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Marin Public Pension Series

BRIEF #2: Understanding the Financial Status, Cost, and Sustainability of Public Pensions in Marin County

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Highlights

This brief analyzes the California Public Employee Retirement System (CalPERS), the California State Teachers' Retirement System (CalSTRS), and the Marin County Employee Retirement Association (MCERA), which provide defined-benefit pensions to public employees in Marin County. This brief is intended to help policymakers and the public better understand the financial standing of these public pension systems, the role of legacy liabilities vs. ongoing benefit accrual in employer pension costs, and the current trajectory of these costs. This brief also considers the impact of pension fund investment performance, accounting and funding policy changes, and pension benefit reforms on the long-term sustainability of public pensions. Key findings are as follows:

1. **CalPERS, CalSTRS, and MCERA have all made significant strides in reducing their unfunded liabilities thanks to strong long-term investment returns and reformed contribution rate policies.**

    - CalPERS, CalSTRS, and MCERA have met or exceeded their current investment return targets (6.8%, 7%, and 6.75%, respectively) over short- and long-time horizons.

    - In FY2021, CalPERS, CalSTRS, and MCERA earned exceptionally high investment returns—21.3%, 27.2%, and 32.0%, respectively. For employer contribution rates, this represents a significant buffer against potential subpar returns over the next two to three years.

The Marin Public Pension Series is a three-part issue brief series intended to provide policymakers and the public with an informed perspective on the value, cost, and broader social implications of defined-benefit (DB) pensions for public employees in Marin County, California. Brief #1 examines the economic value of defined benefit pensions for public employees, employers, and residents in Marin County. Brief #2 addresses the cost and sustainability of public employee pensions. Brief #3 highlights the role of public defined-benefit pensions in reducing retirement wealth inequality by race, gender, and education compared to 401(k)-style plans.

- Funding ratios increased for the three systems as of the end of FY2021. MCERA was fully funded on a market value basis. CalPERS was 80% funded, also on a market value basis. Many CalPERS Public Agency plans in Marin County were 100% funded based on the market value of assets. CalSTRS, which smooths returns over three years, was approximately 75% funded and is on track to achieving 80% funding and 100%funding ahead of schedule under the state's funding plan.

2. **A large majority of current taxpayer costs for pensions are tied to legacy unfunded liabilities, while the cost of benefit accrual by active employees is relatively modest due to PEPRA limits on pensions for those hired after 2012.**

    - About half to two-thirds of employer costs for public pensions in Marin County are tied to legacy unfunded liabilities that are declining.

    - The cost of benefit accrual by current employees (aka normal cost) accounts for only one-third of current pension costs for the typical public employer in Marin County. This cost is gradually declining due to the Public Employee Pension Reform Act (PEPRA) of 2012, which reduced pension benefits, raised the retirement age, and required at least 50% cost sharing for employees hired after 2012.

        - Employer normal cost for PEPRA employees—compared to the cost for older hires— is 26% lower for teachers, 35% lower for firefighters and police, and 27% lower for other workers.

        - The employer normal cost for PEPRA benefits is low in absolute terms for non-safety workers: about 7.5% of payroll.

        - For teachers hired after 2012, school districts spend less than 8% of payroll for pension normal cost, while teachers themselves pay 10.2%. California teachers are not covered by Social Security. Thus, schools pay a net 1.8% above the employer tax for Social Security.

3. **Employer costs for public pensions in Marin County are stabilizing or decreasing due to pension benefit reductions under PEPRA and progress in paying down unfunded liabilities.**

    - CalPERS Public Agency contribution rates will peak for most in Marin County employers in FY2023 or FY2024, then decline as the majority of excess investment returns from FY2021 begin to be recognized in rate calculations.

    - MCERA reduced average employer contribution rates for FY2023 by more than 3 percentage points compared to FY2022 based on the first 20% of its excess investment returns from FY2021.

    - FY2021 investment returns will reduce the state's obligations to CalSTRS over the next few years. The pension system predicts that the official school contribution rate will remain stable at 19.1%, where it has been since FY2020. However, under the Governor's budget

proposal for FY2023, schools will no longer receive state subsidies for this rate, which reduced their obligations to CalSTRS by about 2% of payroll in FY2022. At the same time, both the Governor's and Legislature's budget proposals include historic increases in total school funding that dwarf this change.

4. **CalPERS, CalSTRS, and MCERA have adopted more conservative actuarial assumptions, accounting methods, and funding policies the last decade, putting these pension systems on a sounder financial footing for the long haul.**

- All three systems have lowered their long-term investment return assumptions and discount rates several times since 2001.

- All three systems have adjusted their retiree life expectancy assumptions—a key driver of pension cost—to anticipate continuous improvements in life expectancy over time.

- CalPERS and MCERA accelerated the amortization of unfunded liabilities, requiring employers to pay off their pension debt faster.

- CalSTRS, which relies on state legislation to set contribution rates, has benefited from the 2014 CalSTRS Funding Plan to raise the pension system's funded status to 100% by 2046. To make up for more than a decade of systematic underfunding, the policy incrementally increased employer, employee, and state contribution rates starting in FY2015. CalSTRS has been receiving adequate contributions since FY2018 and now has limited authority to adjust rates to meet its funding goals.

