

Connecticut Pension Academy

An Introduction to Public Pensions

“State of Connecticut’s Public Pensions”

Presented by
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What is An Actuary?



- A person who passes as an expert on the basis of his prolific ability to produce an infinite variety of incomprehensible figures calculated with micrometric precision from the vaguest of assumptions based on debatable evidence from inconclusive data derived by a person of doubtful reliability for the sole purpose of confusing an already hopelessly befuddled group of persons who never read the statistics anyway.
- An actuary for a retirement plan calculates long-term liabilities of pension systems and how much money needed for funding the plan to maintain sustainability.

Connecticut Pension Plans



- Teachers' Retirement System
- State Employees' Retirement System
- Municipal Employees' Retirement System
- Probate Judges and Employees Retirement System
- Judges, Family Support Magistrates and Compensation Commissioners Retirement System

Three Issues for all Public Sector Pension Plans



- Attraction and Retention
 - Compensation/Benefit Package
 - Competition with Private Sector

- Funding/Cash Flow
 - Baby boomer generation of retirees
 - Contribution holidays in past

- Actuarial Assumptions
 - Lower investment expectations
 - Mortality improvement

Pension Plan Policies



- Benefit policy
- Investment policy
- Funding policy

Benefit Policy



- How much, when and to whom are benefits paid?
- Typically established in statute or bargaining
- Limited actuarial role

Investment Policy



- What asset classes to invest in and in what proportion?
- Typically driven by investment professionals
- Actuarial role to assist with asset-liability modeling

Funding Policy



- How much and when to contribute?
- More necessary due to accounting requirements
- Typically driven by actuaries

Basic Retirement Funding Equation



$$\mathbf{C + I = B + E}$$

C = Contributions

I = Investment income

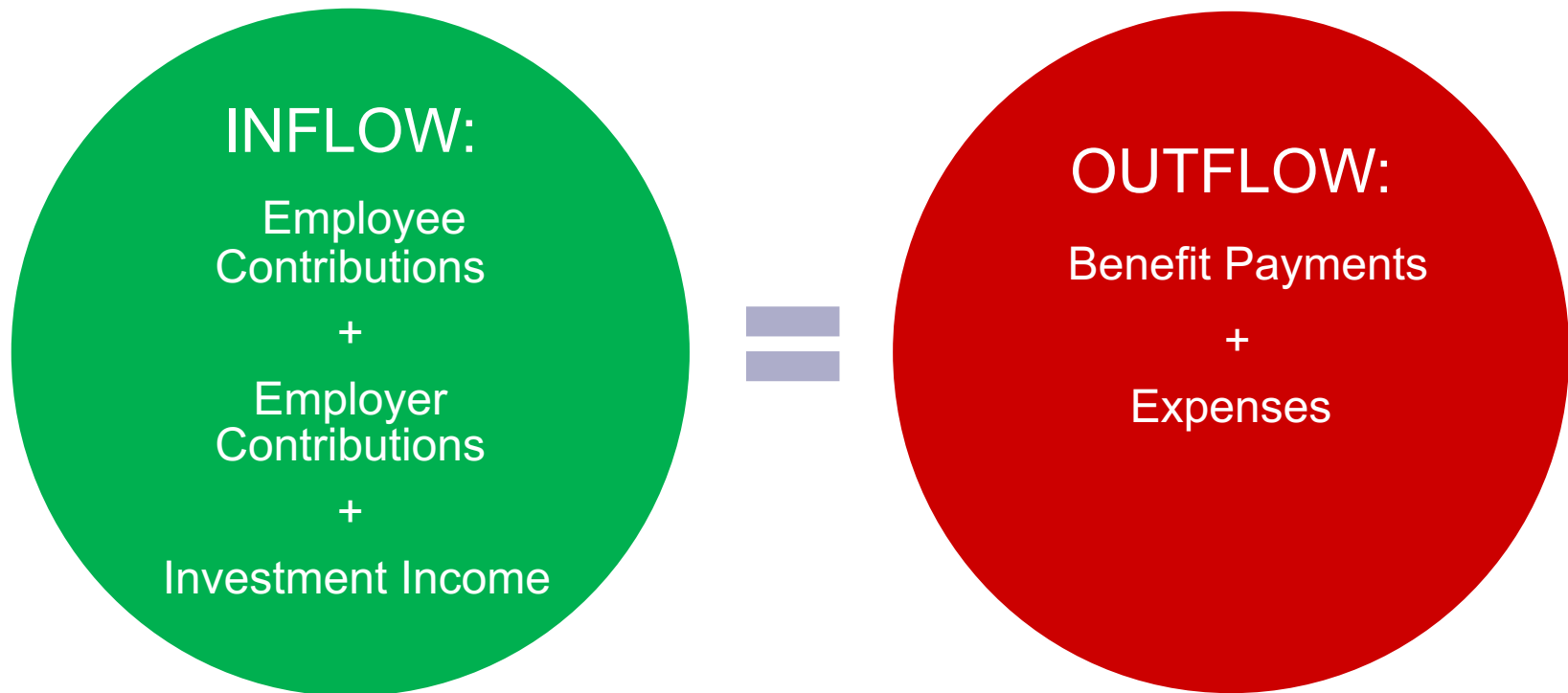
B = Benefits paid

E = Expenses (administration)

