

# Pension Overview



*Vermont Legislative*  
**JOINT FISCAL OFFICE**

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# Part 1: Pension Overview

- Overview of Pensions
- How DB Pensions Are Calculated
- How Pensions Work
- The Problem and the Numbers
- Why Did the Numbers Change?
- What to Expect
- Appendix – Current Pension Plan Details

# Overview of Pensions

- A “Defined Benefit” system provides an employee with a retirement benefit that is calculated (“defined”) by an established formula. The retirement benefit amount is not linked to the investment performance of the pension fund. Assets come from investment returns and contributions from employees and employers.
- In a “Defined Contribution” plan, the employee receives a “defined” employer contribution into an investment account, similar to a 401(k). Amount of employer contribution often requires a match from employee. The employee’s retirement benefit depends on how much money they save and the performance of their investments. Risk falls on the employee rather than the employer.
- Other alternative plan designs exist, such as stacked hybrids or cash balance plans, that incorporate features of both.
- Today, we are talking about **Defined Benefit** plans.
- DB pension plans are designed to **pre-fund future retirement benefits**. Employers AND Employees make contributions into the pension funds and those funds are invested over a long time horizon.

# Governance of Vermont Pension Systems

- The State of Vermont manages 3 pension systems:
  - **VSERS** – Vermont State Employees’ Retirement System (single employer) (3 V.S.A. Ch.16)
  - **VSTRS** – Vermont State Teachers’ Retirement System (multi-employer) (16 V.S.A. Ch. 55)
  - **VMERS** – Vermont Municipal Employees’ Retirement System (multi-employer) (24 V.S.A. Ch.125)
- Each system is governed by a board of trustees according to statute.
  - **VSERS** - 8 members (4 government officials, 4 plan member representatives)
  - **VSTRS** – 6 members (3 government officials, 3 plan member representatives)
  - **VMERS** – 5 members (2 employee representatives, 2 employer representatives, State Treasurer)
- Each board of trustees is responsible for the general administration and proper operation of the systems.
- State Treasurer serves as a trustee on all three boards and is responsible for day-to-day operations of the systems and serves as custodian of plan assets.
- **Vermont Pension Investment Committee (VPIC)** is comprised of 7 members (including Treasurer) and is responsible for investing the assets of all three plans. (3 V.S.A. § 522)

# Characteristics of the Pension Systems

	VSERS	VSTRS	VMERS
<b>Active Members</b>	8,539	9,996	7,987
<b>Retired Members and Beneficiaries</b>	7,424	9,843	3,693
<b>Terminated Vested Members</b>	767	887	927
<b>Ratio of Non-Active to Active</b>	0.96	1.07	0.58
<b>Average Payroll</b>	\$64,642	\$64,616	\$41,003
<b>Average Monthly Benefit (Retirees Only)</b>	\$1,755	\$1,830	\$891
<b>Average Annual Monthly Benefit (Retirees Only)</b>	\$21,060	\$21,960	\$10,692
<b>Actuarial Value of Assets</b>	\$2,054,825,853	\$2,035,713,611	\$761,505,976
<b>Actuarial Accrued Liability</b>	\$3,095,290,972	\$3,969,002,977	\$1,004,560,034
<b>Unfunded Actuarial Accrued Liability</b>	\$1,040,465,119	\$1,933,289,366	\$243,054,058
<b>Funded Ratio</b>	66.4%	51.3%	75.8%

Both VSERS and VSTRS are relatively mature plans with high ratios of non-actives to actives and relatively weak funded ratios.

VMERS has a different set of fundamental characteristics than VSERS and VSTRS and will not be a focus of this presentation.

*As of June 30, 2020*

# How DB Pensions Are Calculated

- How much money a retiree will receive in pension benefits is defined by a formula based on how long the employee has worked and how much they earned:

Years of service x Average Final Compensation (AFC) x Multiplier = Estimated Annual Pension Benefit

- Plans typically define a multiplier and how **AFC** is calculated. Usually, it is based on an average of 3-7 of your highest consecutive years of salary.
- Plans also typically cap how large an annual pension benefit can be relative to their AFC (e.g. up to 50 or 60% of AFC in VT).
- “Normal” vs. “early” retirement. To qualify for a normal retirement, an employee must reach a minimum age (or Rule calculation) to receive full pension benefits. Can either be a fixed age (65?) or a **Rule Of** (age + years of service), whichever is reached first.
  - Example: If there is a normal retirement age of 65 and a Rule of 90, an employee who is 63 years old can still retire normally if they have at least 27 years of service ( $63 + 27 = 90$ ).

# How DB Pensions Are Calculated

- I am a 65 year old state employee with 20 years of service and an AFC of \$66,000. I am a member of VSERS Group F. What will I earn in retirement?

20 years of service x \$66,000 x 1.67% = \$22,044 (estimate)

- What if I had 35 years of service?

35 years of service x \$66,000 x 1.67% = \$38,577 (estimate)

- BUT - Under the terms of Group F, I cannot receive a benefit more than 50% of my AFC. Therefore, with an AFC of \$66,000, my maximum benefit would be capped at \$33,000.
- Other factors, like survivorship options, will influence what the actual benefit amount will be.