Overview and Background

This brief analyzes the California Public Employee Retirement System (CalPERS), the California State Teachers' Retirement System (CalSTRS), and the Marin County Employee Retirement Association (MCERA), which provide defined-benefit pensions to teachers, firefighters, health care workers, and many other essential public employees in Marin County. This brief is intended to help policymakers, journalists, and the public better understand the cost of public pensions, including:

- How public pension obligations—which span over many decades—are calculated and funded.

- The current financial standing and historical investment performance of CalPERS, CalSTRS, and MCERA.

- How current pension costs to employers break down between legacy liabilities versus benefits for current employees.

- How post-2008 pension reforms—including pension benefit reform, actuarial and accounting method changes, and funding policy changes—have impacted the cost and long-term sustainability of CalPERS, CalSTRS, and MCERA.

Pensions are an important form of compensation that retain essential public service workers and allow them to retire in dignity after long service. Pensions also help offset the public sector pay penalty for college educated workers.[1] Pension benefits for public employees in Marin County are provided by three entities. Most public employers in Marin County—37 public agencies including cities, towns, and various utility, sanitation, transit, and public safety service districts—provide pension benefits through CalPERS, the largest public pension fund in the US. CalPERS also covers non-educator "classified" staff in K-12 school districts. CalSTRS covers teachers, librarians, school principals, college professors, and other instructional staff in all K-12 school districts and community college districts. MCERA provides pensions for the County of Marin, various special districts, the City of San Rafael, and the Novato Fire Protection District.

As this brief explains, CalPERS, CalSTRS, and MCERA have adopted several rounds of reform since the 2008 financial crisis in order to control costs, improve funded status, and ensure their long-term sustainability. These reforms include significant benefit cuts for new hires imposed by the state legislature. In addition, the retirement systems adopted changes in actuarial assumptions and accounting methods to generate more robust estimates of the contributions necessary to support pension benefits. The latter reforms triggered steady contribution increases from public employers and employees over the past decade, but have borne fruit in bending down the long-term cost curve and strengthening the financial position of the pension funds. In addition, historic surplus investment returns in the fiscal year ended June 30, 2021 (FY2021) significantly improved the outlook for public pensions.

The remainder of this brief is organized as follows.

- **Section 1** provides an overview of the funded status and investment performance of the three pension systems, including the impact of the extraordinary investment returns of FY2021 on future employer contribution rates.

- **Section 2** breaks down the two main components of pension cost: the normal cost of benefit accrual by current employees and payments toward legacy unfunded liabilities. This section highlights the impact of the Public Employee Pension Reform Act of 2012 (PEPRA) in reducing employer normal cost over time, the role of past policies in creating unfunded liabilities that currently account for the majority of pension cost, and the current outlook for employer contribution rates.

- **Section 3** summarizes key accounting and funding policy reforms that pension systems have undertaken since the Great Recession to strengthen their financial health and lower long-term costs.

In addition, sidebars explain how pension costs are calculated and funded and the meaning of pension funding ratios.

Sidebar 1: How Are Public Pension Liabilities and Costs Calculated?

First, pension funds estimate their liabilities (i.e., the cost of promised pension benefits).

- Actuaries estimate a pension fund's actuarial liability— the flow of pension payments over the next 75 years or so—based on pension benefit policies and carefully researched assumptions related to employee turnover, future pay growth, retiree life expectancy, and other factors.

- This flow of estimated benefit payments is translated into a lump-sum value ("present value") using a selected interest rate, called the discount rate. Public pension funds generally use the expected long-term average return on their investments—typically about 7%—as the discount rate. Lowering the discount rate yields larger pension liability estimates and higher contribution rates, while increasing the discount rate does the opposite.

Next, pension funds choose an invest strategy, which in turn determines their long-term investment returns.

- Based on expert advice from staff and consultants, each pension fund's board of trustees periodically decides how to allocate fund assets across a diversified set of investments, including stocks, bonds, and alternative assets such as real estate. Trustees have a fiduciary duty to maximize investment returns on behalf of beneficiaries while managing risk.

- The resulting asset allocation policy, together with key economic assumptions, determines the expected long-term average rate of return on pension fund investments. Pension funds generally use this as the discount rate, though some choose a slightly lower rate as a measure of conservatism.

- On average, 64% of California public pension benefits are paid for by pension fund investment returns.[2]

Finally, pension funds calculate the employer and employee contributions necessary to pre-fund promised benefits.

- Using the adopted discount rate, pension actuaries calculate two types of contributions: the normal cost and the unfunded liability service cost.

- **Normal Cost** is the annual cost of ongoing pension benefit accrual, calculated as a percentage of payroll. In public pensions, this cost is typically split between employers and employees.

- **Unfunded liability service** is the cost of paying down the difference between pension liabilities and existing pension fund assets.[3] Both surpluses and shortfalls are typically **amortized** (paid down, with interest) over 20-30 years. This helps to smooth pension costs across short-term market swings while ensuring full funding of benefits.

