year (2018 to 2047)	7.7%	7.7%	0.0%	\$38.1	\$37.9	(\$0.20)

Source: Reason Foundation & Yankee Institute Forecasting Analysis of Connecticut SERS. Assumes a 6.9% discount rate.

Scenario 5 Liability Analysis: Comparing the Change in Accrued Liabilities From Adopting a DC Plan, 2018 to 2057

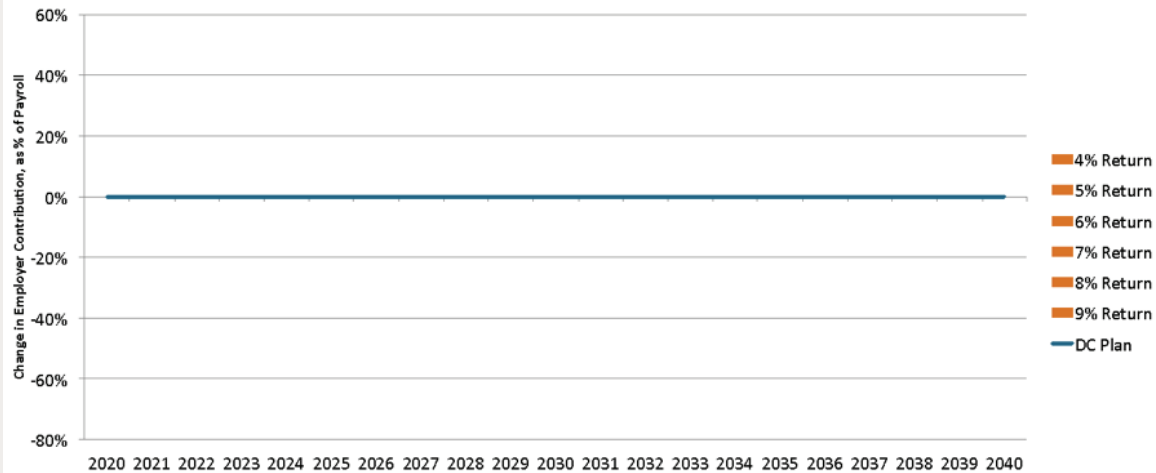
Baseline: 6.9% Assumed Return



Volatility Scenario: DC Plan

New Hire Employer Contribution Rate, 2020 to 2040

Change in Employer Contribution Rate Given Various Actual Rates of Return



Source: Reason Foundation & Yankee Institute Forecast of Connecticut SERS

CONCLUSION

SERS is clearly a troubled pension plan, with \$21.7 billion to \$25 billion in unfunded liabilities (depending on how they are valued). Over the past few decades, investment returns have consistently underperformed expectations by a wide margin, while the asset allocation has been shifting toward riskier investments in an effort to compensate for these shortfalls and chase higher yields. Over the past 15 years, the share of relatively safer, fixed income products has been reduced from about one-third of plan assets to only a one-fifth of plan assets.

Given SERS's current actuarial assumptions and funding policies, there is a high degree of volatility in prospective future employer contribution rates, creating budgeting challenges down the road. The amortization methods used for paying down unfunded liabilities over the past few decades have been focused just on keeping near-term payments low, rather than actually reducing or eliminating pension liabilities. And even when the state has paid 100% of the actuarially determined contributions — a practice that has been anything but consistent — they haven't been enough to fund the plan properly because the discount rate used to value liabilities has been too high. Collectively, the net effect of these problems has been spiraling pension payments, which crowd out spending on other government services and require higher taxes.

Those with power in the decision-making process — including members of the State Employees Retirement Commission, labor leadership associated with SEBAC, and prior state governments — have failed to adequately ensure the long-term solvency of SERS. Prior collective bargaining agreements ignored the need to adjust actuarial assumptions to account for demographic and market changes, while explicitly allowing the underfunding of actuarially determined contributions.

Solving these problems requires all interested parties in Connecticut to focus on ensuring the long-term solvency of SERS; provide retirement security for its members; stabilize contribution rates; reduce taxpayer

exposure to financial risk; reduce long-term costs; ensure the ability to recruit 21st century employees; and improve the incentive structures within the current governance of the plan.

The most substantive action taken recently with respect to addressing SERS's problems was the December 2016 SEBAC agreement. However, the plan as presented to the General Assembly took only one limited step toward improving the actuarial assumptions of the plan — lowering the assumed return from 8% to 6.9% — while taking several steps backwards in once again extending the schedule for paying of unfunded liabilities. This “solution” — adding more years to the timeline for paying off the debt in order to reduce payments in the near term — just repeats failed policies of the past that contributed to the problem today. The net outcome of the agreement adds \$8 billion to \$9 billion in additional interest payments on the unfunded liabilities for taxpayers in the future, just to make budgeting in the next decade easier.

The next set of solutions should start with careful consideration of the menu of meaningful reform options set forth in this paper, including:

1. Lowering the assumed rate of return to a level that would allow a less risky asset allocation and more accurately priced normal cost;
2. Lowering the discount rate to a level consistent with the market value of liabilities;
3. Increasing employee contributions;
4. Changing the formula for cost-of-living adjustments;
5. Adopting a cap on pensionable compensation for new hires;
6. Offering new hires a more appropriately priced and governed defined benefit plan;
7. Offering new hires a defined contribution plan, cash balance plan, “DB-DC” hybrid plan;
8. Offering new hires an optional defined contribution only plan;
9. Re-organizing the governing process for SERS such that the parties with the most liabilities have the greatest degree of control over funding policies.