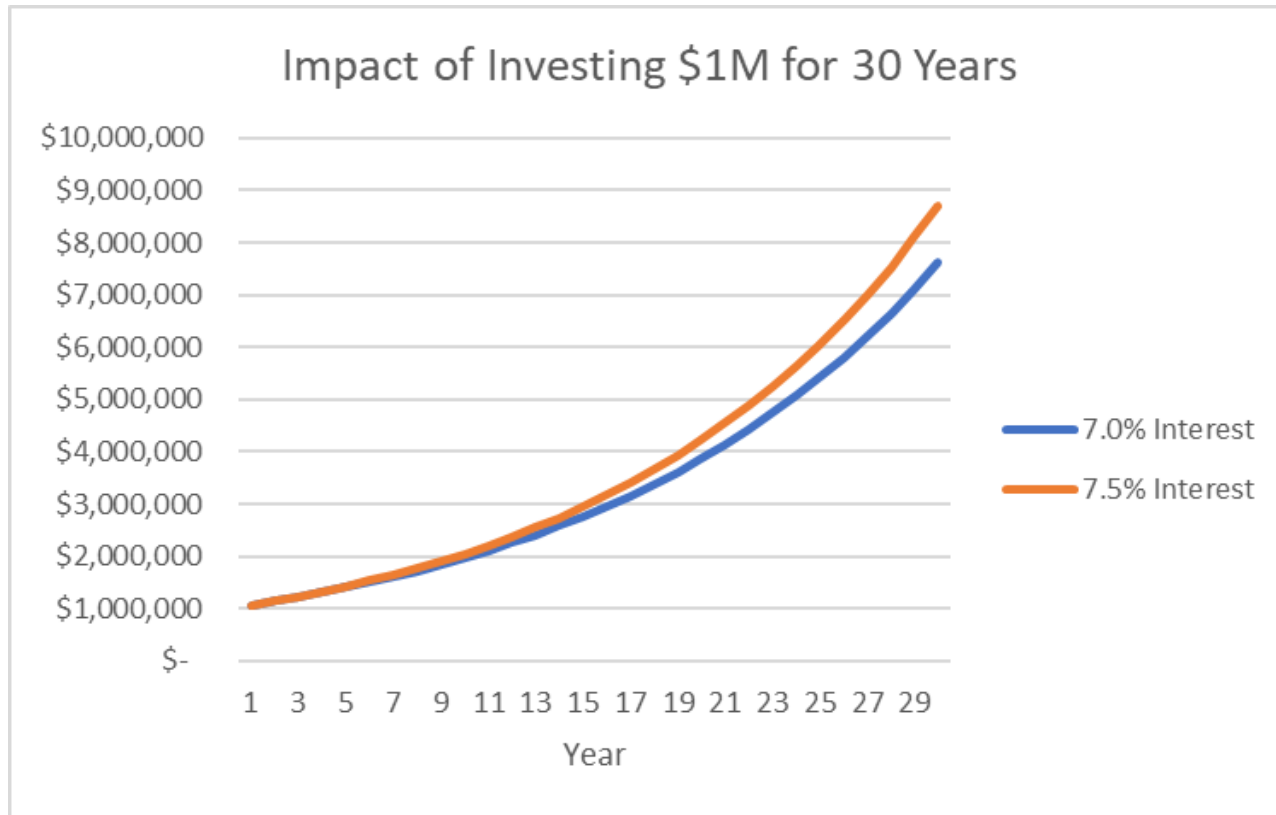
# How DB Pensions Are Calculated

- Some plans allow people to retire early (e.g. younger than the retirement age or short of the Rule of 87 or 90) but receive a reduced benefit for doing so.
- Some plans also provide **COLAs (Cost of Living Adjustments)** to retirees to help their benefits keep pace with inflation.
- In order to be eligible for a retirement benefit, the employee must be **vested** in the plan. Vesting = attaining a minimum number of years of service (often 5-10 years depending on plan).
  - Employees who leave employment before vesting have their pension contributions refunded.
- Fun facts!
  - VSERS paid out \$153 million in benefits and contribution refunds in 2020
  - VSTRS paid out \$201 million in benefits and contribution refunds in 2020

# How Pensions Work

- Pre-funding retirement expenses has the benefit of spreading these costs over time and **taking advantage of compound interest and investment returns.**
- Assets are invested according to an investment strategy. The strategy is designed to achieve the expected rate of return over a long period of time.
  - Diversification and balance
  - Risk management – try to capture the gains while protecting from losses and inflation
  - Minimize extreme volatility
  - Long view – avoid trying to “time” the market!
- Common types of pension investments involve foreign and domestic equities (stocks), fixed income (bonds), private equity, real estate, etc.
- Investment strategy and performance is periodically reviewed and assets are periodically rebalanced as market conditions evolve.
- The goal is not to speculate to achieve the highest possible return in any given year (though it’s great when returns are strong!)– instead, the goal is to prudently and responsibly achieve the overall expected rate of return over time!

# Impact of Compound Investment Returns



Underfunding the pensions can lead to enormous actuarial losses over time due to the lost opportunity to invest those funds for a long period of time.

The benefits of compound investment gains grow significantly over time. For example, \$1,000,000 for 30 years will grow to....

- \$7.6 million at 7.0%
- \$8.7 million at 7.5%

The impact of short-funding the pension payment by \$1,000,000 over 30 years would have the same scale of impacts in the form of an actuarial loss in plan assets.

In other words, the true cost to the pension system of the employer shorting a payment by \$1 million is much greater than \$1 million. The impact is \$1 million *plus* all of the compounded investment returns that the \$1 million would have earned over the amortization period if that money was instead made available to invest.

Larger investments in the near term lead to larger gains in the future.

