



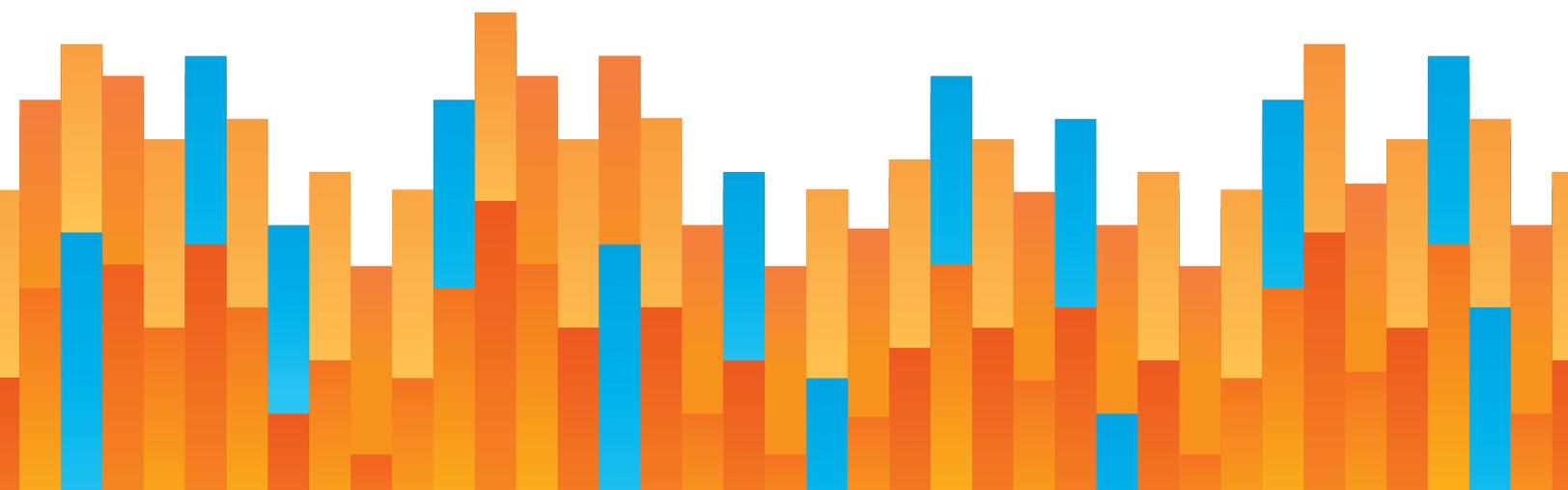
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PENSION SOLVENCY OVERVIEW: TEACHER RETIREMENT SYSTEM (TRS) OF TEXAS

by Zachary Christensen, Leonard Gilroy, Steven Gassenberger, and Vance Ginn
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The public is demanding a different direction for their government, and the Texas Public Policy Foundation is providing the ideas that enable policymakers to chart that new course.

EXECUTIVE SUMMARY

At nearly six times the size of the next largest public pension plan in the Lone Star State, the Teacher Retirement System (TRS) of Texas holds substantial influence on the fiscal health of not only the state budget, but the pocketbooks of over 1.5 million Texans. Despite the central role TRS plays in the lives of Texas educators, over the last 25 years the plan has seen a steady decline in its financial health that, until recently, had gone largely unaddressed.

Going into 1992, TRS enjoyed a funding surplus of over \$2 billion; however, after a quarter century of underperforming investments, insufficient contributions, unfunded benefit increases, and a systemic undervaluing of debt, TRS finds itself going into 2019 with \$46.7 billion in debt. As earthquakes alter the physical landscape, this tectonic shift in the solvency of TRS has changed the state's fiscal landscape by creating a mountain of debt for the state and local governments that is crowding out resources from the classroom and other vital public education priorities across Texas.

The issues facing TRS have not gone completely unnoticed by those looking to secure the retirement of Texas teachers while also managing the budget challenges that come with a growing pension debt. In the fall of 2018, the TRS board voted to lower the system's assumed investment rate of return in an effort to align plan assumptions with market realities. The shift, which is widely recognized as consistent with sound actuarial practices deployed in many other states, exposed unfunded liabilities previously unrecognized and sent a message to policymakers that if unaddressed, the Texas budget landscape would be substantially affected.