A note on discount rates. Different kinds of discount rates are used to account for differences in the value of money over time, depending on the purpose. For instance, an inflation rate of 5% means that $105 next year is worth $100 today in terms of purchasing power. Public pension funds use the expected long-term rate of return on their investments—for instance, 6.75%—as the discount rate in calculating pension liabilities because this is the best way to determine the contribution levels that, in combination with investment returns, will be sufficient to meet benefit promises.

Some people advocate for using a "risk-free" discount rate of 2-4% based on fluctuating market interest rates for Treasuries or high-grade corporate bonds, like private company pensions do, in order to represent the current market value of guaranteed benefits. This would triple public pensions' estimated unfunded liabilities. However, corporations use this method because they can go out of business or be bought and sold. In contrast, governments are perpetual public entities, and market interest rates have little bearing on the fiscal cost of public pension benefits.[4]

1. CalPERS, CalSTRS, and MCERA Emerged from the COVID-19 Recession on Significantly Stronger Financial Footing

CalPERS, CalSTRS, and MCERA emerged from the COVID-19 recession with significantly improved funded status and a strong record of long-term investment performance. All three plans are currently ahead of schedule on achieving full funding.

CalSTRS, CalPERS, and MCERA Have Met or Exceeded Their Investment Return Targets over the Long Term

Nationally, about 60% of pension benefits are paid for with investment returns on employee and employer contributions. Public pensions are patient institutional investors focused on long-term returns, and this has a tremendous impact on the cost and value proposition of public pensions. CalSTRS, CalPERS, and MCERA have duly adapted to changing financial market conditions by incrementally ratcheting down their long-term investment return targets.

Nonetheless, all three systems have met both their current investment return targets and their higher historical investment targets over the last 30 years.

Figure 1 shows annualized investment returns for 1-, 5-, 10-, 20-, and 30-year periods ending June 30, 2021, for the three pension systems. For all three systems, short-, medium-, and long-term investment returns exceed current targets. Significantly, both CalSTRS and CalPERS averaged 8.6% and 8.4% returns, respectively, over the last 30 years—compared to the 8% return target that was in effect in the early 2000s. Thirty-year returns were not available for MCERA, but the system earned higher returns than CalSTRS and CalPERS during all other time horizons. The investment returns realized by all three pension systems represent significant value for employers and employees.

The 20-year returns are more consistent with the lower discount rates adopted after the Great Recession, but this is due in part to the fact that pension systems—in particular CalPERS—reduced investment risk in their portfolios.

In addition, all three systems achieved historic investment returns in FY2021 (**Figure 1**). CalPERS gained 21.3% and added a net $84.9 billion in assets, including contributions and investment returns, to the Public Employee Retirement Fund (PERF).[5] CalSTRS gained 27.2% in investment returns and added $63.3 billion in assets to the State Teachers' Retirement Plan, while MCERA gained 32% and added $77 million to its pension trust fund.[6]

What about current market volatility? While it is impossible to predict investment returns in the short term, according to CalPERS staff there is industry consensus that key asset classes are likely to yield lower-than-average returns over the next several years. However, surplus investment gains of FY2021 provide a buffer against subpar returns in the next few years, particularly for employer costs. For example, in FY2021 MCERA earned investment rates that were 25% above its average return target of 6.75%. One-fifth of the surplus gain was recognized in setting contribution rates for FY2023, and the remainder will be incrementally recognized over the next four years, providing a cushion against market volatility during this period. CalSTRS and CalPERS have accounting policies with similar smoothing effects on employer contributions.

Figure 1. Historical Investment Returns for CalSTRS, CalPERS, and MCERA Periods Ending June 30, 2021
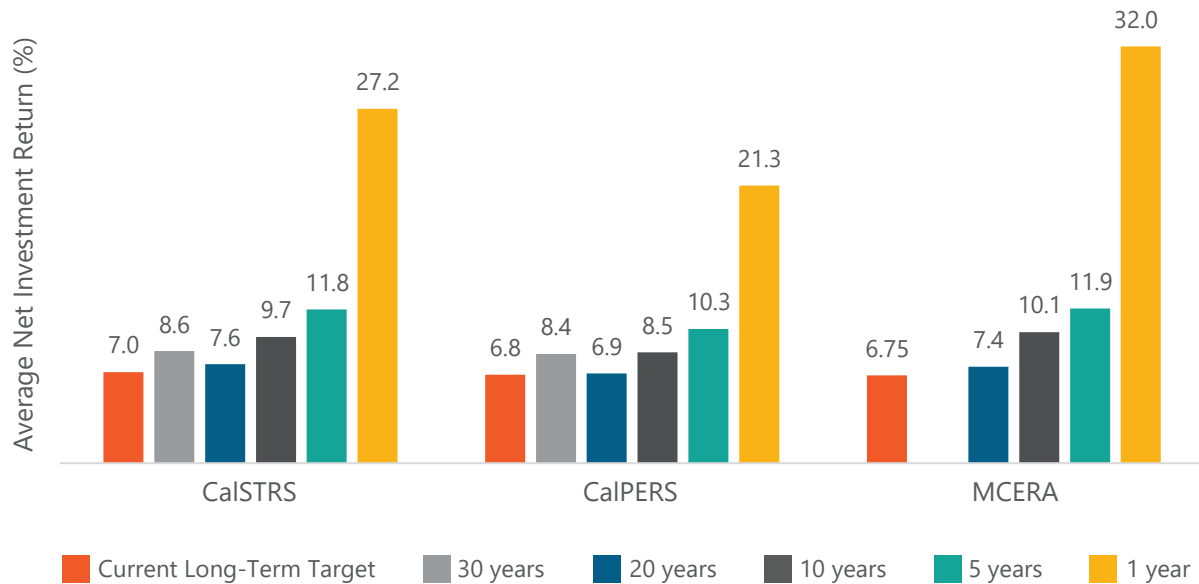
Note: Data from pension system actuarial valuations and investment reports.

