OHIO

Pension Debt Challenges for Equity in Education:

The Effect of Teacher Pension Debt Costs on K–12 Education Funding in Ohio

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Executive Summary

Ohio school districts have paid the same 14% of payroll retirement plan contribution rates annually since the 1990s—one of the lowest employer contribution rates in the country. But with changing demographics and investment climates, retirement plan costs have not stayed the same. Ohio is facing the dual need to improve its funding policy for teacher and public school employee retirement benefits while at the same time reckoning with how growing pension debt costs have been exacerbating existing education finance inequities and draining away resources necessary to help students.

Finding #1: Retirement benefit costs for school districts have increased at more than three times the rate of total state and local K–12 education spending over the past two decades:

- State and local K–12 education spending in Ohio increased 26.9% between 2001 and 2020, adjusted for inflation. During the same period, spending on employer retirement costs jumped 84.6%.
- This has gone largely unnoticed because contribution rates as a percentage of payroll have remained the same for school districts. But behind the scenes STRS Ohio trustees have cut the share of those contributions that was funding health care benefits from 4.5% of payroll in 2001 to 0% in 2022.

Finding #2: School districts and employees spent $4.2 billion to finance retirement benefits in 2022 — a 154.1% increase from 2001. That's 7x the federal funding Ohio received to support economically disadvantaged students the same year. The effects of increased retirement costs are inequitably felt across the state, with low-wealth communities bearing the brunt of the burden in two distinct ways:

(1) **Rising teacher pension debt costs are regressive and pass a greater burden to high-poverty districts.** In general, wealthier communities can afford to pay teachers higher salaries, as well as the corresponding higher costs of their retirement benefits. Those larger salaries mean larger pensions and a greater share of the unfunded liabilities for STRS and SERS. However, the pension debt costs associated with underfunding those liabilities are shared evenly by districts — even those in areas with greater poverty and fewer resources. So economically disadvantaged communities pay at least part of the retirement costs of educators earning higher salaries in wealthier districts.

(2) **Low-income communities have fewer resources to pay retirement plan costs generally — and would be disproportionately harmed by contribution rate increases.** Low-wealth districts can only generate limited resources from local property taxes. Given these limited resources, even a slight increase in pension costs can have a much higher marginal cost for low-wealth communities than more affluent ones.

Finding #3: Retirement costs are likely to grow in the future, even though benefits have been reduced, COLAs for retirees eliminated, and active teacher contributions increased.

- Members pay 14% of salary and the STRS board isn't allocating any portion of employer contributions to the health care trust fund. The retired teachers COLA is at 0%. And yet, unfunded liabilities persist and additional contribution rates for STRS and SERS are likely to increase in the near-term when investment assumptions are reduced and/or COLAs restored. The question is who will pay for these additional costs?

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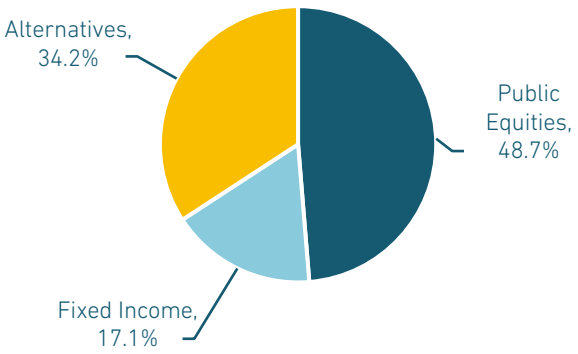
Snapshot of Retirement Benefits: State Teachers Retirement System of Ohio

OHIO STRS FINANCES, FY2022

Total Pension Liability (TPL)	$105,264,324,785
Fiduciary Net Position (FNP)	$83,034,198,764
Net Pension Liability (NPL)	$22,230,126,021
GASB-Funded Ratio	78.9%
Actuarial Accrued Liability (AAL)	$105,264,324,785
Actuarial Value of Assets (AVA)	$85,141,845,586
Unfunded Actuarially Accrued Liabilities (UAAL)	$20,122,479,199
AVA-Funded Ratio	80.9%
Years until Full Funding (Ohio STRS Estimate)	11.5 years

ASSET ALLOCATION, FY2022



CONTRIBUTIONS, FY2022

	MEMBER RATE		EMPLOYER RATE	
	PENSION	DC	PENSION	DC
Pension Plan	14%	--	14%	--
Combined Plan	2%	12%	14%	--
DC Only Plan	--	14%	4.5%	9.5%

Total Pension Contributions, FY2022	$3,250,724,361
Total Benefit Payments, FY 2022	$ 7,123,033,000

The larger the gap between contributions (inflows) and benefit payments (outflows), the more reliant a pension system is on generating large investment returns.

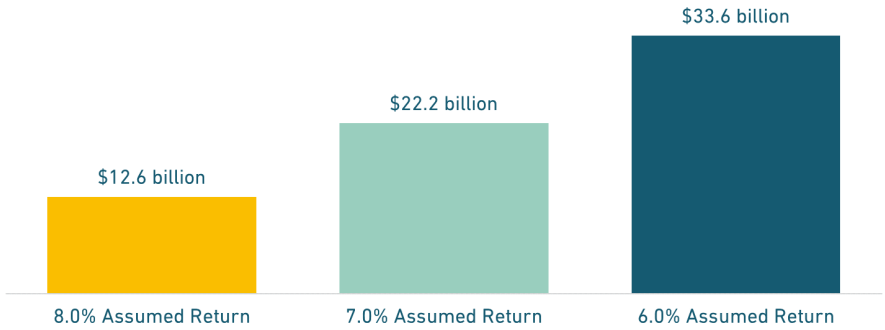
FEATURES OF OHIO STRS

	Pension Plan	Combined Plan	DC Only Plan
Multiplier	2.2%	1%	n/a
Vesting	5 Years		5 Years (graded, 20% vested per year)
Normal Retirement	Age 60 with 35 Service Years or Age 65 with 5 Service Years		n/a
Cost-of-Living Adjustment	Current board policy is 0%		n/a
Social Security	Not Enrolled		

For Pension & Combined Plans	OHIO STRS	NATIONAL AVERAGE
Assumed Rate of Return	7.0%	6.9%
Inflation Assumption	2.5%	2.5%
Member-to-Retiree Ratio	1.11	1.23

The national average assumed rate of return has been falling every year for the past decade. CalPERS has adopted a 6.8% assumed investment return and has signaled it will likely move toward 6% in the coming years. The third largest retirement system by assets, New York Common Fund, announced in the summer of 2021 that it was shifting to a 5.9% investment assumption.

ALTERNATIVE MEASURES OF OHIO STRS UNFUNDED LIABILITIES BASED ON DIFFERENT INVESTMENT RETURN ASSUMPTIONS



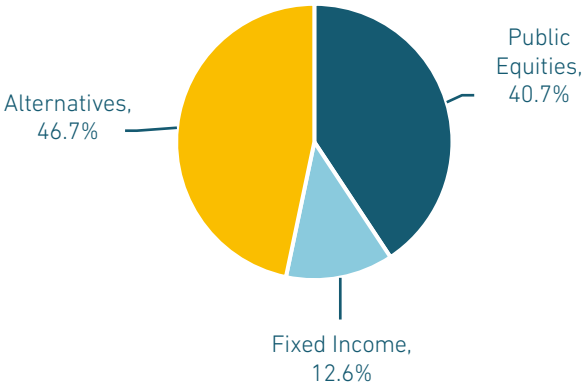
Source: Figures formally reflect the sensitivity of the net pension liabilities to different discount rates. Data are from the GASB 100 basis points +/- tables provided by STRS.

Snapshot of Retirement Benefits: School Employees Retirement System of Ohio

OHIO SERS FINANCES, FY2022

Total Pension Liability (TPL)	$22,371,468,812
Fiduciary Net Position (FNP)	$16,962,691,005
Net Pension Liability (NPL)	$5,408,777,807
GASB-Funded Ratio	75.82%
Actuarial Accrued Liability (AAL)	$22,371,468,812
Actuarial Value of Assets (AVA)	$16,886,972,559
Unfunded Actuarially Accrued Liabilities (UAAL)	$5,484,496,253
AVA-Funded Ratio	75.48%
Years until Full Funding (Ohio SERS Estimate)	22 Years

ASSET ALLOCATION, FY2021



PENSION CONTRIBUTIONS, FY2022

PENSION PLAN	
Employer Contribution	14%
Member Contribution	10%
Total Contributions, FY 2022	$900,194,639
Total Benefit Payments, FY 2022	$1,302,357,602

The larger the gap between contributions (inflows) and benefit payments (outflows), the more reliant a pension system is on generating large investment returns.

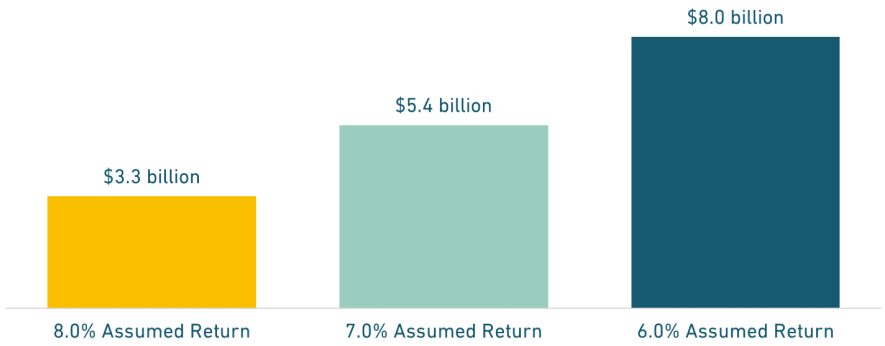
FEATURES OF OHIO SERS

PENSION PLAN	
Multiplier	2.5%
Vesting	10 Years
Normal Retirement	Age 57 with 30 Service Years or Age 67 with 10 Service Years
Cost-of-Living Adjustment	Current board policy is 2%, starting three years after retirement
Social Security	Not Enrolled

	OHIO STRS	NATIONAL AVERAGE
Assumed Rate of Return	7.0%	6.9%
Inflation Assumption	2.4%	2.5%
Member-to-Retiree Ratio	1.91	1.23

The national average assumed rate of return has been falling every year for the past decade. CalPERS has adopted a 6.8% assumed investment return and has signaled it will likely move toward 6% in the coming years. The third largest retirement system by assets, New York Common Fund, announced in the summer of 2021 that it was shifting to a 5.9% investment assumption.

ALTERNATIVE MEASURES OF OHIO SERS UNFUNDED LIABILITIES BASED ON DIFFERENT INVESTMENT RETURN ASSUMPTIONS



Source: Figures formally reflect the sensitivity of the net pension liabilities to different discount rates. Data are from the GASB 100 basis points +/- tables provided by SERS.

OHIO STRS

Timeline of Benefit Changes and Contribution Increases

Over the past two decades, Ohio has implemented multiple changes to contribution rates and retirement benefits to address the teacher retirement system's funding shortfall.

1998
The Board increased the Health Care allocation to 8%, for the fiscal year ending 1999

2001
The Board decreased the Health Care allocation to 4.5%, for the fiscal year ending 2001

2002
The Board decreased the Health Care allocation to 1%, for the fiscal year ending 2003

2003
The Board increased the member contribution rate from 9.3% to 10% effective July 1,2003, e.g. for the fiscal year ending 2004

2009-2012
STRS projected to become insolvent

2013
The Legislature adopted an Ohio STRS Pension Reform Bill, signed into law September 26, 2012, effective for the fiscal year ending 2013.

- Member contributions increased to 11% of pay, for the fiscal year ending 2014
- One-year cost-of-living adjustment freeze for all retired members

2014
The Board changed the Health Care allocation to 0%, for the fiscal year ending 2015

- Member contributions increased to 12% of pay, for the fiscal year ending 2015
- COLA reduced from 3% to 2%; any retirees from after July 1, 2013 will have a five-year freeze after this year's COLA

2015
Member contributions increased to 13% of pay, for the fiscal year ending 2016

- Multi-year phase-in of retirement eligibility change started, moving from 30 years of service at any age to 35 years and age 60 by August 2026
- Multi-year phase-in of early retirement eligibility changes started, moving from 25 years of service and age 55 to 30 years and any age by August 2023
- The benefit formula changed to measure final average salary over 5-years instead of 3-years
- The enhanced benefit multiplier for those with over 35-years of service was removed

2017
Member contributions increased to 14% of pay, for the fiscal year ending 2017

The Board reduced the COLA to 0%, effective July 1, 2017

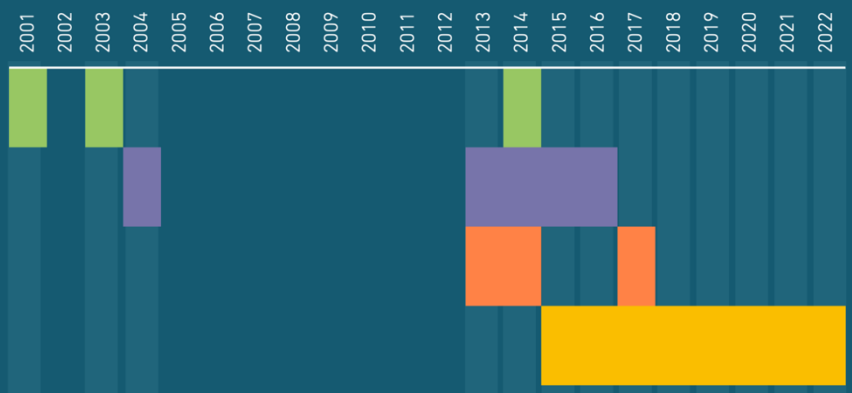
2022
The Board issued a one-time, 3% COLA and eliminated the age 60 minimum age for normal retirement that was scheduled for 2026

- Changes implemented by the OH STRS pension board
- Changes enacted by the 2012 Pension Reform Bill
- Negative performance trend
- Benefit value increase

Ohio STRS Timeline: The Impact of Two Decades of Policy Changes

Ohio has improved its pension funding shortfall in recent years, but it's come at a high cost to school districts and members in the form of rising contribution rates, underfunding of health care, and lower pension benefit values. Yet, the system likely still isn't on a track to full funding. With employees already contributing 14% of their paychecks, the state has limited revenue options left to pull from to close the funding gap.

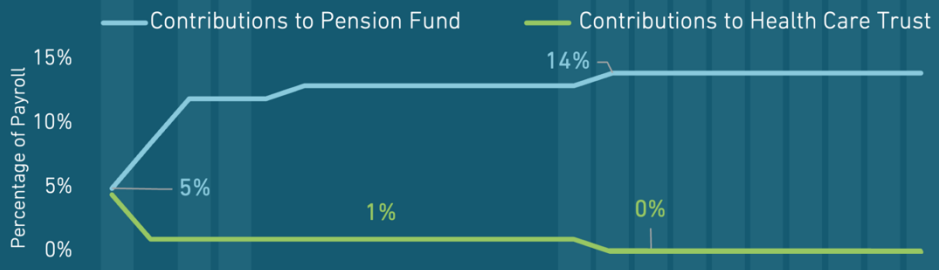
Timeline of Policy and Benefit Changes *by Effective Date*



- Change to employer healthcare contributions
- Member contribution rates increased
- COLA cut or freeze
- Normal benefit value cut

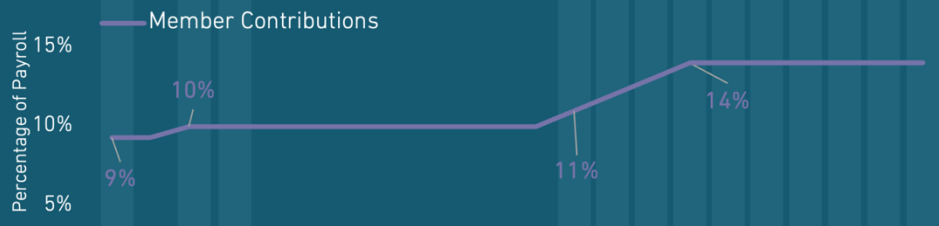
Unfunded Liability History *and 10 YR Projections*

Contribution Rate History *For Employers*



Since 2001, changes to employer retirement contribution rates have shifted from an even split between pensions and health care, to 100% going to pensions. Currently employers contribute $0 to the health care trust for retirees.

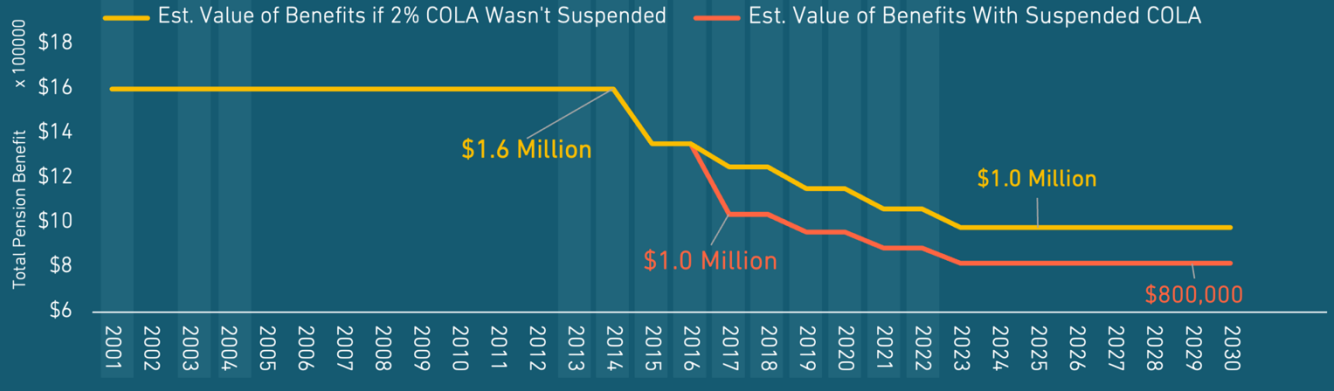
Contribution Rate History *For Members*



Despite decreasing lifetime benefit values, pensions have become more expensive for members. Contributions have increased from 9% of employee paychecks in 2001 to 14% as of 2022.

As changes to OH STRS funding policy and member benefits have been made, lifetime benefit values have declined as unfunded liabilities have improved.

Lifetime Benefit Values *For Members Reaching 30 Yrs of Service at Age 56 by Year of Retirement*



Intro: Why the Cost of Teacher Pension Debt Matters

> *"Promises were given in the past and they were taken away. [Restoring a COLA for retired teachers] is the right thing to do."*
>
> — Ohio State Senator Teresa Fedor
>
> *"A 2% annual cost-of-living increase [for retired teachers] would require doubling the employer contribution rate to about 28% of payroll."* — Ohio STRS Spokesman Nick Treneff

Ohio school districts haven't had to think much about pension costs. They pay some of the lowest employer contribution rates in the country, and those retirement plan costs haven't changed since the 1990s.

But it looks like in the near future Ohio school districts will have to rework their budgets to accommodate rising contribution rates to help teachers and retirees. Reforms adopted in 2012 ramped up teacher contributions to among the highest levels in the country. And the State Teachers Retirement System of Ohio (STRS) board has slashed cost-of-living adjustments (COLAs) on retirees' benefits to zero. Despite these significant changes, unfunded liabilities still remain a problem and are likely to grow.

At the same time, pressure is mounting to restore inflation protection for retired teachers and maybe even relieve teachers of some of their contribution rates. And, the net effect could be a massive cost increase that trickles down to the classroom — an increase so big that school districts could see their teacher pension contribution rate double from 14% to 28% of payroll.

THE INEQUITY IN THE STATUS QUO

Ohio public schools make employer contributions to two separate state retirement systems: the State Teachers Retirement System of Ohio (STRS), which enrolls certified teachers, and the School Employees Retirement System of Ohio (SERS), which enrolls non-certified school staff.

Across the two systems, $4.2 billion in 2022 was spent by school districts, the state, and employees to finance retirement benefits — a 154.1% increase from 2001. To put the 2022 expenditure number in context, it is almost 8 times the federal funding Ohio received to support economically disadvantaged students in the same year.[1]

Large pension costs are not inherently a problem, but what *is a problem* is pension costs that are rising faster generally than K–12 funding. From 2001 to 2020, retirement spending (across both STRS Ohio and SERS Ohio) increased an average of 4.69 percentage points per year, while state and local K–12 funding rose by an average of 1.41 percentage points annually.[2]

The net effect is that an increasing share of state and local K–12 education spending has been siphoned off to cover pension costs. For example, in 2020, 4.8% of local education funding went to STRS Ohio, an 18.4% increase since 2001.[3]

[1] Ohio Department of Education, "Title I LEA Allocations – FY 2022."
[2] Measurement through 2020 here is limited by Census data for education spending.
[3] The state does not directly fund STRS Ohio. Instead, districts are responsible for the full employer contribution rate. A district's contribution may include funds from the state, but those funds are not specifically allocated to fund STRS Ohio.

These growing costs of financing pension benefits disproportionately harm low-income communities in two ways:

- **Pension debt costs are regressive and pass a greater burden to high-poverty districts.** In general, wealthier communities can afford to pay teachers higher salaries, as well as the corresponding higher costs of their retirement benefits. Those larger salaries mean larger pensions and a greater share of the unfunded liabilities for STRS and SERS. However, the pension debt costs associated with underfunding those liabilities are shared evenly by districts — even those in areas with greater poverty and fewer resources.
- **Low-income communities have fewer resources to pay pension costs generally — and would be disproportionately harmed by increases in those costs.** Low-wealth districts can only generate limited resources from local property taxes. Given these limited resources, even a slight increase in pension costs can have a much higher marginal cost for low-wealth communities than more affluent ones.