The Pension Integrity Project at Reason Foundation, in conjunction with the Texas Public Policy Foundation, has produced this report as the first part of an ongoing information series spotlighting the driving factors leading to the pension debt and education crowd-out caused by underlying structural problems within TRS. Bringing interested parties together around a central, non-partisan understanding of the challenges TRS faces—complete with independent third-party actuarial analysis and expert technical assistance—our organizations stand ready to guide policymakers and stakeholders in addressing the shifting fiscal landscape.

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IMPORTANT PENSION TERMS AND DEFINITIONS

Normal Cost is the actuarially determined amount that needs to be contributed to the pension fund today for it to grow over time and be enough to pay out benefits in the future. For the normal cost to be adequate, the actuarial assumptions that go into its calculation must be correct. If any of the assumptions—such as mortality, retention, assumed rate of return, etc.—are overly optimistic or underestimate future experience, they may contribute to unfunded liabilities.

Unfunded Actuarial Accrued Liability (UAAL) is the amount of promised benefits that is greater than assets of a pension plan. In most cases it is measured as the amount of actuarially accrued liabilities (AAL) greater than the actuarially valued assets (AVA) of a plan, or simply the AAL minus the AVA. Colloquially, the phrase “unfunded liabilities” is interchangeable with “unfunded actuarially accrued liabilities” (UAAL), “unfunded actuarial liability” (UAL), or “net pension liability” (NPL).

Unfunded Liability Amortization Payments are regular contributions made to reduce the unfunded liability. Similar to paying off a loan or bond, they are paid on a set schedule. Pension policymakers determine the time period to pay off certain portions of unfunded liabilities, and the actuary calculates how much should be paid each year. Such payments may be the same each year or tied to a predetermined percentage of payroll.

Assumed Rate of Return (ARR) is the assumption about how much contributions into the pension fund will earn as investments. The ARR is a rate chosen by pension policymakers based on what investment advisors think the pension fund’s portfolio can earn in the near term and long term. Typically, pension boards choose an ARR close to the “expected” rate of return, which is what advisors think the fund has a 50% chance of earning. The ARR is used to determine how much the employer should contribute to the pension plan on an annual basis to honor the promised retirement benefits for all employees.

Discount Rate is used to determine the overall present value of already-promised pension benefits (or liabilities) of a plan. Actuaries count all expected future pension checks that will be paid, then “discount” the value of those back to current dollars. The higher the discount rate, the lower the estimated value of promised benefits; the lower the discount rate, the higher the estimated value of promised benefits.

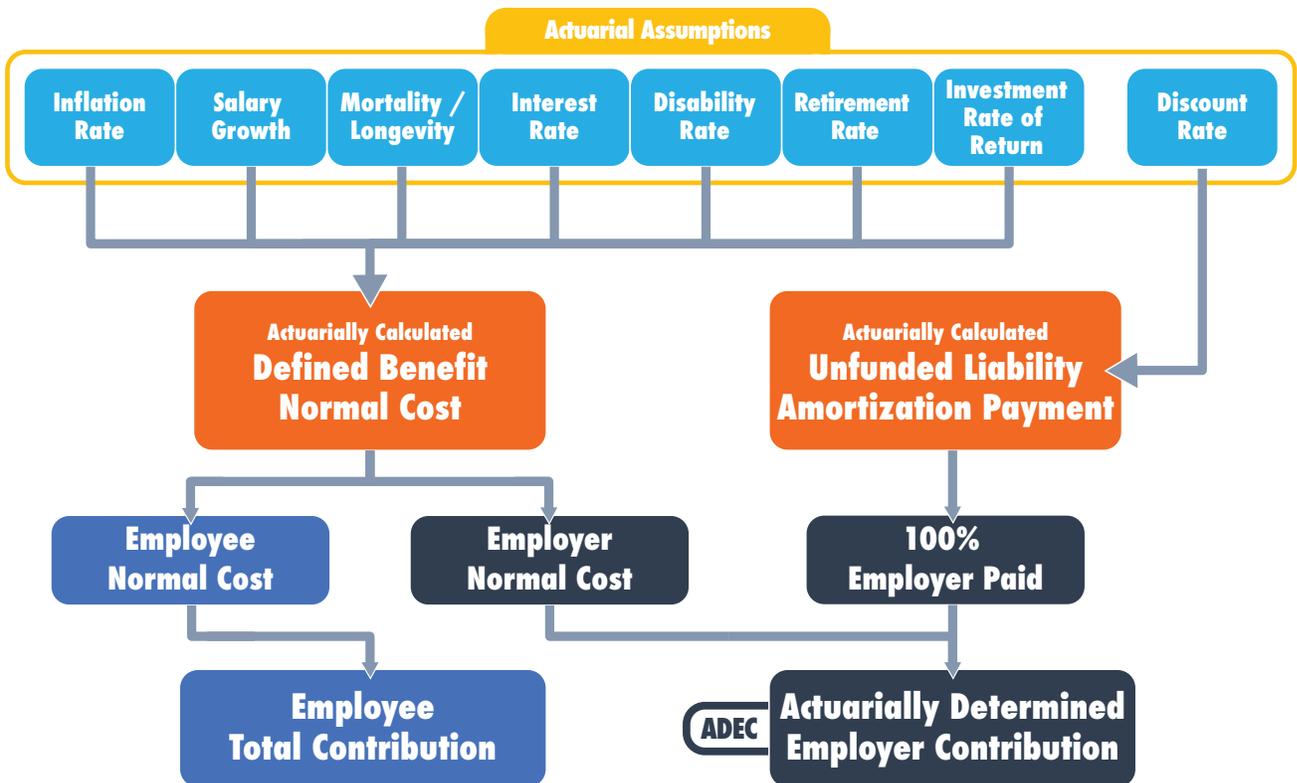
Negative Amortization occurs when payments made toward unfunded liabilities are less than the interest accruing on that same unfunded liability. This is the opposite of what the amortization payments are supposed to do—paying off a loan with regular payments so the total amount owed goes down with each payment. With negative amortization, even though payments go into the plan, the amount of pension debt can still grow.

