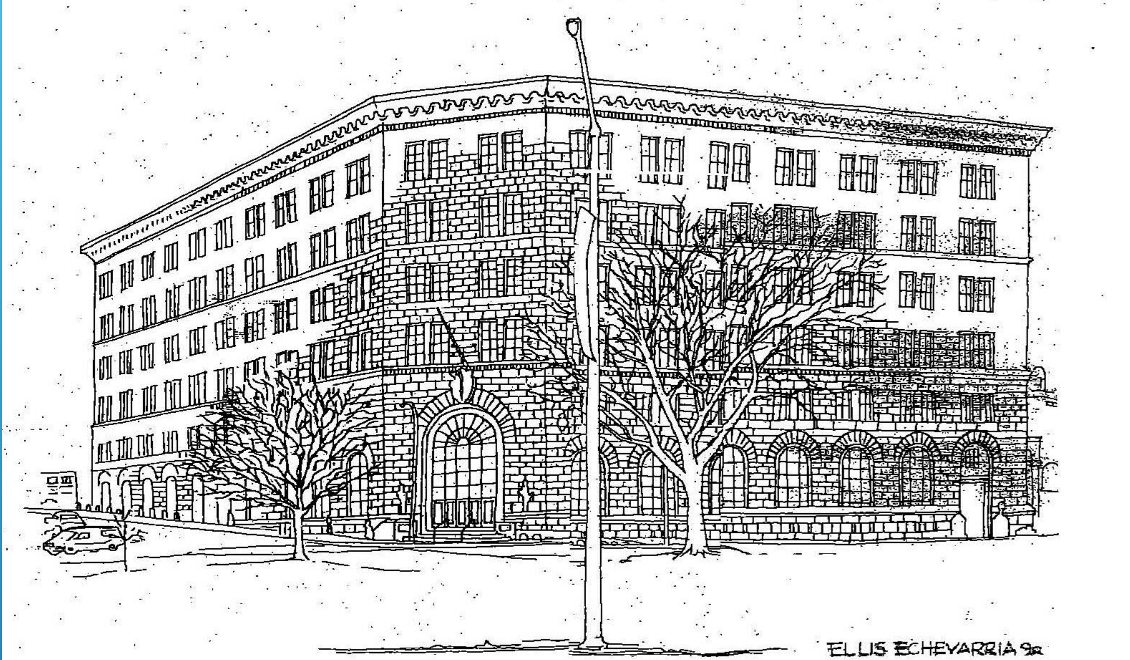
Presentation to the

Connecticut Pension Sustainability Commission



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55 Elm Street, Hartford, Connecticut Home of the Office of the State Treasurer