## Funded Status has Improved for CalPERS, CalSTRS, and MCERA

A key measure of a pension fund's financial health is the funding ratio, which is calculated by dividing pension assets by the present value of liabilities.[7] (See **Sidebar 2** for a more detailed explanation.) Pension liabilities consist of benefits that will be paid out over several decades, not all at once. So, from a practical standpoint, pension funds do not need to be 100% funded to be able to pay promised benefits indefinitely, given regular contributions and investment returns on existing assets. However, as a matter of public policy and actuarial best practice, public pensions strive to fully pre-fund promised benefits in order to ensure that each generation pays the entire cost of the public services it enjoys.

After several years of stagnating funding ratios—due to the adoption of more conservative demographic and economic assumptions and subpar investment returns in FY2019 and FY2020—all three pension systems have improved their funded status in recent years (**Figure 2**). **CalPERS** had an aggregate funding ratio of 80% as of June 30, 2021. This is based on the recently reduced discount rate of 6.8% and the market value of assets.[8] The remainder of FY2021 returns will be recognized by FY2023. CalPERS Public Agency plans in Marin County have estimated funding ratios that range from 75% to over 100% on a market value basis **(Figure 3)**. These estimates are based on FY2021 investment experience and updated economic assumptions, but do not include recent changes in non-economic actuarial assumptions, e.g., rates of retirement, mortality, and employee turnover.

CalSTRS, which administers a statewide pension plan for educators in K-12 schools and community colleges, was 67% funded at the end of FY2020 (**Figure 2**) and earned 27.2% investment returns in FY2021. While its official funding ratio will be not be available until the FY2021 actuarial valuation is released later this year, the pension fund's latest annual funding progress study indicates that it had a funding ratio of approximately 75% as of June 30, 2021.[9] This is based on an asset smoothing method that defers recognition of two-thirds of the gains from FY2021 to the next two fiscal years. According to the funding progress study, FY2021 returns have significantly improved the statistical likelihood of CalSTRS meeting its goal of full funding by 2046.[10]
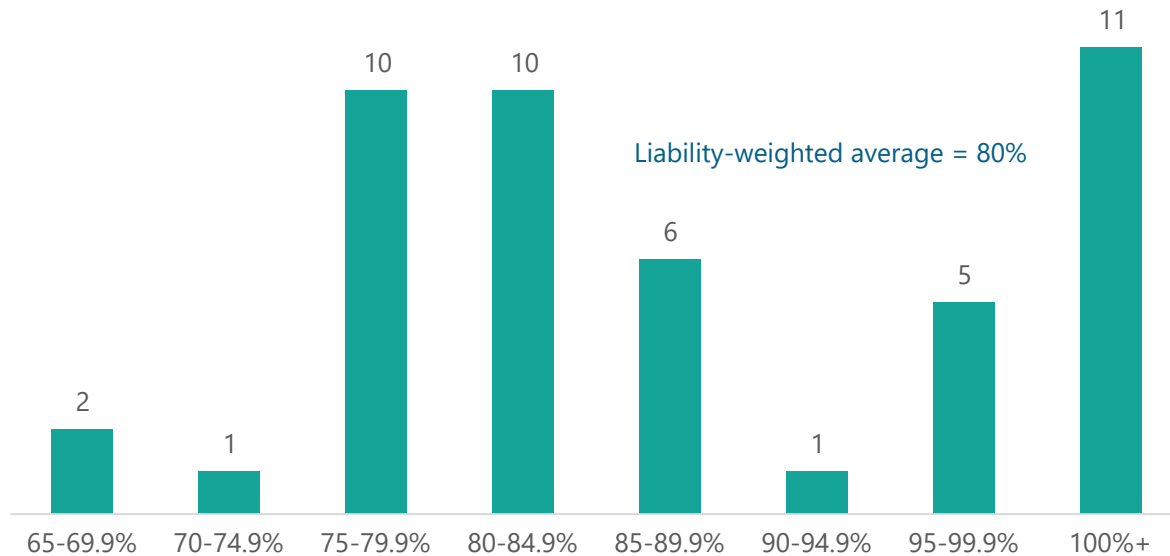
MCERA already had a relatively healthy funding ratio of 84% at the end of FY2020. After posting 32% investment returns in FY2021 resulting in a gain of $830 million, MCERA as a whole was 104.5% funded as of June 30, 2021, based on the market value of assets (**Figure 2**).[11] The pension system has been using market value rather than a smoothed actuarial value of assets to calculate its official funding ratio since 2014. **Figure 4** shows funded ratios for individual plans within MCERA. The Novato Fire Protection District plan and the County of Marin, Courts, and Special District plan—which together account for 80% of MCERA's total pension liabilities—were 107% and 105% funded, respectively, as of June 30, 2021. The City of San Rafael's pension plan, which was 76% funded in FY2020 and accounts for 20% of MCERA's liabilities, reached 96% funding at the end of FY2021, and is currently on track to eliminate the remaining unfunded liabilities by FY2025, assuming normal investment returns.[12]