(For a full list of terms, please visit: <https://reason.org/backgrounder/glossary-of-pension-terminology>)

HOW ARE DEFINED BENEFIT PLANS FUNDED?

Although each pension system has its own unique nuances and structures, there are universally recognized standards and practices shared across all defined benefit plans.

- Designed to be pre-funded such that when an employee retires, the plan has enough saved to pay for all promised benefits
- Includes employer-guaranteed specified retirement benefits in perpetuity
- Benefits are based on the employee’s final salary, years of work, and age
- Has an eligibility age and/or year of service minimum to qualify for retirement



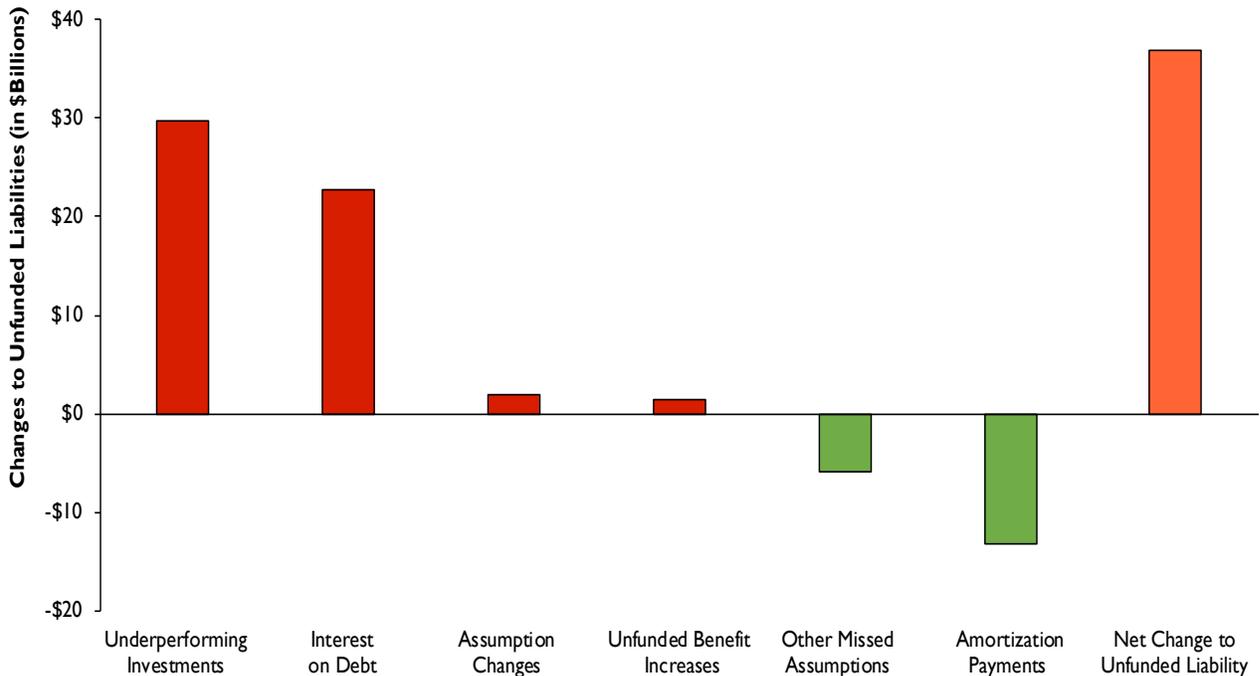
Defined Benefit Pension Plans are NOT like Social Security!

