



Getting Down to **FACTS**



Pensions and California Public Schools, 2026

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List of Common Abbreviations & Acronyms in this Report:

California Plans

CalSTRS: California State Teachers' Retirement System

CalPERS: California Public Employees' Retirement System

Pension Accounting Terms

ARC: Annual Required Contribution

UAO: Unfunded Actuarial Obligation

Normal Cost: The actuarially determined cost of funding pension benefits for current workers

Terms that Identify Pension Plan Types

DB: Defined Benefit

DC: Defined Contribution

CB: Cash Balance

1. Introduction

Teachers and other certified personnel (e.g., school principals) in California public schools are covered by the California State Teachers' Retirement System (CalSTRS), which is a defined-benefit pension plan. In a defined-benefit plan, retirement payments are determined by a formula rather than by the value of accumulated contributions and investment returns, as in a defined-contribution plan (such as a private-sector 401(k)). The formula can be thought of as a promise to pay the specified benefit level.

Ideally teachers, school districts, and the state would contribute enough over teachers' careers to fully fund the benefits promised by the formula. However, like in many states, this is not how things have worked out in practice in California—for many years, CalSTRS collected too little in contributions. As a result, it has accumulated substantial pension debt. As of 2024, the debt in CalSTRS was approximately \$89 billion. To put this number in context, the entire California TK-12 education budget during fiscal year 2023-24 was approximately \$129 billion.¹

The pension debt in CalSTRS has been a pressing issue for quite some time. The most recent legislative response occurred in 2014, when the California Legislature enacted Assembly Bill 1469 (AB 1469). AB 1469 established new contribution rates intended to amortize the existing debt at the time over roughly 30 years. The law increased contribution rates for all three funding partners—teachers, school districts, and the state—with the largest increase falling on school districts. The increases were phased in over a seven-year period from 2014-15 to 2020-21 (hereafter, school years in this report are denoted by the spring year – e.g., 2015 for 2014-15).

By the 2025–26 school year, the total contribution rate to CalSTRS had risen to 37.7 percent of covered payroll, up from 18.3 percent when AB 1469 was enacted. In other words, for every dollar earned by a CalSTRS-covered teacher, nearly 38 cents is contributed to the pension plan. Of this total, the state contributes 8.3 percent of payroll, school districts contribute 19.1 percent, and educators contribute just over 10 percent.²

¹ We believe this is useful context but also note it is important to distinguish between stocks and flows. The debt level is a stock measure that reflects the total accumulation of debt over a long period of time, but the total education budget is an annual flow.

² The state also makes an extra payment to the Supplemental Benefit Maintenance Account (SBMA), which provides inflation protection for retirees. SBMA payments to retirees are not part of the main plan and are not guaranteed (they are

Importantly, the more than doubling of the total contribution rate between 2014 and 2026 has not been accompanied by an improvement in teachers' retirement benefits. The higher contributions are used entirely to pay down pension debt. Accordingly, the 38-percent contribution rate greatly exceeds the actuarially calculated cost of providing pension benefits for current teachers, which as of 2026 is approximately 20 percent of teacher salaries. Pension actuaries refer to this amount as the "normal cost." The gap between the total contribution and normal cost represents resources devoted to paying down debt and can be viewed as a tax on the current education system.

The contribution rates set by AB 1469 are projected forward through 2046, the target year for fully amortizing the debt addressed by the legislation. Although the rates are anchored in statute, they can fluctuate based on CalSTRS' evolving financial condition. Among the three contributors, the state's rate is projected to be the most volatile.

When a previous pension report was released in 2018 as part of *Getting Down to Facts II* (Koedel and Gassmann, 2018), there was considerable angst about the debt-fueled rise in CalSTRS contribution rates ushered in by AB 1469. Today, however, pension costs appear to be less of a concern for educators and policymakers. In fact, pensions did not come up at all during a pre-project listening tour conducted by members of the *Getting Down to Facts III* team.

Our research suggests two explanations for the lack of concern. First, stakeholders appear to have a limited understanding of pension costs. In a survey of 82 school principals conducted as part of *Getting Down to Facts III*, 71 percent at least somewhat disagreed with the statement that CalSTRS cost information is common knowledge among school principals. And when asked if it is common knowledge that almost half of pension contributions are used to pay down debt without contributing to current workers' benefits, 93 percent at least somewhat disagreed.³

Second, while pension costs have risen sharply, total TK-12 education revenue has grown even more. Annual CalSTRS contributions more than tripled between 2014 and 2024, increasing from \$4.8 to

subject to fund availability), so we do not include them in our reporting. The state SBMA rate is 2.5 percent of teacher salaries.

³ Corresponding percentages of principals who either "disagreed" or "strongly disagreed" with these statements are 59 and 79 percent, respectively.

\$15.9 billion. Although substantial, this increase is smaller than the growth in the total TK-12 budget over this same time period, which rose from \$69 billion in 2014 to \$129 billion in 2024.⁴

While recent revenue growth has helped school districts absorb rising pension costs in the short run, the large pension obligations remain a significant risk. If California faces pressure to reduce education spending in the future, CalSTRS costs will be difficult to accommodate. Absent changes to the law, districts cannot reduce their pension payments, meaning budget cuts would need to come from elsewhere. Having such a large and inflexible item in district budgets is a long-term risk to the delivery of public education in California.

Because CalSTRS' pension debt is so large, our report focuses primarily on explaining the debt issue, and the related issue of CalSTRS contribution rates, now and in the future. We also address more fundamental policy questions about CalSTRS, including: (1) What workforce incentives does the system create? and (2) How much do teachers value their CalSTRS coverage? These questions naturally lead to other questions, like: (3) What policy alternatives to CalSTRS exist? and (4) How have other states reformed teacher retirement systems when confronted with similar fiscal challenges? Finally, we briefly discuss two related issues: the retirement system covering non-certificated school staff—the California Public Employees' Retirement System (CalPERS)—and retiree health insurance.

2. The Basics of How CalSTRS Works

2.1 Benefits

CalSTRS is a statewide defined-benefit (DB) pension plan. Most teachers in the U.S. are covered by a similarly structured plan. The CalSTRS benefit formula is as follows:

Initial Annual Retirement Benefit = [(formula factor)*(years of service)]*(final average salary) (1)

The formula factor in California is not constant but is anchored around 2 percent. Final average salary is defined as either the highest single year of earnings or the average of the highest three years,

⁴ All dollar figures in this paragraph are nominal. Note that beginning in 2022-23, the total education budget was expanded to include funding for transitional kindergarten (TK), which was phased in. However, the effect of this is small relative to the total budget; e.g., prior to the incorporation of TK, the total K-12 budget in 2021-2022 was \$121 billion. See Appendix Figure A1.

depending on the member’s benefit tier (described below). The term in brackets—the product of the formula factor and years of service—represents the “replacement rate” applied to final average salary. For example, a teacher who retires with 25 years of service and a 2-percent formula factor receives an annual lifetime benefit equal to 50 percent of her final average salary.⁵

Eligibility for pension benefits requires vesting, which occurs after five years of service. Once vested, a teacher becomes entitled to the benefit defined by the formula and can collect upon reaching an eligible retirement age. Teachers who leave before vesting receive a refund of their own contributions (with interest) but forfeit all contributions made on their behalf by school districts and the state.

CalSTRS currently operates two benefit tiers: “2 percent at 60” and “2 percent at 62,” which we refer to as Tiers 1 and 2, respectively. Tier 2 applies to teachers hired on or after January 1, 2013, and provides lower benefits. The tier names refer to the age at which a teacher qualifies for a 2-percent formula factor. Teachers who retire earlier receive a lower formula factor that depends on how early benefits are claimed. The minimum early retirement ages (with a penalty) are 50 in Tier 1 and 55 in Tier 2. Conversely, teachers who work beyond the “2-percent age” receive formula-factor increases, up to a maximum of 2.4 percent in both tiers. Additional details are available in the CalSTRS member handbook.⁶

The multi-tiered system in California is not unique; in fact, many states have reduced pension benefits for public workers in a similar fashion. Nationwide, like in California, these reductions were in response to rising debt costs in many state plans in the 2000s. Legal precedent prohibits reducing pension benefits for current employees, either retroactively (by reducing benefits already accrued) or prospectively (by lowering accrual rates going forward). This means teachers are effectively grandfathered into the benefit level in place at the time of hire. Therefore, when cost-saving measures are necessary, one of the few options is to put new hires into a less generous pension tier.⁷

⁵ The formula in equation (1) gives the value of the initial annual payment at retirement. There is also a two percent upward adjustment to the benefit each year after initial collection in CalSTRS. The two percent annual increase is based on the initial benefit amount and is not compounded.