## Figure 2: CalPERS, CalSTRS, and MCERA Funding Ratios
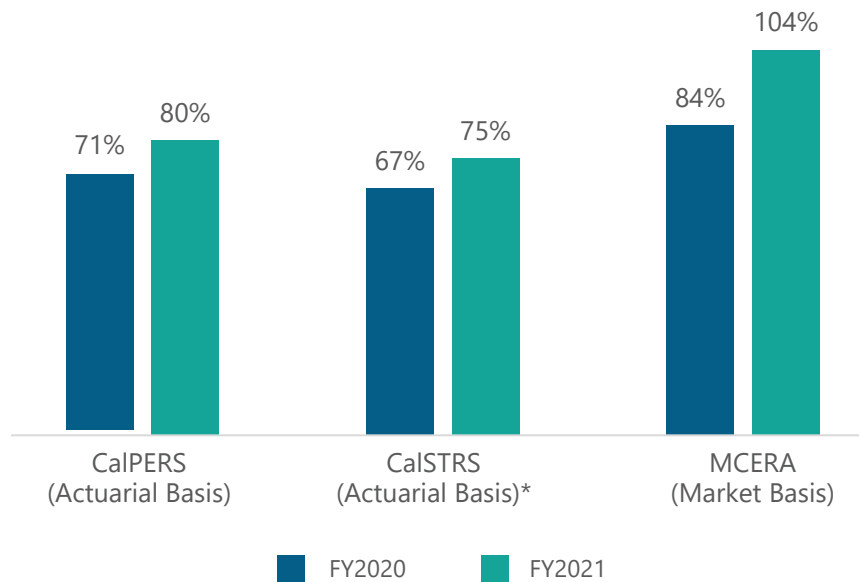
Note: Data from retirement system actuarial valuations and annual financial reports. CalPERS actuarial basis is the same as market basis. *FY2021 CalSTRS funding ratio is estimated from the Projected Funded Status chart, p. 5 in the 2021 Review of Funding Levels and Risks.

Figure 3: Distribution of CalPERS Public Agency Plans in Marin County by Estimated Funding Ratio Based on Market Value of Assets as of June 30, 2021

Liability-weighted average = 80%

2	1	10	10	6	1	5	11
65-69.9%	70-74.9%	75-79.9%	80-84.9%	85-89.9%	90-94.9%	95-99.9%	100%+

Note: Author's analysis of output from CalPERS Pension Outlook Tool for active plans in Marin County. Sausalito excluded due to lack of projection data. These are simulation model projections based on the FY2020 valuation, and long-term economic assumptions adopted in November 2021. They do not include FY2021 actuarial experience or revised non-economic assumptions adopted in November 2021.

Figure 4: MCERA Plan Funding Ratios as of June 30, 2021

Total Fund	County	Novato	San Rafael
104.5%	106.8%	105.2%	95.8%
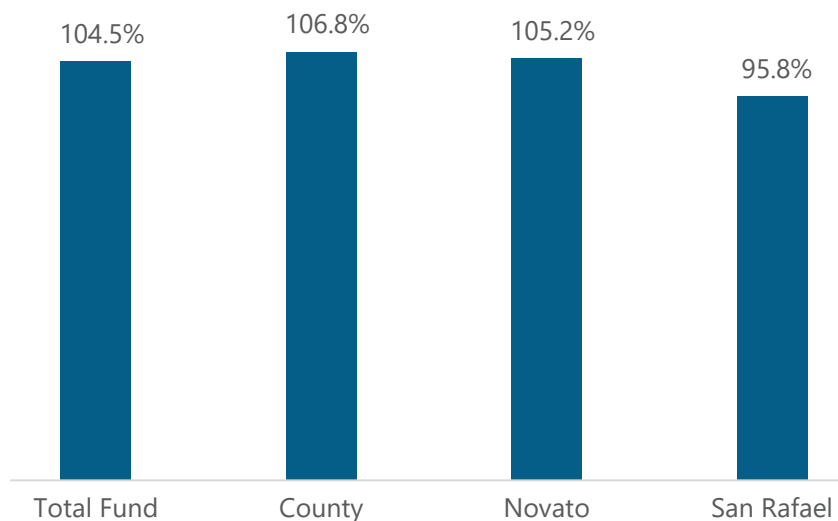
Note: Data from MCERA FY2021 actuarial valuation. Funding ratios are based on the market value of assets.