The pre-funded nature of the defined benefit pension system is different from the Social Security system, a “pay-as-you-go” system that is not required to be pre-funded. Instead, the government collects tax dollars from the working population to pay for the current Social Security benefits of retirees. Rather than maintaining sufficient funds to pay for retiree benefits in a given year, Social Security relies on tomorrow’s taxpayers to pay for yesterday’s on the condition that the generation behind them will do the same.

HOW TEXAS TRS UNFUNDED LIABILITY GREW TO \$35.4 BILLION

The Teacher Retirement System (TRS) of Texas reported an unfunded pension liability of \$35.4 billion in 2017. An analysis of historical TRS reports going back to 2001 makes it possible to identify the key factors driving growth in TRS’ unfunded liability.

The Causes of the Pension Debt
Texas TRS Actuarial Experience (2001–2017)



Source: Pension Integrity analysis of Texas TRS financial reports. Data represent cumulative unfunded actuarial liability.

UNREALISTIC EXPECTATIONS ON INVESTMENT RETURNS

- Underperforming investments have added \$29.7 billion to the TRS unfunded liability since 2001.
- In a step to fix this issue, the TRS board lowered its assumed rate of return from 8% to 7.25%, but even the new assumption may still be too optimistic. If returns average below 7.25% for any sustained period, which they have in the recent past, there will be even more growth in TRS’ unfunded pension liabilities.
- TRS actuaries place the probability of achieving a 7.25% return over the next decade at around 50%, though other forecast models calculate this probability to be closer to 30%.

3.2

INTEREST ON PENSION DEBT

- Interest on TRS pension debt has added \$22.7 billion to the unfunded liability since 2001, which outpaced annual contributions into the plan by \$9.6 billion.
- Negative amortization—when interest exceeds contributions—results in a growing pension debt, even when the required contribution is paid in full.

3.3

UNFUNDED BENEFIT INCREASES

- \$1.5 billion of the current debt comes from benefits added but not funded since 2001.
- These benefits were \$1.1 billion added in 2005 and \$400 million added in 2007.

PART 4

TEACHER RETIREMENT SYSTEM OF TEXAS: WHY 80% FUNDED IS NOT ENOUGH

As of August 2017, the Teacher Retirement System (TRS) of Texas reported to have 80.5 cents for every dollar of pension benefits promised to teachers and other members of the pension plan. One year later, the TRS board lowered the assumed rate of return, dropping the pension's funded ratio to 76.1%.

4.1

IS BEING 80% FUNDED A REAL PROBLEM?

Some argue no, since Texas has several decades to catch up on payments, while the state expects to have enough money to pay today's retirees. However, these views fail to account for the added costs and risks associated with holding an unfunded liability and a funded ratio less than 100%.

FINANCING TRS PENSION DEBT IS EXPENSIVE.

- TRS has at least \$35.4 billion in pension debt, and billions more if the pension plan's assumptions are wrong. The TRS board's recent lowering of the assumed rate of return signals a pension debt closer to \$45.9 billion.
- Billions in required annual pension debt payments could instead be used to pay teachers more, support the classroom, or provide tax relief.
- Over \$16 billion in TRS pension debt payments have been made since 2000.

MAINTAINING AN 80% FUNDED RATIO JEOPARDIZES INTERGENERATIONAL EQUITY.

- Any pension plan less than 100% funded holds pension debt that requires "unfunded liability amortization payments."
- Carrying pension debt means future taxpayers must eventually pay for today's teacher retirement benefits.

THE ACTUARIAL COMMUNITY AGREES: 80% FUNDED IS *NOT* HEALTHY.