Plan For Sustainable Funding of the Teachers' Retirement Fund

Office of State Treasurer Denise L. Nappier

November 16, 2018

Table of Contents

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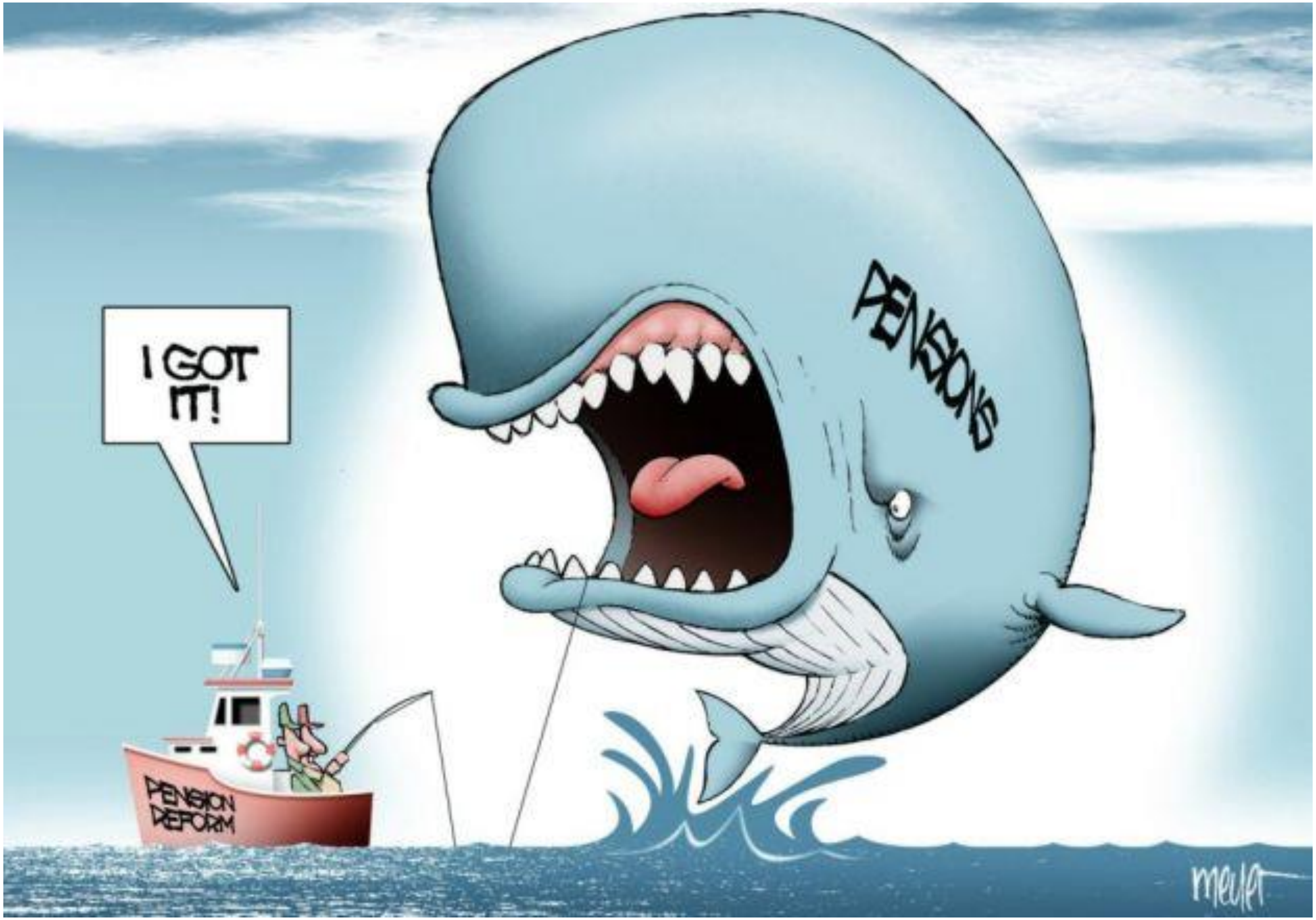
Introduction



Introduction

Pension Fund Governance

- The Treasurer is the principal fiduciary of the $35-billion Connecticut Retirement Plans and Trust Funds for the benefit of more than 219,000 beneficiaries.

- The Investment Advisory Council (IAC), created by the General Assembly in 1973, and revised and strengthened with the Treasury Reform Act of 2000, advises the Treasurer in overseeing the investments of the Connecticut Retirement Plans and Trust Funds (CRPTF).

Introduction

Pension Fund Governance

- Investments are made within a system of Pension Fund governance.

- The Treasurer is required, with IAC approval, to adopt the Investment Policy Statement (IPS) for investing state retirement and benefit funds, in a prudent and careful manner, which outlines the following:

  - Investment objectives
  - Asset allocation policy and risk tolerance
  - Asset class definitions with permissible investments
  - Investment manager guidelines
  - Investment performance evaluation guidelines
  - Guidelines for the selection and termination of providers
  - Guidelines for corporate citizenship and proxy voting
  - Liquidity requirements

Introduction

- The Teachers' Retirement System has had a funding problem for decades. Today, despite repeated warnings, the bill has come due.

- Let me briefly remind you of what I said back in June 1999: That a key component to any strategy of restoring the Fund to good fiscal health is to contribute the actuarially required contribution each and every year.

- And I repeated my warning in 2001. This 17-year-old quote has proven prescient: "For too long, Connecticut's state government has regarded pension funding as tomorrow's problem. Well, tomorrow is about to arrive, and when that happens, the amount of money we will need to fund our debts to retired teachers and state workers will blow the state budget to smithereens."

Background: Teachers' retirement benefits

- Before 1980, Connecticut paid teachers' retirement benefits via annual appropriations, a classic "pay as you go" model.

- Thereafter, an actuarially designed plan was established with the objective of requiring the State to make annual contributions that would pay for:

    - normal (i.e., current) retirement costs; and
    - a portion of the unfunded past service liability, amortized over a fixed period of time.

The method for calculating the State's yearly contributions resulted in a back-loading of payments, with escalating costs later in the amortization period.