WHAT COST INCREASES COULD MEAN FOR SCHOOLS

There are real consequences for school resources when teacher pension costs spike like they might in Ohio. The doubling of rates will surely affect communities across income levels. However, it's staggering to consider how such a pension contribution rate change could affect a place like Warren County, one of Ohio's poorest school districts.

Looking at their 2021–22 budget, $49 million was allocated to instruction — primarily teacher payroll. This is 76.4% of their funds, leaving small margins available for other programs and school resources. If their pension contribution increased from 14% to 28% of payroll, it could amount to nearly $7 million more in costs per year — more than almost everything else the school district does combined.

Such a forecast of contribution rates doubling is certainly on the upper bound of what might happen, and wouldn't just be authorized in a political vacuum. But even a marginal increase in retirement costs for school districts could create challenges everywhere, and would be particularly difficult for low-wealth communities to absorb without having to eliminate significant programs.

Funds in Warren County are already tight. Last year, the school district had to lobby to get an additional $469,590 for extra classroom support including a language teacher, two gifted and talented teachers, and a sign language interpreter for this school year. Here in Warren County, it's clear how the additional pressure of increased pension cost rates could directly affect school resources, classroom support, and even child development.

"PENSION DEBT" IS THE PROBLEM

The main factor driving the rising costs is skyrocketing unfunded liabilities — sometimes called "pension debt" or a "funding shortfall." STRS Ohio's and SERS Ohio's unfunded liability — the difference between a fund's assets and the benefits it owes its members — has been a heavy weight the past two decades. In 2001, combined the two funds were roughly 85% funded. But by the end of 2020, STRS Ohio had $24.2 billion in unfunded liabilities and the SERS Ohio shortfall was up to $6.6 billion — a combined funded ratio of 74.3%. Those figures improved in 2021, following strong investment performance, to a combined $16.5 billion shortfall (as reported by the two systems). But financial markets have been volatile and the total unfunded liabilities for STRS Ohio and SERS Ohio are back up to $27.6 billion as of 2022.

These funding shortfalls mean retirement benefits are more costly for educators and employers. With greater levels of pension debt, the legislature has increased annual contribution rates for teachers. The most recent change to STRS Ohio was an increase in rates paid by teachers themselves, with contribution amounts growing each year until reaching 14% of salary in 2021 (the maximum under current law).[4]

In other words, rising pension costs are already eating away at teachers' and staffs' take-home pay and are beginning to crowd out other education spending.

HOW DID OHIO GET HERE?

The 2008–09 recession hit Ohio's tax revenues particularly hard, and when the financial crisis led to pension cost increases, state leaders began looking for a way to increase contributions without adding to school employer rates. In 2012, the Ohio legislature started a ramp-up of teacher contributions into STRS for retirement benefits, which at the time were just 10% of payroll. Today, that STRS member contribution rates have climbed to an eye-watering 14% of salary, the second-highest teacher contribution rate in country (only just behind Missouri teachers' 14.5%) and well above the 6.8% of salary national average for educators.

The teacher contribution in Ohio is so high that it covers the entire projected cost of future retirement benefits that they've earned, as well as part of the cost of paying down unfunded liabilities.

Also in 2012 retired teachers had their 3% COLA reduced to minimize costs, and then in 2017, completely eliminated as a means of further keeping costs under control.

In the meantime, Ohio school districts have continued to pay a steady 14% of payroll — the same rate in place since the 1990s — much less than the 30.4% national average. Keeping the amount low has helped school districts avoid particularly high hidden education funding cuts from growing retirement costs, but it has also meant allowing STRS and SERS funding shortfalls to fester while active teachers' pay pension debt bills and retirees go without inflation adjustment on their benefits.

Now, after squeezing as much as possible from retirees and active teachers, STRS Ohio and SERS Ohio are still facing billions in funding shortfalls. The retirement systems currently report they have less than 80% of the money needed to pay future benefits — but, that assumes they can earn a 7% investment return in the future, something that is highly unlikely. Using more realistic investment assumptions, the retirement systems have closer to 70% of the money needed — and that is before figuring out the costs of providing inflation adjustments for retirees.

UNCERTAIN BUT COSTLY FUTURE

Today, the reality in Ohio is that more money is going to be needed for STRS Ohio. But the question is: Where will it come from? Teacher rates are already very high, and there is nothing left to cut from retirees. That means that now, after a decade without a hike, pressure could very well be shifted onto school districts to make up the difference.

[4] Members of STRS Ohio pay 14% of payroll no matter what retirement plan they are enrolled in. How that money gets used varies depending on the enrollment type. In 2022 members who elect the STRS Ohio "Pension Plan" contribute 14% of salary, of which 10.86% is put toward the cost of member benefits and 3.14% is put toward legacy unfunded liabilities. Members who elect the STRS Ohio "Combined Plan" contribute 2% for pension benefits and 12% for a defined contribution account. Members who elect the STRS Ohio "DC Plan" have all of their 14% put into a defined contribution account.

Legislation proposed during the 2022 session would have restored a COLA for retirees, but without specifics on how the costs could be covered. During the spring of 2022, the STRS board met to consider the costs of restoring the COLA and voted to provide a one-time benefit increase instead.[5]

But, that single nudge to benefits won't eliminate the political pressure to restore inflation protection of retiree benefits. Nor will STRS be able to sustain its current investment assumption over the long-term. This means it is almost certain that further contribution rate increases — specifically for employers or for the state — are coming for Ohio's school district education budgets and likely for the state as well.

Ohio school districts have been benefiting from a requirement to do five-year budgeting — allowing school districts to understand how cost changes will affect them in the future. But now, we can only imagine what it will mean to have the sudden shock of a 100% increase in pension payments, and how that will trickle down into affecting the classroom — especially in communities with fewer and lower resources.

PAPER OUTLINE

Both the legislature and the board of trustees for STRS Ohio and SERS Ohio have additional improvements that they need to adopt. Some of these are related to how the pension funds measure their unfunded liabilities; other policies are related to how the costs of the retirement system are financed across the state.

This paper systematically lays out how growing teacher retirement costs are creating a challenge to efforts aiming to improve education resource equity in Ohio.

Part 1 shows generally ***How Teacher Retirement Costs Affect School Finances***.

Part 2 shows specifically that ***Pension Spending Has Exacerbated Existing Funding Inequities***.

Part 3 shows how ***Underperforming Investments and Contribution Shortfalls Caused Pension Debt to Grow for Ohio School Districts.***

Part 4 asks ***Who Will Pay Pension Costs Increases in the Future?***

A series of appendices provide data on the source of pension debt for STRS Ohio and SERS Ohio, how teacher pension benefits work, and how growing retirement costs are also creating a challenge for the value of those retirement benefits.

Avoiding a future hidden education funding cut created by additional school district retirement contributions will be difficult, but not impossible. Doing so will require building political will through greater understanding of how retirement costs have changed in Ohio over the past two decades, what might create a historic need to change employer contribution rates in the future, and what the equity implications are of status quo pension underfunding.

The legislature, governor, and the board of trustees for STRS Ohio and SERS Ohio will need to adopt a number of significant changes including: (1) adjusting how the pension funds measure their unfunded liabilities, including using a more reasonable assumed rate of return and (2) modifying how the costs of the retirement system are paid for. If ignored, the unfunded liability is only likely to grow with the effect being borne disproportionately by low-wealth communities and the teachers that serve them.

[5] STRS Ohio spokesperson Nick Treneff claimed, based on analysis provided by STRS actuarial advisors, that fully reinstating an annual COLA would add $13.8 billion to STRS Ohio's unfunded liability and require school district contribution rates to double — which would mean some $1.7 billion a year getting extracted from Ohio school budgets.

1. How Teacher Retirement Costs Affect School Finances

Ohio's schools are served by two pension systems: the State Teachers Retirement System of Ohio (STRS Ohio), which enrolls schools' instructional staff and administrators, and the Ohio School Employees Retirement System (SERS Ohio), which enrolls non-certified school employees.[6]

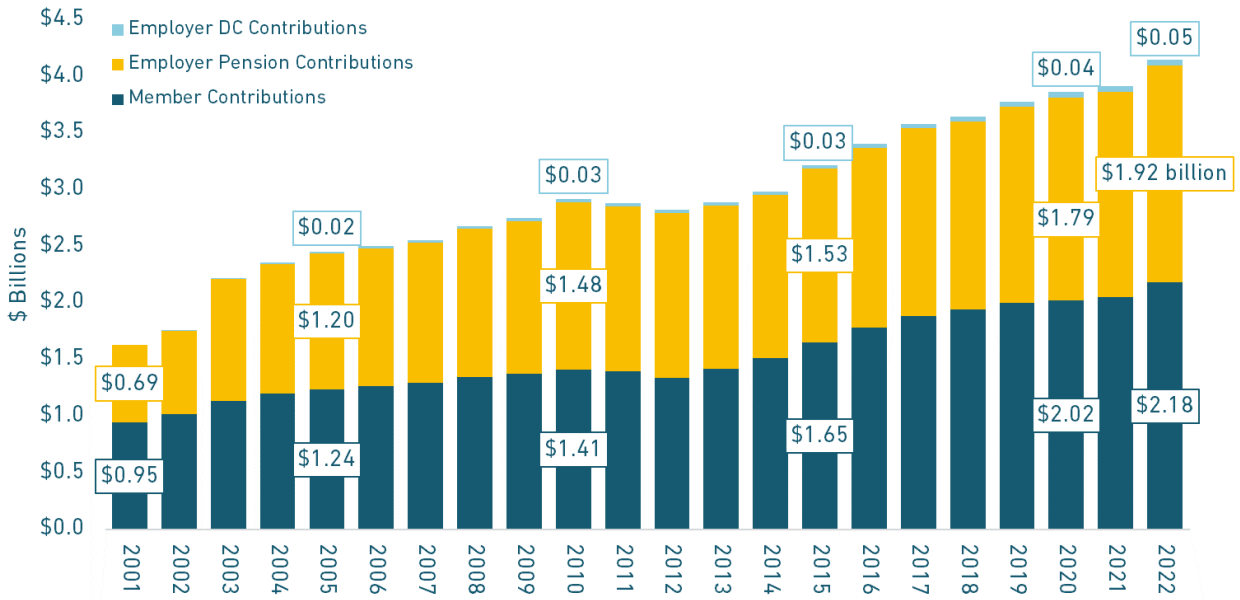
SERS Ohio members — non-teaching employees in Ohio public schools — are enrolled in a defined benefit pension plan. STRS Ohio members have the three different retirement plans to choose from:

- A defined benefit pension plan (the "Pension Plan");
- A defined contribution plan (the "DC Plan"); and,
- A hybrid plan, which has both pension and DC plan elements (the "Combined Plan").

Spending on teacher and staff retirement benefits across STRS Ohio and SERS Ohio is increasing rapidly. As Figure 1 shows, combined nominal contributions into both systems increased 130.8% between 2001 and 2022. Even after adjusting for inflation, total pension spending still increased 84.6%. (We discuss the reasons why in Part 3 below and Appendices A and B).

FIGURE 1: RETIREMENT PLAN CONTRIBUTIONS MORE THAN DOUBLED FROM 2001 TO 2022

Actual Contributions Paid, 2001–2022



Source: Equable Institute analysis of public plan valuation reports and Annual Comprehensive Financial Reports (ACFRs). Totals are not adjusted for inflation.

[6] STRS Ohio members are licensed teachers in city, local, and village school districts, plus some public colleges, vocational schools, and universities. Once a new teacher starts working in Ohio they have 180 days to decide which of the three retirement plans they want to join. If they don't choose, then by default they are enrolled into the defined benefit pension plan. The retirement plan provisions are discussed in greater detail in Appendices D and E. Generally, the analysis in this paper includes combined data for all of the STRS Ohio plans available.

The increased spending on both the teacher retirement system and school employee pension system came from higher contribution rates for members and a larger share of employer (e.g., school districts) contributions being allocated to pension benefits.[7] In total, spending on retirement plans went up from $1.6 billion in 2001 to $4.2 billion in 2022.

The changes in contributions differed across the two retirement systems.

For STRS Ohio, there were two primary changes to contributions. First, the statutory member contribution rate for pension benefits increased several times between 2001 and 2022, shown in Figure 2. Second, while the employer *contribution rate* remained at 14% of payroll for the last two decades, the share of that contribution being allocated to pension benefits instead of health care benefits also steadily increased — this is also shown in Figure 2.

For SERS Ohio, employers have provided the majority of increased contributions since 2001. Figure 3 shows the change in statutory member contribution rates and employer contribution rates. The figure also shows the portion of the employer contributions that was allocated to the SERS health care trust fund versus the pension trust fund.

FIGURE 2. OHIO STRS STATUTORY CONTRIBUTIONS INCREASED MORE THAN 45% SINCE 2001

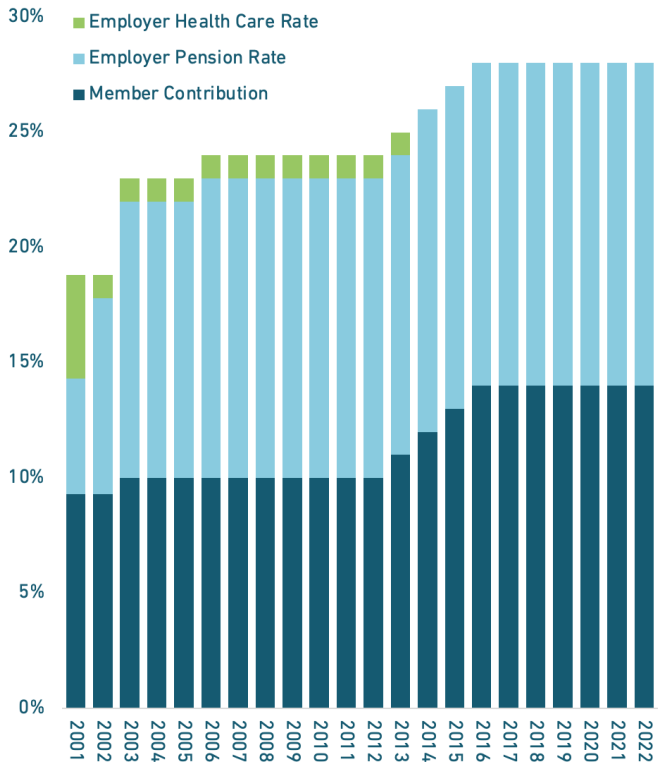
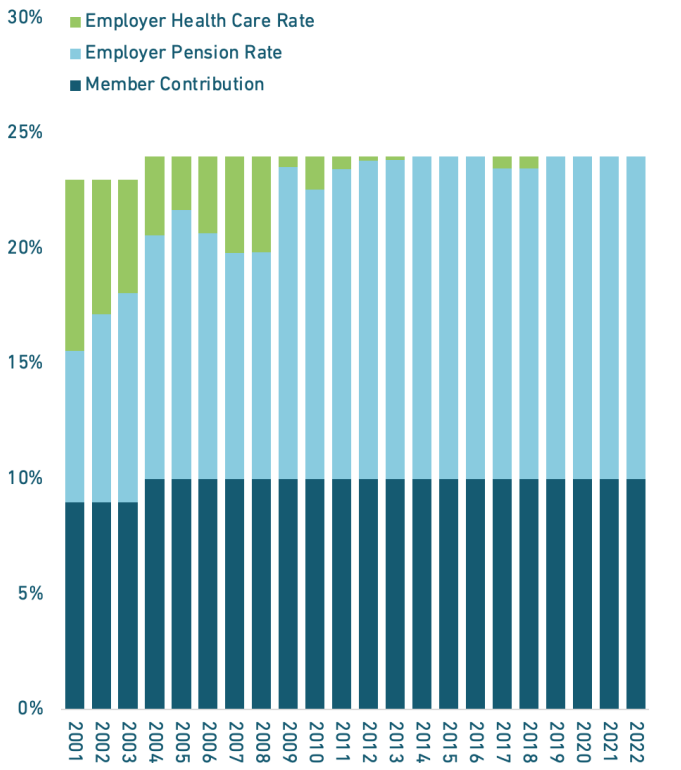


FIGURE 3. OHIO SERS STATUTORY CONTRIBUTIONS HAVE INCREASINGLY GONE TO PENSIONS

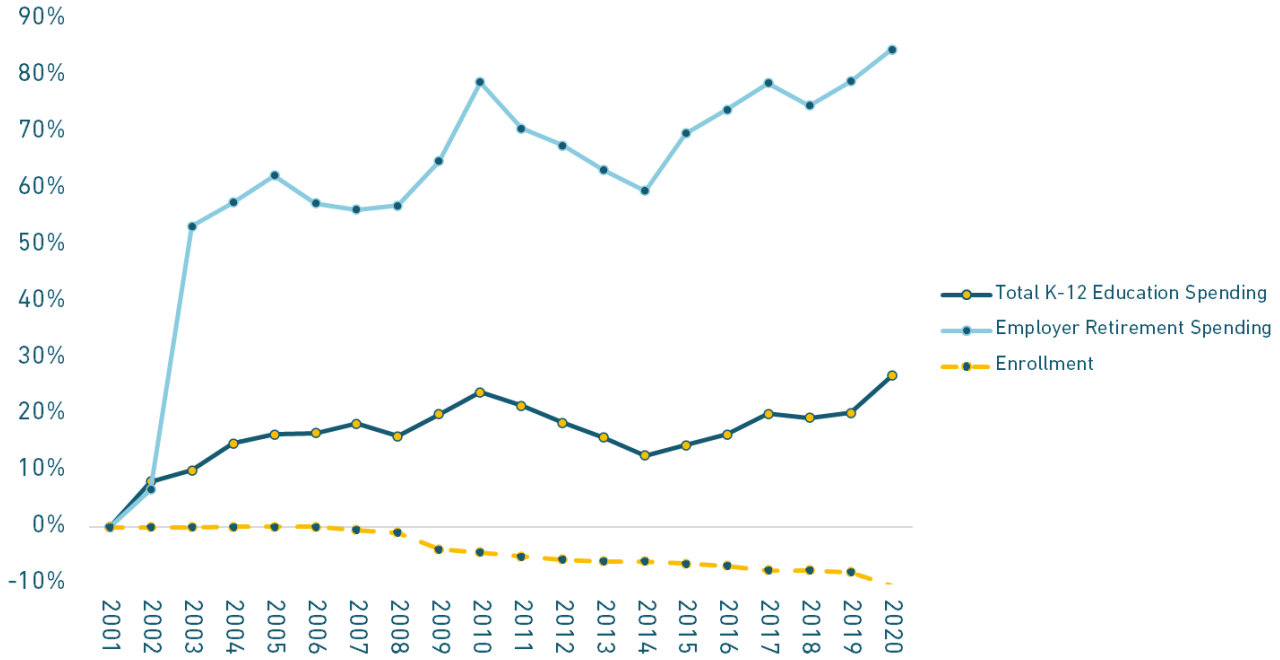


Source: Equable Institute analysis of public plan valuation reports and ACFRs.

[7] These are nominal figures that are not adjusted for inflation. Data includes employer contributions for DC plans because these are expenditures for school districts; it also includes member contributions for the pension plan as these are spending on pension benefits, whereas member contributions for their own DC plans are into individual accounts and not controlled by the state.

FIGURE 4: RETIREMENT BENEFIT SPENDING BY SCHOOL DISTRICTS INCREASED AT MORE THAN THREE TIMES THE RATE OF TOTAL K–12 EDUCATION SPENDING

Growth in Total K–12 Expenditures and Actual STRS/SERS Ohio Employer Contributions Paid, 2001–2020



Source: Equable Institute analysis of public plan valuation reports and ACFRs. Student enrollment totals are from the National Center for Education Statistics, Public Schools, 2019–20, excludes adult education. Employer contribution figures are for pension spending and DC Plan spending. Financial figures are adjusted for inflation.

The increase in retirement plan costs across both STRS Ohio and SERS Ohio has been outpacing the growth in K–12 spending across Ohio, as shown in Figure 4. Employer spending on STRS Ohio and SERS Ohio increased dramatically from 2001 to 2003, jumping 54.7%. Between 2003 and 2020, employer spending on pensions and DC Plans grew an average of 4.69 percentage points every year. State and local K–12 spending over the same time period increased just 1.41 percentage points annually.

Overall, between 2001 and 2020, after adjusting for inflation, retirement plan spending across both Ohio state school retirement systems grew at more than three times the rate as total K–12 spending. Excluding the rapid increase in spending from 2001 to 2003, retirement plan expenditures grew at roughly 1.5 times the rate as K–12 spending over the same period.