# How Pensions Work

- “Fiduciary Responsibility” – trustees have a responsibility to:
  - Act in the best interest/benefit of the beneficiaries (the members and retirees)
  - High standard of care
  - Prudence, impartiality, trust, good faith.
- “Shall strive to maximize total return on investment, within acceptable levels of risk for public retirement systems, in accordance with the standards of care established by the prudent investor rule under 14A V.S.A. § 902”

# How Pensions Work

- All three plans have a board of trustees (24 V.S.A. § 5062)
  - General administration of the system
  - 5-8 members
- VT Pension Investment Committee (VPIC) – 7 members (3 V.S.A. § 522)
  - Responsible for governing the investment of the assets of the three retirement systems.
  - Approves policies and procedures, investment policy, asset allocations, and appointment of third party managers and consultants.
  - VPIC and respective Board Trustees must both agree to any changes in actuarial rate of return.
- Treasurer's Office
  - Custodian of the assets, manages day-to-day operations of VPIC and retirement operations.
  - Manages reporting, studies, and recommends long term policy.
  - Member of all 3 boards of trustees.
- Investment Consultant
  - Prepares investment performance reports
  - Conducts asset liability study
  - Reviews investment manager performance
  - Recommends investment managers for selection by VPIC

# How Pensions Work

- Legislature:
  - Appropriates the funding to pay the employer ADEC, though the level of appropriation has sometimes historically been higher or lower than the ADEC amount.
    - Under-funding = higher UAAL/higher ADEC in future years; missed opportunity to achieve investment gains (compounded every year).
  - Establishes various reporting and procedural requirements in statute.
  - Codifies elements of plan design into statute.
  - Establishes the amortization schedule
- Legislature DOES NOT:
  - Determine the assumed rate of return
  - Pick and choose investments

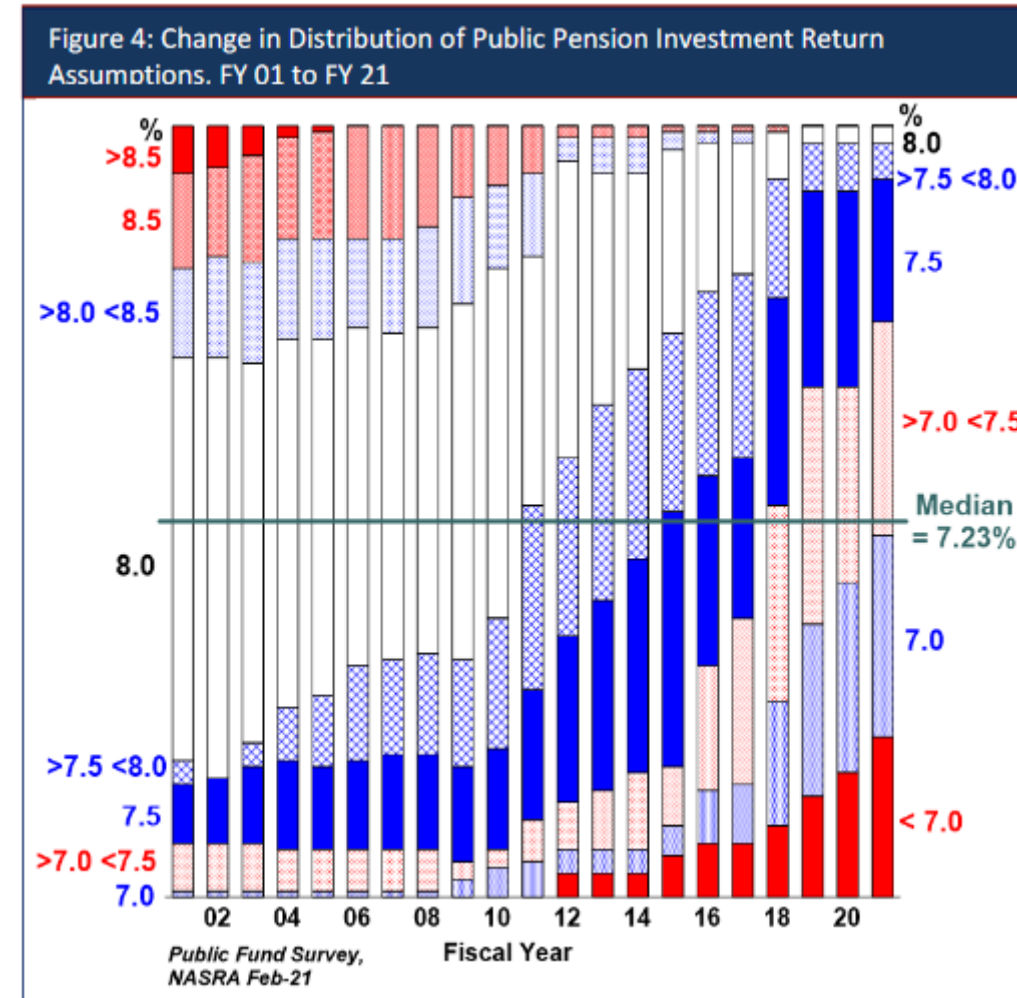
# The Problem

- VSERS and VSTRS are relatively mature retirement systems with growing unfunded liability.
- Over the years, investment performance has not consistently achieved the assumed rate of return.
  - Trustees recently recommended lowering the assumed rate of return from 7.5% to 7.0% to more realistically match projected investment returns.
- Legacy underfunding issues (particularly for VSTRS)
- Demographic and experience factors have increased pension costs
  - People are living longer!
  - Salary growth, COLAs
  - Employee turnover
- A second-level problem exists around funding **OPEB (Other Post-Employee Benefits)** which is a fast growing liability. However, this subject is worth its own separate discussion.

	VSERS		VSTRS	
	Active	Retired/ Beneficiaries/ Deferred Vested	Active	Retired/ Beneficiaries/ Deferred Vested
2008	8442	5344	10685	6260
2020	8539	8191	9996	10730