Background: How the health of the Teachers' Retirement Fund deteriorated

- An essential element for ensuring the soundness and affordability of any actuarially designed plan is consistent funding in an amount determined by the State's actuaries as necessary to reach full funding at the end of the amortization period.

  - ❖ This amount is variously described as the ***ARC*** (actuarially required contribution) or ***ADEC*** (actuarially determined employer contribution).

- ***What actually happened***: Three factors led to the deteriorating health of the TRF, as measured by its funding ratio:

  - ➢ Playing catch-up in the funding of legacy costs incurred before 1979;
  - ➢ Consistent underpayment of the State's ADEC; and
  - ➢ Unrealistic long-term investment return assumptions.

Background: How the health of the TRF deteriorated

- The State **consistently underpaid what was deemed necessary** to fund the TRF, which affected the Fund in two ways:

  - ❖ First, the amounts not contributed were not invested and, consequently, could not generate income that would have helped the State meet its obligations.

    - Since 1991 through 2005, a total of ***$979 million*** was not contributed to the TRF.

    - Had this amount been contributed and invested, taxpayers could very well have saved about ***$5 billion*** in contributions.

  - ❖ Second, the amounts not contributed increased the unfunded liability, which compounded the increase in payments in the later years of the amortization period.

Background: How the health of the TRF deteriorated

- Another key contributing factor to the poor health of the TRF was **unrealistic long-term investment return assumptions**, established separately from the Treasurer's investment program.

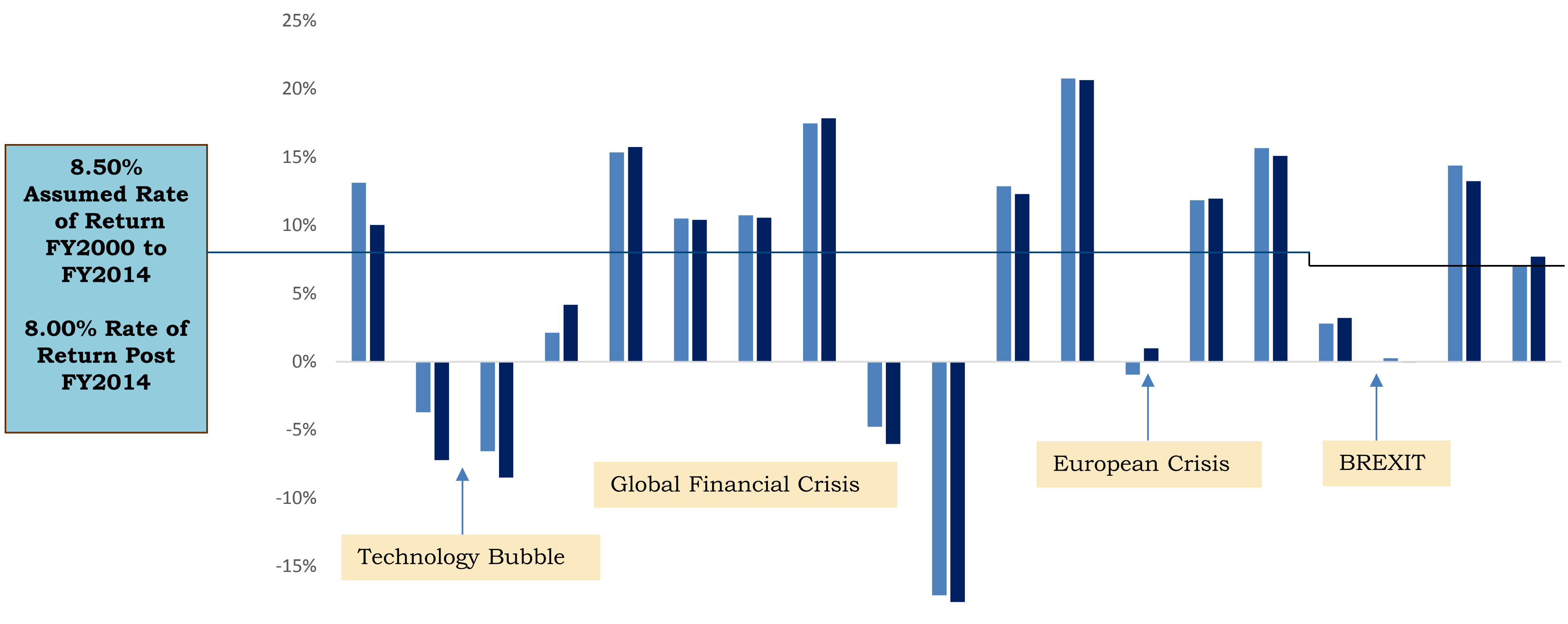
- Employing assumed investment returns that could not be reasonably achieved in the capital markets resulted in lower calculations of the ADEC. Significantly, even these lower ADECs were not fully paid.