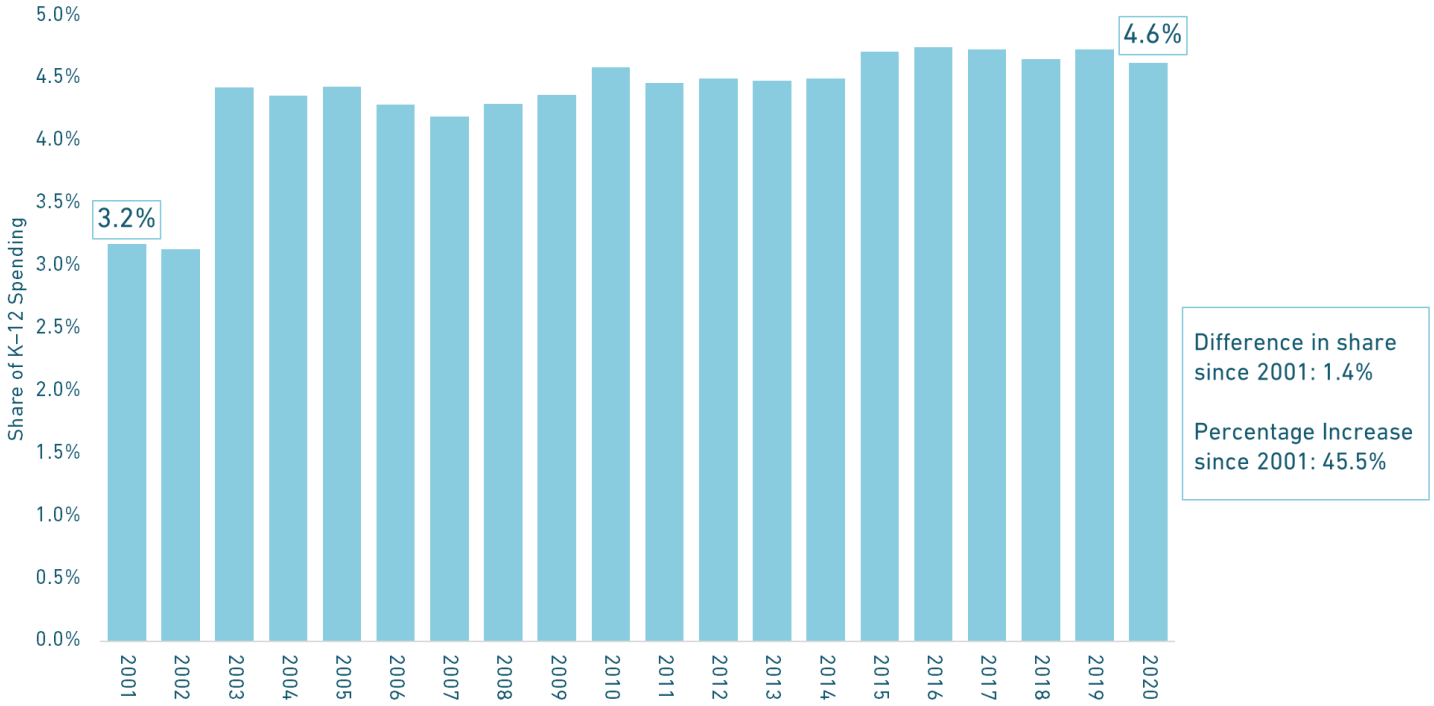
The state education formula is rightly attentive to students. However, the cost of an underfunded retirement system like STRS Ohio cannot be ignored. The state does not specifically allocate K–12 funds for STRS Ohio or SERS Ohio, and it also does not provide supplemental funding to address each retirement system's unfunded liability. As a result, those costs are left for districts to figure out, and each time the cost to pay down the unfunded liability for either system rises, it can be equated to a hidden cut to the budget that districts have to provide a quality education.

Moreover, STRS Ohio is in an even more untenable place, where member contributions exceed the total normal costs for the plan and the surplus funds are then used to pay down the unfunded liability. This means that teachers in Ohio are paying for the debt their retirement system holds, despite the fact that they hold no responsibility for the liability and regardless of whether they were teaching or not when the unfunded liability accumulated in the first place.

These rising retirement plan costs eroded other education investments. Figure 5 (below) shows the share of total K–12 spending consumed by state and employer contributions to STRS Ohio and SERS Ohio. In 2001, contributions to Ohio STRS and SERS consumed 3.2% of total K–12 spending. By 2020, that increased to 4.6%. That amounts to a 45.5% increase. (See Appendix C for a breakout of this data for STRS and SERS separately.)

FIGURE 5: COMBINED STRS OHIO AND SERS OHIO SPENDING CONSUMES A GREATER SHARE OF K–12 EDUCATION SPENDING OVER TIME

Actual Contributions to STRS Ohio and SERS Ohio as a Share of Total K–12 Spending, 2001–2020

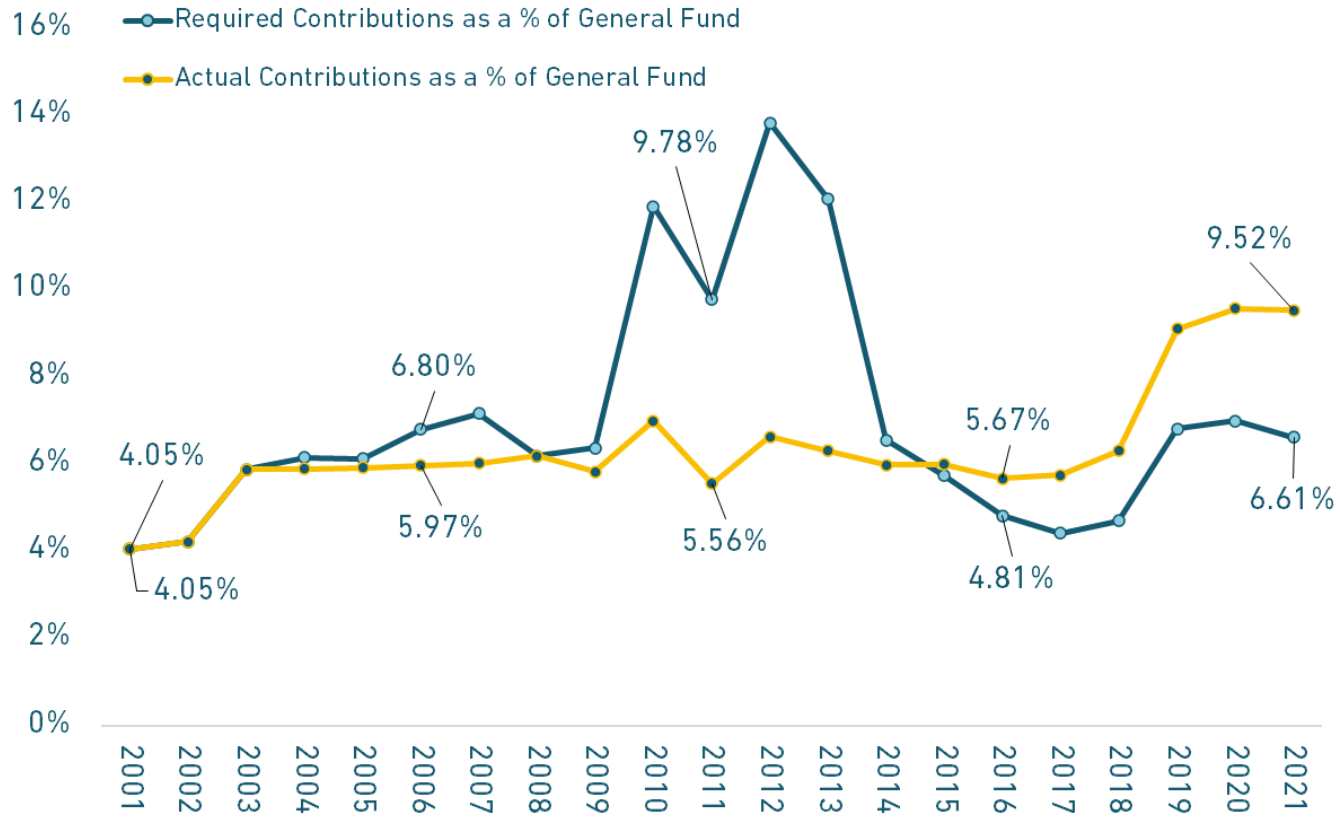


Source: Equable Institute analysis of public plan valuation reports and ACFRs. These figures are based on expenditures data adjusted for inflation.

To put the cost of STRS Ohio and SERS Ohio into further perspective, Figure 6 (next page) shows what the combined contributions to the two pension funds have been each year as a percentage of the Ohio General Fund. The figure includes lines for both the actual amount paid and the amount that should have been paid each year (if the state had been responsibly funding the pension plans).

FIGURE 6: STRS AND SERS RETIREMENT SPENDING HAS MORE THAN DOUBLED AS A SHARE OF THE STATE'S GENERAL FUND

Required & Actual STRS Ohio & SERS Ohio Contributions as a Share of Ohio's General Fund, 2001–2021



Source: Equable Institute analysis of public plan valuation reports and ACFRs.

The amount of funds actually paid to STRS Ohio and SERS Ohio increased from 4.05% of the general fund's budget in 2001 to 9.52% in 2021. Paying the full bill, which limits future costs, would have cost 6.61% of the General Fund budget in 2021, which is 2.56 percentage points more than in 2001. However, the actual contributions paid from 2009 to 2014 fell far short of what was required, which contributed significantly to the unfunded liability of the pension funds.

PART 1 SUMMARY

School pension costs in Ohio have risen faster than K–12 spending, crowding out other potential investments in education. Retiree cost-of-living adjustments have been reduced to 0%, and retirement system contribution rates have been entirely allocated to basic pension benefits (instead of any share going to health care costs). Member contribution rates for STRS members have also been increased to match the 14% of payroll rate that employers pay. If additional contributions are required in the future it could mean that district contribution rates are increased for the first time in decades.

2. Retirement Spending Has Exacerbated Existing Funding Inequities

School district leaders across Ohio have felt immune to changes in retirement costs because their bottom line contribution rate hasn't changed since the 1990s. Public school employers have just paid a flat 14% of payroll every year to STRS and SERS, and let state retirement systems figure out how to distribute that money. And for a while those systems were able to set aside a portion of the money for health care benefits in addition to retirement system costs.

But the retirement systems themselves weren't immune from external changes to financial markets, interest rates, and the general investment climate for pension funds. The actual costs of retirement benefits for public school teachers and staff has been steadily on rise, and the state's previous efforts to stop the growth — making members pay more and giving less to retirees — has not been sufficient (see Part 3 of this paper). As a result, school districts are facing the probable reality of an increase in their contribution rates for the first time in decades.

Even though employer total contribution rates haven't risen in years, that doesn't mean the share of K–12 spending going to cover retirement costs hasn't been increasing (as shown in Figures 4 and 5). And the effects of that increase are inequitably felt across the state, with low-wealth communities bearing the brunt of the burden in two distinct ways:

(3) Rising teacher pension debt costs are regressive and pass a greater burden to high-poverty districts.

(4) Low-income communities have fewer resources to pay retirement plan costs generally — and would be disproportionately harmed by increases in those costs.

RISING TEACHER PENSION DEBT COSTS ARE REGRESSIVE AND PASS A GREATER BURDEN TO HIGH-POVERTY DISTRICTS.

Contributions to Ohio STRS, from both teachers and their employers, are based on salary. The higher a teacher's salary, the more she and her employer contribute to the fund. Given that more experienced educators earn higher salaries, this structure is designed to reward teachers who remain in the profession for their entire career.

In general, wealthier communities can afford to pay teachers higher salaries, as well as the corresponding higher costs of their retirement benefits, as higher salaries result in greater STRS Ohio pension liabilities.

In other words, districts that pay larger salaries are responsible for a greater share of the total pension liability at STRS Ohio. However, the pension debt costs associated with underfunding that liability are shared evenly by districts across the state through evenly distributed contribution rates. This means that economically disadvantaged communities pay at least part of the retirement costs of educators earning higher salaries in wealthier districts.[8]

[8] To be clear, the problem of shared unfunded liability costs is not the fault of districts that pay higher teacher salaries. It is the result of state policy. First, the state sets contribution rates that flow into STRS Ohio, which historically have not always been sufficient to pay actuarial determined requirements. And the board of trustees at STRS Ohio manages actuarial policies and certain aspects of benefit levels (like COLA rates), which collectively can either contribute to rising unfunded liabilities or reduce them. Districts have no control over the operation of STRS Ohio and therefore do not determine whether the system's debts increase or decrease. Second, when STRS Ohio's pension debt increases, requiring additional funding, the state doesn't appropriate supplemental funds to districts to cover any of the rising debt costs, despite being at least partially responsible for causing them through policy decisions made at the state level.

This regressive effect is compounded by higher teacher turnover rates in high-poverty districts as well. This is because higher turnover districts have a lower rate of educators vesting in the system, and with more teachers leaving the district or profession, they may also have a lower rate of educators spending their highest earning years in the district. Both workforce trends lead to lower state pension investments in high-poverty districts.[9]

There are several strategies Ohio could pursue to disrupt these patterns. For one, the state could make its own contribution to STRS Ohio to cover the burgeoning pension debt cost. This would reduce the burden on local districts and limit costs over the long term. The state could address the problem of burdening economically disadvantaged districts with more than their share of the debt cost by developing a funding structure that ties a district's share of the overall debt cost to their contribution to STRS Ohio's liability. This would reduce or eliminate the issue of low-income districts subsidizing retirement costs in wealthier ones.

LOW-INCOME COMMUNITIES HAVE FEWER RESOURCES TO PAY RETIREMENT PLAN COSTS GENERALLY — AND WOULD BE DISPROPORTIONATELY HARMED BY INCREASES IN THOSE COSTS.

Local communities pay the entire employer contribution for STRS Ohio and SERS Ohio. This disproportionately harms lower-wealth districts, which are less able to raise additional revenues beyond state aid to offset the costs. In effect, contributions to STRS Ohio and SERS Ohio act as a flat tax and treat the teacher salaries that Ohio school districts need to pay as the same regardless of context.

This is challenging enough on its own, in the status quo context where employer contribution rates have been relatively stable for the past few decades. But should contribution rates for employers be increased in the coming years to address persistent unfunded liabilities or additional costs related to improving retiree benefits, districts with lower income would be disproportionately harmed.

For a low-wealth district that generates only limited resources from local taxes, spending an increasing amount on retirement costs — even if just an increase equivalent to 2% to 5% of payroll — has a much higher marginal cost than it does in a wealthy district generating considerable local revenues. To use an everyday example, a $100 parking fee costs a lot more to a minimum wage worker than it does to a corporate executive. In this same way, increasing district pension costs similarly burdens low-wealth communities more than it does affluent ones.

PART 2 SUMMARY

The growing pension cost implications are not distributed evenly from district to district. Already facing significant funding challenges and heavily reliant on state aid to fill out their budgets, the students in Ohio's low-wealth districts experience the most harm from resource reductions.

[9] Max Marchitello, "Problems with Retention: How Teacher Turnover and State Pension Systems Combine to Exacerbate Inequities across Districts," TeacherPensions.org, July 24, 2019.

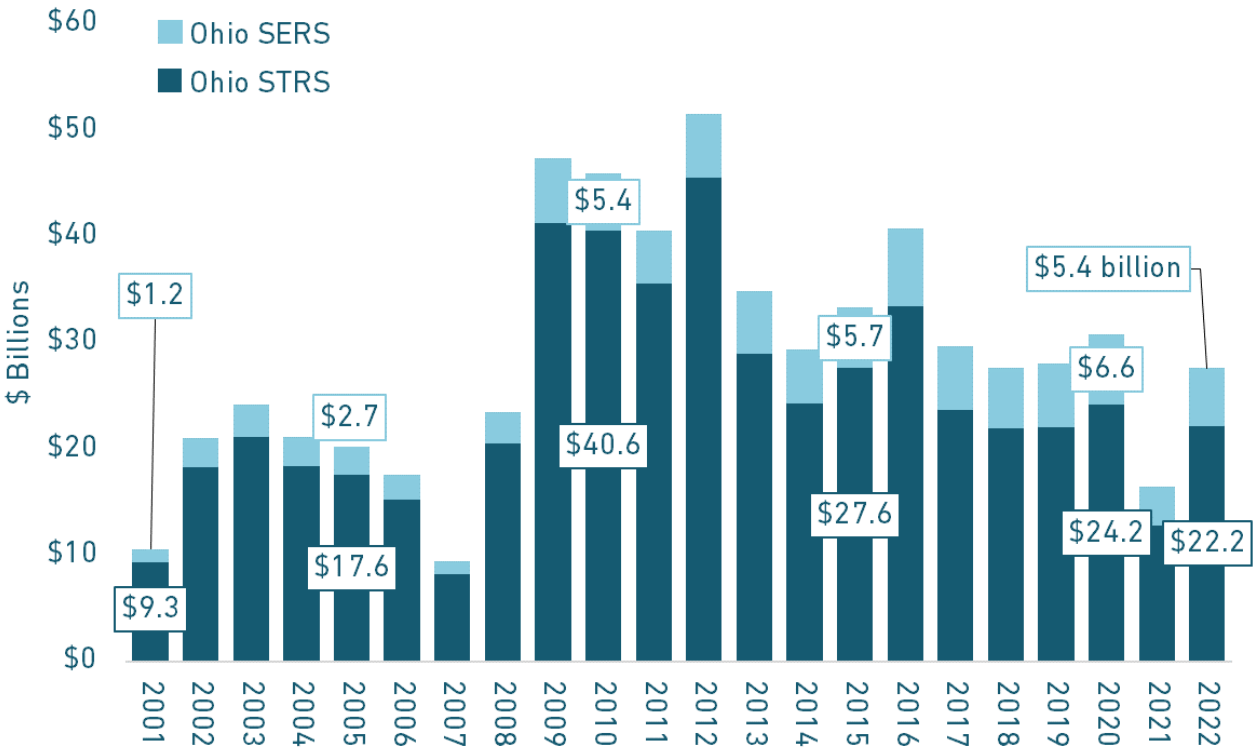
3. Underperforming Investments and Contribution Shortfalls Caused Pension Debt to Grow for Ohio School Districts

The funding history for Ohio's public school retirement systems has generally had a positive trend over the past decade. Figure 7 shows the total dollar valued unfunded liability across both STRS Ohio and SERS Ohio, which had been declining since 2012 until financial market losses in 2022.

As of June 2022, the unfunded liability for STRS Ohio is estimated at $22.2 billion (which is a 78.9% funded ratio) and for SERS Ohio it is $5.4 billion (a funded ratio of 75.8%).

FIGURE 7: COMBINED UNFUNDED LIABILITY CARRIED BY OHIO PUBLIC SCHOOLS

STRS Ohio & SERS Ohio Market Valued Unfunded Liability, 2001–2022



Source: Equable Institute analysis of public plan valuation reports and ACFRs.

The two strategies that Ohio has used to push unfunded liability levels down were an increase in member contributions over the past decade and a reduction in retiree benefit values by eliminating cost-of-living adjustments. Legislation partially lowered the COLA for STRS Ohio, and then the board of trustees further cut the rate to 0% in 2017 — the combination of these two moves has removed as much as $28 billion in unfunded liabilities from the STRS Ohio books. The downside of that approach, though, is that it has left retired teachers exposed to inflation effects on their benefits.

Similarly, from the perspective of the retirement system, increasing contribution rates was a sound policy generally, even if the specific approach of raising rates on members exclusively may be otherwise problematic. The additional dollars plus lowered future pension benefit values has helped a general improvement in funded status — which stands in contrast to many other state pension funds around the country.

Political pressure (and reasonable argument) is likely to reverse this policy at some point in the future, which will mean accounting for additional unfunded liabilities currently not measured. The STRS Ohio board has been considering various scenarios that would reduce member contribution rates and partially restore COLAs for retirees. Again, these might be the right overall policies considering the various trade-offs between retirees, active members, and taxpayers — but certain changes might reduce long-run funding stability of the retirement system.

The current reported levels of unfunded liability are likely understating the real funded status of STRS Ohio and SERS Ohio. And, that is because both systems are using an unrealistic 7% assumed rate of return on investments.

If STRS were to use a more realistic 6% assumed rate of return, its 2022 unfunded liability would be closer to $33.6 billion, whereas SERS would be looking at around an $8.0 billion unfunded liability — putting the two together at over $40 billion shortfall in 2022, not the roughly $27 billion reported. This would also mean a collective funded ratio for the two Ohio public school retirement systems of roughly 70.6%.

Under current state law, all of that liability is the responsibility for active teachers and school districts.

The combined unfunded liability of Ohio's teacher and non-certified staff pension systems can be thought of on a per-student basis, too. Table 1 shows the debt distributed across the total K–12 enrollment in Ohio from 2001 to 2020.

TABLE 1: OHIO SCHOOL UNFUNDED PENSION LIABILITY AMOUNTS TO $18,725 PER STUDENT

Total K–12 Funding and Unfunded Liability (STRS+SERS) per Student, 2001–2020

YEAR	TOTAL K–12 SPENDING PER STUDENT	PER-STUDENT SHARE OF PENSION DEBT	PENSION DEBT AS % OF PER-STUDENT FUNDING
2001	$17,699	$5,769	32.59%
2002	$17,978	$11,493	63.93%
2003	$19,431	$13,209	67.98%
2004	$19,791	$11,515	58.19%
2005	$20,644	$11,050	53.52%
2006	$20,922	$9,578	45.78%
2007	$21,077	$5,190	24.63%
2008	$21,493	$12,919	60.11%
2009	$21,726	$26,867	123.66%
2010	$22,576	$26,227	116.17%
2011	$23,504	$23,324	99.23%
2012	$23,177	$29,836	128.73%
2013	$22,682	$20,254	89.30%
2014	$22,174	$17,036	76.83%
2015	$21,669	$19,424	89.64%
2016	$22,110	$23,853	107.89%
2017	$22,667	$17,531	77.34%
2018	$23,370	$16,344	69.93%
2019	$23,308	$16,627	71.34%
2020	$24,123	$18,725	77.62%

Source: Total K–12 education spending data are drawn from U.S. Census Bureau, 2020 Annual Surveys of State and Local Government Finances. Unfunded liability data are drawn from public plan valuation reports and ACFRs. All spending figures are adjusted for inflation.