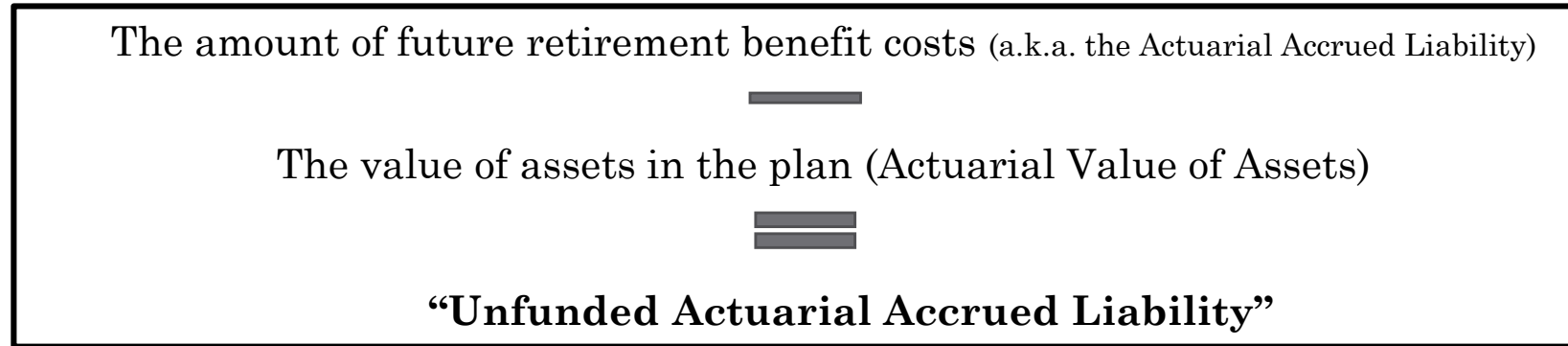
# Assumed Rate of Return

- Pension plans nationwide have lowered their assumed rates of return in recent years.
- According to data from NASRA, the vast majority of surveyed pension plans now adopt an assumed rate of return lower than 7.5% and a growing number of plans are adopting rates of return lower than 7.0%.
- This trend is driven by:
  - Years of pension plans failing to achieve their assumed rates of return.
  - Lower inflation rate experience and projections.
  - Lower expectations for investment gains in future years.
- A more conservative assumed rate of return leads to more realistic assumptions – but also higher ADEC costs in the near term.



# The Problem

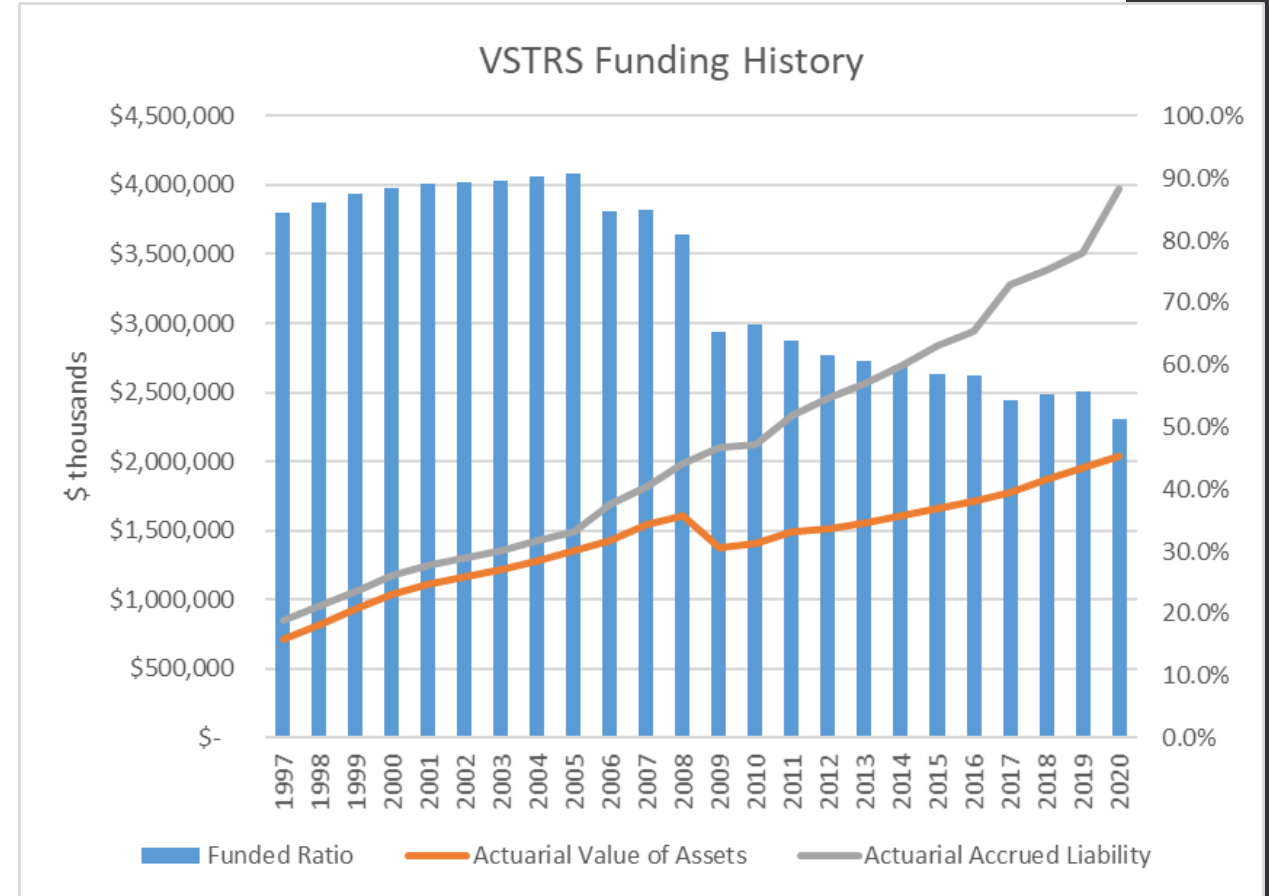
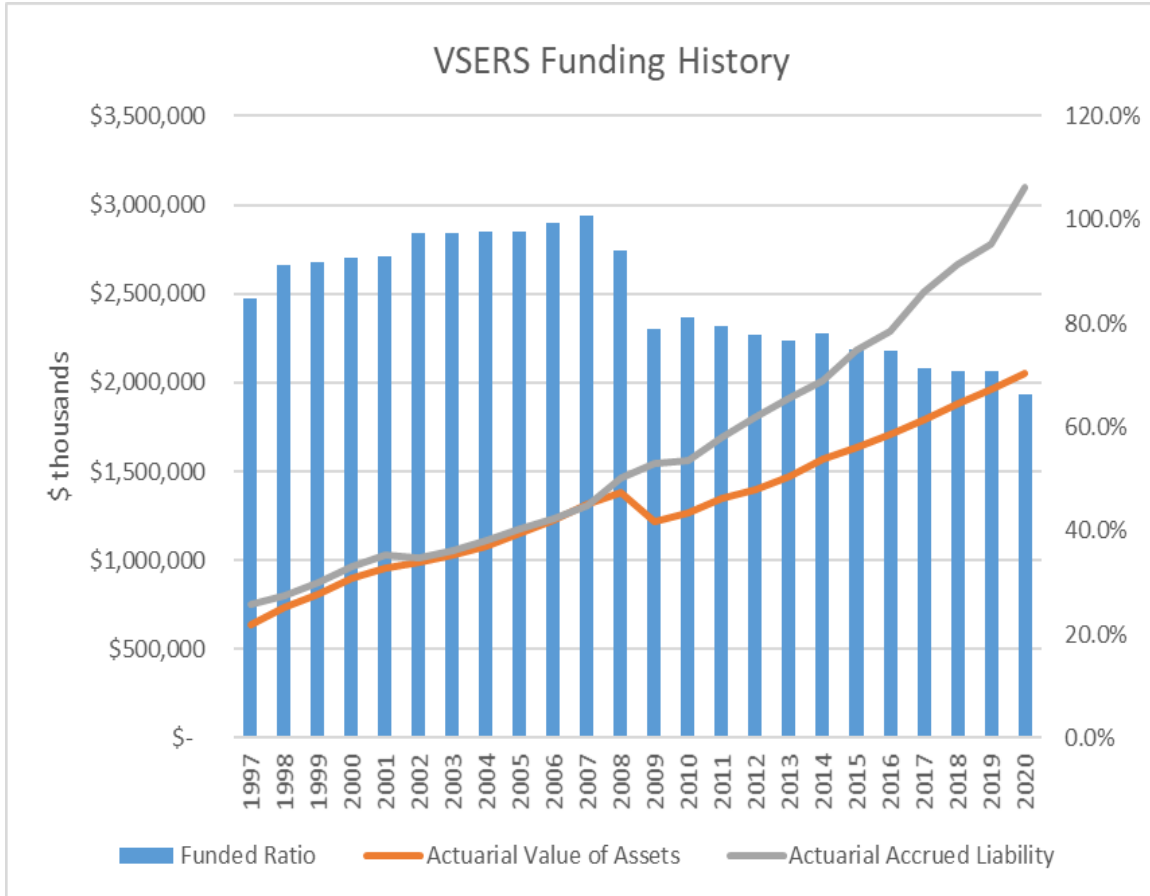
- All of these factors have contributed to the fact that the 2 pension plans do not have enough assets today to pay for the expected costs of the retirement benefits they will have to pay out in the future.