- If return assumptions are set at levels unlikely to be attained, it will be difficult to achieve them without pursuing high risk investment strategies.

- The State ignored a guiding principle:

It is far more prudent to set an assumed rate of return based on what is achievable, rather than what is desirable.

Investment performance of the TRF



	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
TRF Return	13.1%	-3.7%	-6.6%	2.1%	15.3%	10.5%	10.7%	17.5%	-4.8%	-17.1%	12.9%	20.8%	-1.0%	11.8%	15.7%	2.8%	0.3%	14.4%	7.0%
TRF Benchmark Return	10.0%	-7.2%	-8.5%	4.2%	15.7%	10.4%	10.6%	17.8%	-6.0%	-17.6%	12.3%	20.7%	1.0%	12.0%	15.1%	3.2%	-0.1%	13.2%	7.7%

As of September 30, 2018	Market Value	5 Years	7 Years	10 Years	15 Years	20 Years
TRF Return	$18.1 B	7.3%	9.1%	7.4%	7.3%	6.7%

During the Nappier Administration, through FY2018, the TRF performance, net of fees and expenses, ranked higher than 70% of Public Defined Benefit Pension Plans >$1B

An intervention in 2008

In April of 2008, the State issued Pension Obligation Bonds (POBs) which raised $2 billion for deposit into the Teachers' Retirement Fund.

This transaction improved and protected the health of the TRF:

- Reduced unfunded liability and associated costs;
- Restructured COLAs, which resulted in an estimated $1.2 billion in savings over the life of the bonds;
- Created a bond covenant that required the State to make 100% of the ADEC for each year that the bonds were outstanding; and
- Limited the State's ability to modify its payments to the TRF by restricting changes to actuarial methods and the amortization period.

An intervention in 2008

- Were it not for the bond covenant, the State may have reverted to its historical practice of shorting its payments, further eroding the integrity of the TRF

- Since the redesign of the TRF in 1979 as an actuarially designed plan, the longest period of the State's consistent payment of 100% of the ADEC has been during the existence of the bond covenant

- The economics of the transaction prove its value: as of September 30, 2018, on a cash flow basis, investment earnings have exceeded debt service payments by approximately ***$389 million***.

- Proposal offered during 2018 to restructure payments to the TRF for Fiscal Year 2019 would have violated the covenant, raising the specter of incalculable harm to Connecticut's credit rating. Treasurer Nappier opposed this and the legislature ultimately rejected the proposal.

Where the TRF currently stands

<u>Current Assets</u>

$18.1 billion as of September 30, 2018

<u>Liabilities</u>

$31.1 billion as of June 30, 2018*

<u>Funded Ratio</u>

57.7% as of June 30, 2018*

<u>Rate of Return Assumption</u>

8.00%*

* As reflected in the latest valuation of the TRF conducted by Cavanaugh Macdonald and affirmed by the Teachers' Retirement Board 11/7/18.

Statement of the challenge

If the State continues on the current path and investments generate a 7% return and the return assumption remains at 8%, actuaries expect that there is a ***50% probability that the State's ADEC will equal or exceed $3.25 billion by 2032***.

- This is the so-called "spike" that will significantly strain the State's ability to fully fund the ADEC while balancing its budget.

- Note: Spike is **<u>not</u>** $6 billion as previously feared. The Teachers' Retirement Board's actuaries dismissed this figure, offered by the Center for Retirement Research at Boston College in its 2015 study of Connecticut's pension plans, as very unlikely. Just an 18% probability, they said.

Statement of the challenge

Increases in the ADEC will continue to strain Connecticut's fiscal resources

Expected ADEC for TRF (Based on Deterministic Projections from the 2016 Valuation)	
Source: Cavanaugh Macdonald	
FYE	Assumed return of 8%, with actual returns at 7% ($ thousands)
2020	1,420,993
2021	1,498,843
2022	1,562,847
2023	1,631,228
2024	1,929,431
2025	2,016,483
2026	2,111,207
2027	2,215,775
2028	2,333,647
2029	2,469,263
2030	2,636,232
2031	2,860,692
2032	3,250,208
2033	415,590

Source:
Cavanaugh Macdonald
October 2018

Statement of the challenge

What the State Needs:

A viable, sustainable and affordable plan for addressing mounting pension payments to the TRF while keeping intact the commitment to full funding as required by the bond covenant.