During that period, per-pupil spending increased approximately $6,400, from $17,699 in 2001 to $24,123 in 2020. At the same time, a student's "share" of the pension debt jumped from $5,769 in 2001, to $18,725 by 2020.

Put another way, the magnitude of the pension debt is such that the state would need to shut down the K–12 education system for almost 80% of the school year and funnel all those revenues into STRS Ohio and SERS Ohio to pay down the debt.

Table 2 shows that per-pupil pension costs (STRS Ohio and SERS Ohio), consumed a growing share of total K–12 spending from 2001 to 2020. Over this period, K–12 per-pupil expenditures increased 36.3% compared with an increase of 180.7% in total per-pupil retirement plan costs. Overall, the total costs of teacher and public school employee retirement in 2020 consumed 5.4% of total state and district per-pupil K–12 spending — up from a 2.6% share of per-pupil dollars in 2001.

That is the hidden education funding cut created by the status quo. Any increase to retirement costs for school districts without additional education funding dollars is going to exacerbate this trend.

TABLE 2: OHIO SCHOOL RETIREMENT COSTS PER STUDENT NEARLY DOUBLED BY 2020

K–12 and STRS+SERS Retirement Spending by Source per Student, 2001–2020

YEAR	TOTAL RETIREMENT COST	STATE K–12 SPENDING	DISTRICT K–12 SPENDING	TOTAL K–12 SPENDING	TOTAL K–12 SPENDING MINUS TOTAL RETIREMENT COST
2001	$466	$5,253	$12,446	$17,699	$17,233
2002	$496	$5,367	$12,606	$17,978	$17,482
2003	$724	$5,865	$13,565	$19,431	$18,706
2004	$764	$5,903	$13,887	$19,791	$19,027
2005	$800	$6,028	$14,615	$20,644	$19,844
2006	$808	$6,392	$14,526	$20,922	$20,114
2007	$828	$6,509	$14,569	$21,077	$20,249
2008	$875	$6,703	$14,790	$21,493	$20,617
2009	$929	$6,860	$14,871	$21,726	$20,797
2010	$1,013	$7,085	$15,496	$22,576	$21,564
2011	$1,011	$7,866	$15,638	$23,504	$22,494
2012	$1,011	$7,807	$15,370	$23,177	$22,166
2013	$1,003	$7,286	$15,396	$22,682	$21,679
2014	$1,001	$7,704	$14,470	$22,174	$21,173
2015	$1,076	$7,404	$14,264	$21,669	$20,593
2016	$1,113	$7,290	$14,826	$22,110	$20,997
2017	$1,169	$7,272	$15,395	$22,667	$21,498
2018	$1,180	$6,901	$16,470	$23,370	$22,190
2019	$1,230	$6,961	$16,347	$23,308	$22,077
2020	$1,309	$6,737	$17,386	$24,123	$22,814

Source: Total K–12 education spending data are drawn from U.S. Census Bureau, 2020 Annual Surveys of State and Local Government Finances. Unfunded liability are drawn from public plan valuation reports and ACFRs. All spending figures are adjusted for inflation.

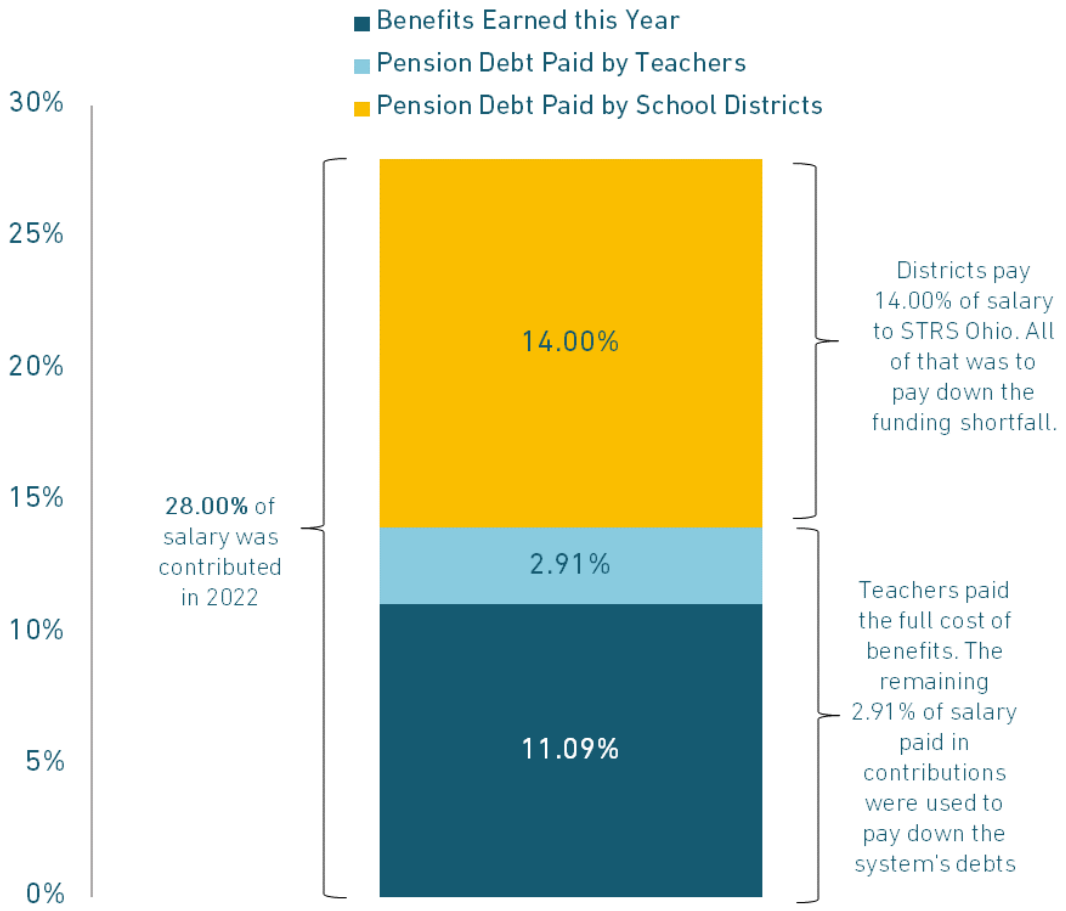
THE ADDED PENSION DEBT TAX ON ACTIVE TEACHERS

The state legislature has tried to mitigate growing teacher pension costs by passing most of the recent increases off onto active members. This approach, however, means that teachers enrolled in STRS Ohio are paying for the entire "normal cost" of their own benefits while also paying for some of the pension debt in the teacher pension fund. Put another way, teachers today pay for all of the costs of their own benefits and some of the costs of retired teachers too. This situation isn't sustainable and creates a problem that will need to be solved in the near term.

Figure 8 illustrates the contributions for teachers enrolled in STRS Ohio in 2022. Employers directed their full 14% of payroll contributions toward the unfunded liability and did not pay anything toward the benefits currently being earned. As noted previously, teachers are required to contribute 14% of salary toward their retirement benefits, however, the benefits earned in 2021 only required 11.09% of salary. Active Ohio teachers in 2022, therefore, actually contributed 2.91% of their salaries to pay down the plan's unfunded liabilities — debt that they did not create. For more on this, and a breakdown of contributions to SERS Ohio, see Appendices D and E.

FIGURE 8: CURRENT OHIO TEACHERS PAY FOR THEIR ENTIRE BENEFIT AND EVEN CONTRIBUTE NEARLY 3.0% OF SALARY TO PAY DOWN THE PLAN'S DEBT

STRS Ohio Contribution Rates, 2022



Source: Equable Institute analysis of public plan valuation reports and ACFRs.

4. Who Will Pay Pension Cost Increases in the Future?

In response to rising teacher pension costs driven by burgeoning debt, the Ohio legislature enacted changes in 2012 to all of its public pension plans. For STRS Ohio, the legislation cut benefits, raised the normal retirement age, reduced inflation protection, and increased member contribution rates.[10] For SERS Ohio, the legislation changed the rules regarding early and normal retirement age (which reduced costs).[11]

Certain provisions in the 2012 so-called "pension reform" legislation have been phased in over time. Member contribution rates into STRS Ohio were raised by one percentage point a year from 10% of salary to 14% of salary between 2012 and 2016. Retirement eligibility requirements related to age and service years are being gradually increased between 2012 and 2023 to define "early retirement" as a minimum of 30 years of service or age 60 with five years of service. By 2026 "normal retirement" will require a minimum of 35 years of service at age 60 (or age 65 with five years of service).

The 2012 bill also lowered the STRS pension formula multiplier to 2.2% and reduced the COLA for retired teachers to a maximum of 2%.[12] In 2017, the STRS retirement board itself further reduced the COLA to 0% in order to improve the funded status of the pension system; however, this change has resulted in a lawsuit and on-going activism from retirees.[13]

And yet, in 2022 facing roughly $22 billion in unfunded liabilities that persist despite changes, STRS trustees commissioned scenario analysis on changing more funding policies and benefit rules and a spokesperson for the retirement system said that a request for contribution increases would be made in 2023.[14]

A LESSON LEARNED: THE 2012 LEGISLATION DID NOT ADDRESS THE CORE PROBLEM

A fundamental lesson that should be drawn from the last decade of experience for STRS Ohio is that it was a mistake in 2012 to try and deal with growing retirement costs by just increasing contributions and cutting benefits. The main reason that unfunded liabilities were growing was because of underperforming investments and a funding policy that used statutory rates instead of actuarially determined costs. Neither of these issues was addressed with the 2012 bill.

As a result, the pension policy changes in 2012 effectively just papered over structural funding problems by cutting member benefits, reducing retiree inflation protection, and making teachers' pay part of STRS' pension debt costs. That isn't a sustainable model going forward.

There certainly were positive aspects of the changes in 2012, as more contributions for STRS were needed, and the retirement eligibility ages set by the new law are reasonable relative to the rest of the country. But putting all of the costs on members and removing all inflation projection of benefits severely cut into the value of benefits for teachers.

[10] STRS Ohio, "Pension Reform," retrieved March 11, 2022.
[11] SERS Ohio, "Focus," December 2012.
[12] STRS Ohio, "Pension Reform," retrieved March 11, 2022.
[13] Rob Kozlowski, "Ohio Teachers Sued Over COLA Changes," Pensions & Investments, June 5, 2019.
[14] Laura A. Bischoff, "Ohio's teachers' pension system wants lawmakers to increase contribution rates," Columbus Dispatch, October 2022.

WHAT QUESTIONS SHOULD THE LEGISLATURE CONSIDER?

Despite increasing money flows into STRS Ohio, the 2012 law has not proven sufficient to achieve long-term financial sustainability because the pension plan is still operating on an optimistic investment return assumption with statutorily determined contribution rates.

There are five critical questions that the legislature should consider for STRS Ohio going forward:

- Should there be a maximum assumed rate of return for state pension plans? Trustees should be given freedom to set investment assumptions related to the portfolios they manage, but the state could put a cap on the level of risk that needs to be taken with asset allocation by capping the assumed rate of return. Michigan did this with legislation in 2017, setting a maximum 6% assumed rate of return for benefits earned by all future employees (which initiated a gradual reduction in the investment assumption for legacy benefits too).
- If the STRS trustees were to lower their investment assumption to 6.5% or 6%, should school employers just pay actuarially determined contribution rates instead of legislatively determined payments?
- How should retirees have inflation protection restored without undermining the future fiscal stability of STRS pension plans?
- When contribution rates are increased for STRS, should the state take on a portion or all of the increased amount of costs as a way of preventing a hidden education funding cut to K–12 resources?
- Are there ways that the state could mitigate the existing inequities in the status quo funding policy? Specifically, the fact that (1) employees are paying for part of the pension debt costs of legacy employees, and (2) low-wealth communities with lower compensated educators are paying for part of the compensation costs of higher paid, longer tenured teachers in more affluent districts.

The legislature might also consider whether the current benefits provided to STRS Ohio and SERS Ohio members are adequate to put all members on a path to retirement income security. As demonstrated in Appendices D and E, the current offering of pension, defined contribution, and combined plans is working well for some, but not all teachers and public school employees.

OUR POLICY VIEW

Despite recent reforms and investment performance, Ohio faces considerable challenges in funding and improving STRS Ohio and SERS Ohio. The state will once again need to make important changes in the near future.

Based on the analysis in this paper, our policy view is the following:

- Investment assumptions for STRS and SERS should be reduced to create a better baseline for measuring the contribution rates necessary to get the pension funds back to full funding.
- The legislature should change the funding policies for STRS and SERS to require actuarially determined contribution rates from employers instead of fixed, statutory contribution rates. Options include a contribution floor, i.e. a policy that sets a minimum annual contribution rate (for example, rates no less than 14% of payroll), and/or a policy that phases in any contribution rate increases over time. There should be no maximum rate set.

- At the same time, the state should be reviewing how its process of subsidizing districts is exacerbating inequities. Currently, the state applies a flat pension contribution rate across all districts. This model invests most heavily in affluent communities. The state could adopt an adjustment to the school funding formula that requires higher-income districts that pay larger salaries to contribute more to STRS Ohio. Alternatively, the state could directly assume a greater share of contribution rate requirements in in lower wealth districts (which would lead to a more equitable distribution of state pension funding).
- Regular inflation protection for retirees should be restored. There are lots of ways to do this, including every other year adjustments, non-compounding benefits, and graded rates relative to funded ratio (e.g. 1% COLAs if the funded ratio is below 90%, but higher COLAS if the funded ratio is better). Whatever is adopted, the contribution rate increases required should not be passed on to school districts or active members.
- The legislature should consider restoring some of the value of pension benefits that was lost in previous reforms, since the current plans are not providing a path to benefit income adequacy for all.
- The legislature should consider changing the default retirement plan option for STRS to the Combined Plan (since there is a relatively low probability of vesting in pension benefits and the Combined Plan offers some employer contribution portability) or the Defined Contribution Plan (which has maximum employer portability, but doesn't have a safety net since teachers are not enrolled in Social Security). The legislature also could give new members in general the option to switch their retirement plan choice later in their career, as most members don't know what the best retirement plan option is for them upon starting employment.

Addressing these kinds of issues and, in particular, better integrating teacher retirement costs with school finance will involve a number of policy choices and trade-offs. However, ignoring these issues simply means that students and educators lose.

For students: The status quo distribution of retirement costs is regressive, and the potential for additional school district costs in the future threatens to exacerbate existing inequities.

For educators: The status quo unfairly requires them to pay for the cost of pension debt, and once retired there is no inflation protection for pension benefits earned. Moreover, since school districts pay the entire costs of retirement benefits, any future increase in required costs could restrict resources that would be available to improve salaries.

Together, these elements mean there is an impending challenge for both Ohio teacher and school employee retirement systems, which even in the status quo are perpetuating inequities. There are also challenges for educators and the students that they serve by the way that retirement benefit costs for school districts are distributed. Something should be done to address status quo inequities in Ohio, and avoid additional problems, particularly for low-wealth communities, becoming exacerbated in the future.

GLOSSARY OF TERMS

Pension plans are designed to collect contributions every year and then invest those funds. The combined assets and investment returns are used to pay promised benefits.

Total Pension Liability (TPL) or Actuarial Accrued Liability (AAL) — The value of those promised benefits measured in today's dollars.

Fiduciary Net Position (FNP) or Actuarial Value of Assets (AVA) — The value of assets on hand being invested to generate returns.

Net Pension Liability (NPL) or Unfunded Actuarial Accrued Liability (UAAL) — When the value of promised benefits (in today's dollars) is greater than the value of assets on hand to be invested, then a pension fund is said to have an "Unfunded Actuarial Liability." Under Government Accounting Standards Board (GASB) methodology, this is defined as the "Net Pension Liability," but colloquially it can be thought of as a "funding shortfall" or as "pension debt" owed by the government that created the pension fund.

Funded Ratio — The percentage of assets on hand compared to promised benefits. Pension funds should target 100% funded ratio, which means that all future pension checks measured in today's dollars are equal to the assets on hand generating investment returns.

Contributions into a pension plan come from three sources: "members," "participating employers," and "non-participating employers."

Member Contributions — Automatically deducted on a pre-tax basis from the paychecks of active employees who work for a public school employer. Some states allow employers to pay this contribution on the members' behalf instead, and usually this "pick up" of member contributions results in lower negotiated salaries than would otherwise be demanded.

Employer Contributions:

Participating — Dollars that flow from a school district, independent school, or public school agency with members enrolled in a retirement system. Generally, we refer to these as "district" contributions to distinguish from money paid in by the state, though some state agencies that serve K–12 public schools are also considered "employers."

Non-Participating — Dollars that flow from the state legislature's budget directly into a retirement system, paid on behalf of participating employers. Generally, this is when the state makes a lump sum payment instead of distributing money out to districts and then having them pay the amount back.

Retirement systems are intended to provide income to their members after retiring from public service. Whether those benefits are sufficient to retire comfortably is typically defined via measures of "benefit adequacy."

Pension Plan Benefit Adequacy — Typically measured by looking at "replacement rates" provided by a pension plan (e.g., the percentage of income earned during a teacher's working years that get paid to a pension plan member during their retirement). Adequate replacement rate targets range from 60% to 80% depending on who you ask.

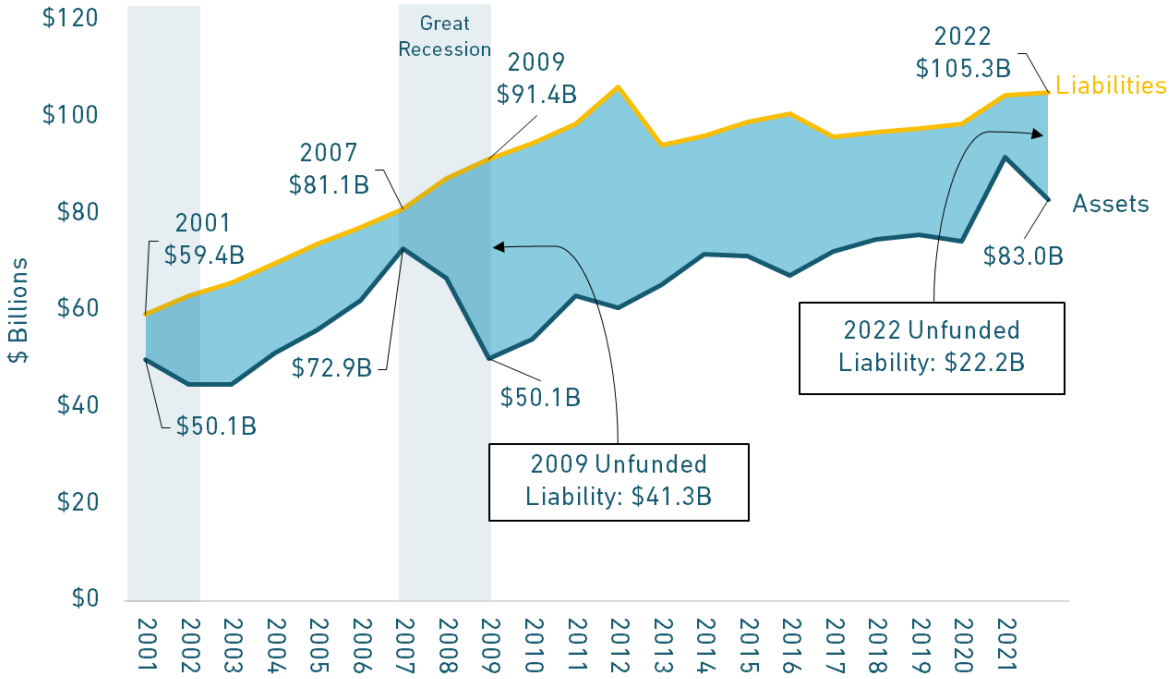
Defined Contribution Plan Benefit Adequacy — Typically measured based on the value of contribution rates flowing into the plan. Adequate rates typically are 10% to 15% for those also enrolled in Social Security, and 15% to 20% for those without Social Security access.

Appendices

Appendix A: What Has Caused Pension Debt Costs to Increase? Growing Unfunded Liabilities.

FIGURE A1: STRS OHIO'S UNFUNDED LIABILITY IS $22.2 BILLION

STRS Ohio Market Valued Assets and Actuarial Accrued Liability, 2001–2022



Source: Equable Institute analysis of public plan valuation reports and ACFRs.