Sidebar 2: Understanding Pension Funding Ratios

A pension funding ratio is the ratio of a pension's current assets to its liabilities.

If a public pension is 100% funded, this generally indicates that its assets—combined with projected investment returns and future normal cost contributions for employees on payroll today—are sufficient to pay all promised benefits to current retirees *and* current active employees. (**Sidebar 1** explains how public pension liabilities and costs, including the present value of benefits and the normal cost, are calculated.)

Public pension systems use one of two measures of asset value to calculate their official funding ratios: actuarial value and market value.

Most public pensions use the actuarial value of assets (AVA), in which market losses and gains are smoothed over a number of years in order to minimize the impact of market fluctuations on contribution rates. CalSTRS smooths returns over three years for their official funding ratio and additionally calculates alternate funding ratios based on the straightforward market value of assets (MVA). In 2014, CalPERS removed smoothing from its AVA calculations so that it reflects full market value. MCERA switched from AVA to MVA for their official funding ratio in 2014. Both CalSTRS and MCERA smooth contribution rates through other methods.

"Full funding" of a pension refers to 100% pre-funding.

In a pension plan with a 100% funding ratio, the assets that are estimated to be sufficient to support each retiree's benefit for the rest of their life are in place *before* they receive their first pension check. In practical terms, however, pension plans with funding ratios well below 100% can pay promised benefits indefinitely—provided that annual contributions and investment returns are sufficient. At the same time, allowing the plan's funding ratio to drop too low defers costs to future generations, and in extreme cases creates the risk of running out of money, at which point the governmental employer becomes directly liable for benefit payments.

Pension funding policy matters as much as the funding ratio.

Pension funding policy—i.e., whether or not employers consistently contribute enough to cover the normal cost of benefits and pay down unfunded liabilities—is just as important as the funding ratio in determining long-term pension fund health. One best practice is for employers to always contribute at least the normal cost, even when the fund is more than 100% funded. This practice is now required for California public pensions by PEPRA.

Impact of FY2021 Investment Returns on Employer Contribution Rates

Regardless of how soon market gains and losses are recognized in public pension funding ratios, their impact on contributions is spread out over many years. This helps ensure that employers and employees are not required to pay wildly varying contributions every year. In addition, there is a two- to three-year lag between investment experiences and their initial impact on pension contributions.

MCERA released their FY2021 valuation in February 2022, with actuarial calculations for FY2023 contribution rates that were subsequently adopted by the Board. These rates reflect a reduction in contribution rates for all employers, from an average of 30.53% in FY2022 to an average of 27.61% in FY2023.[13] Significantly, four-fifths of the surplus investment returns of FY2021 have yet to be recognized for contribution determination purposes. The FY2021 valuation states,

> *The 32.0% return [in FY2021], compared to last year's 6.75% assumption, resulted in a gain that decreased the contribution rate by 3.42% of pay in the current year. The amortization payment for this year's investment gains will be phased-in over five years, resulting in similar decreases in the UAL rates in each of the next four years.[14]*

Actual rate decreases depend on investment performance. It would take cumulative investment shortfalls of the same magnitude as FY2021 surplus returns to entirely offset the latter's downward impact on employer contribution rates.

The initial impact of FY2021 returns on CalPERS Public Agency and CalSTRS rates will be announced later this year, applicable to FY2024. For the CalPERS Schools plan, rates based on FY2021 experience will apply to FY2023.

CalPERS actuaries predict that for Public Agency plans statewide, the typical (median) employer contribution change in relation to previous rate projections for FY2024 will be close to zero after recognizing 20% of surplus FY2021 investment returns, reducing expected long-term investment returns from 7% to 6.8%, and incorporating new demographic assumptions.[15] Individual plans will see decreases or increases depending on their demographics and funded ratio, with better-funded plans more likely to see rate decreases. However, rates are likely to stabilize and/or decrease from that point, as the remainder of FY2021 surplus returns are gradually recognized in FY2025-FY2028. Combined with the Labor Center's analysis of published and projected rates, this means that rates for most Marin County employers with CalPERS Public Agency plans, rates are likely to see their contribution rates peak in FY2023 or FY2024 and then decline thereafter.

CalSTRS currently expects to decrease the state contribution rate significantly as FY2021 investment returns are recognized for payment calculation purposes. Schools, on the other hand, will not see their rate lowered because the portion of the unfunded liability that they are responsible for has no underlying assets (see the CalSTRS Funding Plan portion of **Section 3** for explanation). Neither will the official school rate increase: it will remain at 19.1%, a rate first set by statute for FY2020 and re-confirmed when CalSTRS was allowed to change rates beginning with FY2022. According to the CalSTRS's November 2021 funding progress report to the legislature, the system expects the school rate to stay at 19.1% for the long term unless there are major unanticipated changes in demographic and economic experience.