Plan for sustainable funding of the TRF

Treasurer Nappier's plan stands the best chance of:

- Mitigating the projected spike in payments
- Preserving the State’s credit rating
- Maintaining the discipline that will be critical to the sustainability of the TRF and Connecticut’s fiscal health going forward.

Plan for sustainable funding of the TRF

Components of the Plan

1. Monetize lottery revenues and transfer other state assets to the TRF in order to mitigate the impact of moving to a more realistic investment return assumption of 7.5% (from 8%). Assets would be invested consistent with the Investment Policy Statement, including asset allocations, approved by the Investment Advisory Council, and the requirements of pension fund governance.

2. Pay off the POBs in Fiscal Year 2026 (the first full fiscal year they can be redeemed), thereby allowing for more options for responsible recalculation of future contributions.

3. Following payoff of the POBs, re-amortize the TRF's remaining unfunded liability and further reduce the investment return assumption to 7%, consistent with capital market expectations.

Plan for sustainable funding of the TRF

Step 1: Monetize lottery revenues, transfer assets

Prior to Fiscal Year 2026 (the first full fiscal year that the POBs can be paid off), the most viable option for strengthening the funding status of the TRF is with an infusion of cash and other assets of value from two sources:

1a. Monetize lottery revenues by issuing revenue bonds sufficient to generate cash proceeds of approximately $1.5 billion for deposit into the TRF

- **Note:** Final decision to issue Lottery-backed revenue bonds would depend on financial analysis based on market conditions at the time of issuance

1b. Transfer an additional $1.5 billion of assets currently owned by the State that can be developed and appreciate in value to the TRF

Plan for sustainable funding of the TRF

Step 1a: Monetize lottery revenues

- Establish an irrevocable trust through legislation for the benefit of TRF, separate and distinct from the State's General Fund

- Lottery revenue bonds secured by future lottery revenues would be sold providing $1.5 billion in proceeds for deposit to TRF

- To achieve the lowest cost of funds and highest possible bond ratings, the bonds would have two additional security features:

  - Debt service coverage for the bonds at four times maximum annual debt service payments

  - A reserve fund, which would further protect bondholders in the event of a failed or insufficient payment. Required amount is approximately 10 percent of the issue.

Plan for sustainable funding of the TRF

Step 1b: Transfer of other assets of value

- This proposal contemplates the transfer of state assets currently under review by the capital asset sub-committee

- With its existing investment framework the Office of the Treasurer can implement a plan designed to develop and thereby maximize the value of surplus, unused or underutilized State assets.
    - Conduct a competitive process to engage a manager or managers with appropriate subject matter expertise charged with evaluating assets on the state's books for development and/or management. Vetted assets could be contributed to the pension fund.