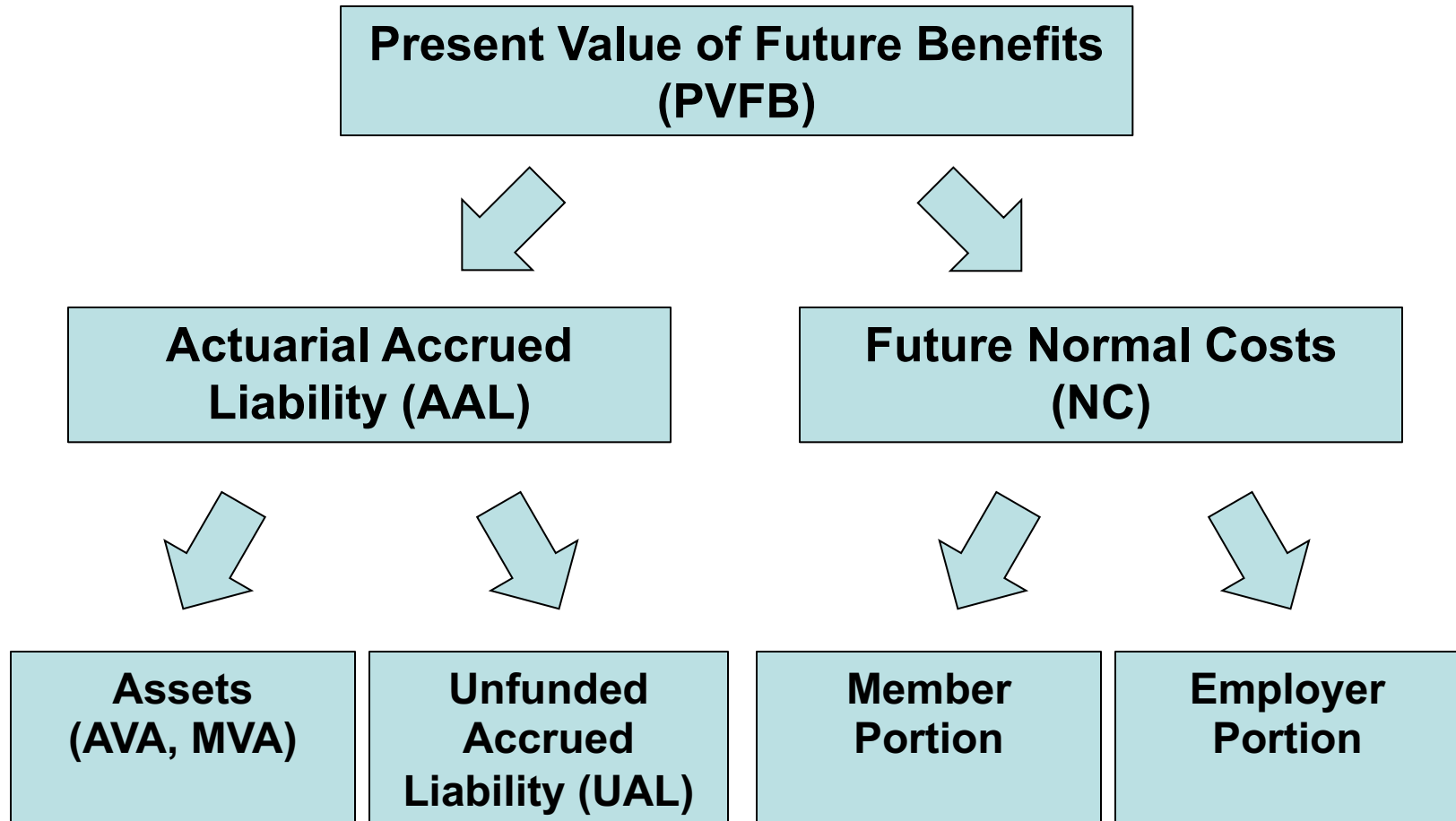
Basic Retirement Funding Equation



To ensure long term solvency the inflows must equal the outflows over the life of the program



Funding Valuation Process



Present Value



- The present value of an amount of money payable in the future is the amount of money that, if we had it today, would accumulate to the amount that will be payable considering:
 - Investment return
 - Probability that money will be paid

Present Value



- Example 1: You owe \$1,000 to a financial institution payable one year from now. You estimate that you can invest money for a 7% return. What is the present value of the debt?

$$\frac{\$1,000}{1.07} = \$934.58$$

- Observation: What if you're mistaken about the 7%?



Present Value

- Example 2: You owe \$1,000 to 100 people one year from now. Each person is 70 years old. You expect the same return (7%) and chance each person will be alive in one year (98%). What is the present value of the debt?

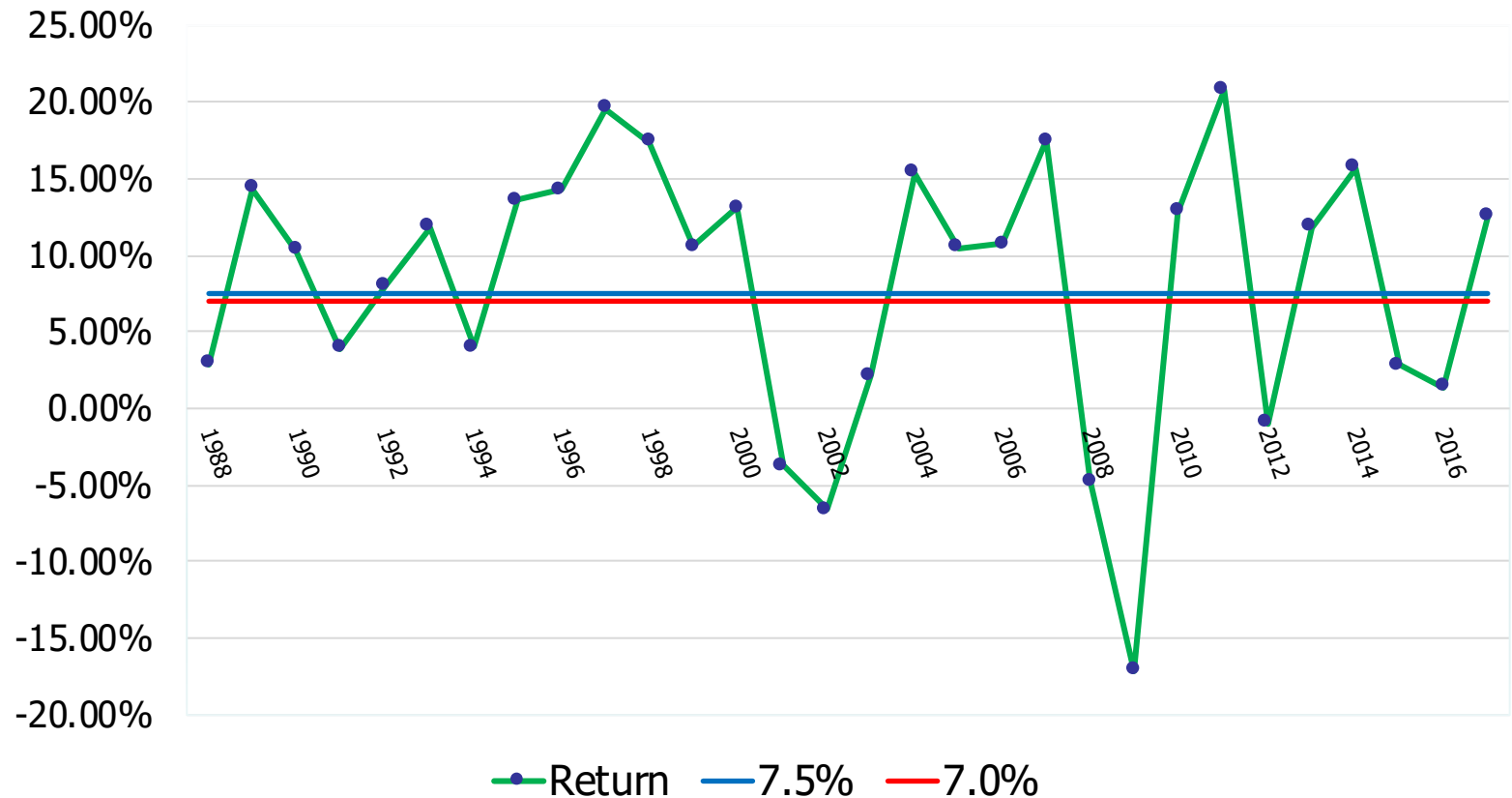
$$100 \times \frac{\$1,000}{1.07} \times 98\% = \$91,589$$

- Observation: Under what circumstances will you have exactly enough money to pay the debt?