⁶ Also see here for a useful explainer: <https://ed100.org/lessons/pensions>.

⁷ This is only true for benefit reductions. In the late 1990s and early 2000s there were widespread benefit enhancements in teacher plans across the United States, including in CalSTRS. The enhancements were retroactive (Koedel, Ni, and Podgursky, 2014).

A last point on teacher retirement benefits in California is that teachers are not enrolled in Social Security. This means they do not pay into Social Security and neither do their employers (i.e., school districts), and they do not accrue Social Security benefits while working as a teacher. Nationally, teachers in 33 states are enrolled in Social Security, plus teachers in some districts in five other states (Kim et al., 2025). California is in the minority of states in this regard, though it is not unique.

The total benefit level of CalSTRS is within the norms of teacher plans in states without Social Security coverage. It is more generous, and more costly, than in states where teachers are dual-enrolled in Social Security, presumably to compensate for the absence of Social Security coverage. CalSTRS is much more generous, and more costly, than a typical private-sector retirement plan.

2.2 Funding

To finance the benefits promised by the CalSTRS formula, contributions are collected from teachers, school districts, and the state during teachers' working years. The total required contribution depends on (a) the generosity of the benefit formula, (b) a host of actuarial assumptions that determine how much to collect while teachers are working in order to pay promised benefits in retirement, and (c) the cost of servicing pension debt.

There are many actuarial assumptions that go into determining the total required contribution. Examples include assumptions about teacher life expectancies, earnings profiles, experience profiles, retirement ages, and the rate of return on pension assets. The latter is especially important because CalSTRS collects contributions while teachers work, invests them, then pays out benefits when teachers retire. Higher assumed returns reduce the amount the system believes it must collect today to fund future benefits.

The CalSTRS funding structure—like other public DB pension plans—permits resource transfers across workers. This is because contributions and benefits do not need to balance on an individual basis. Within-cohort transfers are complicated, but key redistributions occur from short-term to long-term teachers, and from those who enter the plan early in their careers to those who enter late (Costrell and McGee, 2019).⁸

⁸ DB plans favor long-term teachers and late entrants because of the way the formulas are structured, combined with rules for retirement eligibility that depend on age and years of service. Specifically, career teachers benefit from final-average-salary calculations that penalize those who leave the profession early, and from retirement-eligibility

While in principle DB plans like CalSTRS are intended to be fully funded at the cohort level, meaning each cohort contributes enough to cover its own benefits collectively, in practice pension accounting rules allow funding surpluses or shortfalls to carry forward. In CalSTRS, as in many other public plans, these inter-cohort carryovers have been persistently negative, leading to the accumulation of substantial pension debt over time.

This structure stands in sharp contrast to defined-contribution (DC) plans, such as private-sector 401(k)s or public-sector 403(b)s. In DC plans, retirement wealth depends solely on individual contributions, employer contributions, and investment returns. Because each worker’s account must balance independently by construction, resource transfers between workers (including across cohorts) are not possible.

3. Assembly Bill 1469 and Past, Current, and Future CalSTRS Contributions

3.1 Overview of AB 1469

Assembly Bill 1469 legislated increases in CalSTRS contribution rates for teachers, school districts, and the state. The rate increases were phased in between 2015 and 2021, and AB 1469 is the law under which current rates are set.

Before getting into the details of AB 1469, it is useful to distinguish between three contribution concepts: (a) **statutory contributions**, (b) **annual required contributions**, and (c) **contributions necessary for full funding**. The statutory contribution rate is the rate required by law and actually paid into the system. The annual required contribution rate (ARC) is a misnomer in the sense that there is no legal requirement to pay it. Rather, it is the contribution rate calculated by pension actuaries as needed to fund promised benefits and avoid the accumulation of debt, under their assumptions. The contribution rate necessary for full funding—this is our term, not a legal or accounting term—is a

provisions based on experience that allow them to begin collecting their pensions before reaching the “normal” retirement age. Among teachers who spend less than a full career in teaching, late entrants benefit because the final average salary calculation rewards them for having earnings closer to retirement.

conceptual benchmark representing the rate that would prevail if all of the parameters that actuaries make assumptions about were known with certainty and benefits were fully funded.

This contribution rate necessary for full funding will differ from the ARC to the extent the actuaries' assumptions are wrong. Though in principle assumption errors should be mean-zero—i.e., pension actuaries should be just as likely to make errors that result in pensions surpluses as they are to make errors that result in pension debt—in practice, there is a long history of public pension actuaries and pension boards making assumptions with one-sided errors that result in debt accumulation. It is beyond the scope of this report to explore the reasons for this, but it is worth noting that these types of errors benefit existing workers at the expense of future workers and thus have a clear political motivation (Glaeser and Ponzetto, 2014). Importantly, when actuaries make these types of errors, there is debt accumulation even when the full annual required contribution is paid (Backes et al., 2016, Novy-Marx and Rauh, 2009).

We begin in Figure 1 by showing the statutory CalSTRS contribution rate from 2006 to the present, and projected out through 2046, measured as a percentage of teacher salaries. Each bar represents the total contribution rate, with segments showing the shares paid by teachers, school districts, and the state. As of 2026, the state contributes 8.3 percent of payroll and school districts contribute 19.1 percent. Teachers contribute either 10.25 percent (Tier 1) or 10.205 percent (Tier 2); the figure reports a weighted average across tiers.

Figure 2 compares the total statutory contribution rates from Figure 1 to the ARC through 2024.⁹ Three key points emerge. First, there is a long period at the beginning of the figure during which the statutory contribution rate was below the ARC. Further note that the underpayment began well before the figure starts in 2006. This is one of the reasons CalSTRS has accumulated debt. A straightforward analogy is to a monthly credit card bill. For many years the contributing parties did not pay the full bill. As a consequence the balance grew, requiring larger and larger payments.

Second, the ARC shot up in 2010, and again in 2017. These spikes are attributable to CalSTRS lowering its assumed rate of return on assets. The rate was lowered incrementally from 8 percent prior to 2010 to the current level of 7 percent today. While this change was fiscally prudent and most financial economists would applaud it (e.g., see Novy-Marx and Rauh, 2009), reducing the assumed

⁹ 2024 is the most recent year for which both rates are reported in CalSTRS actuarial valuation reports.

return mechanically increases measured pension liabilities by revealing that more assets are needed to meet future benefit obligations.

Third, the current statutory contribution rate exceeds the ARC by almost four percentage points. This reflects the aggressive design of AB 1469, which aims to amortize the pension debt accumulated through July 2014 by 2046.

AB 1469 sets benchmark rates for the three contributing parties, which are then subject to fluctuations depending on CalSTRS' financial health. The state rate is the most subject to change. The district and employee rates can also change, but less so. In the next three paragraphs we briefly explain the contribution outlook for teachers, school districts, and the state through 2046 under AB 1469. More detailed information about the projected rate paths can be found in CalSTRS' actuarial valuation reports.

The employee rate path is the most straightforward. For Tier 1 members hired before January 2013, the rate is set at 10.25 percent of salaries indefinitely. For newer members in Tier 2, their contributions are tied to the normal cost rate, also indefinitely. Tier 2 members are required to pay half of the normal cost of their own benefits plus a small supplemental payment. Their current rate is 10.205 percent. This rate could change if the normal cost changes, but it is not currently projected to do so.

Next is the district rate. The most likely scenario is that the district rate will remain at its current level—19.1 percent—through 2042, then drop slightly in 2043 and 2044, then drop more significantly to 8.25 percent in 2045. It is not possible for the district rate to exceed 20.25 percent, which is the rate cap in AB 1469, and the rate could fall below 19.1 percent before 2043 if CalSTRS' financial health exceeds expectations going forward. If this happens, the decline in the district rate would accelerate to its floor at 8.25 percent. But under current actuarial assumptions, the most likely scenario for the district rate is that it will remain high through 2044.

Finally, the state rate is the most volatile because it is tied closely to the financial health of the plan. Under current projections, the state rate will remain at 8.3 percent through 2028, fall to roughly 2 percent through 2034, gradually rise to just over 5 percent by 2040, and then settle at just under 5 percent thereafter. However, because the state rate is so dependent on plan finances, these projections are highly uncertain. Under unfavorable financial conditions, the state rate could approach 20 percent

of payroll during the AB 1469 window (unlike for district contributions, there is no cap on the state rate); under favorable conditions, it could remain near its 2-percent floor.