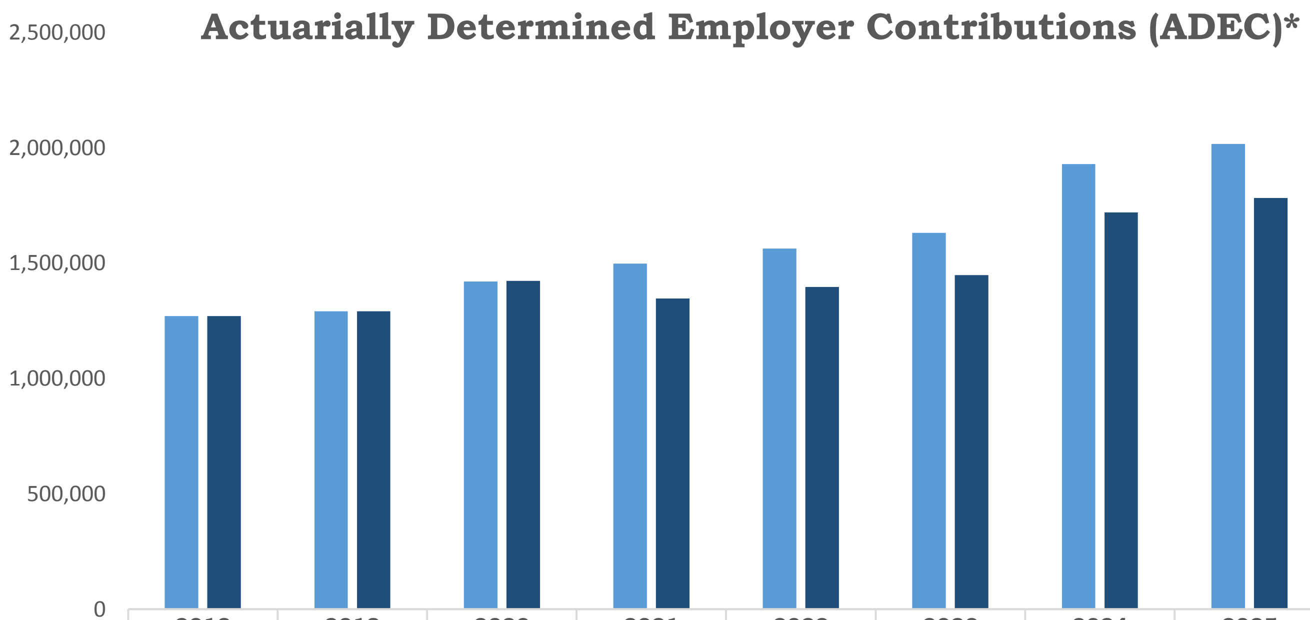
    - Agreements could include terms allowing for appropriate oversight of performance of ongoing operational, administrative and investment obligations and incentives to increase value.

    - All assets are marked to market at least quarterly, allowing for actuarial and accounting recognition of increases in value. Eliminates the possibility of carrying two sets of books for valuing assets.

    - This plan would address all legal, accounting, actuarial, fiduciary and tax treatment concerns, with the added advantage of lower costs and less complexity.

Actuarial Impact

Adding $3 billion to the TRF in FY 2020 and reducing the discount rate from 8.0% to 7.5%, with debt service payments, would reduce the State’s costs by approximately $440 million dollars for the five years ending FY 2025.



	2018	2019	2020	2021	2022	2023	2024	2025
Baseline at 8%	1,271,033	1,292,314	1,420,993	1,498,843	1,562,847	1,631,228	1,929,431	2,016,483
$3B Asset Transfer	1,271,033	1,292,314	1,423,996	1,347,516	1,397,423	1,447,776	1,720,723	1,781,882

* Per Cavanaugh Macdonald, October 2018. Based on 7% actual return.

Plan for sustainable funding of the TRF

Summary: monetize lottery revenues, transfer assets

- Treasury proposal would:
    - Generate net General Fund savings of $440 million from FY 2020 through 2025
    - Bring General Fund costs roughly in line with budgetary funding "constraint" [The constraint, developed by the State Office of Policy and Management for the Teachers' Retirement System Viability Commission, approximates the current proportion of State revenues dedicated to the TRF's ADEC, as a measure of the State's financial capability.]
    - Improve TRF cash flow by $560 million

Step 2: Pay off POBs

- After Fiscal Year 2025, the State would be in a position to pay off the POBs for roughly $1.9 billion, using the estimated State ADEC and the POB debt service payment for that year. Subsequently:

  - Debt service savings; ***$2.25 billion*** through FY 2032, which includes a savings of ***$268 million in FY 2026.***

  - Bond covenant extinguished, thereby allowing the State to re-amortize its payments into the TRF, move to a level dollar amortization method, and avoid the projected spike in payments.