The main challenge facing schools is not that CalSTRS is going to raise its rates, but that the state seems ready to stop providing subsidies to reduce school contributions. The state has offset school obligations by 1-2% of payroll every year from FY2019 to FY2022. For FY2022, the state assumed 2.18% of the 19.1% school rate, resulting in a net school contribution rate of 16.92%. Thus, if the legislature does not take further action, schools will experience a 2.18% increase in their effective contribution rate, even as their official obligation to CalSTRS remains the same as the previous two years. However, the draft state budget for FY2022 includes historic increases in school funding that dwarf the effective rate increase.

2. Understanding Employer Costs for Public Pensions: Legacy Unfunded Liabilities vs. Current Employee Benefits

There are two components of employer costs for pensions: the normal cost of ongoing benefit accrual (net of employee contributions) and unfunded liability service. (See **Sidebar 1** for an explanation of these costs.) On average, ongoing benefit accrual by current employees accounts for one-third of employer costs for the average CalPERS Public Agency plan in the county, one-third of combined employer and state contributions to CalSTRS for teacher pensions, and slightly less than half of average employer costs for MCERA plans. The cost of ongoing benefit accrual, called Normal Cost, is being slowly reduced by benefit cuts imposed by PEPRA on employees hired after 2012.

Most government contributions to Marin County public employee pensions are thus dedicated to paying down legacy costs, averaging two-thirds for CalPERS and CalSTRS and over half for MCERA. While stock market losses in 2001 and especially 2008 were primarily responsible for unfunded liabilities as of 2012, these losses have been mostly offset by greater-than-expected average returns over the last ten years. The remaining pension funding costs that public employers face today stem largely from decades-old decisions not to fully fund promised benefits and/or a history of not making actuarially determined contributions in full.

Figure 5 shows the composition of employer normal cost and unfunded liability payments in FY2022 for the three pension systems.

CalPERS Public Agency plans cost Marin County employers an average of 11.9% of payroll towards ongoing benefit accrual (the normal cost) and 20.5% to pay down unfunded liabilities (also called unfunded actuarial obligations, or UAO). Individual plan rates vary widely around this average. Miscellaneous plans, which cover non-safety employees, cost somewhat less than these weighted averages. Safety plans, which cover police officers and firefighters, cost significantly more. In addition, UAO payments as a percentage of payroll can be relatively low for well-funded plans—as is the case for affluent towns like Belvedere—and considerably higher for plans with below-average funding ratios.

CalSTRS data shown in **Figure 5** includes school and state contributions combined: 27.4% total, of which roughly one-third (10.1%) goes to normal cost and two-thirds (17.4%) goes to unfunded liability service.[16] Under the statutory funding plan for CalSTRS, the state would have contributed 8.328% and schools would have paid 19.1%. in FY2022. However, school payments were temporarily reduced by state subsidies in FY2020, FY2021 and FY2022 as a form COVID-19 pandemic relief.

In FY2022, the state subsidy was 2.18%, reducing the effective school rate to 15.92%[17] Given the expiration of this subsidy, schools will have to pay the full 19.1% rate in FY2023. However, the Governor's budget proposal includes historic increases in school funding for FY2023, and state Assembly and Senate leaders recently proposed even larger increases.[18]

For **MCERA** as a whole, slightly more than half of payments are dedicated to the UAO, and less than half to ongoing benefit accrual. The ratio of unfunded liability payments to normal cost is lower for MCERA than for CalPERS and CalSTRS because of a higher funding ratio. But like CalPERS, there is wide variation among individual plans within MCERA. San Rafael is an outlier in terms of higher-than-average contribution rates, about three-quarters of which are devoted to the unfunded liability. In contrast, the County plan—which includes the county agencies, courts, and special districts—currently spends about 12.5% of payroll on ongoing benefit accrual and just 11.5% on unfunded liabilities. The County plan accounts for 84% of MCERA's active membership base, weighted by payroll.

Employer pension costs used to be much lower during the late 1990s and early 2000s when pension funds were more than 100% funded. Indeed, many employers took pension contribution holidays, as plan surpluses reduced or eliminated employer normal cost contributions—a practice since banned by PEPRA. After funds sustained heavy losses in FY2009, CalPERS and MCERA phased in rate increases during FY2011-2014, while CalSTRS received inadequate contributions under state policy.