Volatility vs. Predictability



Market Value Return vs Proposed Assumptions

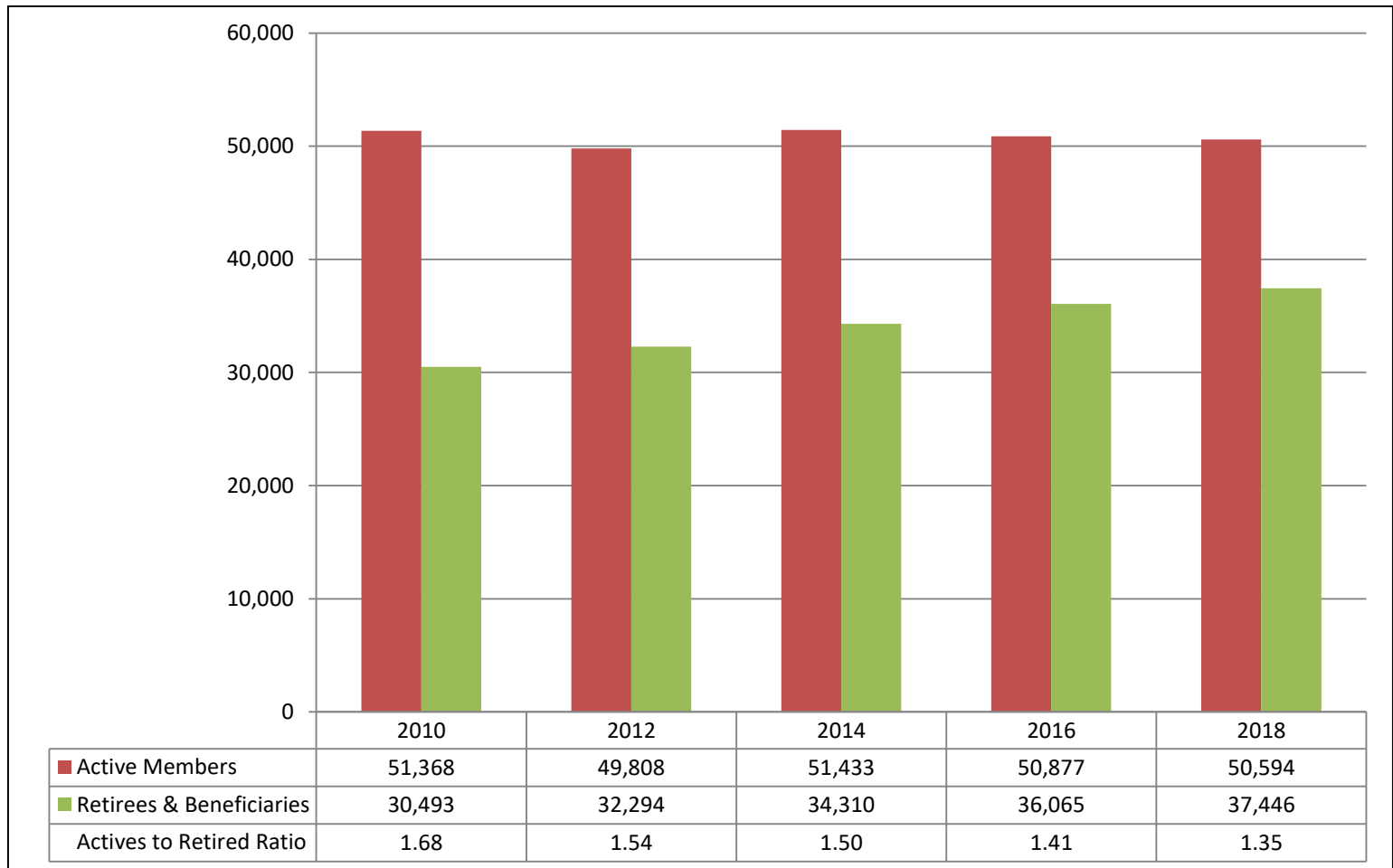


Connecticut Teachers

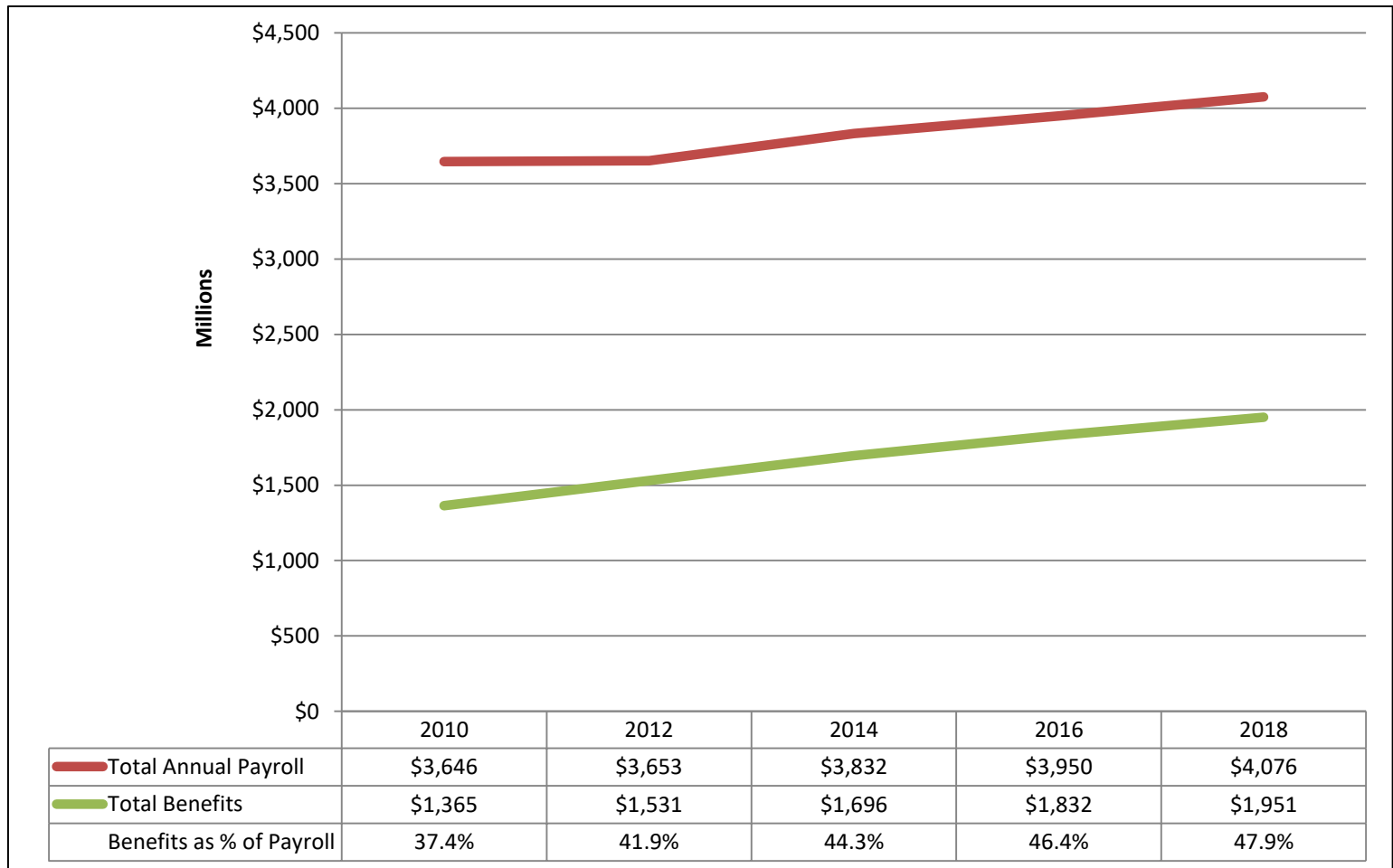


- Plan covers any teacher, principal, superintendent or supervisor in public schools or professional employees at State Schools, if chosen
- Each member contributes 7% of annual pay and is not covered by Social Security
- Benefit at Retirement
 - 2% of Final Average Salary (3) multiplied by credited service (maximum benefit of 75% of FAS)
- Eligibilities
 - Normal Ret: Age 60 and 20 or 35 years of service
 - Early Ret: 25 years of service or Age 55 and 20
 - Vesting: 10 years of service
- COLA based on CPI and partially dependent on investment performance of Fund (risk shared)