3.2 Debt Outlook

What motivated AB 1469, and is it working? Figure 3 provides some insight into these questions. It shows the evolution of CalSTRS' Unfunded Actuarial Obligation (UAO), which is the actuarial term for pension debt, from 2006 to the present. A broad takeaway is that the CalSTRS UAO is substantial. When AB 1469 was put into law in 2014, it stood at nearly \$73 billion. The UAO increased dramatically after AB 1469 was implemented, peaking at around \$105 billion in 2020 before declining and flattening out in the range of \$85-90 billion from 2021 to 2024. The 2024 UAO of \$89 billion corresponds to more than \$15,000 per pupil (Appendix Figure A2).

The forces driving these fluctuations are complex. The large increase in the UAO between roughly 2007 and 2017 reflects several factors, chief among them persistent underpayment of the ARC (Figure 2). Even during the phase-in of AB 1469, statutory contributions remained below the ARC, and it was not until the phase-in was complete that contributions reached the actuarially required level.

Another factor is that most financial economists agree CalSTRS actuaries assume too high of a rate of return on assets, and at the same time, use too high of a discount rate on future liabilities (Biggs, 2011; Novy-Marx and Rauh, 2009, 2011). In CalSTRS, these rates are equated.¹⁰ The implication of the high rates is that actuarial calculations understate the need for contributions while teachers are working, leading the UAO to increase over time, even if the ARC is fully paid.¹¹

As noted above, CalSTRS lowered these rates from 8 to 7 percent between 2009 and 2017. While this has improved CalSTRS' long-term fiscal sustainability, it contributed to some of the large UAO increases in Figure 3. Said differently, it has resulted in a more honest representation of the true debt level in CalSTRS, which is now reflected in the UAO.

¹⁰ This is also true in other similar plans elsewhere in the U.S. Novy-Marx and Rauh (2009) argue that government accounting standards drive a false equivalence between payments to covered members, which are very likely to occur, and the expected outcome of the risky investment portfolio.

¹¹ Underperformance relative to the assumed rate of return was the single biggest contributor to the substantial accumulation of pension debt in state and local pension plans between 2001 and 2013 (Munnell, Aubry and Cafarelli, 2015).

During the period from 2020 to 2025 the statutory contribution rate approached, and ultimately exceeded, the ARC. The UAO dropped substantially in 2021, but then flattened out for a few years before increasing modestly in 2024. This raises two questions. First, does AB 1469 explain the large drop in the UAO in 2021? Second, if so, why didn't the UAO keep dropping afterward? The small uptick in 2024 is especially surprising given that statutory contributions exceeded the ARC (per Figure 2).

The simple answer to these questions is that AB 1469 is not responsible for the short-term fluctuations in the UAO since 2020. The reasons for the fluctuations are a good reminder of how complex and uncertain pension accounting can be. First, take the large decline in the UAO between 2020 and 2021, which was about \$16 billion (!). This is primarily the result of an extraordinarily large investment return on the CalSTRS portfolio that year, of 27 percent. Even though gains and losses are smoothed over multiple years, this single year of extraordinary performance substantially reduced measured debt.¹²

In contrast, in the two years after 2021, investment returns on the CalSTRS portfolio averaged just 2.5 percent, well below the assumed rate. This helps to explain why the UAO did not decline despite contributions in excess of the ARC. Finally, the primary cause of the 2024 uptick in the UAO is that California school districts have been increasing teacher pay in recent years at a higher rate than CalSTRS' actuaries had anticipated. Because of the significance of the final average salary in the benefit calculation (per equation 1), unanticipated salary increases result in unfunded pension liabilities.

In sum, the volatility of the UAO, and its responsiveness to a variety of factors, make it difficult to use the recent UAO trend to determine if AB 1469 is "working." AB 1469 is resulting in higher contributions and current actuarial projections indicate these contributions will be sufficient to amortize the pension debt accumulated through July 2014 by 2046, as intended. However, a fundamental challenge is that the structure of CalSTRS—like other public DB pension plans—permits the continued accumulation of debt. AB 1469 did not make any structural reforms to address the potential for debt accumulation moving forward, and thus it is reasonable to expect that some of the same factors discussed above, which caused debt to accumulate in CalSTRS previously, will continue to cause new debt to accumulate in the future. As we discuss below, other states have made reforms to

¹² A smaller contributing factor is that the state government made several supplemental payments, totaling approximately \$1.5 billion, toward CalSTRS' pension debt around the same time.

their teacher retirement plans in recognition of the structural issues, but California has not.

4. Where do we go from here?

Thus far we have established two key facts: (1) CalSTRS consumes a large fraction of the education budget in California, equal to 37.7 percent of total covered salaries, or almost \$16 billion annually, and (2) at least through 2044, the most likely scenario is that it will continue to consume a large fraction of the education budget. Beyond 2044 it is uncertain how much it will cost to maintain CalSTRS. However, because CalSTRS offers generous—and therefore expensive—pension benefits, and no structural reforms have been made to prevent the additional accumulation of debt, it is reasonable to expect ongoing costs to be high and debt costs to continue to propagate into the future.

A fundamental question is whether CalSTRS is worth the cost. Is it worth 38 percent of teacher salaries? What about 48 percent, which is unlikely, but possible under AB 1469 if the CalSTRS investment portfolio performs poorly? What about 58 percent? When does it become not worth it?

There are no definitive answers to these questions—they are normative and different stakeholders have different values. However, we can examine what CalSTRS provides for its cost. In this section, we review (a) the workforce incentives embedded in CalSTRS and (b) evidence on teacher preferences for DB pensions versus other forms of compensation. We conclude that the high cost of maintaining CalSTRS cannot be justified on these grounds.

4.1 CalSTRS workforce incentives

CalSTRS, like other DB plans, heavily backloads retirement compensation (Koedel and Podgursky, 2016). This is illustrated in Figure 4, which shows “pension wealth” accrual over the course of a typical career. Pension benefits are paid as a lifetime annuity at retirement; pension wealth is a scalar value that measures the present discounted value of payments earned at each career stage, allowing us to track how retirement compensation evolves over the career cycle.¹³

Figure 4 models a forward-looking, age-24, Tier 2 entrant into CalSTRS. The pension values are

¹³ The figure plots the “2% at 62” profile and is based on assumptions about the career salary profile, survival likelihood, and discount rate. All of these are subject to debate but we do not focus on these specifics for this report. The purpose of the figure is to illustrate the basic shape of the accrual curve, which holds under a wide range of reasonable assumptions. See Koedel and Podgursky (2016) for more detailed information about pension wealth calculations.

expressed in 2025 dollars and are discounted to the age of entry, which means they represent the value of the retirement benefit to the entering teacher over the potential career.

Recall from above that the vesting period for CalSTRS is 5 years and as can be seen in the figure, if the teacher leaves prior to vesting, no pension wealth is accrued. After vesting, wealth accrues slowly at first, then more rapidly as the career progresses. It peaks at age-65 and begins to decline thereafter. The decline is because teachers cannot collect pension payments while working. After age-65, which is the age when the formula factor for Tier 2 teachers maxes out at 2.4 percent, the cost of missed pension payments associated with continued work more than offsets any additional gains via the CalSTRS formula.

This incentive structure has been studied extensively by economists. Conceptually, it is designed to lock teachers into their careers during the steep, upward-sloping portion of the curve, then push them to retire past the peak (Costrell and Podgursky, 2009). A large body of evidence indicates that this incentive structure is especially effective at the latter—i.e., at pushing teachers out after the peak (for example, see Costrell and McGee, 2010; Goldhaber, Grout, Holden, and McGee, 2024; Kim, 2020).¹⁴ However, perhaps surprisingly, there is little evidence that the upward-sloping portion of the curve meaningfully reduces teacher exits mid-career (Harris and Adams, 2007; Koedel, Podgursky, and Shi, 2013). A simple explanation is that career mobility is low for most workers, including teachers, during this time. Thus, when teachers' pension incentives to remain in the profession are strongest, there is little scope for effect. We qualify this statement by noting that CalSTRS' accrual curve peaks later than most states, so it is possible that the retention effects may be larger than has been found in other settings.¹⁵

In summary, research gives little indication that CalSTRS embeds valuable workforce incentives. CalSTRS almost surely pushes teachers out past the pension-wealth peak, but the value of this aspect of the incentive structure is unclear, and CalSTRS is unlikely to have large effects on mid-career retention. An additional, indirect indicator of the lack of value of CalSTRS' workforce incentives is that the private sector has largely abandoned backloaded DB plans (Wiatrowski, 2012); if their workforce incentives

¹⁴ The retirement response at the peak is not based entirely on financial incentives and also reflects anchoring effects (Goldhaber et al., 2024; Kim 2020).

¹⁵ That said, there is also evidence that even when teachers are held in teaching by their pension incentives, they are less effective than their colleagues who have other motivations for staying (Fitzpatrick and Lovenheim, 2014).

were valuable, DB plans would remain prevalent in the private sector.