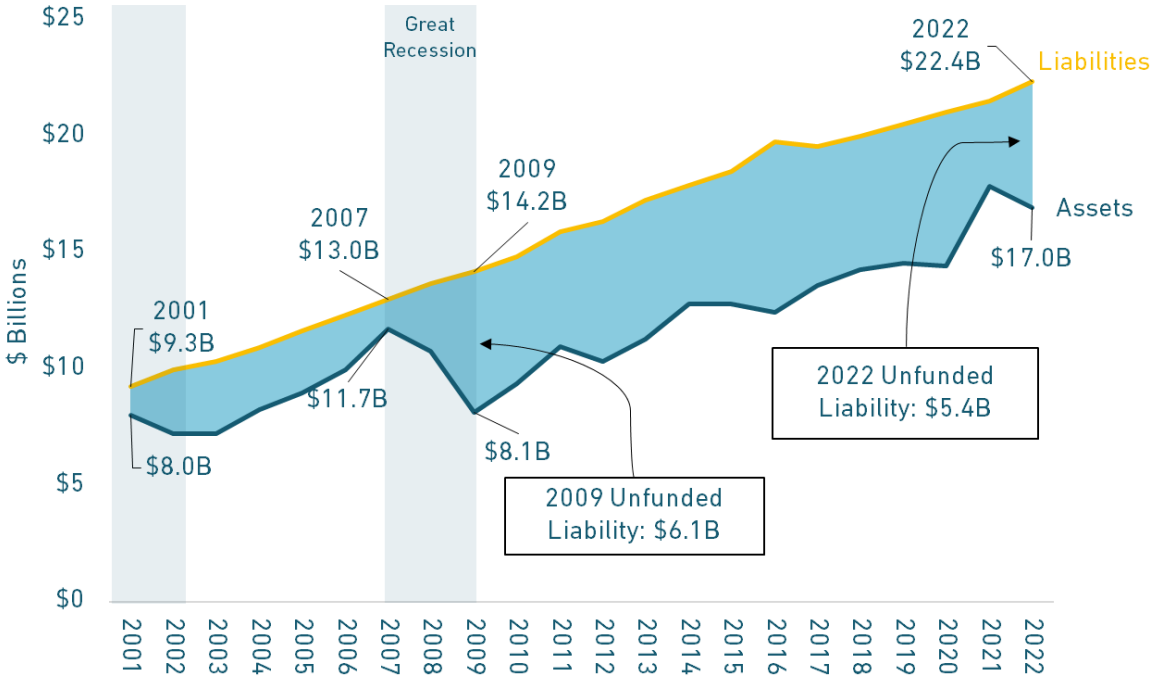
Figure A1 shows that the funding shortfall for Ohio STRS declined from $9.3 billion in 2001 to $8.2 billion in 2007. However, during the Great Recession, it expanded considerably to $41.3 billion by 2009. From that point through 2020, the unfunded liability gradually decreased to $24.2 billion in 2020.

One of the most effective strategies STRS Ohio used to accomplish this was cutting retiree COLAs to 0% — the total unfunded liability could be as much as $28 billion higher without that change. The downside of that approach, though, is that it has left retired teachers exposed to inflation effects on their benefits. Political pressure (and reasonable argument) is likely to reverse this policy at some point in the future, which will mean accounting for additional unfunded liabilities currently not measured.

STRS Ohio's unfunded liability decreased significantly in FY2021 due to once-in-a-generation market returns (down to $12.8 billion) and then nearly doubled in FY2022. STRS Ohio reports that its current unfunded liability level is $22.2 billion, but that is based on an unrealistic 7% annual rate of return assumption. Extrapolating from previous sensitivity analysis published by STRS Ohio, if they used a more realistic 6% assumed rate of return, their level of unfunded liabilities are currently $33.6 billion.

FIGURE A2: SERS OHIO'S UNFUNDED LIABILITY IS $5.4 BILLION

SERS Ohio Market Valued Assets and Actuarial Accrued Liability, 2001–2022



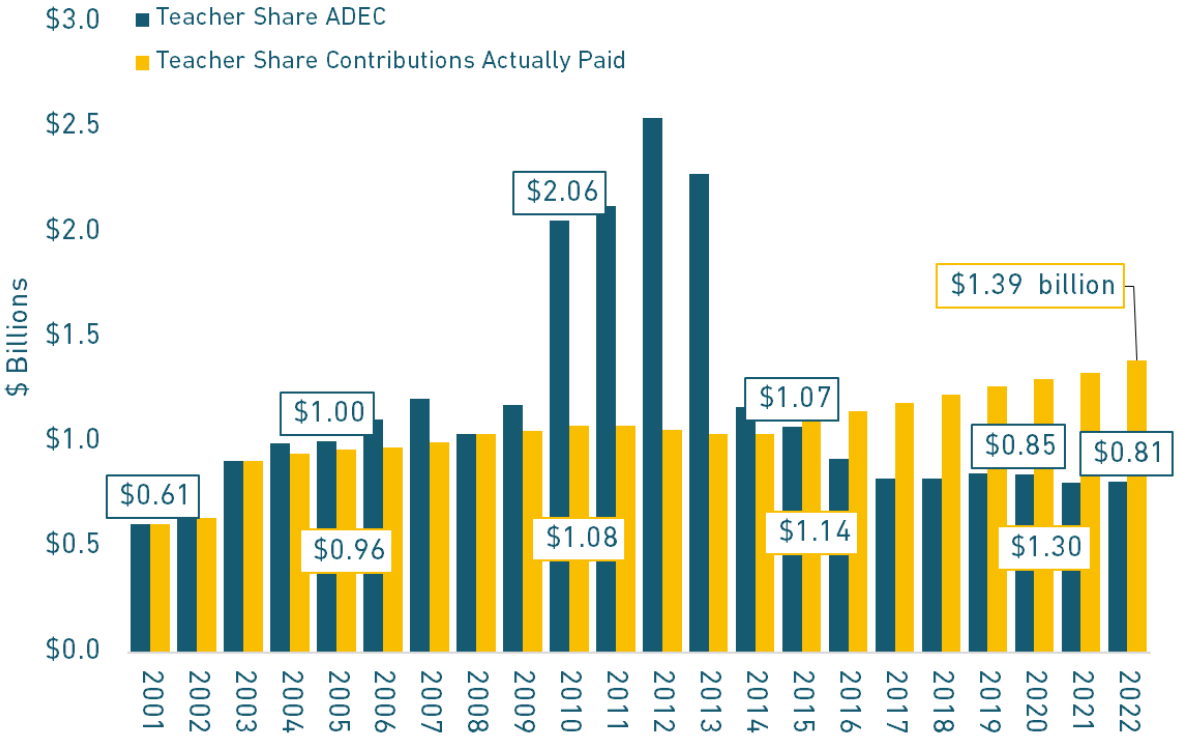
Source: Equable Institute analysis of public plan valuation reports and ACFRs.

Figure A2 shows that the unfunded liability for Ohio SERS in 2007 was the same as it was in 2001: $1.3 billion. During the Great Recession, however, the plan's unfunded liability ballooned to $6.1 billion by 2009. Ohio SERS unfunded liability increased gradually from that point on, growing to $6.6 billion by 2020. One of the key reasons for this was investment returns underperforming expectations.

Ohio's SERS's unfunded liability decreased significantly in FY2021 due to once-in-a-generation market returns, and then bounced back up to $5.4 billion after investment losses in FY2022. SER Ohio too is based on an unrealistic 7% annual rate of return assumption. If they used a more realistic 6% assumed rate of return, their level of unfunded liabilities are actually closer to $8.0 billion.

FIGURE A3: OHIO SIGNIFICANTLY UNDERFUNDED STRS OHIO AFTER THE GREAT RECESSION

Actuarial Required (ADEC) and Actual Contributions Paid to STRS Ohio, 2001–22



Source: Equable Institute analysis of public plan valuation reports and ACFRs.

The Ohio legislature sets in statute contribution rates for school district employers and retirement plan members. These rates generally do not change much from year to year, other than with respect to certain programs that aim to steadily increase a rate over time — like 2012 legislation that created a ramp-up for teacher contribution rates into STRS Ohio.

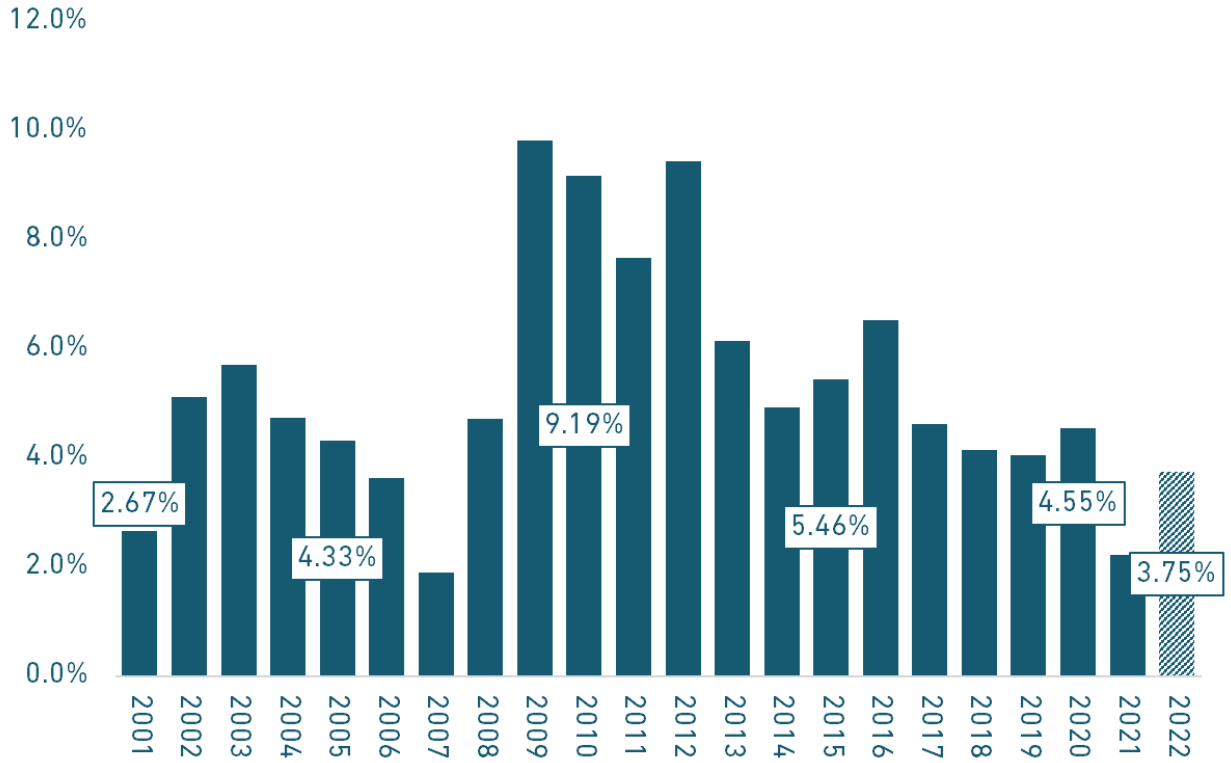
These statutorily set rates have not always been sufficient to pay for benefits. Figure A3 shows the difference from year to year in what the actuarially determined contribution rate for STRS Ohio was versus what was actually paid by employers and members, based on state law.

During this period, STRS Ohio employers paid the exact ADEC only four times from 2001 to 2022, with three of those being from 2001 through 2003. From 2004 to 2022 the state underfunded the system a total of $549.7. million. Then, reeling from the consequences of the Great Recession, Ohio severely underfunded STRS Ohio from 2010 to 2014, failing to meet ADEC each year during that span. In total, Ohio underfunded the system by $4.9 billion from 2010 to 2014. In each of the subsequent years through 2022, the state overpaid the ADEC by $3.0 billion. While the strategy of annually overfunding STRS Ohio helped improve its financial position, the state didn't provide enough funding to overcome the damage wrought in the aftermath of the Great Recession.

By contrast, the statutorily determined contribution rates provided for SERS Ohio were generally consistently sufficient to pay the ADEC. Over the past two decades Ohio only failed to fully fund SERS Ohio twice.

FIGURE A4: OHIO EDUCATION PENSION SHORTFALL AMOUNTS TO NEARLY 4% OF OHIO'S GDP

Market Valued STRS Ohio and SERS Ohio Unfunded Liability as a Share of Ohio's GDP, 2001–2022



Source: Equable Institute analysis of public plan valuation reports and ACFRs. U.S. Bureau of Economic Analysis, "GDP by State." GDP data were unavailable for 2022 so that year reflects the total UAL divided by the GDP for 2021.

Ohio's approximate unfunded liability across STRS Ohio and SERS Ohio — whether it is $27.7 billion or $41.5 billion — can feel like a paralyzing amount of debt. On the flip side, that figure doesn't have to be paid off in one year and there are large budgets for government spending. It can be difficult to understand intuitively if the unfunded liability figure is actually all that large. A way to address that complexity and give a sense of scale is comparing an unfunded pension liability with a state's economic activity.

Figure A4 above shows the reported unfunded liability (STRS and SERS combined) each year from 2001 to 2021 as a share of Ohio's GDP. Economic data for 2022 aren't available yet, but data from 2021 are helpful as a benchmark.

In 2020, the combined unfunded liability reported by STRS Ohio and SERS Ohio was $30.8 billion, and that was 4.55% of the state's economic output. That reported funding shortfall has dropped considerably due to the strong investment returns both plans enjoyed in 2021, leaving the shortfall equal to only 2.24% of GDP. But investment losses in 2022 have resulted in both plans' unfunded liabilities returning to nearly the same levels as 2020, with $27.7 billion or roughly 3.75% of 2021's state economic output in pension debt. But the problem is even more stark using a more realistic investment performance outlook, the actual unfunded liability of STRS Ohio and SERS Ohio would be even greater than the reported 2020 number. If the real funding shortfall for Ohio's education pension systems is valued at around $41.5 billion, we can reasonably expect that is likely somewhere around 5.6% of Ohio's economic output (assuming that economic activity in 2022 was comparable to 2021).

Fortunately, this percentage is a manageable figure — which means the unfunded liability should be considered a manageable dollar number. And that means the functional roadblock for fixing Ohio's school pension system funding is a political issue — does the state want to spend the money necessary to fill the funding shortfall? And to the degree that state leaders want to solve this problem, can they do so in such a way that holds schools and students harmless?

Appendix B: What Has Caused Unfunded Liabilities to Increase? Interest on the Debt & Underperforming Investment Returns.

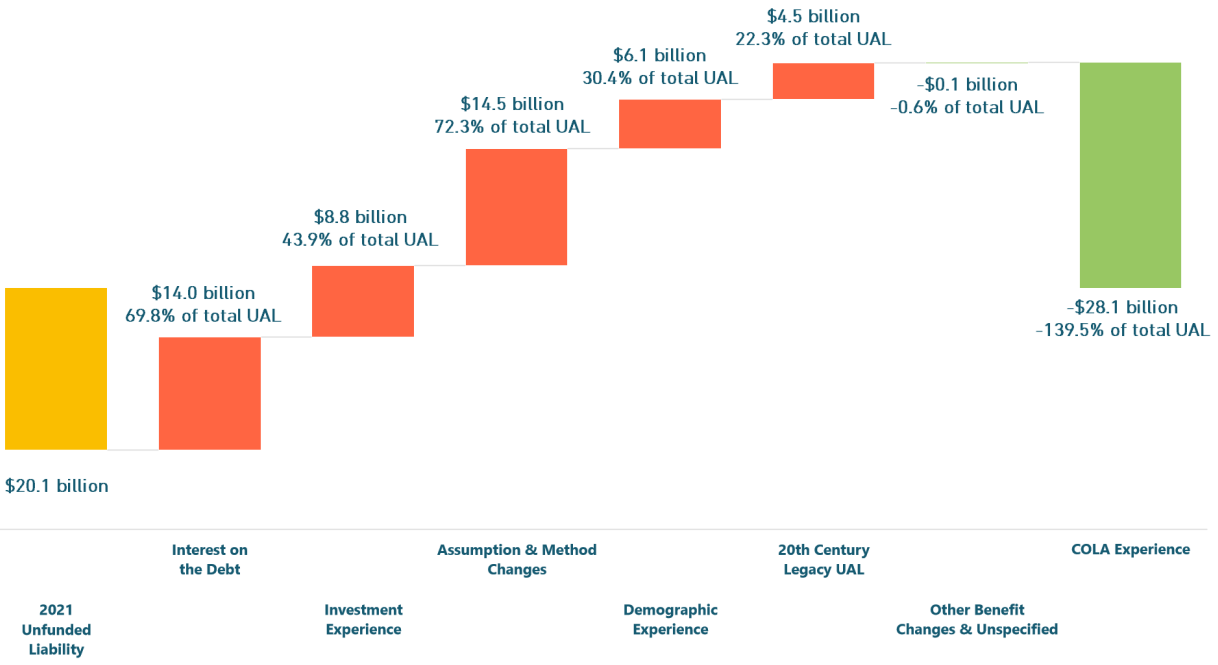
Despite the historic investment performance in 2021, the second largest contributor to STRS Ohio's unfunded liability has been underperforming assets. This is not to say Ohio has experienced large investment losses or is it even making an argument they've made bad investments. Rather, actual investment returns have underperformed actuarial assumptions. Put another way, the average STRS Ohio investment return wasn't good enough to effectively hit their assumed rate of return.

Until 2012, STRS Ohio was assuming it could earn an 8% return on investments. They lowered that target slightly to 7.75% for five years and then lowered it again to 7.45% in 2017. None of these were particularly realistic targets. In their most recent actuarial valuation, the STRS Ohio board has adopted a 7% assumed rate of return, which is notably better than their previous assumptions and is in line with the national average. However, compared to capital market forecasts and private sector pension assumptions even a 7% assumed rate of return target is unrealistic. It is probable that in the coming years, STRS will continue to accumulate actuarial losses related to underperforming investments, even with huge returns for 2021.

Figure B1 below breaks out the main factors that contributed to the emergence of the unfunded liability. STRS Ohio reports these data as shares of their "actuarial value of assets" — a metric that accounts for only a portion of asset gains or losses each year. For FY2022, the unfunded actuarial accrued liability was reported at $20.1 billion and this chart shows the various factors to that measurement of the STRS Ohio funding shortfall.[15]

FIGURE B1: UNDERPERFORMING INVESTMENTS ACCOUNT FOR 44% OF STRS OHIO UNFUNDED LIABILITY, A SHORTFALL THAT WOULD BE TWICE AS LARGE IF NOT FOR COLA REDUCTIONS

STRS Ohio Actuarial Gains and Losses by Source, 2001–2022



Source: Equable Institute analysis of public plan valuation reports and ACFRs.

[15] The total unfunded liability for STRS Ohio here differs from other earlier mentions because the reported gain/loss data are based on the actuarial value of assets, while prior discussion is based on the fiduciary net position (which is a market valuation of assets).

This Figure B1 chart shows the composition of the STRS Ohio unfunded liability, reflected in the far left yellow column. The elements that have built up to that figure are shown from left to right:

1. For many years Ohio state statutes did not require STRS Ohio employers to make contributions sufficient to cover the actuarially determined contribution rates for benefits. And even in the year where the state legislature did authorize enough, those contributions weren't always enough to match interest accruing on the underlying pension debt. The net effect over two decades has been $14.0 billion of growth in the STRS Ohio funding shortfall from expected interest on the pension debt.
2. Between 2001 and 2022, there were good years and bad years of investment returns, but all added together there was enough underperformance to add $8.8 billion to the STRS Ohio unfunded liability.
3. The STRS Ohio board has attempted to adapt and keep up with changes to investment climates and demographic patterns. These changes to actuarial assumptions have somewhat improved accuracy, but they have also meant recognizing an additional $14.5 billion in pension debt.
4. Actuaries did not always consistently estimate changes to future demographic patterns like mortality or retirement rates, and this led to $6.1 billion in additional unfunded liability increases.
5. And STRS Ohio started the year 2000 with $4.5 billion in actuarially valued unfunded liabilities in the first place, which means roughly 20% of the current unfunded liability is related to experience and policy decisions made in the 20th century.
6. But . . . the total unfunded liability would be a lot higher if the legislature had not reduced the cost-of-living adjustment for retirees in 2012 legislation, or if the STRS Ohio board had not further reduced the COLA to 0% in 2017. These combined changes created an "actuarial gain" of $28.1 billion — which means that the unfunded liability today is around $28 billion lower than it would have been without these cuts to benefits.