- The idea that pension actuaries think 80% funded ratios are healthy is a myth.
- In the following section are quotations from the actuarial community on why pension plans with less than 100 cents on the dollar to pay promised benefits need to improve their long-term solvency.

Conclusion: *Pension plans must be 100% funded to prevent expensive, intergenerational inequality. Anything less won't do for Texas teachers or taxpayers.*

THE PENSION PLAN ACTUARIAL COMMUNITY ON FULLY FUNDING BENEFITS

“[A pension] plan’s funding goal should always be 100% of the plan liability calculated assuming median expected future investment returns.”

–SOCIETY OF ACTUARIES

The Society of Actuaries (SOA) is the world’s largest actuarial professional organization.

The “median expected future investment return” is reported by TRS investment advisors to be around 7% (as of February 2018)—using this measure, actuaries calculate that TRS is only 73.9% funded.

SOA’s Blue Ribbon Panel on Public Pension Funding advises that a plan should not settle for any level of funding below 100%, and should always guide its fund to reach full funding within a reasonable timeframe and under a median level of possible long-term returns.

Read for yourself: <https://www.soa.org/blueribbonpanel/>

“A plan with a funded ratio above 80% (or any specific level) might not be sustainable if the obligation is excessive relative to the financial resources of the sponsor, if the plan investments involve excessive risk, or if the sponsor fails to make the planned contributions.”

–AMERICAN ACADEMY OF ACTUARIES

According to actuarial reports, about half of TRS’ investment portfolio is in high risk and low transparency assets, which is unusually high when compared to other public pension funds.

Texas has underpaid the actuarially determined contributions necessary for TRS almost every year since 2003, adding \$5.7 billion to the system’s pension debt.

The American Academy of Actuaries advises that an 80% funded ratio is not a reliable indicator of pension fund health, especially if the fund is allocating its investments in more risky assets and not making the full actuarially required payments.

Read for yourself: https://www.actuary.org/files/80_Percent_Funding_IB_071912.pdf

**“Underfunded pension plans ... generally violate the principle of intergenerational equity.”
–PENSION FINANCE INSTITUTE**

The Pension Finance Institute warned that anything below full funding represents intergenerational theft, meaning current employees and employers aren't putting enough into the system to pay the amount promised, which will result in future generations having to pay for benefits they will not receive.

Even if TRS is on a path to full funding within 30 years, future generations bear the financial risk if all market expectations are not met. To protect their future, Texas policymakers ought to do anything in their power to expedite the path to full funding.

Read for yourself: <http://www.pensionfinance.org/papers/PubPrin.pdf>

TEXAS TRS: EXAMINING THE 7.25% ASSUMED RATE OF RETURN

In July 2018, the Teacher Retirement System (TRS) of Texas lowered its assumed rate of return from 8% to 7.25%. The TRS board voted for the lower rate at the advice of actuaries tasked with ensuring sound funding policy for the plan. The change is based on lower projections for what TRS investment returns can earn from its current portfolio. The adjustment to a lower assumed rate of return—and subsequent increase in required contributions—are important for ensuring long-term pension fund stability. The shift is consistent with national trends and will not result in changes to current retirement benefits.

AN ACCURATE ASSUMED RATE OF RETURN IS NECESSARY FOR THE LONG-TERM STABILITY OF A PENSION PLAN

- Financial experts are projecting long-term investment returns below 8%, which means the fund's assets aren't likely to grow at the rate previously assumed. Keeping an unrealistically high investment assumption would mean contributions into the plan will ultimately not be sufficient to pay retired teachers' benefits in the future.
- Lowering the rate to 7.25% also increases the recognized value of TRS promised benefits—known as projected liabilities or obligations. This will make it necessary to increase contributions if the plan is to maintain financial security for retired teachers.
- Adopting a more realistic projection of investment returns and the estimated value of pension benefits is important to ensuring Texas will uphold promises made to teachers.
- Keeping an 8% assumed rate of return would have hidden the actual hole needed to be filled to ensure that 100% of promised benefits are paid to beneficiaries.

THE LOWER RATE DOES NOT CUT OR CHANGE RETIREMENT BENEFITS

- The recognition of higher liabilities in no way changes the *actual* benefits promised to TRS employees and retirees. This is simply an accounting method change that results in a more conservative estimated value of future pension benefit payments.
- What will change is the cost of the program. To ensure benefits are fully paid, TRS will need to consider options to secure more money annually than previously calculated.