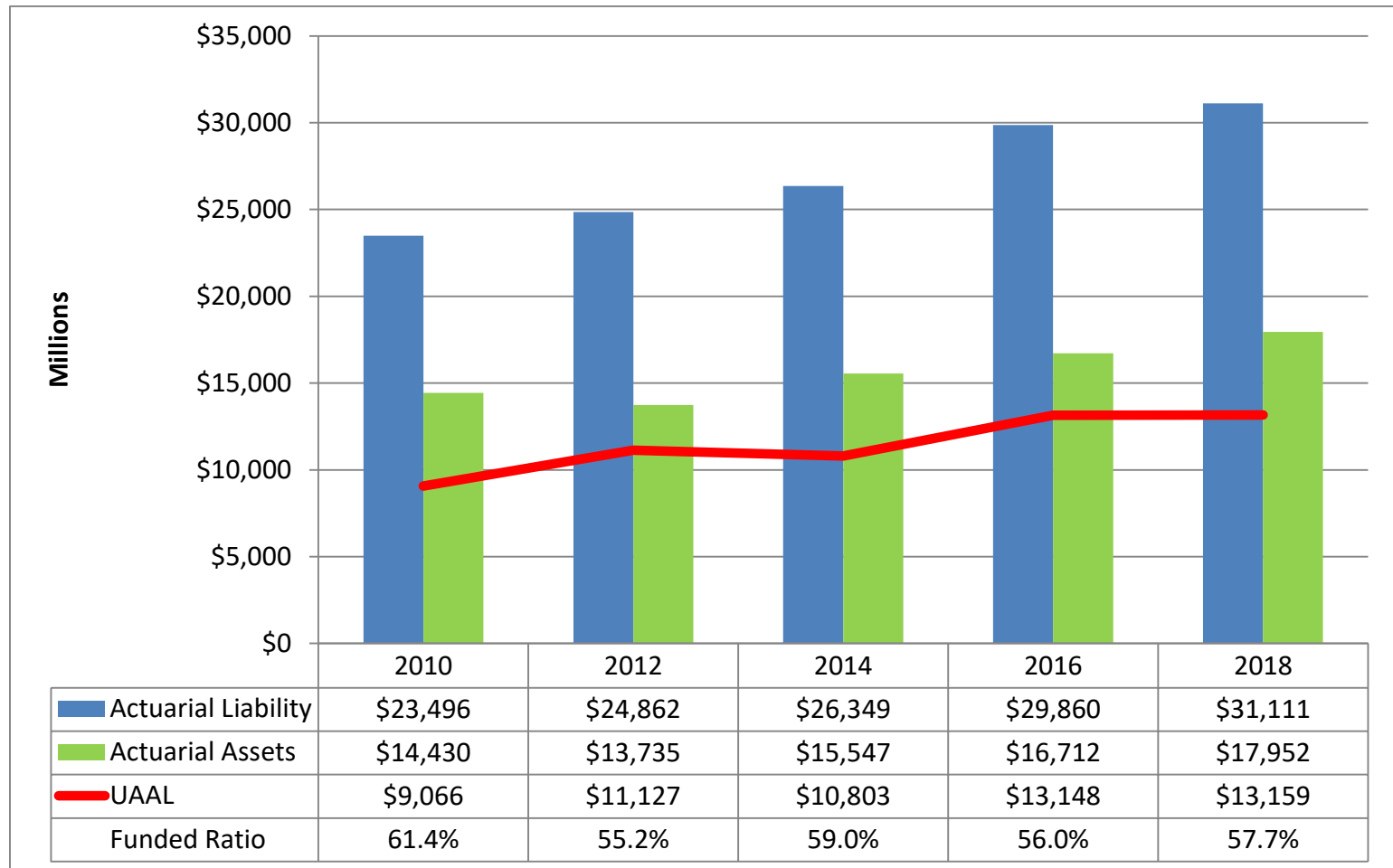
Connecticut Teachers Historical Membership Data



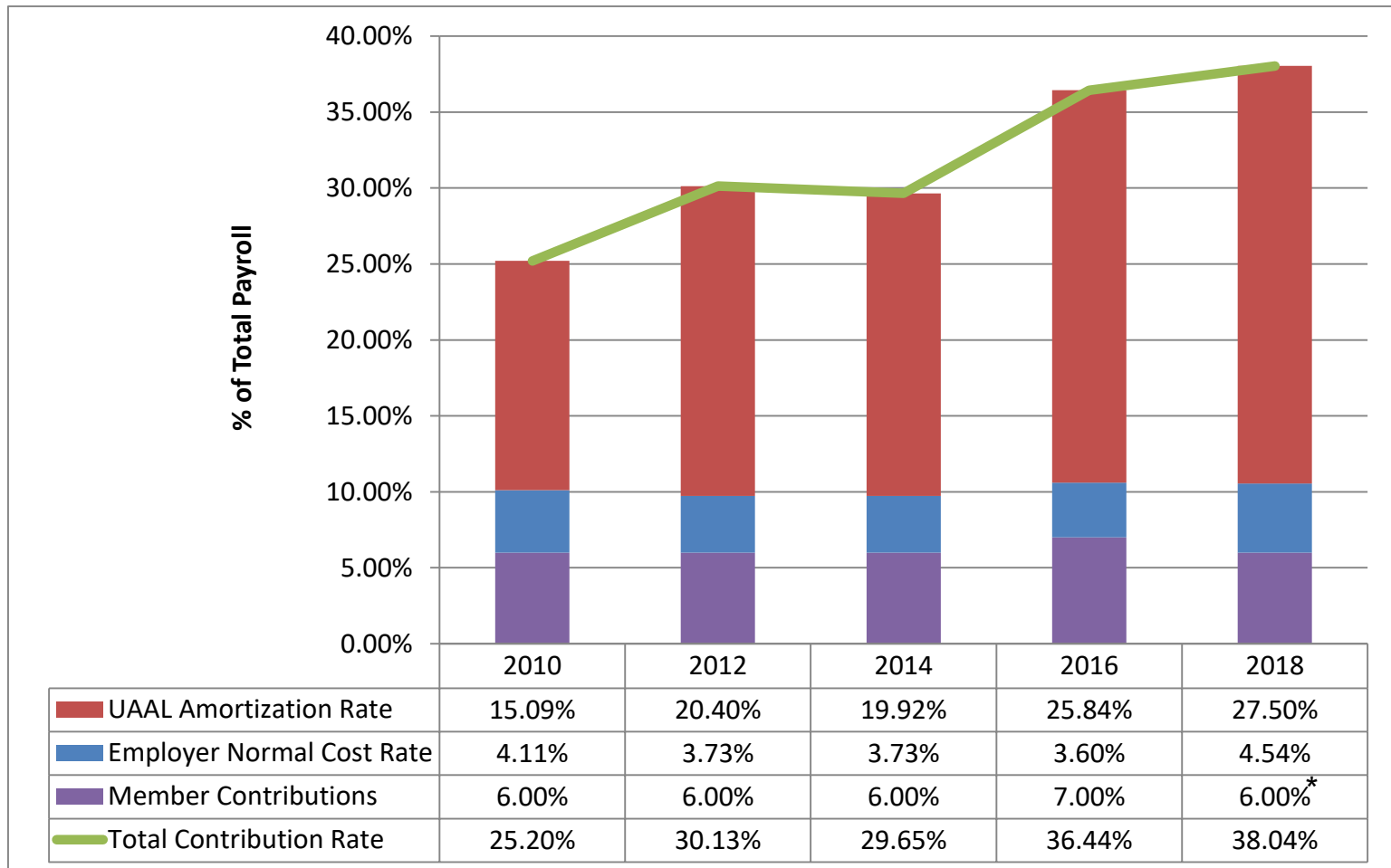
Connecticut Teachers Historical Payroll vs Benefits