4.2 Teacher preferences

Regardless of its workforce incentives, CalSTRS could be justified on the grounds that teachers value it. And teachers certainly value their pensions. However, in any consideration of value, cost is also important. It is not enough to say that teachers value their pensions, they must value them enough to justify the cost. Here, the cost is the opportunity cost—i.e., the value of what teachers would receive in place of CalSTRS, if CalSTRS did not exist.

The most direct evidence on how teachers value their DB pensions comes from choice environments that allow teachers to choose between different types of retirement plans. In Florida, Chingos and West (2015) study teachers with the choice between a DB or DC plan. The DC plan includes a 9 percent contribution from the employer (no employee contribution is required) and at the time, the normal cost of the DB plan was also about 9 percent. Roughly 30 percent of teachers chose the DC plan, despite the fact that the DB plan was the default option. They also find a modest relationship between teacher quality and plan choice, with more effective teachers preferring the DC option.

We further note that after the Chingos and West (2015) study was completed the default option in Florida changed to the DC plan, and enrollment in the DC plan spiked. The numbers of new employees who choose each type of plan are not available specifically for teachers in Florida, but in the full retirement system (which also covers college employees, state employees, and some city and county employees), over two thirds of new workers choose the DC option now that it is the default.¹⁶ This is consistent with the behavioral importance of the default option established in research (e.g., see Choi et al., 2002; Madrian and Shea, 2001); it is also consistent with many young workers being indifferent between the plans, either because they view them similarly or heavily discount retirement benefits.

Goldhaber and Grout (2016) study a different choice environment in Washington State, this time between a full DB plan and a hybrid plan that includes a DC component and a less-costly (and

¹⁶ The default option changed beginning with the 2018-19 fiscal year. In the prior fiscal year, the share of new workers in the Florida Retirement System enrolled in the DC Plan was 24 percent, which is just below the teacher share reported by Chingos and West (2015). When the default option changed, the DC enrollment share increased to almost 70 percent immediately.

less-generous) DB component. The hybrid plan maintains the employer contributions to the DB plan on behalf of teachers, but the employee contributions go into a DC account rather than adding onto the DB plan. They find the majority of teachers choose the hybrid plan. This is true even when the traditional DB plan is the default. Like in Florida, the evidence suggests that more effective teachers prefer the plan with a more-mobile benefit (in this case, the hybrid plan).

Carefully designed survey experiments also provide insight into how teachers value different forms of compensation. In these experiments, researchers give teachers hypothetical compensation structures and ask which ones they prefer. In an instructive set of experiments, Fuchsman et al. (2023) find that teachers value DB plans more than DC plans on average, but their valuations vary significantly by experience. Early career teachers are indifferent between them—a finding that is consistent with the large increase in the DC share among new hires in Florida when the default option changed. Mid-career teachers would require a 2.1 percent pay increase to compensate them for enrolling in a DC plan instead of a DB plan, and late-career teachers would require 5.7 percent more in salary to make the switch. These premiums are for DC and DB plans designed to return the same expected level of benefits. These findings suggest it would not take much in terms of salary increases to make teachers indifferent to switching between a DB and DC plan; for young teachers, it would not require an increase at all.

It is difficult to conclude from these studies that teachers place a high value on their DB pension plans. This is especially true for young teachers. And the case can even be made that most teachers—or at least a substantial fraction of teachers—would prefer an alternative retirement plan structure with a more mobile benefit.

4.3 Options for Reform

If California were to structurally reform CalSTRS, what could a new teacher retirement plan look like? Across the U.S., the general trend has been to reduce reliance on traditional final-average-salary DB pensions. Some states have moved entirely away from DB plans, but most take an intermediate approach. For example, Florida and Washington retain but de-emphasize defined benefits by either (a) letting teachers choose between DB and DC plans, or (b) offering hybrid plans that combine DB and DC components.

Another option is a cash balance (CB) plan, which blends DB and DC features. The United States Department of Labor describes a CB plan as “a defined benefit plan that defines the benefit in terms that are more characteristic of a defined contribution plan.”¹⁷ Employees have individual accounts with contributions from both the employee and employer, which they can monitor like a DC account. Accounts typically offer a guaranteed rate of return, similar to a DB plan, though closer to the risk-free rate (Munnell, Aubry & Cafarelli, 2014). At retirement, the account is annuitized, producing a lifetime stream of payments similar to a DB plan. We discuss a specific example in Kansas below.

An objective of these reforms is to more closely align contributions to costs. Moving to a DC or CB structure is appealing because these plans do not allow for “debt surprises” in the same way as a DB plan. For example, in a DC plan there is simply no way for costs to exceed the allotted amount.

An initial reaction to these new plans, given that one of their objectives is to control costs, is that they must make teachers worse off. However, this need not be the case. Indeed, there are opportunities for changes that improve cost management while minimizing harm to teachers, and teachers can even benefit. We highlight two such opportunities here, focusing on the difference between DB and DC plans.

First is the potential to adjust teachers’ risk profiles. There are three dimensions of risk to consider: **investment risk**, **career-uncertainty risk**, and **intergenerational risk**.

We begin with investment risk. A common, straightforward criticism of the DC pension structure is that employees bear investment risk. This is in contrast to public DB plans, where there is a guaranteed rate of return embedded in the formula. Despite modern DC plans doing more to reduce employees’ exposure to investment risk by streamlining investment choices, DB plans have a clear advantage from the perspective of the worker in terms of exposure to investment risk.

Next is career-uncertainty risk. Benefits in a typical final-average-salary DB plan, like CalSTRS, are distributed unevenly over the career cycle, as illustrated in Figure 4. Some teachers receive large pensions while others receive very little. Somewhat counterintuitively, the average benefit in a DB plan is not a very useful number for many teachers.

A system with a lower average benefit can still make many teachers better off if pension benefits are paid more equitably (Costrell and McGee, 2019; McGee and Winters, 2014). Specifically,

¹⁷ See here:

<https://www.dol.gov/agencies/ebsa/about-ebsa/our-activities/resource-center/fact-sheets/cash-balance-pension-plans>

from a risk perspective, and holding the average benefit level fixed, teachers entering the profession who are unsure about their full career path will prefer a plan with smoother wealth accrual. A corollary is that a smooth accrual profile with a lower average benefit exists such that teachers, on average and *ex ante*, will value it just as much as the current plan.¹⁸

Finally, we turn to intergenerational risk. DB plans expose teachers to this type of risk because they facilitate debt transfers onto future cohorts of teachers. There is no such risk in a DC plan because transfers between cohorts are not possible by construction. Intergenerational risk is perhaps less obvious than the other two types of risk, but it is important. It is on display in CalSTRS in several ways. Most directly, “2% at 62” teachers receive less in benefits than older “2% at 60” teachers. There are also indirect costs if district and state CalSTRS expenditures to pay down pension debt crowd out expenditures on salaries and other benefits for current teachers. In contrast, DC plans prevent intergenerational transfers by construction because accounts are fully funded in real time. There can be no legacy costs.

Overall, a plan designed to manage costs with a different risk profile could, under the right conditions, leave teachers no worse off and potentially better off, depending on career trajectories and other preferences.

A second way that implementing an alternative plan can be beneficial to teachers, conditional on the current poor fiscal condition of CalSTRS, is that structural reform could be part of a broader negotiation with the state of California. The state could assume more of the current CalSTRS debt outside of the education budget, freeing district resources for teacher salary increases. In return, future teachers could be shifted to a DC or CB pension structure, reducing the potential for new growth in unfunded liabilities.

The state government will surely be reluctant to take on more of the CalSTRS debt, but it might be open to such a negotiation for two reasons. First, a properly funded pension plan is essential for a stable education system, and the current debt in CalSTRS threatens the ability of the school system to adequately educate California’s children. This is especially true in the event of an economic downturn. Second, as the legislated rate increases in AB 1469 make clear, the state is at considerable direct risk

¹⁸ For an alternative perspective on risk from career-length uncertainty, see Rhee and Fornia (2016), and for a criticism of their methods, see Costrell and McGee (2019). We find the criticism levied by Costrell and McGee compelling – namely, Rhee and Fornia focus their analysis on a snapshot of “active” teachers, which induces survivor bias.

when it comes to CalSTRS debt. And given there have been no structural reforms to CalSTRS to prevent debt accumulation in the future, the state should be concerned. Reforms that would reduce or even mitigate future risk should be quite valuable. All parties (teachers, school districts, and the state government) have the incentive to work together to solve this problem.

4.4 Examples of Reforms in Other States

Having outlined the key ideas underlying pension reform and the types of changes states have considered, we now turn to how reforms have been implemented in practice. What have other states actually done?