- The Unfunded Liability essentially represents the funding shortfall to fully pay for promised retirement benefits.
- Unfunded Liability is growing more rapidly than the assets in the plan are growing. This means that the funded ratio for the plans is decreasing.

$$\frac{\text{Actuarial Value of Assets}}{\text{Actuarial Accrued Liability}} = \text{Funded Ratio}$$

# The Problem



# The Problem

- It is common for a defined benefit pension plan to have an unfunded liability. But if the unfunded liability grows too large, it creates challenges to manage through because **the unfunded liability must eventually be paid off.**
- Lack of progress toward improving the funding ratio and significant, sustained growth in UAAL negatively impact bond ratings.
- The unfunded liability is “**amortized**” over a period of time. Just like your home mortgage is amortized over a period of years, with principal and interest. The longer the amortization period, the lower your annual payment but the more you pay in total (interest) and the longer the expense sits on your budget. **But unlike your mortgage, the principal amount is subject to change based on plan experience/investment performance.**
- For VSERS and VSTRS, there is a “closed amortization” system, meaning that the full UAAL is scheduled to be paid off by an established year (2038).
- In the absence of other changes, growth in the unfunded liability means more money must be paid into the pension system.
  - This payment the employer makes against the unfunded liability is included in the **ADEC (Actuarial Determined Employer Contribution)**, along with any employer-paid normal costs.
    - **Normal cost** = The annual cost of future retirement benefits that were earned during the current year by the active workforce.
  - Generally, active employees pay a fixed, pre-established contribution rate into the pension fund. But this employee contribution rate is not automatically linked to any changes in the unfunded liability.
  - Currently, the risk for making up funding shortfalls/growth in the ADEC is borne by the employer (taxpayers).

# The Problem

- Periodically, the pension systems will engage their actuaries and investment consultants to study their workforce data and investment performance/strategy and revise the assumptions for how much money the pension plans will need to pay out in future benefits. This is often referred to as an “experience study”.
  - **Valuation studies** are performed annually and calculate the AAL, Actuarial Value of Assets, UAAL, normal cost, and ADEC based on applying recent data on members to the plan’s demographic, experience, and economic assumptions.
  - **Experience studies** are performed in multi-year intervals (often 5 years) to examine recent employee and fund experience and review/reset assumptions for the future.
- Recently, this analysis PLUS the reduction in assumed rate of return from 7.5% to 7.0% has translated into significant growth in the unfunded liability (UAAL) for both VSERS and VSTRS.
- As a result of this growth in UAAL, the projected ADEC has also increased. The larger the UAAL, the larger the payment will be to pay it off.
- In plain language, this means that the total cost of future retirement benefits grew based on assumptions based on today’s plan structures, and less of the money needed to pay for those benefits is expected to come from investment returns in the future. Therefore, the employer’s payment toward those costs (the ADEC) will increase.
- You cannot avoid paying off the UAAL by moving all employees from a DB to a DC plan.
- BUT, you can take steps to lower the UAAL through tweaks to plan design for active employees who are still working but not yet retired AND to future employees.