Connecticut Teachers Valuation Results

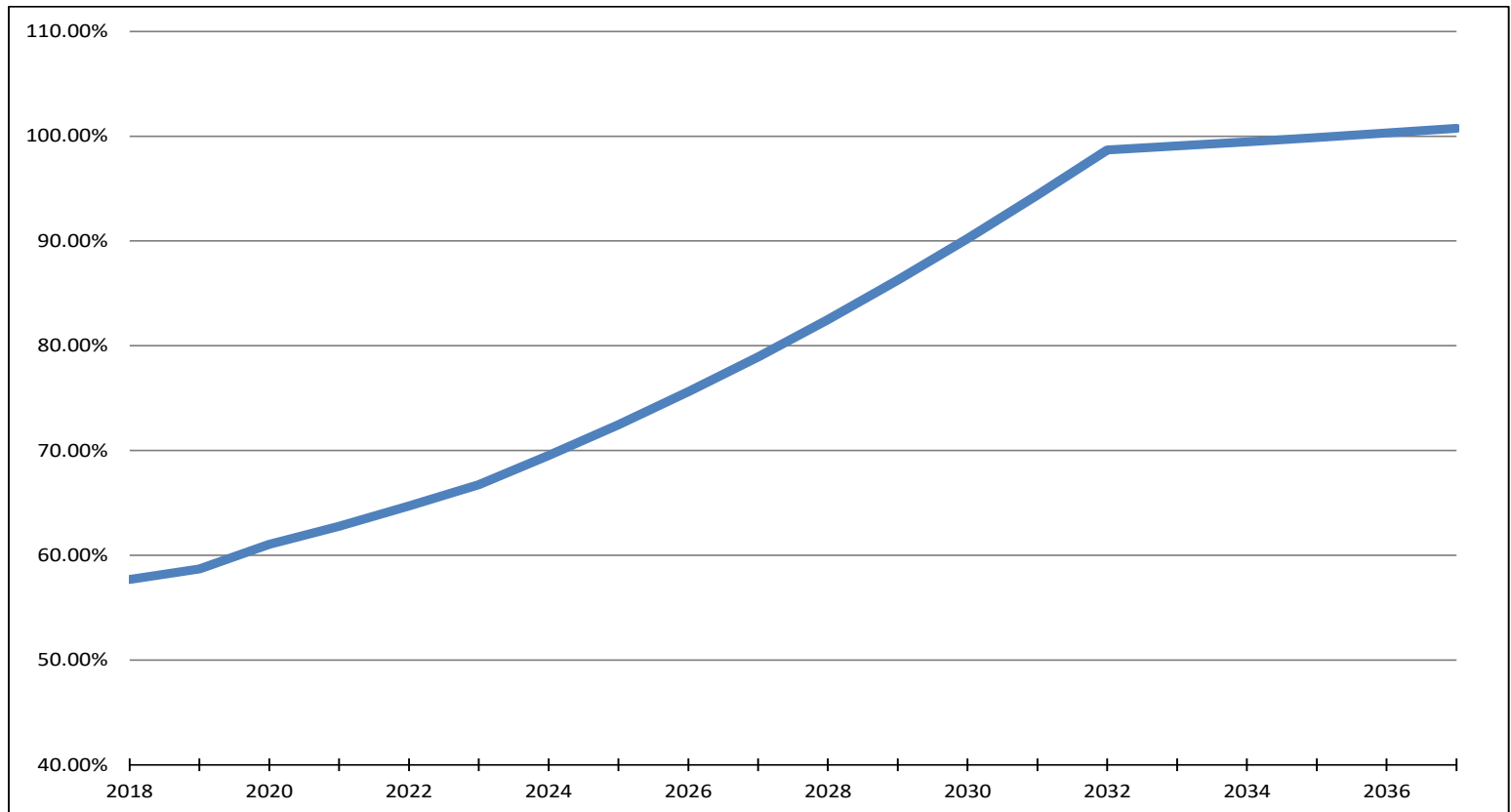


Connecticut Teachers Contribution Rates



* Members contribute 7% of salary but only 6% is used in determining employer contribution rate.

Connecticut Teachers Projection of Funded Ratio



This projection is a deterministic projection from the 2018 valuation results and assumes contribution requirements continue to increase significantly to comply with the bond covenant in place at this time.

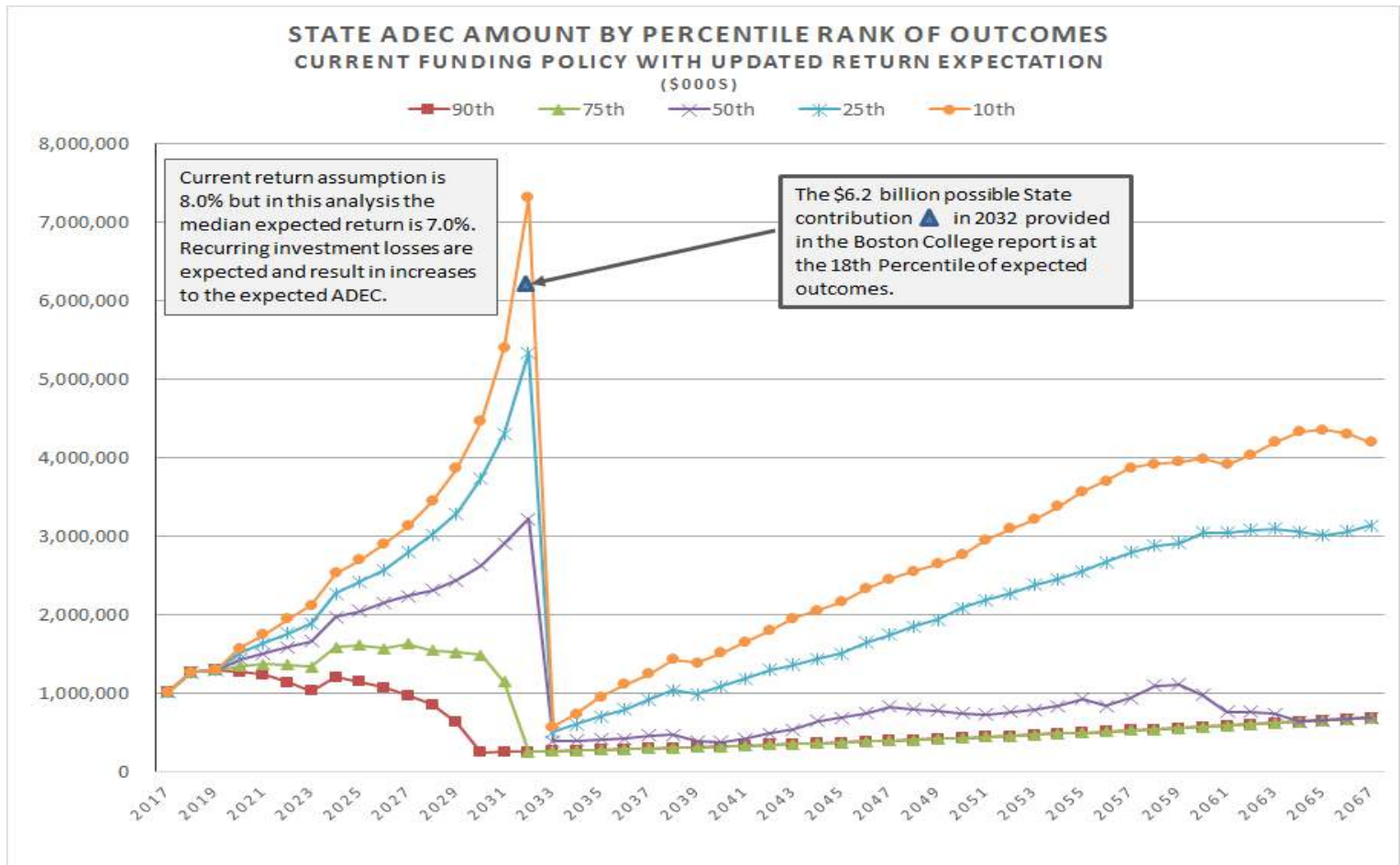


- Established and mandated to develop and implement a plan to satisfy both the sustainability and affordability of TRS
- Report completed in March, 2018
 - Benefit Benchmarking
 - TRS provides a moderate level of retirement to its members compared to its peers
 - Adding TRS members to Social Security would greatly increase the cost per dollar of benefit