We answer this question by reviewing selected examples of alternative teacher retirement plans in reform states. The information we provide about each plan is not comprehensive, but these examples illustrate the range of approaches states have taken and the key features of alternative plan designs.

We review plans in two states – Alaska and Kansas – that have shifted away entirely from the traditional final-average-salary DB benefit structure. However, these states are exceptions. Most reform states have retained at least some traditional DB coverage, but with less emphasis. We review choice plans in two states – Florida and South Carolina – that de-emphasize DB coverage by allowing teachers to opt into a DC plan instead. We review hybrid plans in two states – Indiana and Tennessee – where teachers are enrolled in a plan with both DB and DC components, but where the DB component offers less benefits and requires smaller contributions relative to a full DB plan. Finally, we review mixed hybrid/choice plans in two states – Utah and Washington – that have both choice and hybrid features.

Full DC Plan

Example State: Alaska

Since July 2006, all newly hired teachers in Alaska are enrolled in a DC plan. Hires prior to this date were enrolled in a DB plan structurally similar to CalSTRS, which continues to operate for pre-existing members but is closed to new members. In the new DC plan, teachers contribute 8 percent and school districts contribute 7 percent of salary to teachers' individual retirement accounts, for a total contribution of 15 percent of salary. Investments are participant-directed and selected from a list of investment options offered by the plan. Vesting is immediate in the Alaska plan.

Alaska teachers are not enrolled in Social Security.

Cash Balance Plan

Example State: Kansas

Kansas implemented a cash balance (CB) plan for all new hires in 2015. Like in a DC plan, Kansas teachers have individual accounts to which they and their employers (school districts) contribute and at any time, a teacher can see his or her account balance. The plan also shares features with traditional DB plans, like CalSTRS. For instance, it offers a guaranteed rate of return of 4 percent annually, and the rate can be higher if the plan portfolio has high returns in a given year. At retirement, teachers receive a lifetime annuity based on the CB account balance, mimicking the payout structure of a DB plan.

Teachers contribute 6 percent of salary to their accounts. School districts make contributions too, ranging from 3-6 percent depending on teachers' years of service. Structurally, like with a traditional DB plan, there is nothing inherent to the CB structure that prevents the accumulation of debt. For example, a CB plan with a guaranteed rate of return of 7 percent—i.e., the current rate in CalSTRS—would not be expected to meet this return and likely require subsidies, which could be funded by debt. Interestingly though, CB plans in practice tend to be funded more responsibly (Munnell, Aubry, and Cafarelli, 2014). A potential explanation is that it is more difficult to skip required contributions and overstate the return on assets in a CB plan due to the “individual account” structure, which makes funding shortfalls more salient in real time.

Kansas teachers are also enrolled in Social Security.

DB/DC Choice Plans

Example States: Florida, South Carolina

Florida and South Carolina allow teachers to choose between DB and DC plans. As discussed above, the Florida choice system was studied by Chingos and West (2015). These authors show that despite the DB plan serving as the default option, roughly 30 percent of teachers actively elected to enroll in the DC plan between 2003 and 2008. Florida has since switched the default option to the DC plan, and correspondingly, it is now more popular.

As of July 2024, employee contributions in Florida under either plan are 3 percent of salary. School districts contribute an additional 8.3 percent of salary to teachers' individual accounts under the DC Plan, and about 12 percent of salary to the DB plan, inclusive of normal cost and debt-servicing cost. The employer contribution rate for normal cost—i.e., the amount actuaries calculate is needed to fund active teachers' own benefits in the DB plan—is just under 7 percent.

In South Carolina, both plans require a 9 percent employee contribution. Employers contribute 5 percent to teachers' DC accounts and 18.6 percent to the DB plan, but only 1.9 percentage points of the DB contribution goes toward the normal cost (the remainder services debt).

Teachers in both states also pay into and receive benefits from Social Security.

DB/DC Hybrid Plans

Example States: Indiana, Tennessee

The Indiana DB/DC hybrid plan includes an employer-funded, final-average-salary DB component, and a separate DC component. School districts fund the DB portion of the plan. As of the 2024 actuarial valuation, the school district contribution rate was 6.7 percent of salaries, most of which went toward normal cost (approximately 5.7 percentage points, with the remainder going to debt service). The minimum DC contribution is 3 percent of salary. Default responsibility for making the DC contribution falls on the employee, but school districts can pick up all or part of the cost.

The Tennessee DB/DC hybrid plan works similarly. As of 2024, employees and employers contribute 2 and 5 percent of salary to the DC component, respectively. The corresponding numbers for the DB component are 5 and 4 percent. These yield total employee and employer contributions of 7 and 9 percent. The full DB contribution goes toward normal cost because the Tennessee hybrid plan, first introduced in 2014, has yet to accrue unfunded liabilities.

Teachers in both states are also covered by Social Security.

DB/DC Hybrid and Choice Mixed Plans

Example States: Utah, Washington State

Utah offers teachers a choice between a hybrid DB/DC plan and a DC plan. In both plans, employers contribute 10 percent of salary. In the hybrid plan, the 10 percent is allocated first to the DB

component and any remainder goes into teachers' DC accounts. An interesting and unique feature is that if the annual required contribution of the DB component exceeds 10 percent, teachers are responsible for the excess. In the most recent year—2025-26—teachers in the hybrid plan contributed 0.8 percent of their salaries to the DB portion of their pensions. Outside of the requirement that teachers in the hybrid plan cover the DB cost in excess of 10 percent, there are no required employee contributions.

The choice in Washington is between a full DB plan and a hybrid DB/DC plan. Employers contribute 8.2 percent of salary in either case. In the full DB plan, teachers contribute 8 percent to fund their DB pensions. In the hybrid plan, the employer contribution funds the (smaller) DB portion, and the teacher contributions go toward the DC component. Teachers can choose from a menu of contribution rates from 5 to 15 percent. Goldhaber and Holden (2023) show teachers vary greatly in how much they elect to contribute to the DC component, suggesting that the flexibility afforded by the Washington hybrid plan makes teachers better off.

Teachers in both Utah and Washington are also covered by Social Security.

Social Security

Example States: Many

The addition of Social Security coverage also merits consideration as part of a reform package in California. Teachers in 33 states are enrolled in Social Security along with their state retirement plans (Kim et al., 2025). States with Social Security coverage include most of the above-discussed reform states, as well as many states that continue to offer traditional, final-average-salary DB plans.

States where teachers are dually enrolled in Social Security tend to have less costly and less generous retirement plans (Backes et al., 2016). This is intuitive: in these states the total retirement benefit comes from a combination of the state plan and Social Security. Teachers and their employers also contribute to both systems during work.

Teachers covered by CalSTRS are not enrolled in Social Security at present. This stems from a decision that was made in the 1950s. If they chose to do so, California teachers could opt into Social Security as a group. Adding Social Security coverage would diversify teachers' retirement portfolios and lessen the burden on the state of providing their retirement benefits. And unlike CalSTRS benefits,

which only cover work in California public schools, Social Security benefits are mobile across states and a broad range of employers. However, a disadvantage of Social Security enrollment is the uncertainty that comes with Social Security’s own fiscal problems, for which the resolution is unclear and beyond the scope of this report.

5. Supplementary Topics

5.1 CalPERS

The primary focus of this report is CalSTRS, which covers certified public school employees. However, other school employees—classified staff—are covered by the California Public Employees' Retirement System (CalPERS).¹⁹ Like CalSTRS, CalPERS is a traditional, final-average-salary DB pension plan. It has the same funding structure and in principle, contributions are collected from school employees and their employers during working years in order to pay for benefits later. Actuarial calculations are used to determine required contribution levels.

On average across California school districts, CalPERS contribution costs are approximately 55 percent as large as CalSTRS contribution costs.²⁰ Thus, while CalPERS is a smaller cost item than CalSTRS, it is a non-negligible expense. And CalPERS’ funding situation is also precarious. The plan has substantial debt and contribution rates have been rising rapidly. When the previous pensions report for *Getting Down to Facts II* was written in 2018 (Koedel and Gassmann, 2018), the CalPERS employer contribution rate was 15.5 percent of salary. By 2024-25, it had risen to 27.05 percent.

This increase was predictable. In a report released in 2017, Nation (2017) projected that even if CalPERS made its assumed rate of return on assets each year, by 2027 the employer contribution rate would exceed 25 percent of salary for each covered employee. This has already come to pass. Unfortunately, there is no analog to AB 1469 for CalPERS, which means there is no statutory obligation to address its debt problem.

¹⁹ CalPERS additionally covers a broader group of public employees in California. There is a special “schools pool” within CalPERS for non-certified public school employees.