- While the change to the assumed return may delay the timeline for retirees receiving a cost of living adjustment on their benefits, keeping the status quo and subsequently paying a cost of living adjustment would have likely caused additional long-term funding harm to TRS.

5.3

TRS' MOVE TO A LOWER RATE IS CONSISTENT WITH NATIONAL TRENDS

- According to the Center for Retirement Research, the national average for assumed rates of return for public pension plans has declined from 8% in 2002 to 7.38% in 2017.
- Public pension boards deciding to lower their assumed rates of return in recent years include the California Public Employees Retirement System, the Teachers' Retirement System of Illinois, the Michigan Public School Employees Retirement System, the Arizona State Retirement System, and many more.

PART 6

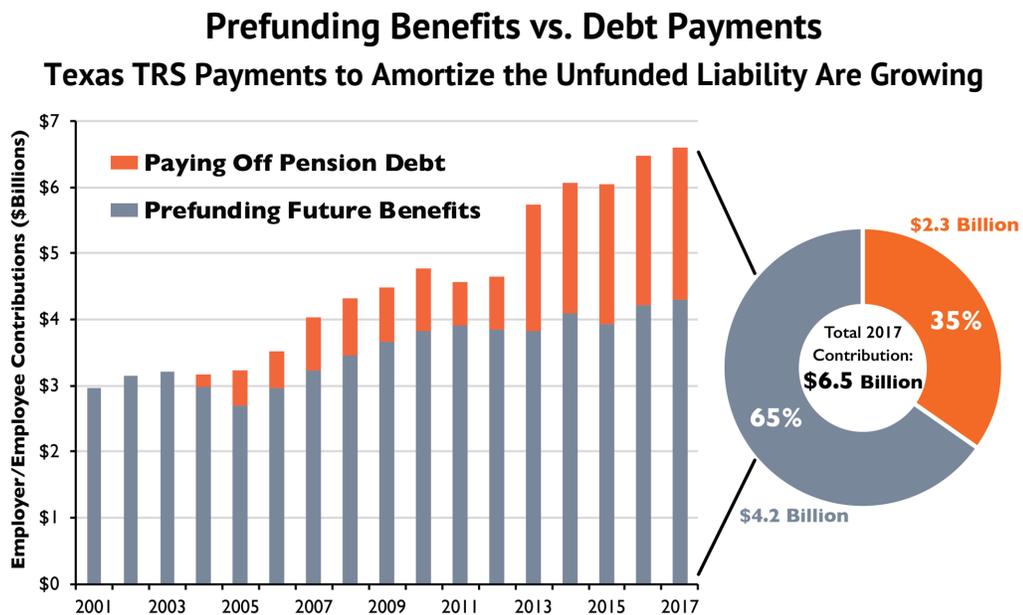
UNFUNDED LIABILITIES ARE FORCING TEXAS TRS PENSION CONTRIBUTIONS EVER HIGHER

Every pension plan has a “normal cost”—the annual contribution necessary to fully prefund the plan according to actuarial assumptions. In a fully funded plan, the normal cost is the only necessary contribution to ensure the fund covers all future promised benefits. By contrast, an underfunded pension plan is forced to make amortization payments in addition to the normal cost to pay down any unfunded liabilities that accrue when actuarial assumptions are missed. The Teacher Retirement System (TRS) of Texas’ amortization payments have grown since 2003 and take up an increasing amount of teacher and state contributions.

6.1

WHERE DO TRS PENSION CONTRIBUTIONS GO?

- Annual costs for TRS are trending up, largely due to rising costs associated with paying down growing unfunded pension liabilities—the gap between the amount of promised pension payouts and the amount needed on hand today to fully fund those promises and ensure all promised benefits are fully paid.
- In 2017, contributions totaling \$6.5 billion went into the TRS fund, half coming from employers and half from teachers.
- Of those contributions, only 65% (\$4.2 billion) was used to prefund benefits for active teachers. The remaining 35% (\$2.3 billion) was used to pay down unfunded pension liabilities, meaning that teachers and districts are increasingly paying for unfunded benefits accrued from previous years.



Source: Reason analysis of Texas TRS comprehensive annual financial reports. Total contribution includes member, employer, and non-employer contributions. Analysis does not include annual administrative expenses.

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