Addressing pension challenges is no easy task. It is a complicated, multifaceted problem with a wide range of competing, powerful, and often-vocal political interests. But what's even more obvious is that inaction would be catastrophic.

There are sensible and sustainable options on the table. Now it's time for the people's representatives to summon the statesmanship and courage necessary to keep past promises by protecting existing pension benefits, and securing our state's future by ensuring that future state worker retirement benefits do not undermine the financial condition of the state and the taxpayers they have been elected to serve.

Note: A full version of this paper is available at www.yankeeinstitute.com/pensionreform.

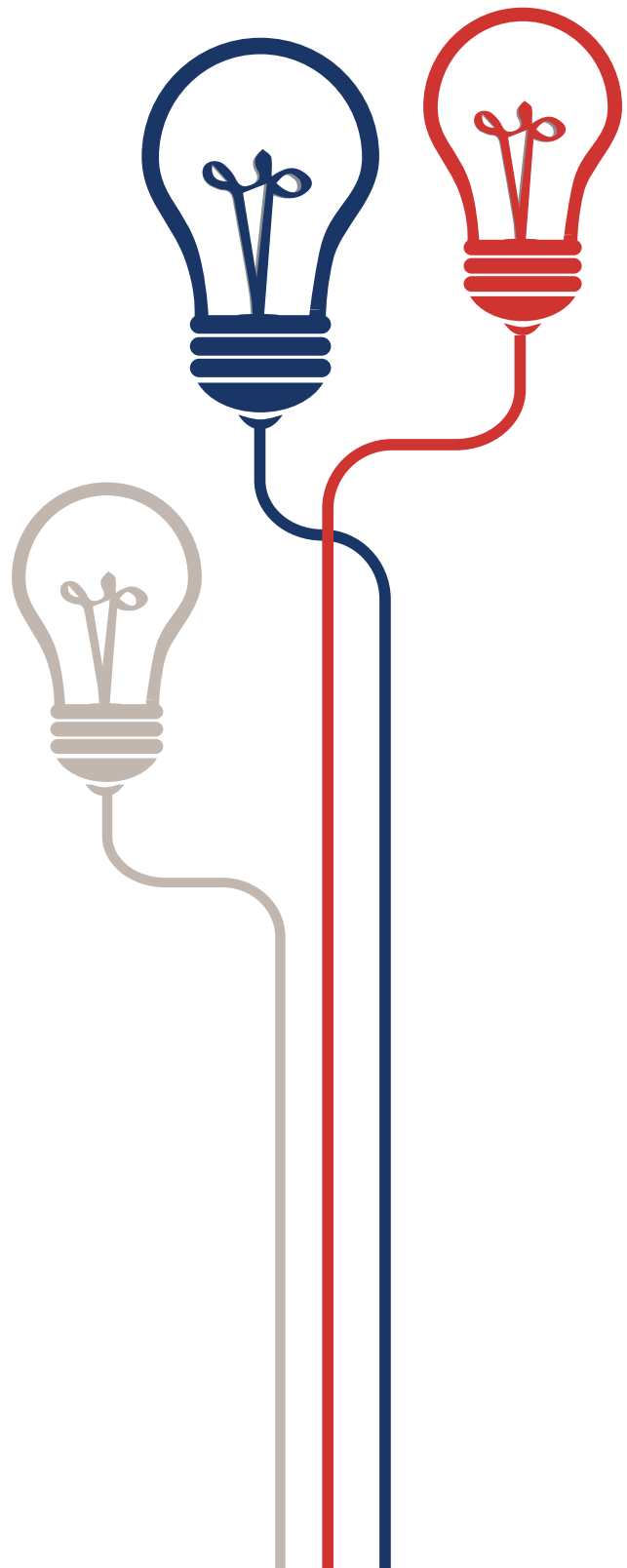
The complete report includes an in-depth analysis of the problems facing SERS today, how these challenges emerged politically and economically, and what steps Connecticut can take to meaningfully address the need for pension reform.

About the Authors

Anthony Randazzo is managing director for the Pension Integrity Project at Reason Foundation and the author of numerous studies on the solvency challenges for public sector retirement systems. He holds an M.A. in behavioral political economy from New York University.

Daniel Takash is a policy analyst for the Pension Integrity Project at Reason Foundation. He holds a B.S. in Applied Mathematics & Statistics and Political Science from Johns Hopkins University.

Adam L. Rich is a Fellow of the Casualty Actuarial Society and holds a B.S. in Mathematics from Brigham Young University. He lives in South Windsor, Connecticut.



The Yankee Institute for Public Policy

The Yankee Institute develops and advances free-market, limited-government solutions in Connecticut. As one of America's oldest state-based think tanks, Yankee is a leading advocate for smart, limited government; fairness for taxpayers; and an open road to opportunity.

The Yankee Institute for Public Policy is a 501(c)(3) research and citizen education organization that does not accept government funding. All donations are tax-deductible.