²⁰ Source: Authors’ calculations based on total certificated and classified salary expenditures, multiplied by CalSTRS and CalPERS contribution rates, in California school districts in 2023-24. This calculation omits contributions to CalSTRS by the state (the state does not make contributions to CalPERS directly).

Because of the similarity between CalPERS and CalSTRS in terms of structure and fiscal condition, a review of CalPERS and its funding issues would closely mirror our review of CalSTRS. Rather than repeat ourselves, we simply note that the funding problems we describe in CalSTRS are compounded for school districts by similar problems in CalPERS. Because the fiscal problems in both plans are similar, as is the benefit structure, the rationale and options for reforming CalPERS are the same as for CalSTRS.

5.2 Retiree Health Benefits

Retiree health benefits present another important fiscal challenge for California school districts. Like pension benefits, promised retiree health benefits have often not been properly funded. A key distinction, however, is governance: retiree health benefits are determined at the district level, whereas districts have no control over CalSTRS or CalPERS. As a result, unfunded liabilities for retiree health vary widely across districts—some districts have minimal obligations, while others carry substantial debt.

The most extreme example is the Los Angeles Unified School District (LAUSD). In 2017, the Legislative Analyst’s Office (LAO, 2017) estimated that total unfunded liabilities for retiree health benefits across all California school districts were approximately \$24 billion, with more than half attributable to LAUSD alone. Although LAUSD is a large district, its share of the debt is highly disproportionate and reflects its decision to offer exceptionally generous retiree health benefits to teachers without properly funding them. A notable feature of the retiree health plans that generate the largest liabilities—including LAUSD’s—is that they provide benefits for life. More fiscally prudent plans limit coverage to age 65, at which point retirees are expected to transition to Medicare.

Many other school districts also have substantial debt tied up in retiree health. These tend to be large urban districts that provide generous retiree health benefits to teachers, often for life, and do not prefund them. Districts such as Alhambra, Contra Costa, Fresno, and Sacramento frequently appear among those with the highest per-pupil unfunded retiree health liabilities (Bruno, 2019).

The large retiree health debt has the same fundamental implication as the debt in CalSTRS and CalPERS: it siphons off resources, preventing them from going toward current instructional expenditures. In recent years, some districts have made efforts to manage their growing retiree-health

debt through a combination of requiring teachers to make larger contributions and trying to control costs. However, to the best of our knowledge, these efforts have not been at a scale commensurate with the problem.

6. Conclusion

Statutory contribution rates to the California State Teachers' Retirement System (CalSTRS) are at historic highs. The total annual contribution rate shared by teachers, school districts, and the State of California has more than doubled since 2014 (the year AB 1469 was passed), rising from 18.3 to 37.7 percent of teacher salaries. The reason for the rate increase is the need to pay down pension debt. The increase does not correspond to improved benefits for teachers, and in fact, new hires today have worse benefits than their predecessors who were hired before 2013.

The high CalSTRS contribution rates are not a short-term aberration – they are the new normal. CalSTRS' actuaries currently project the high rates will be necessary through 2044. And if their assumptions are too optimistic, as argued by financial economists and has generally been the case thus far, the horizon could be extended.

Our focus on CalSTRS is motivated by our interest in pension policy as it relates to California schools, and there is no bigger pension cost item for school districts than CalSTRS. That said, districts also employ classified staff covered by the California Public Employees' Retirement System (CalPERS), which faces similar funding challenges. In addition, retiree health benefits are underfunded in many districts, particularly large urban districts. The debt costs in CalSTRS, CalPERS, and districts' retiree health plans limit investments in students and schools today.

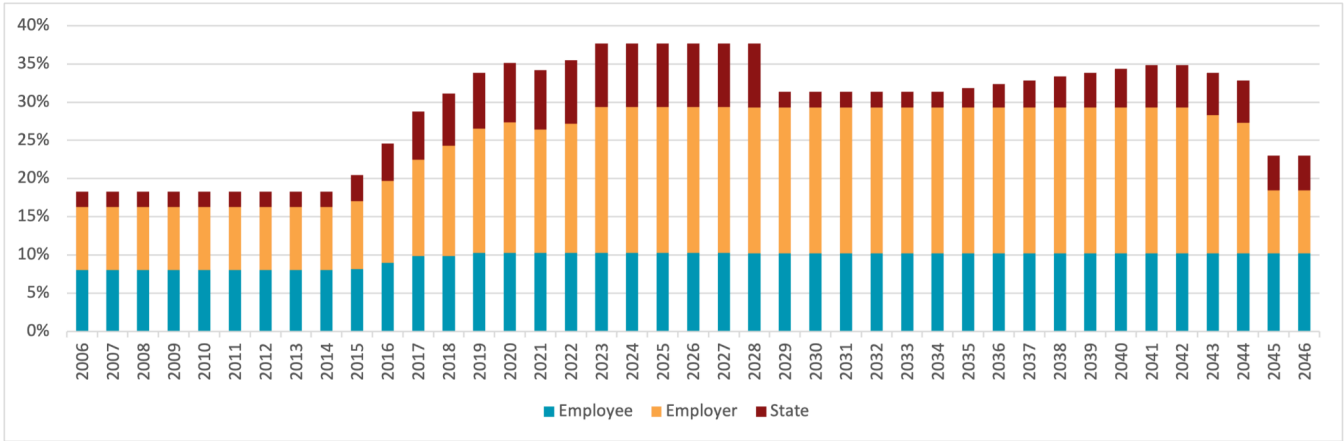
Despite the high costs, pension-related fiscal pressure does not appear to be a top concern of school officials. Results from the *Getting Down to Facts III* principal survey suggest as an explanation that stakeholders do not understand pension costs very well. Most principals who were surveyed do not believe their fellow principals know how much CalSTRS costs, and an even higher percentage think their fellow principals do not understand the large fraction of total CalSTRS contributions that are used to pay down debt.²¹

²¹ As noted in the introduction, 71 and 93 percent of principals at least somewhat disagreed that their fellow principals understand CalSTRS total costs and debt costs, respectively; corresponding percentages who either "disagreed" or "strongly disagreed" are 59 and 79 percent.

Growth in California’s TK–12 education budget over the past decade has also outpaced growth in pension costs, allowing districts to absorb the higher contributions without salient tradeoffs. This situation is tenable as long as education funding in California remains robust. However, in the event of an economic downturn, we expect pension costs to become problematic.

Our report discusses policy options to improve the fiscal condition of CalSTRS. Within the existing benefit structure, the only way to reduce costs is to reduce benefits. Like many states, CalSTRS moved in this direction when it introduced the less-generous “2% at 62” tier for new members beginning in 2013. However, this change was modest compared to changes in other states, and even larger reductions would be necessary to generate real savings. A more meaningful change would be to modify the underlying structure of teacher retirement benefits. Available research suggests many teachers would welcome such a change. Structural reforms are increasingly common nationwide, and California could draw on examples from other states in its reform efforts.

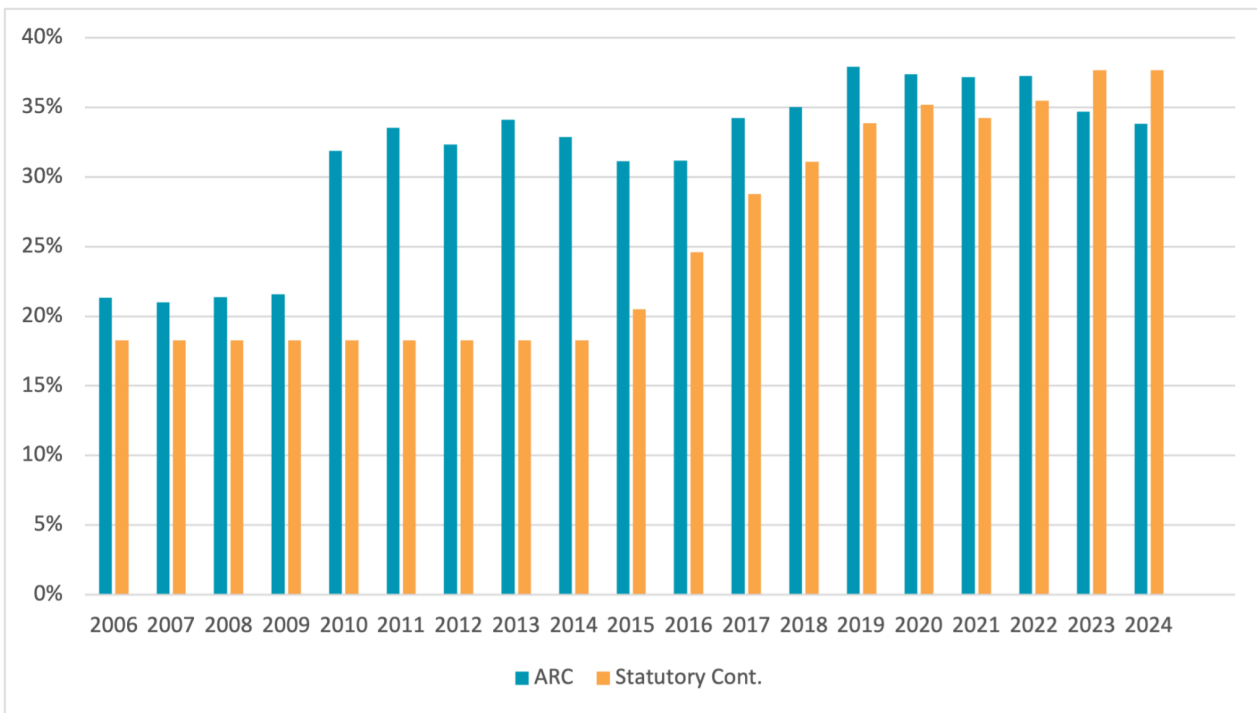
Figure 1. Realized and Projected CalSTRS Statutory Contribution Rates, 2006-2046, in Percentage Points of Salaries and Separated by Contributor Type.