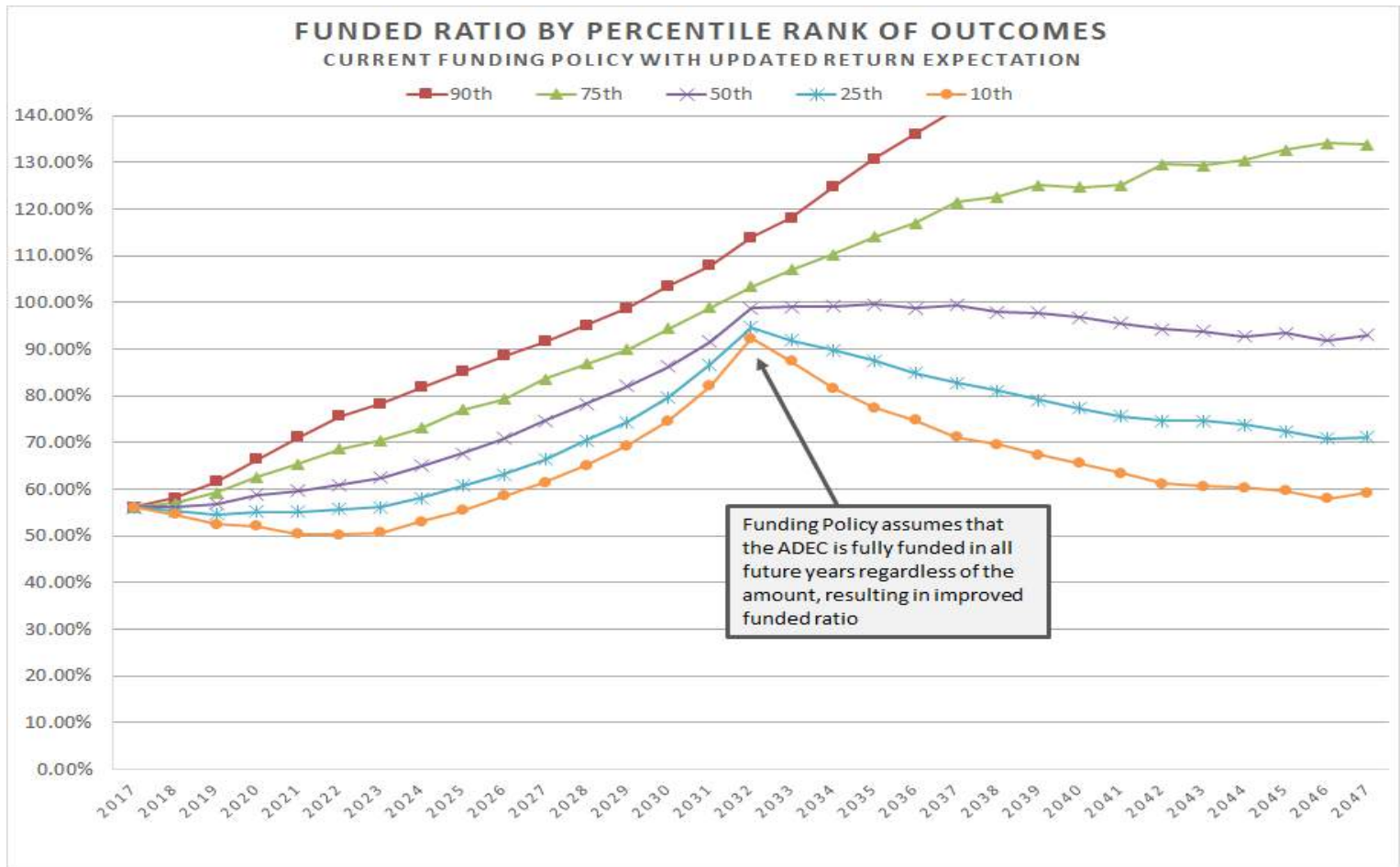


- Report completed in March, 2018
 - Current Plan Analysis
 - Stochastic model analysis indicates the benefit to TRS of reducing the assumed 8.0% assumption
 - Current bond covenant requires the State's full funding of the ADEC but hamstringing the Plan to change assumptions used by other plans
 - Current return assumption is 8.0% but in this analysis, the median expected return of 7.0% is used.

Connecticut Viability Commission



Connecticut Viability Commission





- Report completed in March, 2018
 - Alternative Plan Analysis
 - Pension Obligation Bond Settlement
 - Change Funding Policy
 - Asset Transfer

- Link to report:
http://www.ct.gov/trb/lib/trb/formsandpubs/CT_TRS_Viability_Commission_Report_03192019.pdf

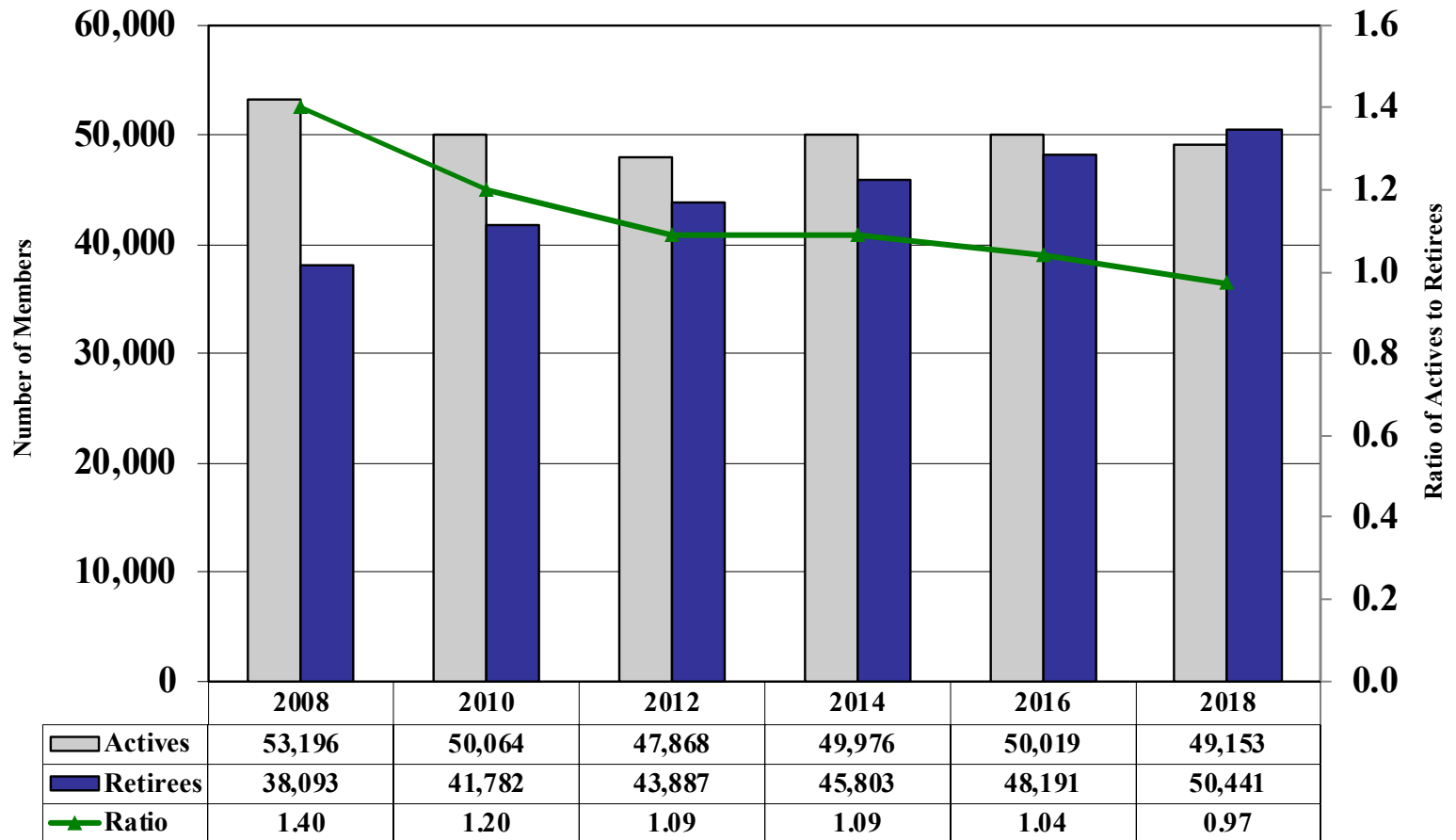
- Future studies on these alternative plans are currently being conducted throughout the State