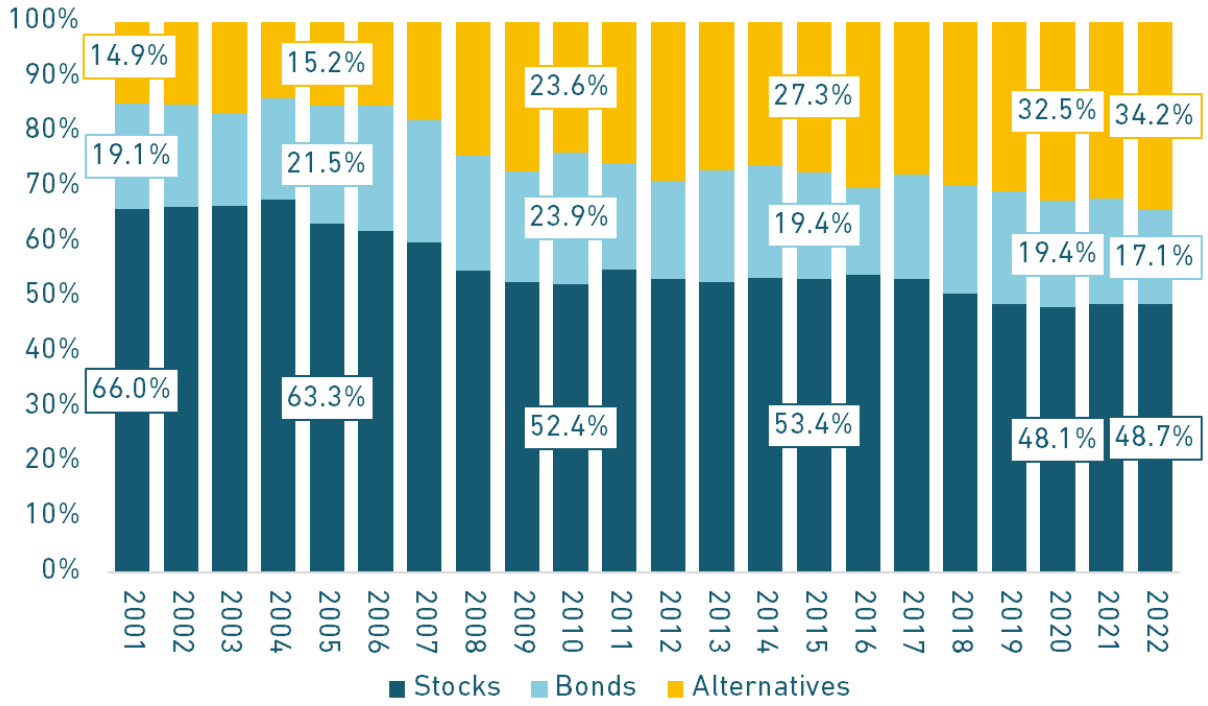
The net effect of all of these factors works out to a $20.1 billion actuarially valued unfunded liability for 2022.

In 2021, strong investment returns reduced the investment experience column by a little more than $5.2 billion, and a reduction in the STRS Ohio assumed rate of return from 7.45% to 7% increased the assumption column by $4.4 billion.

If the legislature or STRS Ohio board chooses to provide a one-time or on-going COLA to retired teachers in the coming years, that will likely create an actuarial loss that rolls back some of the $28.1 billion in actuarial gains measured by COLA experience.

FIGURE B2: RISKY AND NONTRANSPARENT ASSET CLASSES COMPRISE MORE THAN A THIRD OF STRS OHIO'S INVESTMENTS

STRS Ohio's Asset Allocation, 2001–2022



Source: Equable Institute analysis of public plan valuation reports and ACFRs.

In an effort to achieve their assumed investment returns, STRS Ohio shifted its investing strategy into riskier asset classes over time. Figure B2 shows that since 2001, when STRS Ohio was better funded, the share of the plan's assets allocated to alternatives has increased from 14.9% to 34.2%. Alternative assets include investments in real estate, private equity, and hedge funds, among other asset classes. These investments are high risk, high reward, but they also come with higher volatility from year to year.

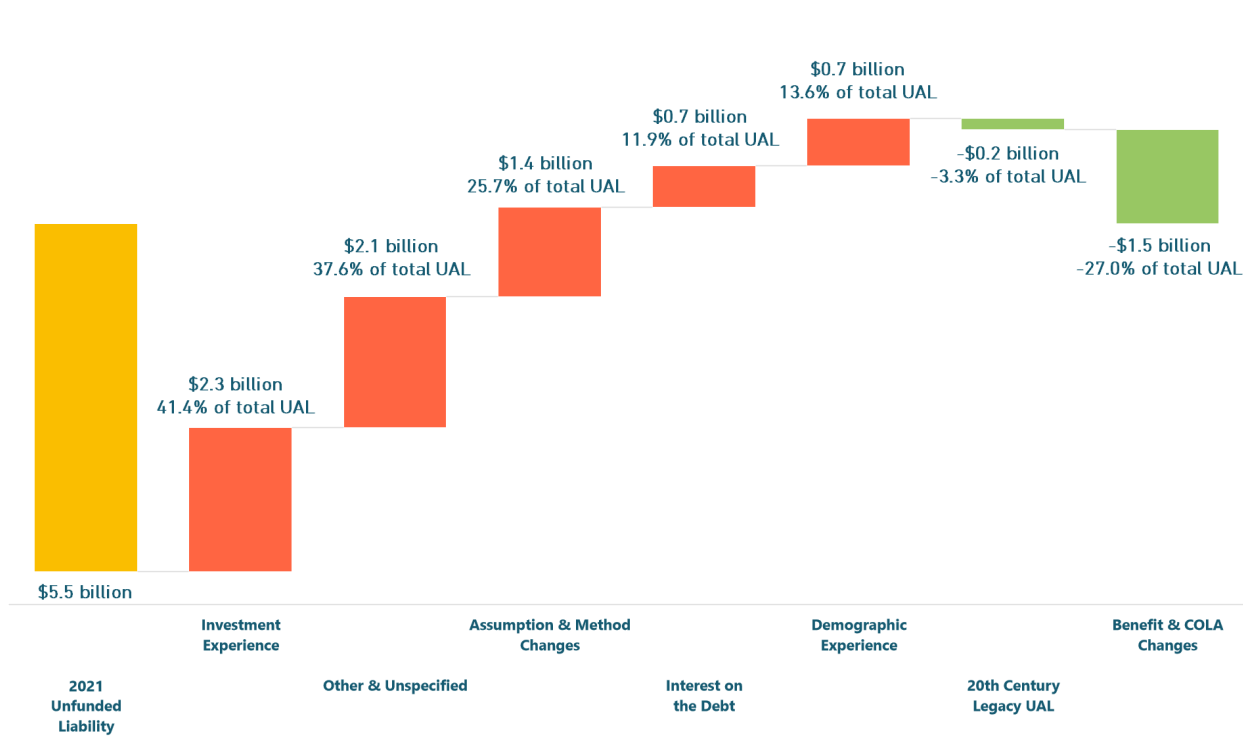
These alternative investments, in particular private equity investments, are currently at the heart of a debate between STRS Ohio retirees and STRS Ohio management over whether their pension fund assets are being responsibly managed.

The failure of the state legislature to directly invest in STRS Ohio and SERS Ohio and pay down the pension debt of these systems has translated into a push by both boards of trustees to chase down investment yields. Rather than lower their investment assumptions to more reasonable levels — which would require the legislature to provide larger contribution rates — the pension systems whose liabilities rest on the books of Ohio public schools are trying to leverage risky investments to save their future. And this strategy makes STRS Ohio and SERS Ohio increasingly susceptible to market volatility.

Making riskier investments to pay a larger and larger bill raises the likelihood of another down year, as alternative investments may have higher returns, but may also lead to larger losses. Without a substantial change in state-level fiscal policy, both STRS Ohio and SERS Ohio will remain fiscally fragile.

FIGURE B3: UNDERPERFORMING INVESTMENTS ACCOUNT FOR OVER 40% OF SERS OHIO'S UNFUNDED LIABILITY HISTORY

SERS Ohio Actuarial Gains and Losses by Source, 2001–2022



Source: Equable Institute analysis of public plan valuation reports and ACFRs.

Figure B3 breaks out the main factors that contributed to the emergence of SERS Ohio unfunded liabilities. These data are based on shares of the SERS Ohio "actuarial value of assets" — a metric that accounts for only a portion of asset gains or losses each year.[16] The elements that have built up to SERS Ohio's reported $5.5 billion unfunded liability figure are shown from left to right:

1. Between 2001 and 2022, there were good years and bad years of investment returns, but all added together there was enough underperformance to add $2.3 billion to the SERS Ohio unfunded liability. Then 2021 brought huge returns and 2022 brought significant losses. Still, the good outweighed the bad and brought the total level of increase in unfunded liabilities due to investment experience to $2.3 billion (between 2001 and 2022).

2. Another $2.1 billion in unfunded liabilities have accumulated since 2001 due to unspecified factors that SERS Ohio actuaries did not fully disclose, opting to simply designate as "other" in their valuation reports. Some of these increases are related to demographic experience, others are liability increases related to COLAs, and still others are completely undocumented. However, all of the data in this category lack specific dollar details in SERS Ohio reporting and typically get reported as "non-investment" gain/loss.

3. Adjustments to actuarial assumptions to adapt to a changing world and improve accuracy have meant recognizing an additional $1.4 billion in pension debt.

4. In most years the state has ensured SERS Ohio was receiving actuarially required contributions. However, even in years where the ADEC was paid the amount calculated wasn't always sufficient to ensure there was no growth in the

[16] The total unfunded liability for SERS Ohio here differs from other earlier mentions because the reported gain/loss data are based on the actuarial value of assets, while prior discussion is based on the fiduciary net position (which is a market valuation of assets).

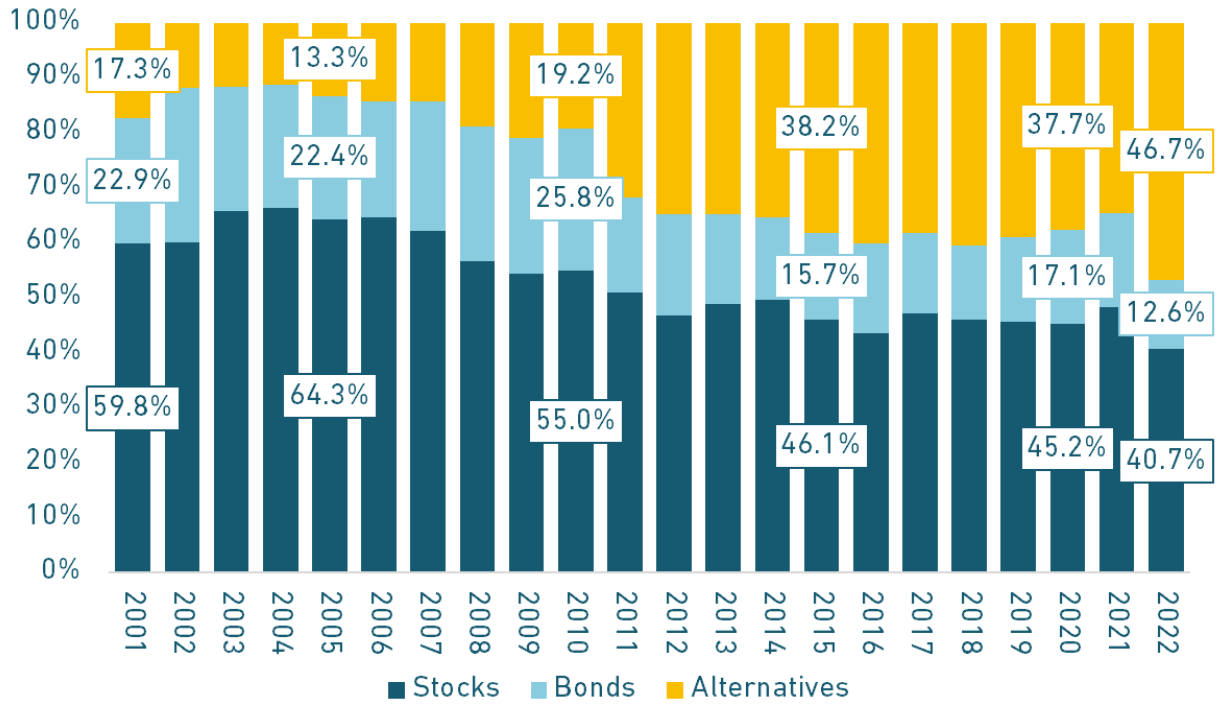
interest on unfunded liabilities. The combined effect of these years plus two years where the ADEC was paid mean the addition of around $650 million in unfunded liabilities.

5. Actuarial assumptions about demographic changes were also not always accurate, leading to $747.7 million in actuarial losses.
6. But . . . SERS Ohio started the 21st century with a slight surplus of $180.9 million.
7. And over time adjustments to benefits have meant a slight reduction in unfunded liabilities, cumulatively $1.5 billion in actuarial gains over the last two decades.

The net effect of these factors, plus a slight overfunded status in 2000, works out to a $5.5 billion actuarially valued unfunded liability as of 2022.

FIGURE B4: RISKY AND NONTRANSPARENT ASSET CLASSES COMPRISE NEARLY HALF OF SERS OHIO'S INVESTMENTS

SERS Ohio's Asset Allocation, 2001–2022



Source: Equable Institute analysis of public plan valuation reports and ACFRs.

SERS Ohio also shifted their investing strategy into riskier asset classes over the past two decades. Figure B4 shows that since 2001, when SERS Ohio was in better financial standing, the share of the plan's assets allocated to alternatives increased substantially from 17.3% to 46.7%.

Appendix C: Ohio's Hidden Education Funding Cuts, A Detailed State & Local Breakdown

In Ohio, pension costs have been increasing steadily over the past two decades, cutting into the funds available for other education spending priorities. A chart was presented in Part 1 above (Figure 5) that showed the combined reduction in state and local K–12 spending for STRS Ohio and SERS Ohio. In the figures below, we present changes in state and local K–12 education funding, for the two retirement systems separately.

Figure C1 shows that in 2001, contributions to Ohio STRS consumed 2.8% of total K–12 spending. By 2020, that increased to 3.4%. That amounts to a 20.4% increase. Over the same period, Figure C2 shows that contributions to Ohio SERS consumed 0.4% of total K–12 spending in 2001 and 1.2% in 2020. This amounts to a 241% increase.

FIGURE C1: STRS OHIO SPENDING CONSUMES A GREATER SHARE OF K–12 EDUCATION SPENDING

Actual Contributions to STRS Ohio as a Share of Total K–12 Spending, 2001–2020

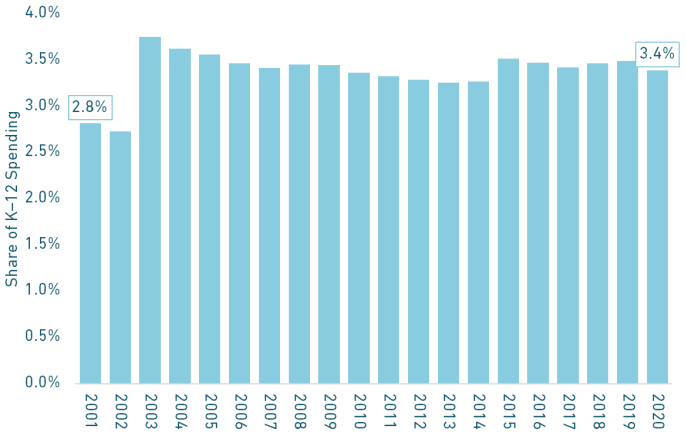
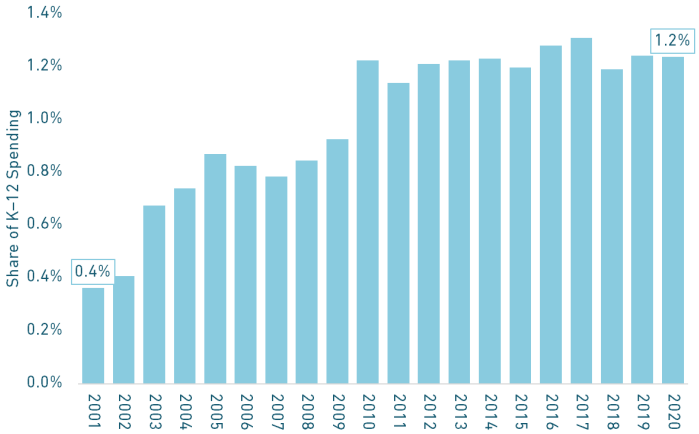


FIGURE C2: SERS OHIO SPENDING CONSUMES A GREATER SHARE OF K–12 EDUCATION SPENDING

Actual Contributions to SERS Ohio as a Share of Total K–12 Spending, 2001–2020



Source: Equable Institute analysis of public plan valuation reports and ACFRs. These figures are based on expenditures data adjusted for inflation. Note: Employer contributions includes both pension and defined contribution account spending.

Appendix D: Teacher Pension Benefit Structure in Ohio

It is important to note that the high costs of teacher retirement benefits in Ohio are not due to lavish benefit levels. As previously shown in the appendices for this paper, the driving factor for costs are unfunded liability payments. And unfunded liabilities have been primarily caused by underperforming investments.

In fact, the benefits for teachers in Ohio are not universally putting educators on a path to retirement income security. Those who work their full career teaching in Ohio are likely to end up with a good benefit, but that is not the case for most teachers. Roughly four in ten new educators is expected to vest in retirement benefits, and just 6% are expected to make it all the way to Ohio STRS normal retirement age. The lack of Social Security participation creates an added complication that does not support retirement income security.

The following pages break down how Ohio STRS and Ohio SERS benefits are structured. And the following Appendix E provides an evaluation of the quality of benefits relative to a retirement income adequacy benchmark.

Moreover, none of the analysis thus far even accounts for how higher pension costs will have put pressure on some districts to reduce their ability to give teachers raises. Which in turn will mean lower valued retirement benefits earned. Higher pension contribution rates have eaten away at wage growth for teachers—and that's before considering the effects of other rising costs, like health care and special education. The erosion of teacher salaries by rising pension spending is likely felt unevenly across the state. For instance, lower wealth districts may not have been able to raise teacher salaries as much as the average district in Ohio. Yet teachers in those districts still must pay the higher teacher pension contribution rates.

PLAN STRUCTURE, OHIO STRS

Ohio STRS is a salary-based defined benefit retirement plan, typically called a "pension." As with many states, Ohio's teacher pension system has different tiers based on a hire date.[17] The current tier of Ohio STRS applies to new hires.

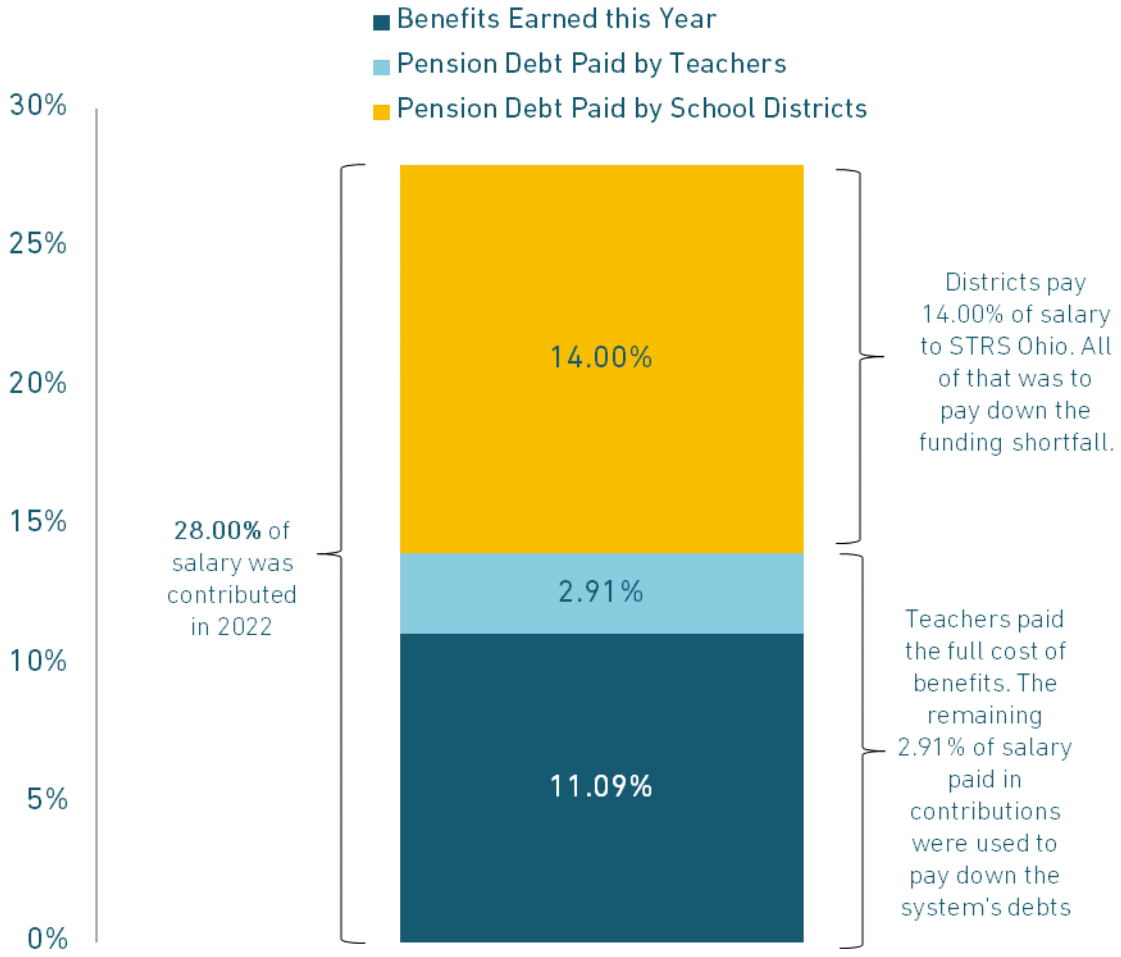
In 2022, teachers contributed 14% of their salary to STRS Ohio. The employer — the teacher's school district — contributed another 14% of payroll. In total, 28% of teacher payroll was contributed to STRS Ohio in 2022. This full breakout is shown in Figure D1 (next page).

A key feature of salary-based defined benefit pension is that the retirement income guaranteed to members is based on a formula that considers years of service and average salary. This is unlike many other retirement plan designs where retirement income is related to contributions and investments. While contributions are necessary to provide money to pay out promised benefits, what teachers put in does not directly relate with what they will get out of the system. The formula used to calculate benefits is shown in Figure D2 (next page): If teachers vest in their benefits (see section on vesting below), their years of service are multiplied by 2.2% (the "multiplier"), and this number is used to measure the percentage of highest average salary (the average of the 5 highest salary years).