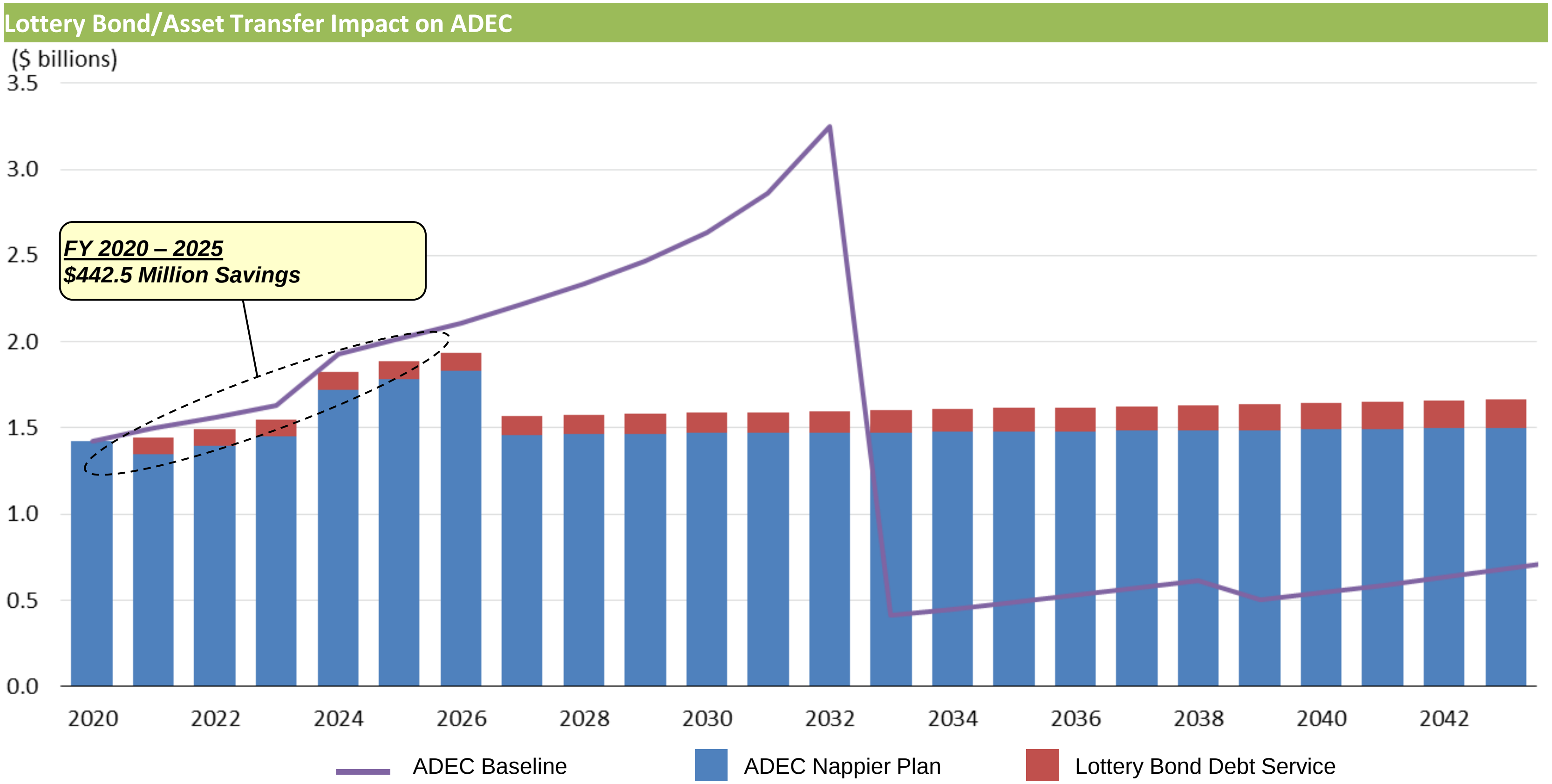
  - The State's actuary, Cavanaugh Macdonald, has concluded that the use of the State's ADEC for this purpose "would not irreparably damage the long-term solvency of TRS provided that reasonable amortization methods are implemented to maintain future funding progress, enhance the stability of future funding requirements, and, **most importantly, the State remains committed to annually contribute the full actuarial determined employer contribution (ADEC).**" (Emphasis in the original.)

Step 3: After POBs are paid off, re-amortize

- After the POBs are paid off, reduce the investment return assumption to 7%, consistent with capital market expectations, re-amortize the current UAAL over a longer time period, change to a level dollar amortization method, and implement a layered amortization approach for future UAAL changes. These steps would ameliorate the backloading of payments that has been occurring.
- Adopt legislation to continue the funding discipline that the bond covenant established in 2008. Any legislative action to pay less than the ADEC should require super-majority votes with public notice.
- Additionally, there must be strict limits on spreading out losses due to extraordinary circumstances, such as early retirement incentives
- "Spike" reduced from $3.25 billion to $1.78 billion

Impact of lottery bond / asset transfer on TRF ADEC payments

Assumes $1.5 billion Lottery bond proceeds and additional $1.5 billion asset transfer to TRF



1. *State of Connecticut Office of State Treasurer.*
2. *Assumes 25-year taxable transaction with 4.0x coverage and 5.308% interest rate.*
3. *Total $3 billion in proceeds estimated to reduce the State's unfunded accrued liability by 23% (from $13.1 billion to $10.1 billion) and each year's amortization payment reduced by a commensurate 23%.*
4. *Assumes actuarial rate is reduced to 7.5% from 8.0% until 2026, then ADEC is reamortized and actuarial rate is reduced to 7.0%.*

Other options

$5.0 billion wholesale transfer of Lottery

Cautionary Note: The transfer to the TRF would increase the value of the TRF's assets and reduce the unfunded liability. Consequently, the ADEC would also decline.