Connecticut State Employees

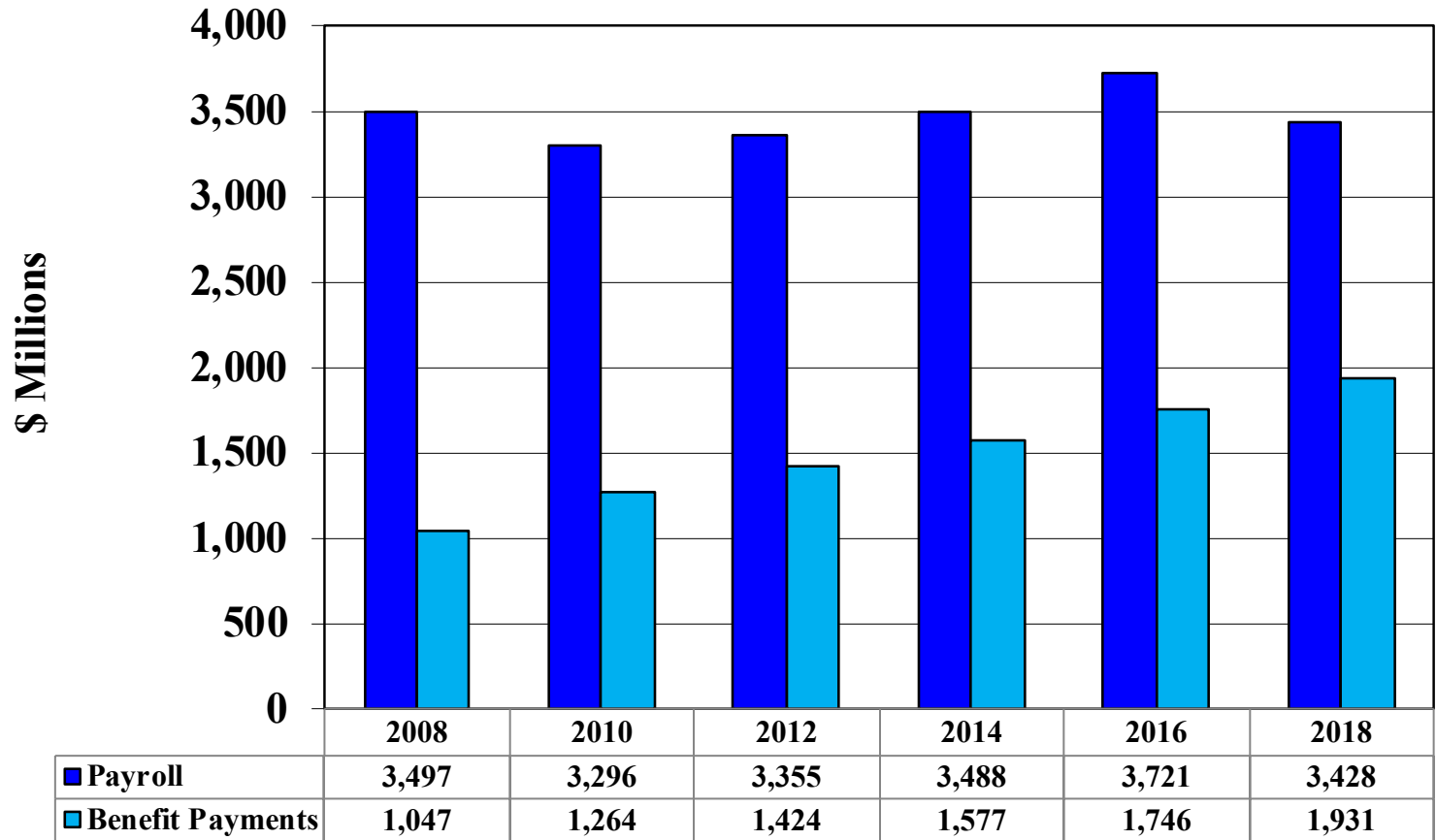


- Plan covers all State employees, elected officials and their appointees
 - Tiered benefit plan based on Date of Hire
- Member contributions vary by Tier and by Class of employee, employees covered by Social Security
- Benefit at Retirement for New Tier IV members
 - 1.30% of Final Average Salary (5) multiplied by credited service
- Eligibilities for New Tier IV members
 - Normal Ret: Age 63 and 25 or Age 65 and 10
 - Early Ret: Age 58 and 10
 - Vesting: 10 years of service
- COLA for new retirees (post 2022)
 - Based on CPI but assumed rate of 1.95%