[17] STRS Ohio, "Applying for Benefits: Eligibility Requirements," retrieved March 11, 2022.

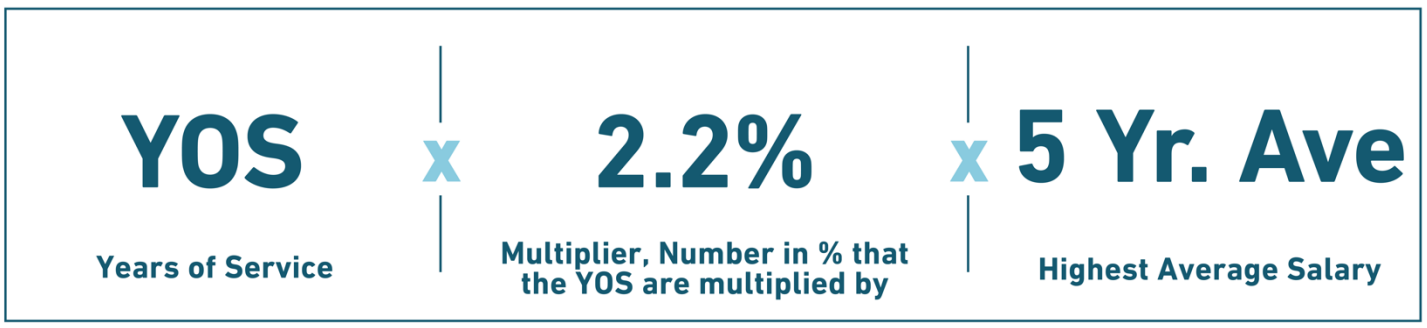
FIGURE D1: TEACHERS PAY TOTAL COST OF BENEFITS AND SOME OF THE PLAN'S DEBT COST

Member and Employer Contribution Rates, 2022



Source: Equable Institute analysis of public plan valuation reports and ACFRs.

FIGURE D2: OHIO STRS BENEFIT FORMULA



VESTING, OHIO STRS

Not every teacher in Ohio qualifies for a pension. Educators must serve at least five years before they "vest" in the system and are eligible for a pension. Unfortunately, only 44% of new teachers are expected to reach that mark according to Ohio STRS's own actuarial assumptions.[18] In addition to failing to qualify for a pension, educators who either leave the profession or the state before five years of service are eligible only for their own contributions, plus a 3.0% crediting interest rate.[19] That is a poor return on their investment. It is less than even conservative estimates of what a teacher could yield investing in the market.

NORMAL RETIREMENT, OHIO STRS

In Ohio, a teacher may retire will full benefits at age 65 with at least 5 years of service, or at any age with at least 30 years of service A teacher who worked 25 years and retired with a final average salary of $80,000 would qualify for a pension worth $44,000 per year, or 55% of their salary. Unfortunately, since Ohio does not enroll its teachers in Social Security, retired educators will not receive any of those benefits in retirement.

On its own, this replacement rate would be considered inadequate retirement income by almost any financial expert. As a general rule, financial experts recommend final salary replacement rates of 70% or higher.[20] For most people, this replacement rate target includes Social Security income. Additionally, personal savings beyond an employer-sponsored retirement plan can build toward that replacement rate target. In Ohio, a new teacher would need to work 32 years to cross that threshold and qualify for a pension benefit that will provide sufficient income in retirement.

Unfortunately, the majority of Ohioan educators do not spend their entire professional life in an Ohio classroom. According to Ohio STRS's own assumptions, only 13% of educators will serve at least 32 years.[21] This means that for 87% of teachers, Ohio STRS will not provide an adequate retirement benefit.

COST-OF-LIVING ADJUSTMENTS, OHIO STRS

Ohio STRS allows for an ad hoc COLA up to 3%. However, the legislature recently reduced the COLA to 0%, which prompted a lawsuit. Without a COLA, the value of a teacher's benefit is eroded by inflation, which Ohio STRS assumes will be 2.50% per year.

SOCIAL SECURITY, OHIO STRS

Social Security replaces approximately 40% of a teacher's salary in retirement, depending on how much they earned during their career and outside of public service. Ohio teachers are not enrolled in Social Security.

Without Social Security, teachers are wholly dependent on Ohio STRS to provide sufficient benefits in retirement — but remember that even Ohio STRS does not expect most teachers to remain long enough to earn those benefits.

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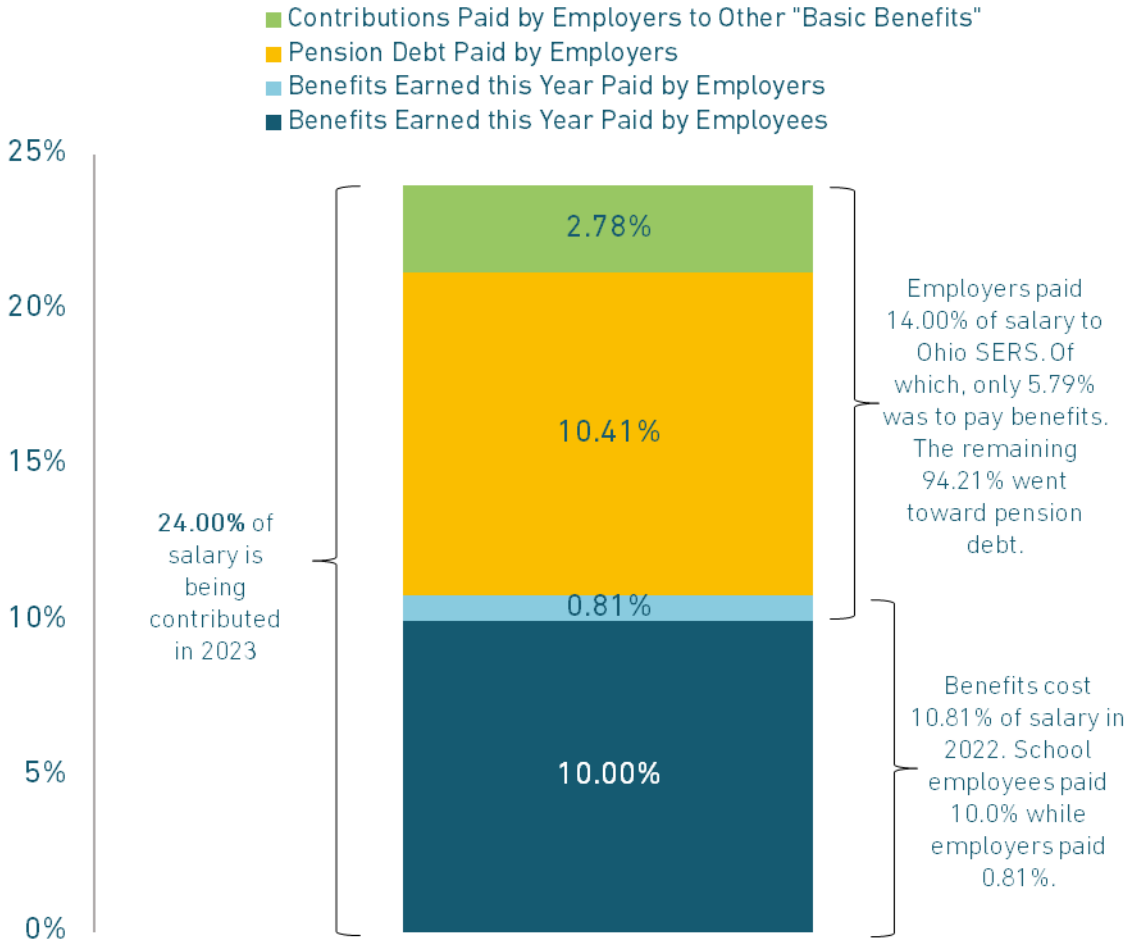
[18] Cheiron, "State Teachers Retirement System of Ohio Actuarial Valuation Report" Ohio STRS, October 2020.
[19] Ibid.
[20] Jonathan Moody and Anthony Randazzo, "Retirement Security Report," *Equable Institute,* 2021.
[21] Cheiron, "State Teachers Retirement System of Ohio Actuarial Valuation Report" Ohio STRS, October 2020.

PLAN STRUCTURE, OHIO SERS

Ohio SERS is a salary-based defined benefit retirement plan, typically called a "pension." In 2023, members are contributing 10.0% of their salary to Ohio SERS. The employer — the state —contributed another 14.0% of payroll. In total, 24.0% of payroll was contributed to Ohio SERS in 2021. This full breakout is shown in Figure D3.

FIGURE D3: SCHOOL STAFF PAY NEARLY THE ENTIRE COST OF THEIR RETIREMENT BENEFITS

Member and Employer Contribution Rates, 2023

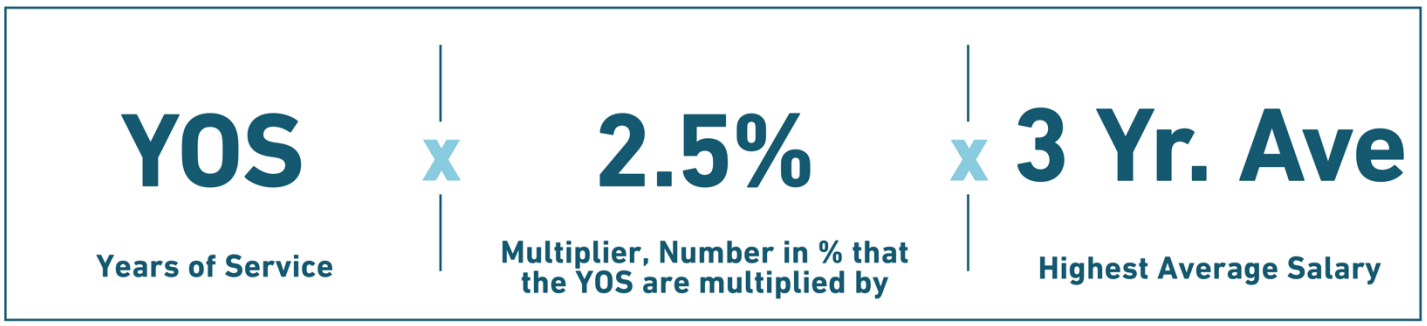


Source: Equable Institute analysis of public plan valuation reports and ACFRs.

A key feature of salary-based defined benefit pension is that the retirement income guaranteed to members is based on a formula that considers years of service and average salary. This is unlike many other retirement plan designs where retirement income is related to contributions and investments. While contributions are necessary to provide money to pay out promised benefits, what teachers put in does not directly relate with what they will get out of the system. The formula used to calculate benefits is shown in Figure D4: If teachers vest in their benefits (see section on vesting below), their years of service are multiplied by 2.5% (the "multiplier"), and this number is used to measure the percentage of highest average salary (the average of the three highest years of salary).[22]

[22] SERS Ohio, "Member Handbook," October 2018.

FIGURE D4: OHIO SERS BENEFIT FORMULA



VESTING, SERS OHIO

Not every non-certified school staff member in Ohio qualifies for a pension. They must serve at least 10 years before they "vest" in the system and are eligible for a pension. In addition to failing to qualify for a pension, educators who either leave the profession or the state before 10 years of service are eligible only for their own contributions.

NORMAL RETIREMENT, SERS OHIO

In Ohio, school staff may retire with full benefits at age 67 with at least 10 years of service, or at age 57 with at least 30 years of service. A non-certified staff member who worked 25 years and retired with a final average salary of $50,000 would qualify for a pension worth $31,250 per year, or 62.25% of their salary. Unfortunately, since Ohio does not enroll its public school staff in Social Security, retired educators will not receive any of those benefits in retirement.

On its own, this replacement rate would be considered inadequate retirement income by almost any financial expert. As a general rule, financial experts recommend final salary replacement rates of 70% or higher.[23] For most people, this replacement rate target includes Social Security income. Additionally, personal savings beyond an employer-sponsored retirement plan can build toward that replacement rate target. In Ohio, a new staff member would need to work 28 years to cross that threshold and qualify for a pension benefit that will provide sufficient income in retirement.

COST-OF-LIVING ADJUSTMENTS, SERS OHIO

SERS Ohio allows for a non-automatic ad hoc COLA linked with inflation but that cannot exceed 3%.

SOCIAL SECURITY, SERS OHIO

Social Security replaces approximately 40% of a staff member's salary in retirement, depending on how much they earned during their career and outside of public service. Members of SERS Ohio are not enrolled in Social Security.

[23] Jonathan Moody and Anthony Randazzo, "Retirement Security Report," Equable Institute, 2021.

Appendix E: Retirement Security Report, STRS Ohio and SERS Ohio Analyses

In Equable Institute's "Retirement Security Report," the benefits provided through STRS Ohio and SERS Ohio are scored across a wide range of variables to determine the quality of the benefit provided though Ohio's school retirement programs.[24] Given that the quality of a retirement benefit varies by employee tenure, we assessed how well FRS works for members at three stages in their career: Short-Term Worker (10 years or less), Medium-Term Worker (10 to 20 years), Full-Career Worker (retires at normal retirement age). We evaluated both the default Defined Contribution plan (known as the Florida Investment Plan) and Defined Benefit Pension Plan.

Figure E1 below details our overall evaluation of the quality of benefits provided by the STRS Ohio Pension Plan, as well as the caliber of benefits provided to workers based on tenure. Figures E2 and E3 detail our similar evaluation of the STRS Defined Contribution Plan and Combined Plan, respectively. Figure E4 provides the same evaluation for SERS Ohio's pension plan.

Figures E5 to E12 show a forecast of benefit values at different career stages compared to an adequacy threshold target of 70% replacement rate. The graphs model the salary replacement rate of the benefits provided by STRS and SERS compared with a minimum standard of 70%. Since the age a teacher enters the system matters for the quality of their benefit, we modeled the replacement rates for a 25-year-old entrant and a 40-year-old entrant.

A complete discussion of how variables are scored is available in the "Retirement Security Report."[25]

[24] Jonathan Moody and Anthony Randazzo, "Retirement Security Report," Equable Institute, 2021.
[25] Ibid.

FIGURE E1: DISTRIBUTION OF RETIREMENT SECURITY REPORT SCORES, STRS OHIO "PENSION PLAN"

	AVERAGE FOR ALL WORKERS	SHORT-TERM WORKERS >10 YEARS OF SERVICE	MEDIUM-TERM 10–20 YEARS OF SERVICE	FULL-CAREER <20 YEARS OF SERVICE
TOTAL SCORE	53.57%	36.84%	46.38%	77.48%
WHO IS SERVED	Serves all members moderately well	Does not serve all members well	Does not serve all members well	Serves all members well

	SHORT-TERM WORKERS >10 YEARS OF SERVICE	MEDIUM-TERM 10–20 YEARS OF SERVICE	FULL-CAREER <20 YEARS OF SERVICE
Eligibility: Vesting	3 out of 5 points	Not Applicable	Not Applicable
Income Adequacy: Benefit Value – 25 Y/O Entrant	3 out of 15 points	4 out of 15 points	17 out of 25 points
Income Adequacy: Benefit Value – 40 Y/O Entrant	3 out of 15 points	5 out of 15 points	21 out of 25 points
Income Adequacy: COLA Policy	Not Applicable	4 out of 5 points	4 out of 5 points
COLA Policy Terms	Not Applicable	Ad hoc COLA, linked to inflation	Ad hoc COLA, linked to inflation
Flexibility & Mobility: Refunding Policy	2 out of 5 points	2 out of 5 points	Not Applicable
Policy Terms	All member contributions refunded with interest	All member contributions refunded with interest	Not Applicable
Flexibility & Mobility: Interest Rate Credited When Leaving Early	3 out of 5 points	3 out of 5 points	Not Applicable
Crediting Rate	3.5%	3.50%	Not Applicable

For more details see Ohio STRS Pension Plan's complete Retirement Security Score for each type of worker available for download at: http://retirementsecurity.report/

FIGURE E2: DISTRIBUTION OF RETIREMENT SECURITY REPORT SCORES, STRS OHIO "DEFINED CONTRIBUTION PLAN"

	AVERAGE FOR ALL WORKERS	SHORT-TERM WORKERS >10 YEARS OF SERVICE	MEDIUM-TERM 10–20 YEARS OF SERVICE	FULL-CAREER <20 YEARS OF SERVICE
TOTAL SCORE	71.30%	52.38%	61.51%	100%
WHO IS SERVED	Serves all members moderately well	Serves all members moderately well	Serves all members moderately well	Serves all members well

	SHORT-TERM WORKERS >10 YEARS OF SERVICE	MEDIUM-TERM 10–20 YEARS OF SERVICE	FULL-CAREER <20 YEARS OF SERVICE
Eligibility: Vesting	4 out of 5 points	Not Applicable	Not Applicable
Income Adequacy: Benefit Value – 25 Y/O Entrant	7 out of 15 points	10 out of 15 points	30 out of 25 points
Income Adequacy: Benefit Value – 40 Y/O Entrant	7 out of 15 points	11 out of 15 points	25 out of 25 points
Income Adequacy: COLA Policy	Not Applicable	Not Applicable	Not Applicable
COLA Policy Terms	Not Applicable	Not Applicable	Not Applicable
Flexibility & Mobility: Refunding Policy	2 out of 5 points	2 out of 5 points	Not Applicable
Policy Terms	Graded vesting of employer contributions is 4 or 5 years	Graded vesting of employer contributions is 4 or 5 years	Not Applicable

For more details see STRS Ohio DC Plan's complete Retirement Security Score for each type of worker available for download at: http://retirementsecurity.report/.

FIGURE E3: DISTRIBUTION OF RETIREMENT SECURITY REPORT SCORES, STRS OHIO "COMBINED PLAN"

	AVERAGE FOR ALL WORKERS	SHORT-TERM WORKERS >10 YEARS OF SERVICE	MEDIUM-TERM 10–20 YEARS OF SERVICE	FULL-CAREER <20 YEARS OF SERVICE
TOTAL SCORE	58.19%	48.02%	46.64%	79.90%
WHO IS SERVED	Serves all members moderately well	Does not serve all members well	Does not serve all members well	Serves all members well

	SHORT-TERM WORKERS >10 YEARS OF SERVICE	MEDIUM-TERM 10–20 YEARS OF SERVICE	FULL-CAREER <20 YEARS OF SERVICE
Eligibility: Vesting	3 out of 5 points	Not Applicable	Not Applicable
Income Adequacy: Benefit Value – 25 Y/O Entrant	5 out of 15 points	7 out of 15 points	30 out of 25 points
Income Adequacy: Benefit Value – 40 Y/O Entrant	4 out of 15 points	7 out of 15 points	18 out of 25 points
Income Adequacy: COLA Policy	Not Applicable	0 out of 5 points	0 out of 5 points
COLA Policy Terms	Not Applicable	No COLA	No COLA
Flexibility & Mobility: Refunding Policy	2 out of 5 points	4 out of 5 points	Not Applicable
Policy Terms	All member contributions refunded with interest	All member contributions refunded with interest	Not Applicable
Flexibility & Mobility: Interest Rate Credited When Leaving Early	3 out of 5 points	3 out of 5 points	Not Applicable
Crediting Rate	3.5%	3.50%	Not Applicable

For more details see Ohio STRS Combined Plan's complete Retirement Security Score for each type of worker available for download at: http://retirementsecurity.report/

FIGURE E4: DISTRIBUTION OF RETIREMENT SECURITY REPORT SCORES, SERS OHIO

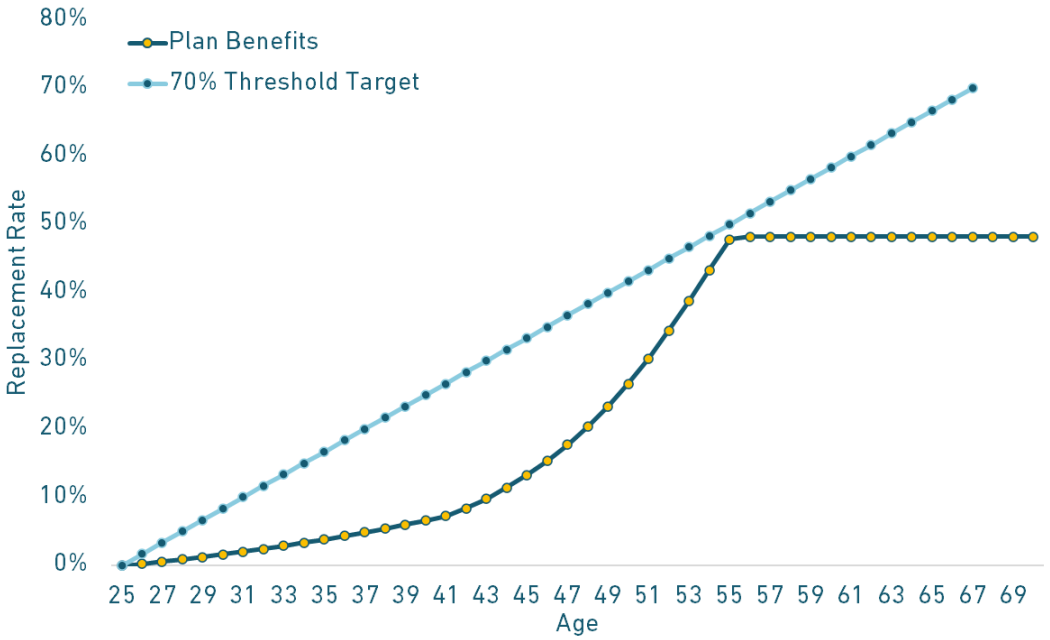
	AVERAGE FOR ALL WORKERS	SHORT-TERM WORKERS >10 YEARS OF SERVICE	MEDIUM-TERM 10–20 YEARS OF SERVICE	FULL-CAREER <20 YEARS OF SERVICE
TOTAL SCORE	40.86%	9.65%	29.28%	83.64%
WHO IS SERVED	Does not serve all members well	Does not serve all members well	Does not serve all members well	Serves all members well