# The Numbers

- The recent actuarial studies, investment performance, and reduced assumed rate of return have translated into significant projected increases in the UAAL and ADEC for both plans.

VSERS Actuarially Determined Employer Contribution		
FY	ADEC	Increase over prior FY
2022 (recommended)	\$ 119,967,769	\$ 36,091,199
2021	\$ 83,876,570	\$ 4,932,656
2020	\$ 78,943,914	\$ 15,959,172
2019	\$ 62,984,742	\$ 10,919,345
2018	\$ 52,065,397	\$ 3,562,039
2017	\$ 48,503,358	\$ 2,265,505
2016	\$ 46,237,853	\$ 1,586,070
2015	\$ 44,651,783	\$ 4,434,117
2014	\$ 40,217,666	\$ 3,135,733
2013	\$ 37,081,933	\$ 494,069
2012	\$ 36,587,864	

VSTRS Actuarially Determined Employer Contribution		
FY	ADEC	Increase over prior FY
2022 (recommended)	\$ 196,200,000	\$ 60,600,000
2021	\$ 135,600,000	\$ 9,402,611
2020	\$ 126,197,389	\$ 20,556,612
2019	\$ 105,640,777	\$ 17,231,340
2018	\$ 88,409,437	\$ 5,749,861
2017	\$ 82,659,576	\$ 6,556,667
2016	\$ 76,102,909	\$ 3,245,046
2015	\$ 72,857,863	\$ 4,505,038
2014	\$ 68,352,825	\$ 8,170,070
2013	\$ 60,182,755	\$ 8,940,823
2012	\$ 51,241,932	

# The Numbers

- The recent actuarial studies, investment performance, and reduced assumed rate of return have translated into significant projected increases in the UAAL and ADEC for both plans.

Scope of Challenge for Each Fund		
	VSERS	VSTRS
UAAL 2019 Valuation for FY21 Budget	\$815.5 million	\$1,554.0 million
UAAL 2020 Valuation for FY22 Budget	\$1,040.5 million	\$1,933.0 million
<b>Change in UAAL (aka Target Reduction Amount)</b>	<b>\$225.0 million</b>	<b>\$379.0 million</b>
ADEC FY21	\$83.9 million	\$135.6 million
ADEC FY22	\$119.9 million	\$196.2 million
<b>Change to ADEC (aka Target Reduction Amount)</b>	<b>\$36.0 million</b>	<b>\$60.6 million</b>

# Why Did the Numbers Change?

- Changes to the unfunded liability are due to a combination of factors.  
Examples include:

- Changes in Actuarial Assumptions
- Net turnover of plan participants
- Salary experience of employees
- **Past investment performance and assumed future investment performance**

# Changes FY07-FY20 (VSEERS)

Changes in actuarial assumptions (including the assumed rate of return) are responsible for increasing the UAAL by \$480.8 million since FY07.

Investment performance falling below assumptions is responsible for increasing the UAAL by \$317.5 million since FY07.

Changes between demographic experience and assumptions based on salary, COLA, net turnover, mortality, retirements, disability, and other member experience are collectively responsible for increasing the UAAL by \$307.0 million since FY07.

	Cumulative Impact on VSEERS UAAL FY07-20	% of Cumulative UAAL Change
<b>UAAL At Start of FY2007</b>	<b>\$9,044,004</b>	
Changes in actuarial assumptions/assumed rate of return	\$480,841,346	46.6%
Changes in system provisions	\$47,465,002	4.6%
Incorporation of temporary salary decreases	-\$69,913,212	-6.8%
Changes in employee contribution rate	-\$2,610,261	-0.3%
All other expected increases/reductions not listed above	-\$57,597,843	-5.6%
Other experience (gain)/loss	\$8,798,318	0.9%
Salary experience (gain)/loss	\$88,151,220	8.5%
COLA experience (gain)/loss	-\$123,583,917	-12.0%
Net turnover	\$77,509,729	7.5%
Investments	\$317,484,349	30.8%
Mortality	\$40,982,471	4.0%
Retirements	\$128,594,128	12.5%
Disability Experience	\$2,590,399	0.3%
Other (gain)/loss	\$92,709,386	9.0%
<b>UAAL At End of FY2020</b>	<b>\$1,040,465,119</b>	

# Changes FY07-FY20 (VSTRS)

Changes in actuarial assumptions (including the assumed rate of return) are responsible for increasing the UAAL by \$828.5 million since FY07.

Investment performance falling below assumptions is responsible for increasing the UAAL by \$385.0 million since FY07.

Historic and since-discontinued practices of charging OPEB costs to the pension fund are responsible for \$176 million of the UAAL growth since FY07.

Changes between demographic experience and assumptions based on salary, COLA, net turnover, mortality, retirements, disability, and other member experience are collectively responsible for increasing the UAAL by \$293.9 million since FY07.