Sources: For years 2006 to 2024, CalSTRS’ Actuarial Valuation Reports. Rate projections going forward are from the CalSTRS’ 2024 Report to the Legislature on the Progress of the CalSTRS Funding Plan.

Notes: The average employee contribution in each year is affected (very slightly) by the proportion of CalSTRS members in each tier of the plan, who pay different rates under Assembly Bill 1469 (the contribution rates are similar—for Tier 1 and Tier 2 members, they are 10.25 and 10.205, respectively). Our estimates are based on rough projections of membership in the tiers using information from CalSTRS’ Actuarial Valuation Reports. Years denote the spring year of each fiscal year.

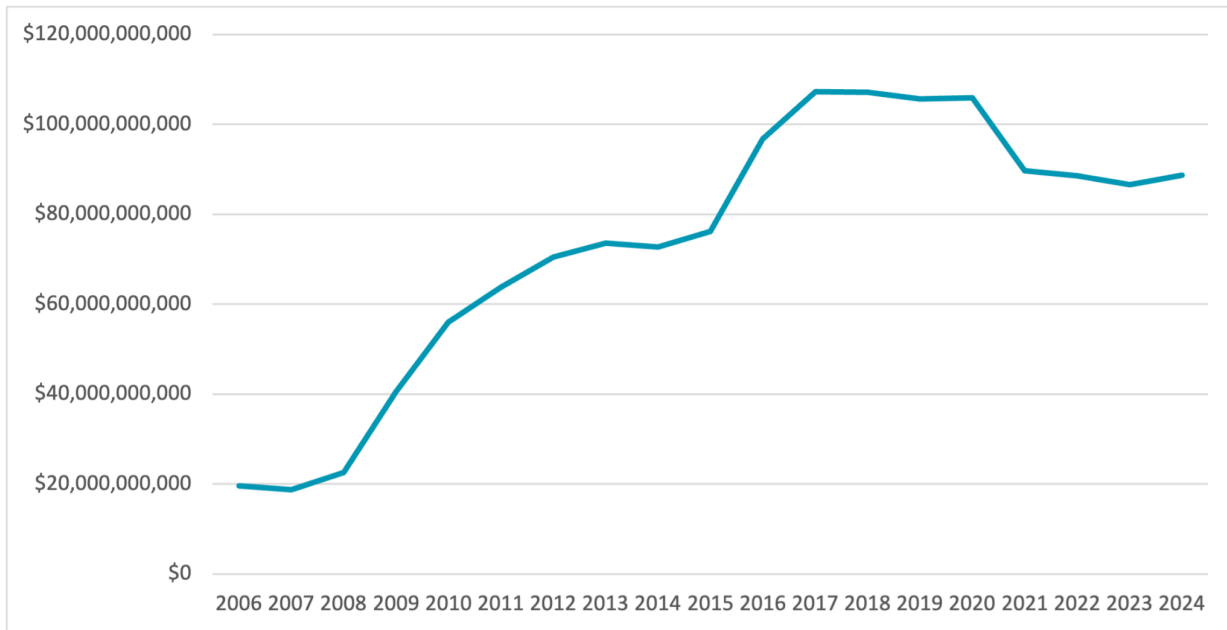
Figure 2. Realized ARC and Total Statutory Contribution Rates, 2006-2024, in Percentage Points of Salaries.



Sources: CalSTRS’ Actuarial Valuation Reports.

Notes: The ARC is the Annual Required Contribution calculated by actuaries; the statutory contribution is the contribution made by law. Years denote the spring year of each fiscal year.

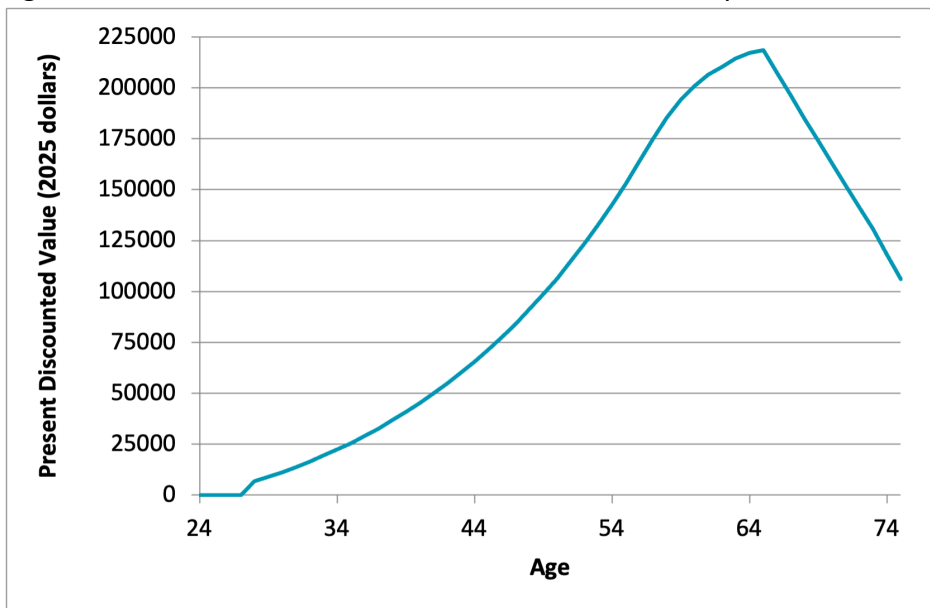
Figure 3. CalSTRS Unfunded Actuarial Obligation (UAO), 2006-2024, in Nominal Dollars.



Sources: CalSTRS' Actuarial Valuation Reports.

Notes: The UAO in per-pupil terms is reported in Appendix Figure A2. Years denote the spring year of each fiscal year.

Figure 4. CalSTRS Pension Wealth Accrual Curve for a Representative Teacher.



Source: Authors' calculations.

Notes: The pension wealth accrual profile is for a representative age-24 entrant into CalSTRS' "2% at 62" tier. The salary profile used to construct the accrual curve uses data from the 2014 Digest of Education Statistics produced by the National Center for Education Statistics. Salaries are reported in The Digest by experience categories, which we linearize and convert to 2025 dollars. Pension wealth values are reported on the vertical axis, discounted to the point of entry (age-24) using a four percent real rate, and also in 2025 dollars.