	SHORT-TERM WORKERS >10 YEARS OF SERVICE	MEDIUM-TERM 10–20 YEARS OF SERVICE	FULL-CAREER <20 YEARS OF SERVICE
Eligibility: Vesting	0 out of 5 points	Not Applicable	Not Applicable
Income Adequacy: Benefit Value – 25 Y/O Entrant	2 out of 15 points	3 out of 15 points	17 out of 25 points
Income Adequacy: Benefit Value – 40 Y/O Entrant	4 out of 15 points	6 out of 15 points	25 out of 25 points
Income Adequacy: COLA Policy	Not Applicable	4 out of 5 points	4 out of 5 points
COLA Policy Terms	Not Applicable	Ad hoc COLA, linked to inflation	Ad hoc COLA, linked to inflation
Flexibility & Mobility: Refunding Policy	0 out of 5 points	0 out of 5 points	Not Applicable
Policy Terms	All member contributions refunded without interest	All member contributions refunded without interest	Not Applicable
Flexibility & Mobility: Interest Rate Credited When Leaving Early	0 out of 5 points	0 out of 5 points	Not Applicable
Crediting Rate	0.0%	0.0%	Not Applicable

For more details see Ohio SERS' complete Retirement Security Score for each type of worker available for download at: http://retirementsecurity.report/

FIGURE E5: STRS OHIO PENSION PLAN BENEFITS FALL SHORT OF REACHING A 70% REPLACEMENT RATE TARGET FOR ADEQUATE RETIREMENT INCOME AT ALL STAGES OF A MEMBER'S CAREER

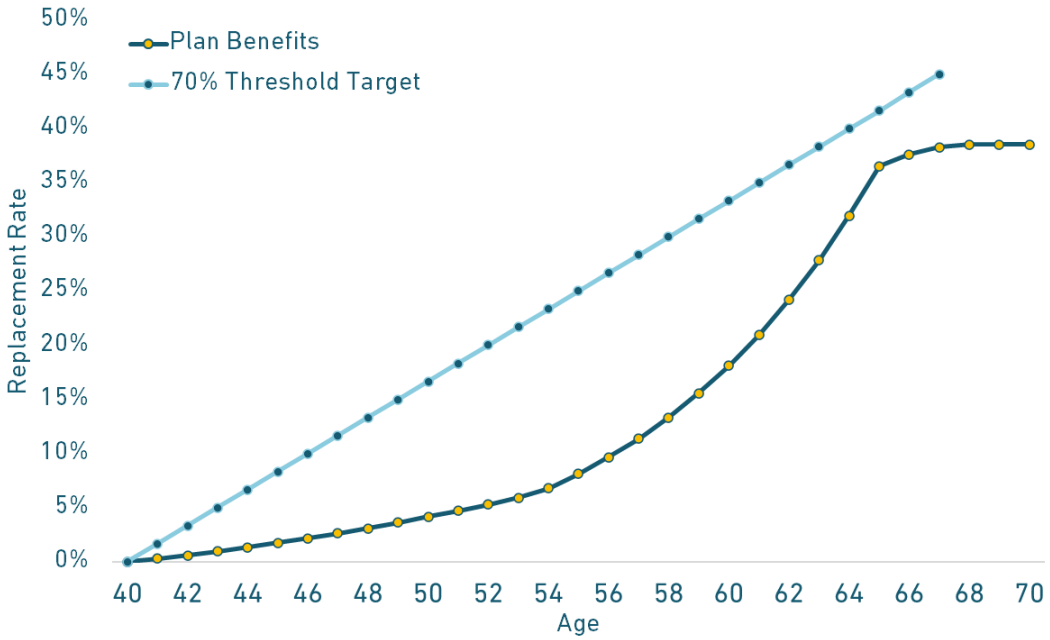
Adequacy of STRS Ohio Pension Benefits for a 25-Year-Old Entrant



Source: Jonathan Moody and Anthony Randazzo, "Retirement Security Report," Equable Institute, 2021.

FIGURE E6: STRS OHIO PENSION PLAN BENEFITS FALL SHORT OF REACHING A 70% REPLACEMENT RATE TARGET FOR ADEQUATE RETIREMENT INCOME FOR MID-CAREER ENTRANTS

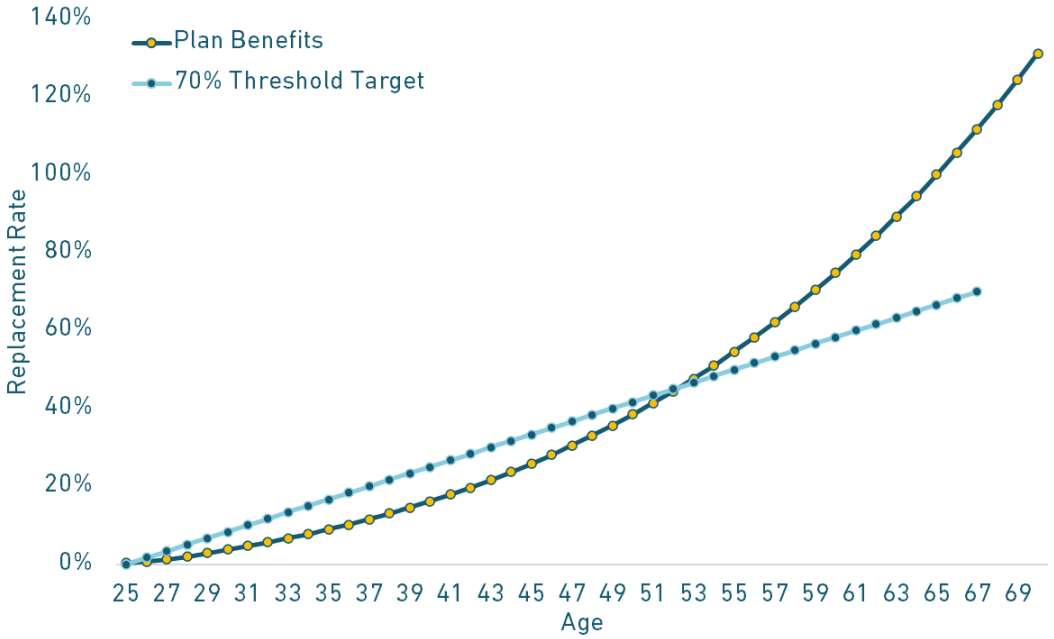
Adequacy of STRS Ohio Pension Benefits for a 40-Year-Old Entrant



Source: Jonathan Moody and Anthony Randazzo, "Retirement Security Report," Equable Institute, 2021.

FIGURE E7: STRS OHIO DC PLAN BENEFITS REACH A 70% REPLACEMENT RATE TARGET FOR ADEQUATE RETIREMENT INCOME AFTER 28 YEARS OF SERVICE

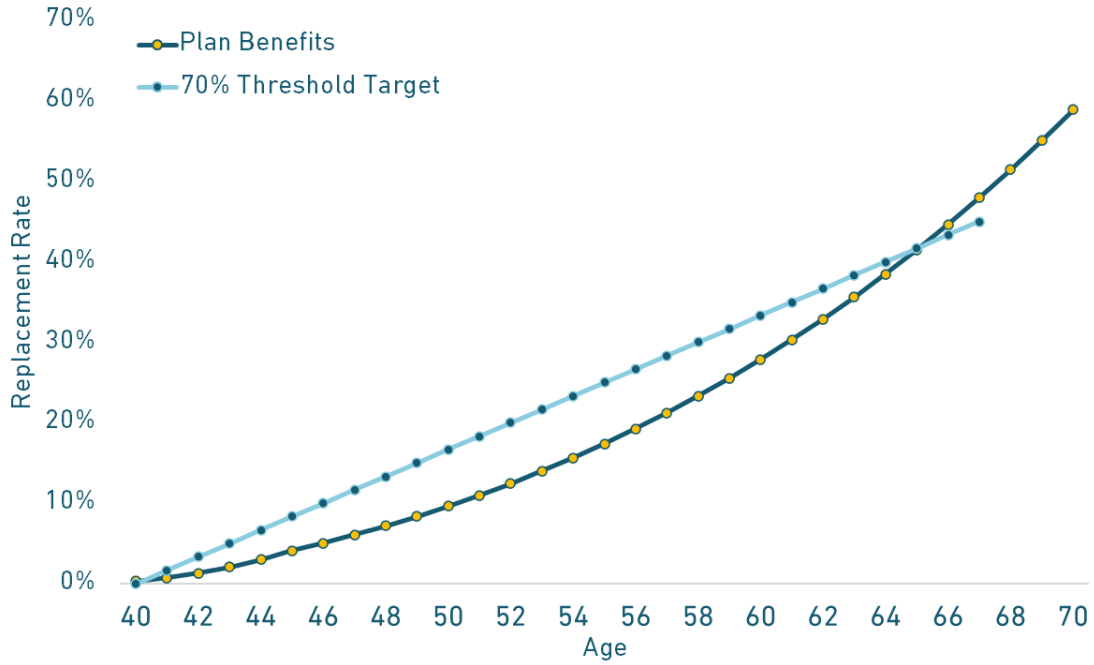
Adequacy of STRS Ohio DC Benefits for a 25-Year-Old Entrant



Source: Jonathan Moody and Anthony Randazzo, "Retirement Security Report," Equable Institute, 2021.

FIGURE E8: STRS OHIO DC PLAN BENEFITS REACH A 70% REPLACEMENT RATE TARGET FOR ADEQUATE RETIREMENT INCOME FOR MID-CAREER ENTRANTS AFTER 25 YEARS OF SERVICE

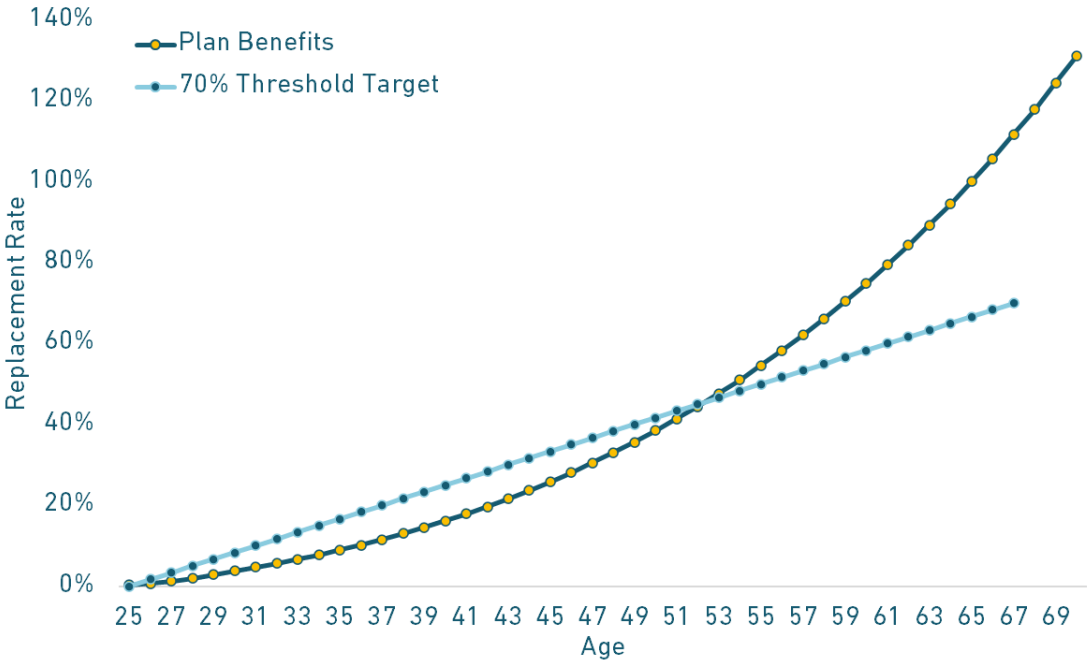
Adequacy of STRS Ohio DC Benefits for a 40-Year-Old Entrant



Source: Jonathan Moody and Anthony Randazzo, "Retirement Security Report," Equable Institute, 2021.

FIGURE E9: STRS OHIO COMBINED PLAN BENEFITS REACH A 70% REPLACEMENT RATE TARGET FOR ADEQUATE RETIREMENT INCOME AFTER 28 YEARS OF SERVICE

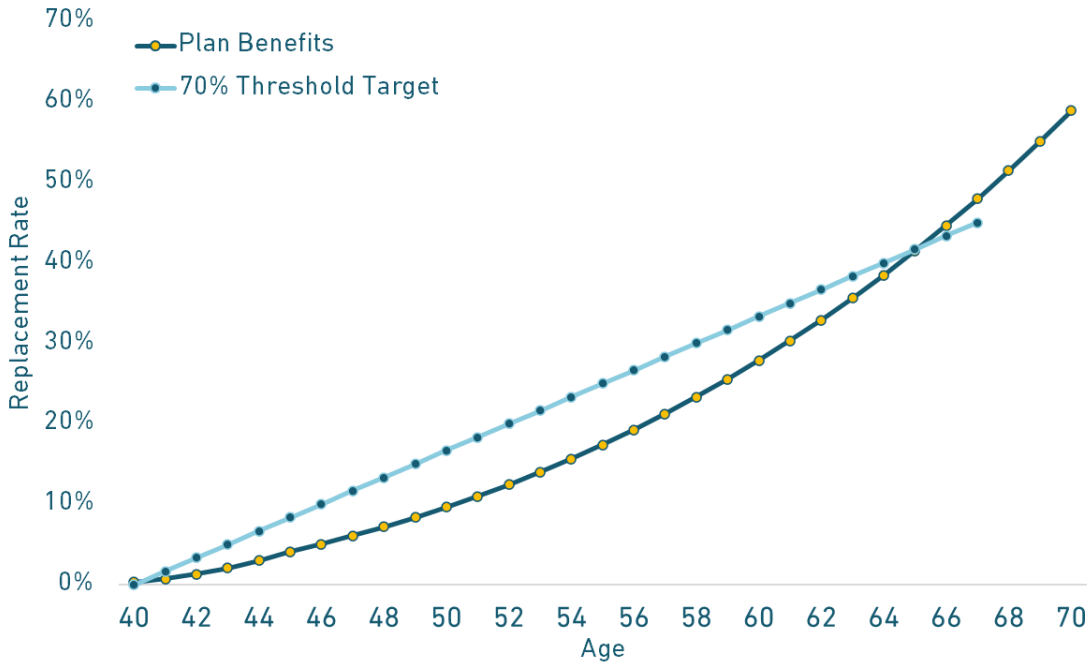
Adequacy of STRS Ohio Combined Plan Benefits for a 25-Year-Old Entrant



Source: Jonathan Moody and Anthony Randazzo, "Retirement Security Report," Equable Institute, 2021.

FIGURE E10: STRS OHIO COMBINED PLAN BENEFITS REACH A 70% REPLACEMENT RATE TARGET FOR ADEQUATE RETIREMENT INCOME FOR MID-CAREER ENTRANTS AFTER 25 YEARS OF SERVICE

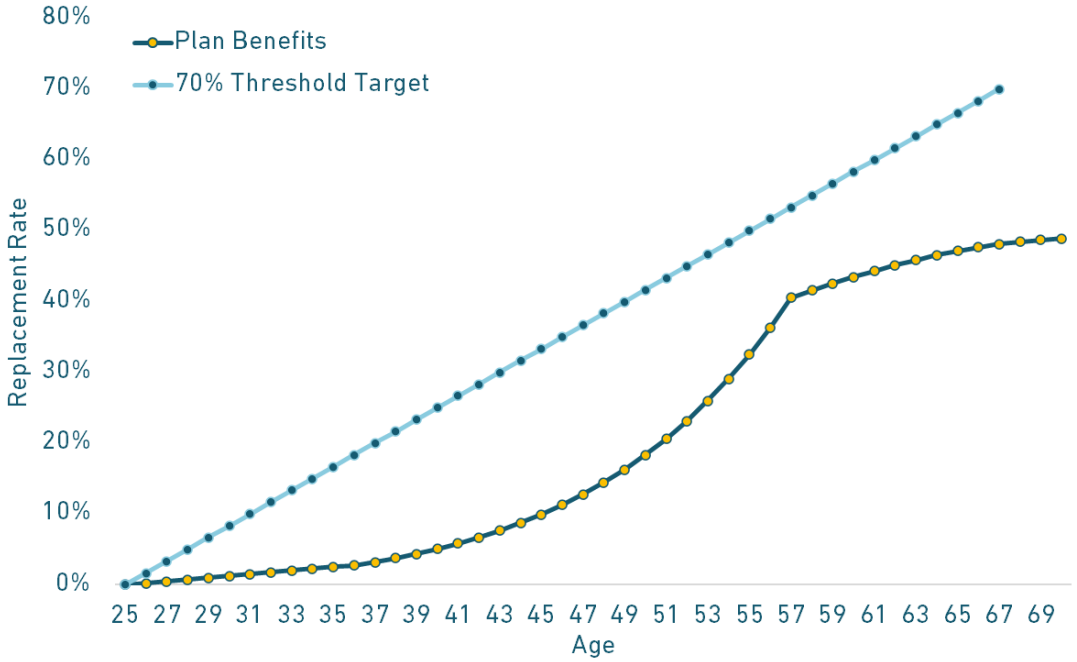
Adequacy of STRS Ohio Combined Plan Benefits for a 40-Year-Old Entrant



Source: Jonathan Moody and Anthony Randazzo, "Retirement Security Report," Equable Institute, 2021.

FIGURE E11: SERS OHIO BENEFITS FALL SHORT OF REACHING A 70% REPLACEMENT RATE TARGET FOR ADEQUATE RETIREMENT INCOME AT ALL STAGES OF A MEMBER'S CAREER

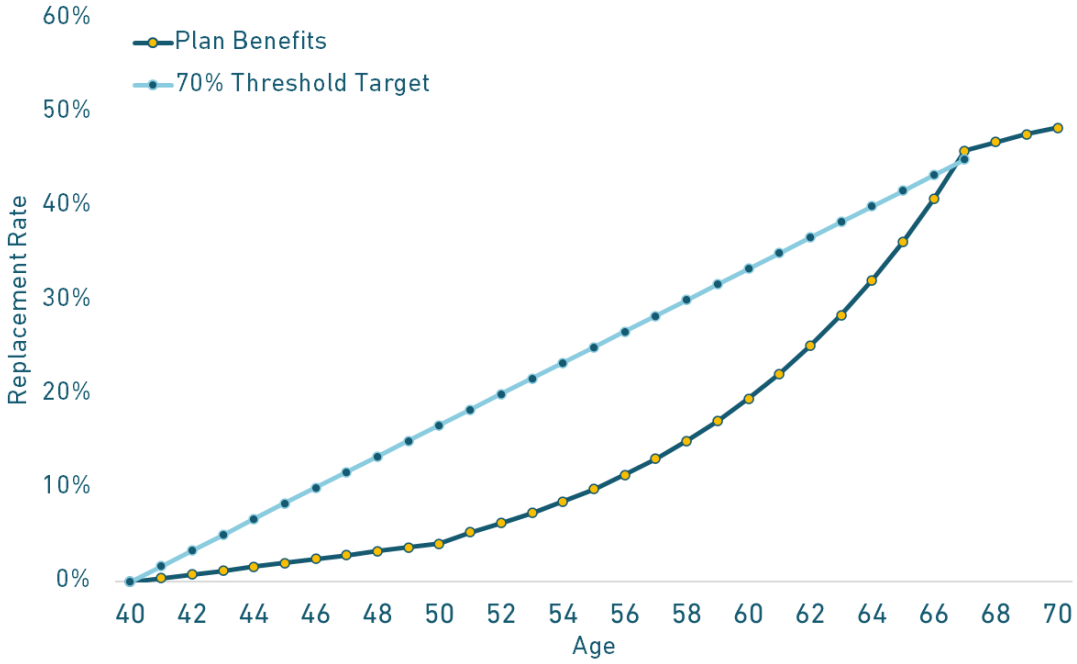
Adequacy of SERS Ohio Benefits for a 25-Year-Old Entrant



Source: Jonathan Moody and Anthony Randazzo, "Retirement Security Report," Equable Institute, 2021.

FIGURE E12: SERS OHIO BENEFITS REACH A 70% REPLACEMENT RATE TARGET FOR ADEQUATE RETIREMENT INCOME FOR MID-CAREER ENTRANTS AFTER 27 YEARS OF SERVICE

Adequacy of SERS Ohio Benefits for a 40-Year-Old Entrant



Source: Jonathan Moody and Anthony Randazzo, "Retirement Security Report," Equable Institute, 2021.