Connecticut SERS Historical Membership Data



Connecticut SERS Historical Payroll vs Benefits

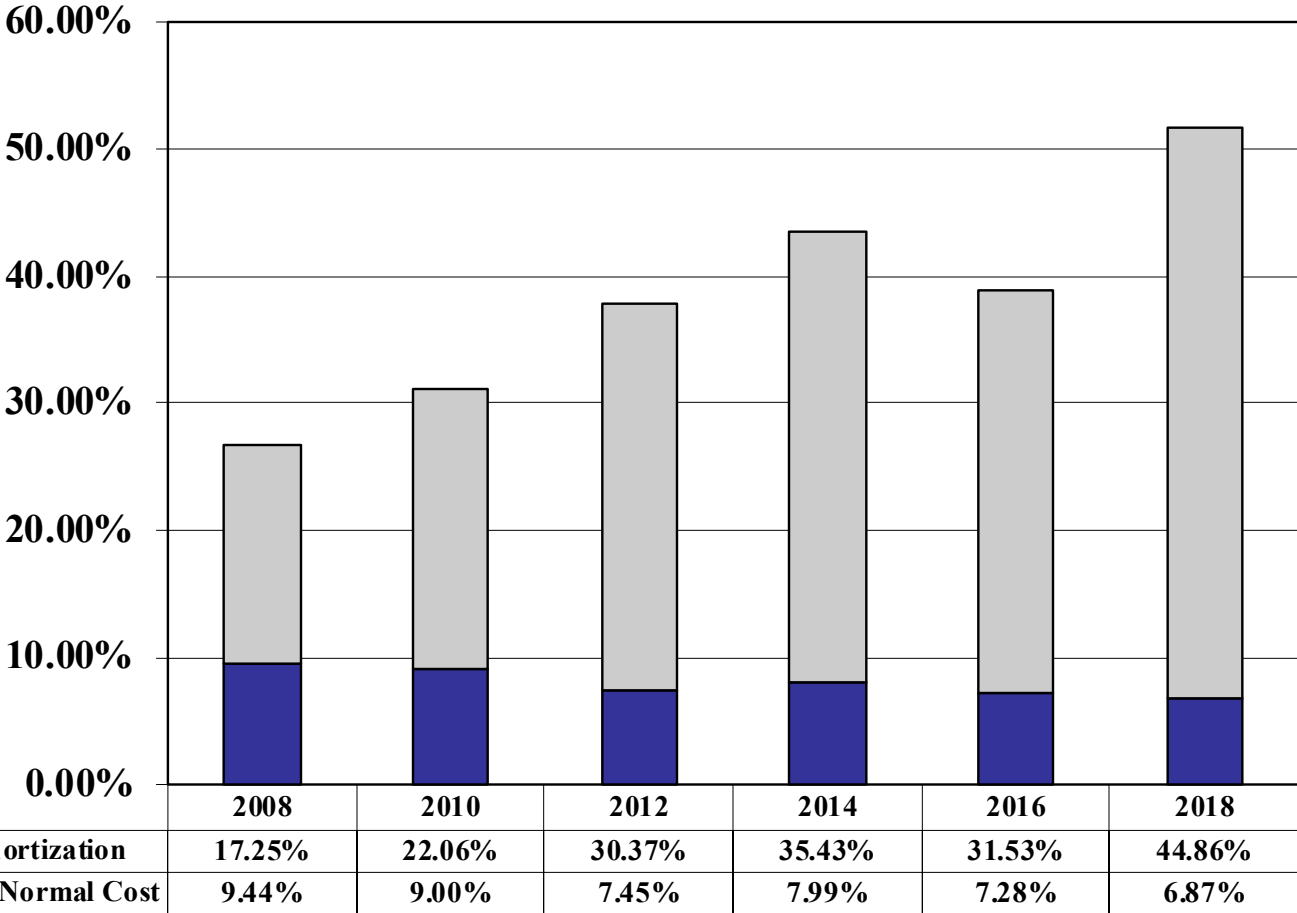


Connecticut SERS Amortization of UAAL

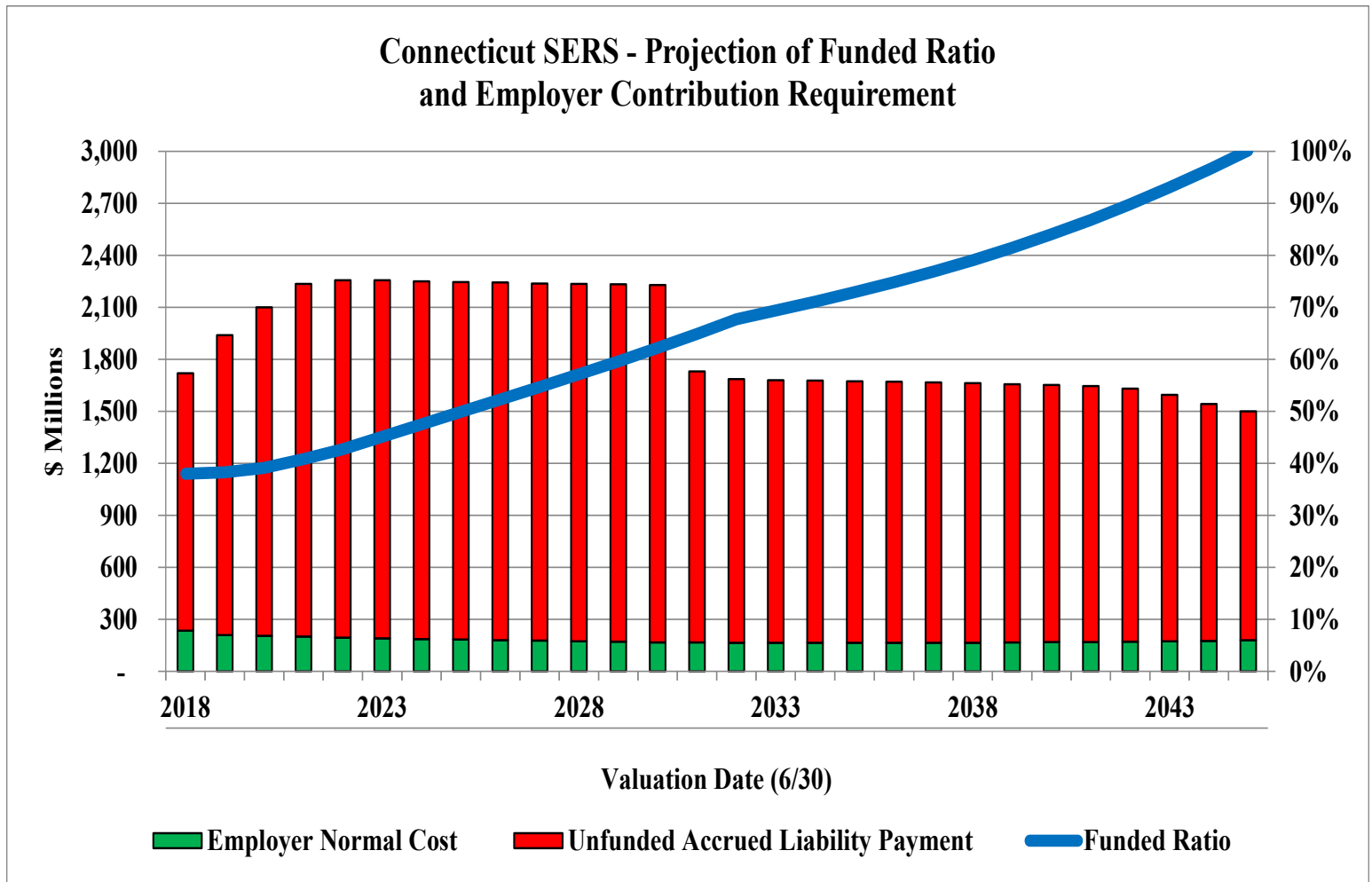


	Initial UAAL	Remaining UAAL	Remaining Amortization Period (years)	Amortization Payment
Statutory Base (1984 UAAL)	\$ 4,138,969	\$ 3,968,724	13	\$ 414,929
2016 Base	16,248,400	16,683,862	28	1,083,777
2018 Base	570,349	<u>570,349</u>	25	<u>39,265</u>
Total UAAL		\$21,222,935		\$ 1,537,971
Annual Valuation Payroll				\$ 3,428,068
UAAL Amortization Rate				44.86%

Connecticut SERS Contribution Rates



Connecticut SERS Projection of Plan



Connecticut Municipal



- Plan covers municipalities that elected to provide a benefit to their departments
- Municipalities upon entry can elect and pay for past service for their employees
- Currently, there are 191 employers
- Mixture of General and Police/Fire Plans and With/Without Social Security (SS) Benefits
- Members contribute 5.00% if not covered in SS and 2.25% if covered by SS
- Benefit at Retirement
 - Not SS – 2% of FAS (3) multiplied by credited service



- Benefit at Retirement
 - SS – 1.5% of FAS (3) not in excess of year's breakpoint (currently \$74,000), plus 2.0% of FAS (3) in excess of breakpoint, multiplied by credited service
- Eligibilities at Retirement
 - Age 55 and 5 years of continuous service
 - 15 years of active aggregate service
 - 25 years of aggregate service
 - Compulsory retirement at age 65 for P&F members
 - Vesting – 5 years of continuous service
- COLA – CPI based with minimum annual COLA of 2.5%

Connecticut Municipal



- Last Valuation Completed was in 2016
- Membership:
 - Active members: 9,373
 - Annual Payroll: \$566 Million
 - Retired members: 7,102
 - Annual benefits: \$146 Million
- Funded Ratio of 86.1%
- Contribution Requirements (as a % of payroll)
 - General with SS: 11.74%
 - General without SS: 12.15%
 - Police and Fire with SS: 17.13%
 - Police and Fire without SS: 16.93%



- Experience Investigation of all actuarial assumptions completed in 2018
- Main recommendation was to lower investment return assumption from 8% to 7% to get in line with other State pension plans
- Will significantly increase contribution requirements for these municipalities
- 2018 Valuation report in the final stages and will be presented to Commission next week

Connecticut Judges



- State also covers plans for its Judges
 - Probate Judges and Employees (~ 500 members)
 - Judges, Family Support Magistrates and Compensation Commissioners (~ 870 members)
- Funded Ratios
 - PJERS: 84.8%
 - JFSMCCRS: 52.3%
- State contributions
 - PJERS: \$4.4 Million for FYE 2019
 - JFSMCCRS: \$27.0 Million for FYE 2019

Questions?

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