While this would be of benefit to the State's General Fund, a transfer of assets without cash would have a commensurate negative effect on the TRF itself, particularly as it is a lower funded plan.

Simply put: The General Fund's gain would be the TRF's loss, because less cash would flow into the TRF and trigger greater negative cash flows.

Other options

Impact on Cash Flows

- Pension benefit payments are expected to exceed contributions by nearly $4 billion from FY 2020 to 2025.

- Gap could grow to $6 billion or more with a wholesale transfer of the Lottery.

- So, even putting aside the number of accounting, governance, management and legal concerns, the Lottery transfer – or any transfer of assets without accompanying cash -- would burden, not help, the TRF.

- In summary, the option would reduce General Fund costs by over $2 billion, but reduce TRF cash flow by the same amount.

Other options

The Legacy Obligation Trust (LOT)

LOT's proposed structure:

- Create separate legal entity (Trust)
- The State of Connecticut will not control the Trust (necessary to avoid accounting challenges)
- Transfer unused, underutilized assets to the Trust
- Trust to engage managers incentivized to maximize value of assets
- Pension funds will receive Certificates of Trust ("marketable securities")
- Pension funds will benefit from value increase and/or dividends

Other options

Concerns

The other options, in concept and structure, raise a number of complex and costly concerns that would need to be resolved before any implementation.

- Jeopardy for tax exemption
- Hinders fiduciary duty
- Creates irreconcilable conflict for fiduciary
- May be prohibited by tax exempt financing
- Would require disclosure of two valuation methodologies

Other options

TRF Funding Policy Options FY2020 – FY2025 ($ Millions)

	Baseline No Changes	$3.0 Billion ($1.5 cash/$1.5 other assets)		$5.0 Billion Lottery Concession	
Return Assumption	**8.0%**	**7.5%**	**8.0%**	**7.5%**	**8.0%**
ADEC*	10,060	9,119	8,266	7,938	7,069
Change to baseline		(941)	(1,794)	(2,122)	(2,990)
Debt Service		500	500	-	-
Total General Fund	10,060	9,619	8,766	7,938	7,069
Change to baseline		(441)	(1,294)	(2,122)	(2,990)
Funding Constraint**	9,088	9,088	9,088	6,801	6,801
Over/Under	972	31	(822)	1,137	269
TRF Cashflow	(3,870)	(3,310)	(4,164)	(5,991)	(6,860)
Change to baseline		560	(294)	(2,121)	(2,990)
Estimated Funded Ratio FY2025	68.2%	74.2%	74.4%	78.2%	78.5%

* Per Cavanaugh Macdonald, October 2018. Based on 7% actual return.
** Source: Report of the Teachers' Retirement System Viability Commission, March 19, 2018

Threshold considerations

Fundamental principles for preserving the health of the TRF

- Maintain a disciplined approach to funding the State's long-term obligations and protect the State's creditworthiness by adhering to this discipline

- Ensure the overall soundness and integrity of the Teachers' Retirement Fund by keeping the State's commitment to its retired teachers and minimizing the burden on taxpayers and future generations

- Base future assumptions of investment returns on what is achievable in the marketplace, defensible in valuing plan assets and liabilities, feasible in setting realistic required annual contributions, and impactful in improving the plan's funded ratio

- Preserve and enhance long-term investment performance

Conclusion

In conclusion, Treasurer Nappier's plan is a prudent, concrete, tangible plan that would strengthen the funding status and long-term sustainability of the TRF while providing relief to the State and avoiding a potential spike.

The components of this plan provide for:

- An infusion of cash through the issuance of lottery-backed revenue bonds that can be invested in a manner consistent with the established Investment Policy Statement asset allocation targets
- A prudent transfer of State assets that can be developed and improved within the confines and authorities of current pension fund governance
- A path forward to reducing the investment rate of return to a more realistic level in line with future capital market assumptions
- A reasonable means to pay off the POB's and allow for the re-amortization of TRF's unfunded liability
- Maintenance of strong fiscal discipline