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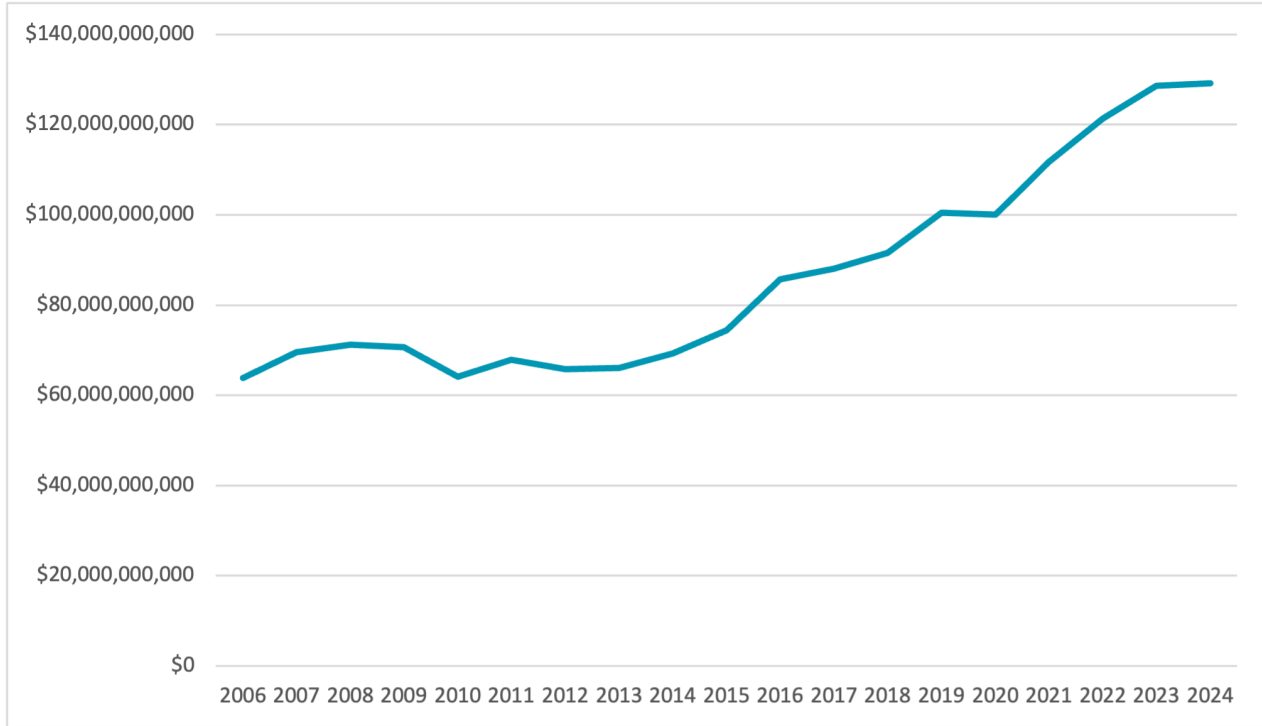
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Appendix A

Supplementary Tables

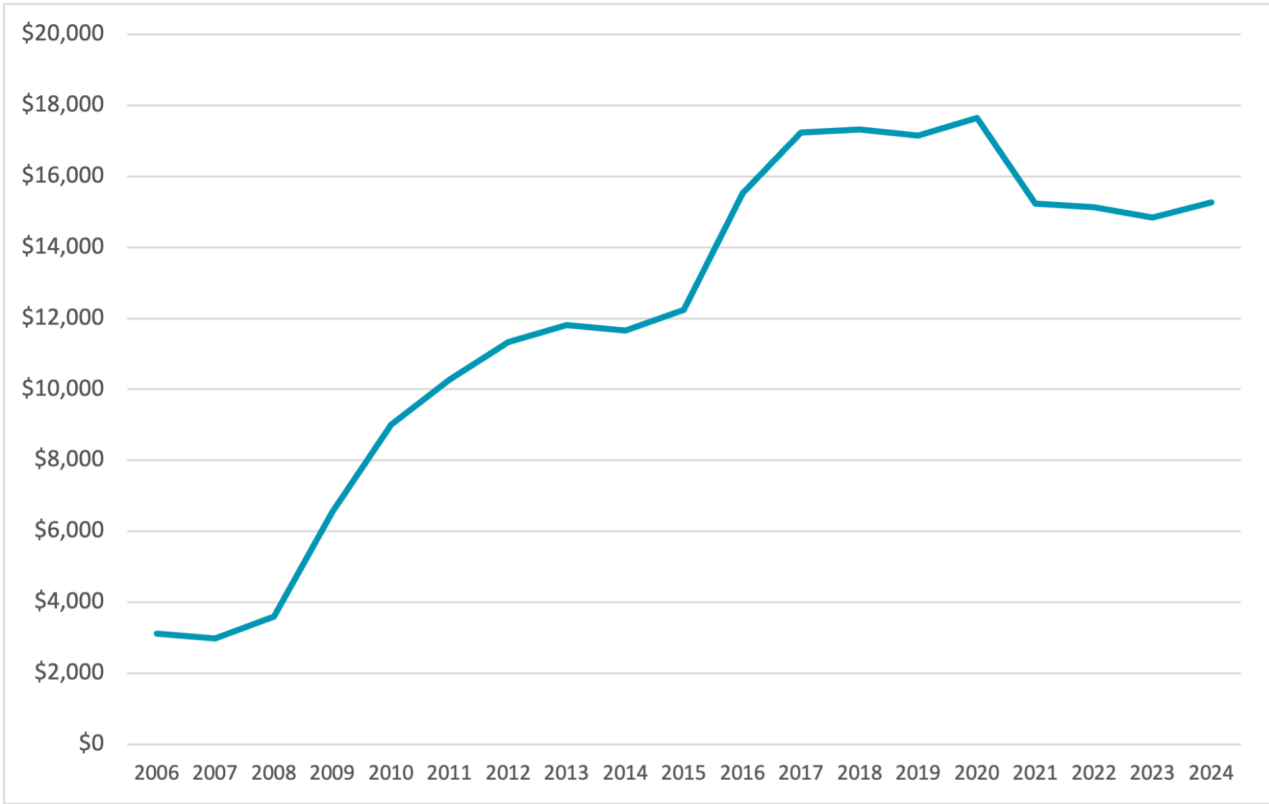
Appendix Figure A1. The Total TK-12 Education Budget in California, 2006-2024, in Nominal Dollars.



Sources: Data for years 2006 to 2022 are from the National Center for Education Statistics' Common Core of Data. Data for years 2023 and 2024 are from state budget documents. Note that the budgets in 2023 and 2024 include revenue for transitional kindergarten, though this is small relative to the total budget.

Notes: Years denote the spring year of each fiscal year.

Appendix Figure A2. CalSTRS Unfunded Actuarial Obligation (UAO), 2006-2024, in Nominal Dollars Per Pupil.



Sources: For the UAO, CalSTRS’ Actuarial Valuation Reports; for statewide student enrollment, the National Center for Education Statistics’ Common Core of Data from 2006 to 2013 (via the Urban Institute Data Explorer) and the California Department of Education from 2014 to 2024.

Notes: Years denote the spring year of each fiscal year.

Appendix B

Five Myths and Facts about CalSTRS

Myth 1: Pension costs are going up, so teachers' benefits must be improving.

Fact: Pension costs are going up entirely because CalSTRS accumulated substantial debt in the past, which must be paid back. While the total contribution rate to CalSTRS has more than doubled since 2014 (from 18 to 38 percent), teachers' pension benefits have not improved. In fact, for new hires, benefits are less generous than for those hired before 2013.

Myth 2: Because of CalSTRS' pension debt, districts with declining enrollment are in especially big trouble.

Fact: Oddly enough, districts with declining enrollment end up having to pay back less than their share of CalSTRS' debt compared to growing districts. This is because pension contributions are assessed on a per-teacher basis. A district with declining enrollment and fewer active teachers over time would have contributed more to debt accumulation in the past, but will be required to pay back less of the debt because it has fewer teachers on whom the tax is charged today.

Additional Note: Declining enrollment overall in the state will increase the per-teacher debt tax if it leads to a reduction in the total number of teachers, but California's enrollment decline thus far has been modest and this is not yet a significant issue.

(Partial) Myth 3: Districts' pension debt obligations are their own fault, because they were irresponsible fiscal stewards.

Fact: Districts are partly to blame for the CalSTRS debt problem in the sense that they have been apathetic about it. However, the primary responsibility lies with CalSTRS' actuaries and the Teachers' Retirement Board, and state lawmakers. CalSTRS' actuaries and the Teachers' Retirement Board—like their counterparts in similar public pension plans across the U.S.—consistently use practices that lead them to recommend contribution rates below what is necessary to fully fund teachers' pensions. State lawmakers set statutory contribution rates and until very recently, they set the rates too low; even lower than what the actuaries calculated was needed. Districts just did what they were told to do. In

fact, if a proactive district during the period of major debt accumulation in CalSTRS wanted to pay down a larger share of its debt, there is no mechanism by which it could have done so.

Additional Note: Retiree health benefit liabilities are different. Health benefits (and costs) are determined at the district level, and districts bear full responsibility for them.

Myth 4: We cannot structurally reform CalSTRS by enrolling new teachers in a different plan. If we do that, we'll never be able to pay down CalSTRS' debt.

Fact: While current practice spreads debt repayment across active teachers, the debt itself exists independent of the repayment mechanism. Other states have successfully closed their DB plans to new hires and started new, more fiscally responsible plans. The handling of the existing debt would need to be negotiated, but this is a solvable problem.

Myth 5: Virtually all teachers prefer a defined benefit pension plan over an alternative.

Fact: Some states now offer teachers choices over different types of plans. And many teachers—sometimes the majority of teachers—choose plans that either de-emphasize defined benefits or do not include them at all. This behavior makes sense when all dimensions of risk are considered from the teacher's perspective.