	Cumulative Impact on VSTRS UAAL FY07-20	% of Cumulative UAAL Change
<b>UAAL At Start of FY2007</b>	<b>\$259,108,435</b>	
Changes in actuarial assumptions/assumed rate of return	\$828,540,973	49.5%
Expected adjustments excluding assumption/benefit changes	\$37,199,874	2.2%
Changes to plan provisions	-\$46,409,122	-2.8%
Investments	\$384,996,680	23.0%
Salary experience (gain)/loss	-\$129,391,882	-7.7%
COLA experience (gain)/loss	-\$102,730,234	-6.1%
Mortality	\$18,350,215	1.1%
Retirements	\$184,010,383	11.0%
Disability Experience	\$3,761,046	0.2%
Net Turnover	\$320,448,149	19.1%
Contribution shortfall including healthcare costs	\$175,907,621	10.5%
Other (gain)/loss	-\$502,768	-0.0%
<b>UAAL At End of FY2020</b>	<b>\$1,933,289,370</b>	

# What to Expect

- In an effort to mitigate these sudden changes, the Treasurer, who is a trustee of VSERS and VSTRS, convened working groups to evaluate possible options to lower the UAAL and ADEC for FY22 to FY21 levels.
- Many of the options studied involved changes to the plan structure for active employees who have not yet retired.
- The types of options evaluated included changes to the Cost of Living Adjustment structure, changing the number of years that are included when calculating AFC, increasing employee contributions, moving more actives to a Rule of 90, changes to the number of years required to vest, and changes to the maximum benefit level.
- The Treasurer issued a [report](#) on January 15<sup>th</sup> presenting estimated cost impacts from various specific changes to plan design, as well as a series of other recommendations:
  - Maintain a defined benefit system for current and future retirees.
  - Do not make changes to existing retirees.
  - Continue to fully fund the ADEC
  - To the extent any additional federal dollars or excess revenues are available, dedicate more funds to pay down ADEC and OPEB liabilities and/or establish reserve accounts that can help relieve pressure

# In Conclusion....

- **Recent changes in assumptions based on employee experience, investment performance, funding history, and demographic/economic projections have led to significant projected increases in the UAAL and ADEC for both plans between FY21 and FY22.**
  - **VSERS:** UAAL increased by \$225 mil (27.6%), ADEC increased by \$36 mil (42.9%)
  - **VSTRS:** UAAL increased by \$379 mil (24.4%), ADEC increased by \$60.6 mil (44.7%)
- **A range of options could reduce the future unfunded liability and ADEC, but it is difficult to find any single option that will fully eliminate these increases for either plan.** Reaching the goals will require a mix of multiple options implemented (and costed out) together rather than in isolation.
- **It is likely that the path toward achieving the reduction goals in this manner will be smoother for VSERS than for VSTRS.** The hole is deeper for VSTRS and the options to change plan design do not generate the same savings for both plans.

# Up Next...

Part 2: How Did We Get Here?

Part 3: Possible Options and Strategies from Other States

# Questions?

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# Thank you!



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## VSERS GROUP COMPARISONS

<b>VSERS GROUP COMPARISONS</b>	<b>GROUP A</b>	<b>GROUP C</b>	<b>GROUP D</b>	<b>GROUP F</b> <i>Hired before 7/1/08</i>	<b>GROUP F</b> <i>Hired on or after 7/1/08</i>												
<b>Employee Contributions</b>	6.65% of gross salary	8.53% of gross salary	6.65% of gross salary	6.65% of gross salary	Same												
<b>Employer Contributions</b>	21.4% of gross salary (includes pension & post employment benefits)	21.4% of gross salary (includes pension & post employment benefits)	21.4% of gross salary (includes pension & post employment benefits)	21.4% of gross salary (includes pension & post employment benefits)	Same												
<b>Average Final Compensation (AFC)</b>	Highest 3 consecutive years, including unused annual leave payoff	Highest 2 consecutive years, including unused annual leave payoff	Final salary at retirement	Highest 3 consecutive years, excluding unused annual leave payoff	Same												
<b>Benefit Formula</b>	1.67% x creditable service	2.5% x creditable service	3.33% x creditable service (after 12 years in Group D)	1.25% x service prior to 12/31/90 + 1.67% x service after 1/1/91	Same												
<b>Maximum Benefit Payable</b>	100% of AFC	50% of AFC	100% of Final Salary	50% of AFC	60% of AFC												
<b>Normal Retirement (no reduction)</b>	Age 65 or 62 with 20 years of service	Age 55 (mandatory)	Age 62	Age 62 or with 30 years of service	Age 65 or a combination of age & service credit that equals 87												
<b>Post-Retirement COLA</b>	Full CPI, from a minimum of 1% up to a maximum of 5%, after 12 months of retirement	Full CPI, from a minimum of 1% up to a maximum of 5%, after 12 months of retirement	Full CPI, from a minimum of 1% up to a maximum of 5%, after 12 months of retirement	50% CPI until 1/1/2014; 100% of CPI thereafter, from a minimum of 1% up to a maximum of 5%, after reaching age 62, or (if retired after June 30, 1997) 30 years service	50% CPI until 1/1/2014; 100% of CPI thereafter, from a minimum of 1% up to a maximum of 5%, after reaching age 65 or age and service to equal 87												
<b>Early Retirement Eligibility</b>	Age 55 with 5 years of service or 30 years of service (any age)	Age 50 with 20 years of service	Age 55 with 5 years of service	Age 55 with 5 years of service	Same												
<b>Early Retirement Reduction</b>	Actuarially reduced benefit if under 30 years of service	No reduction	3% per year from age 62	6% per year from age 62	<table border="1" style="font-size: small;"> <thead> <tr> <th>Ser. Years</th> <th>Monthly Red.</th> </tr> </thead> <tbody> <tr> <td>35+</td> <td>1/8<sup>th</sup> of 1%</td> </tr> <tr> <td>30-34</td> <td>1/4<sup>th</sup> of 1%</td> </tr> <tr> <td>25-29</td> <td>1/3<sup>rd</sup> of 1%</td> </tr> <tr> <td>20-24</td> <td>5/12<sup>th</sup> of 1%</td> </tr> <tr> <td>&lt; 20</td> <td>5/9<sup>th</sup> of 1%</td> </tr> </tbody> </table>	Ser. Years	Monthly Red.	35+	1/8 <sup>th</sup> of 1%	30-34	1/4 <sup>th</sup> of 1%	25-29	1/3 <sup>rd</sup> of 1%	20-24	5/12 <sup>th</sup> of 1%	< 20	5/9 <sup>th</sup> of 1%
Ser. Years	Monthly Red.																
35+	1/8 <sup>th</sup> of 1%																
30-34	1/4 <sup>th</sup> of 1%																
25-29	1/3 <sup>rd</sup> of 1%																
20-24	5/12 <sup>th</sup> of 1%																
< 20	5/9 <sup>th</sup> of 1%																
<b>Post-Retirement Survivorship Options</b>	100% and 50% (with or without pop-ups), all actuarially reduced based on age of beneficiary	70% spousal survivorship with no reduction in retiree's benefit	100% and 50% (with or without pop-ups), all actuarially reduced based on age of beneficiary	100% and 50% (with or without pop-ups), all actuarially reduced based on age of beneficiary	Same												

## VSTRS GROUP COMPARISONS

<b>VSTRS GROUP COMPARISONS</b>	<b>GROUP A</b>	<b>GROUP C – Group #1*</b>	<b>GROUP C – Group #2**</b>
<b>Employee Contributions</b>	5.5% of gross salary	5.0% of gross salary	5.0% of gross salary***
<b>Employer Contributions</b>	varies based on actuarial recommendation	varies based on actuarial recommendation	varies based on actuarial recommendation
<b>Benefit Formula</b>	1.67% x creditable service	1.25% x service prior to 6/30/90 + 1.67% x service after 7/1/90	1.25% x service prior to 6/30/90 1.67% x service after 7/1/90 2.0% after attaining 20.0 years
<b>Maximum Benefit Payable</b>	100% of AFC	53.34% of AFC	60% of AFC
<b>Average Final Compensation (AFC)</b>	Highest 3 consecutive years, including unused annual leave, sick leave, and bonus/incentives	Highest 3 consecutive years, excluding all payments for anything other than service actually performed	Highest 3 consecutive years, excluding all payments for anything other than service actually performed
<b>Normal Retirement (no reduction)</b>	Age 60 or with 30 years of service	Age 62 or with 30 years of service	Age 65 or when the sum of age and service credit equals 90
<b>Post-Retirement COLA</b>	Full CPI, up to a maximum of 5% after 12 months of retirement; minimum of 1%	50% CPI, up to a maximum of 5% after 12 months of retirement or with 30 years; minimum of 1%	50% CPI, up to a maximum of 5%
<b>Early Retirement Eligibility</b>	Age 55 with 5 years of service	Age 55 with 5 years of service	Age 55 with 5 years of service
<b>Early Retirement Reduction</b>	Actuarial reduction	6% per year from age 62	Actuarial reduction
<b>Post-Retirement Survivorship Options</b>	100%, 75%, and 50% (with or without pop-ups), all actuarially reduced based on age of beneficiary	100%, 75%, and 50% (with or without pop-ups), all actuarially reduced based on age of beneficiary	100%, 75%, and 50% (with or without pop-ups), all actuarially reduced based on age of beneficiary
<b>Benefit Eligibility – Other (Vested Rights, Disability, Death-in-Service)</b>	5 years of service (vested and disability) 10 years of service, or age 55 with 5 years (death-in-service)	5 years of service (vested and disability) 10 years of service, or age 55 with 5 years (death-in-service)	5 years of service (vested and disability) 10 years of service, or age 55 with 5 years (death-in-service)
<b>Disability Benefit</b>	Unreduced, accrued benefit with minimum of 25% of AFC	Unreduced, accrued benefit with minimum of 25% of AFC	Unreduced, accrued benefit with minimum of 25% AFC
<b>Death-in-Service Benefit</b>	Disability benefit or early retirement benefit, whichever is greater, with 100% survivorship factor applied, plus children's benefit up to maximum of 3 concurrently	Disability benefit or early retirement benefit, whichever is greater, with 100% survivorship factor applied, plus children's benefit up to maximum of 3 concurrently	Disability benefit or early retirement benefit, whichever is greater, with 100% survivorship factor applied, plus children's benefit up to maximum of 3 concurrently
<b>Medical Benefits</b>	Health subsidy based on member's service credit	Health subsidy based on member's service credit	Health subsidy based on member's service credit
<b>Dental</b>	Member pays the full premium	Member pays the full premium	Member pays the full premium

Group A members cease contributions upon attainment of 25 years of service.

Group #1 are members who were at least 57 years of age or had at least 25 years of service on June 30, 2010.

\*\*Group #2 are members who were less than age 57 and had less than 25 years of service credit on June 30, 2010.

\*\*\* Group #2 members who had less than 5 years of service credit as of June 30, 2014 will contribute 6% of gross salary.

# Glossary of Key Terms

- **Actuarial Accrued Liability (AAL):** The present value of the cost of future pension benefits based on the service credits that have been accrued by the workforce as of the valuation date.
- **Actuarial Value of Assets (AVA):** The value of the pension plan's assets when smoothed over time to reduce the effects of short-term volatility in the market value
- **ADEC: Actuarially Determined Employer Contribution.** Formerly called the ARC, the ADEC represents the total amount the employer must pay into the pension system in a given year to pay for the employer share of the normal cost plus a payment toward amortizing the unfunded liability according to schedule.
- **Amortization Period:** The amount of time by which unfunded liabilities are expected to be paid off and the pension system is expected to be fully funded.
- **Assumed Rate of Return:** The rate by which invested plan assets are assumed to grow from investment returns over time.
- **Funding Ratio:** The ratio of the actuarial value of assets (AVA) to the actuarial accrued liability (AAL).
- **Market Value of Assets (MVA):** The value of the pension plan's investments at a given point in time.
- **Normal Cost:** The cost of projected pension benefits allocated to the current plan year.
- **Unfunded Actuarial Accrued Liability (UAAL):** The shortfall between the Actuarial Value of Assets and the Actuarial Accrued Liability. The UAAL represents the present value of retirement benefits earned to date that are not covered by the current plan assets.