Figure 5: Employer Pension Costs: Normal Cost vs. Unfunded Liability Service, FY2022
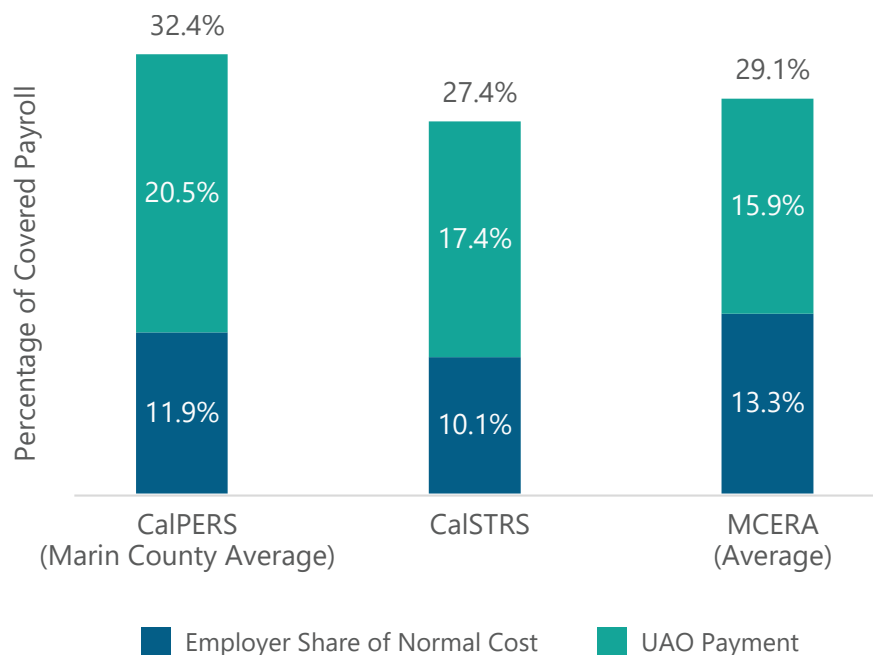
Source: Author's analysis of actuarial valuations and contribution notices. CalSTRS rates shown include both state and school contributions under the CalSTRS Funding Plan, but does not include one-time lump-sum supplemental contributions made by the state.

Subsequent employer contribution rate increases have been due to two main developments. One is the adoption of stricter timetables for paying down legacy liabilities by all three systems. MCERA and, later, CalPERS, imposed this through accounting method changes. CalSTRS was finally able to start amortizing unfunded liabilities when the state implemented its funding plan in FY 2016. The other cause of rate increases is the increase in cost estimates for already-accrued benefits, through the adoption of more conservative actuarial assumptions regarding investment returns and retiree life expectancy. These two measures are explained in detail in **Section 4**.

Currently, reforms with the largest cost impacts have already been adopted. Thus, most employers can cautiously anticipate stabilized and/or declining rates beginning in FY2024, if not before. For most CalPERS plans in Marin County, the cost curve for unfunded liability payments is bending downwards, with rates peaking in FY2023. MCERA plan rates significantly decreased across the board between FY2022 and FY2023. The cost curve for unfunded liability service is also bending down for CalSTRS, although the resulting cost reduction accrues to the state rather than schools due to the manner in which pension liabilities are allocated under state policy, explained later in this section.

The remainder of this section explains the current benefit cost levels, including the impact of PEPRA, and the magnitude and sources of unfunded liabilities for all three systems.

> " The remaining pension funding costs that public employers face today stem largely from decades-old decisions not to fully fund promised benefits and/ or a history of not making actuarially determined contributions in full.

Impact of PEPRA on Current Benefit Accrual Costs

The Public Employee Pension Reform Act of 2012 (PEPRA) capped benefits and increased cost sharing for California public employees hired on or after January 1, 2013. As employees subject to PEPRA replace employees with significantly more generous pensions, the cost of ongoing pension benefit accrual goes down.

Key benefit-related provisions of PEPRA are as follows:

- Benefits for new hires are capped at 2% of highest average salary per year of service at age at 62 (2% @ 62) for non-safety employees, and 2% at 55 for safety employees—or their actuarial equivalent.[19]

- Pension benefits for new hires are calculated based on 3-year highest average salary, rather than the single highest year.

- The salary base for benefit calculations is capped at the Social Security taxable income limit, which is $147,000 in 2022. This affects a small share of public employees, such as high-level agency managers, senior ranking police and firefighters, doctors, research scientists, and registered nurses. (As discussed in the first brief in this series, average full-time earnings of public sector workers with advanced degrees in Marin County was $94,600 in 2019, significantly less than in the private sector.[20])

- New hires are required to contribute at least 50% of the normal cost of their benefits.

- Pension "spiking"— such as using overtime pay or unused sick leave to increase base pay for pension benefit calculations—is prohibited for all employees.

The 2% @ 62 and 2% @ 55 benefit formulas represent a significant reduction in benefits compared to previous pension tiers for public employees. For non-safety employees (categorized as Miscellaneous), benefits previously ranged from 2% @ 60 to 2.5% @ 60 or 2% @ 55. Police and firefighters traditionally had earlier retirement age (e.g., 50).

CalPERS Normal Cost

Employer normal cost rates for Marin County public employees covered by Miscellaneous plans are shown in **Figure 6**, by benefit type: 1) PEPRA and 2) Pre-PEPRA benefits. For plans with more than one pre-PEPRA benefit tier, the employer normal cost of the tier applicable to employees hired in 2012 is reflected in the chart.[21] For non-safety employees, PEPRA pension benefits cost an average of 27% less than pre-PEPRA benefits. Furthermore, employers spend only about 7.5% of pay towards ongoing benefit accrual for PEPRA members and an average of about 10% of pay for pre-PEPRA members.

Figure 6: Employer Normal Cost, CalPERS Miscellaneous Plans, FY2023 Cities and Towns in Marin County
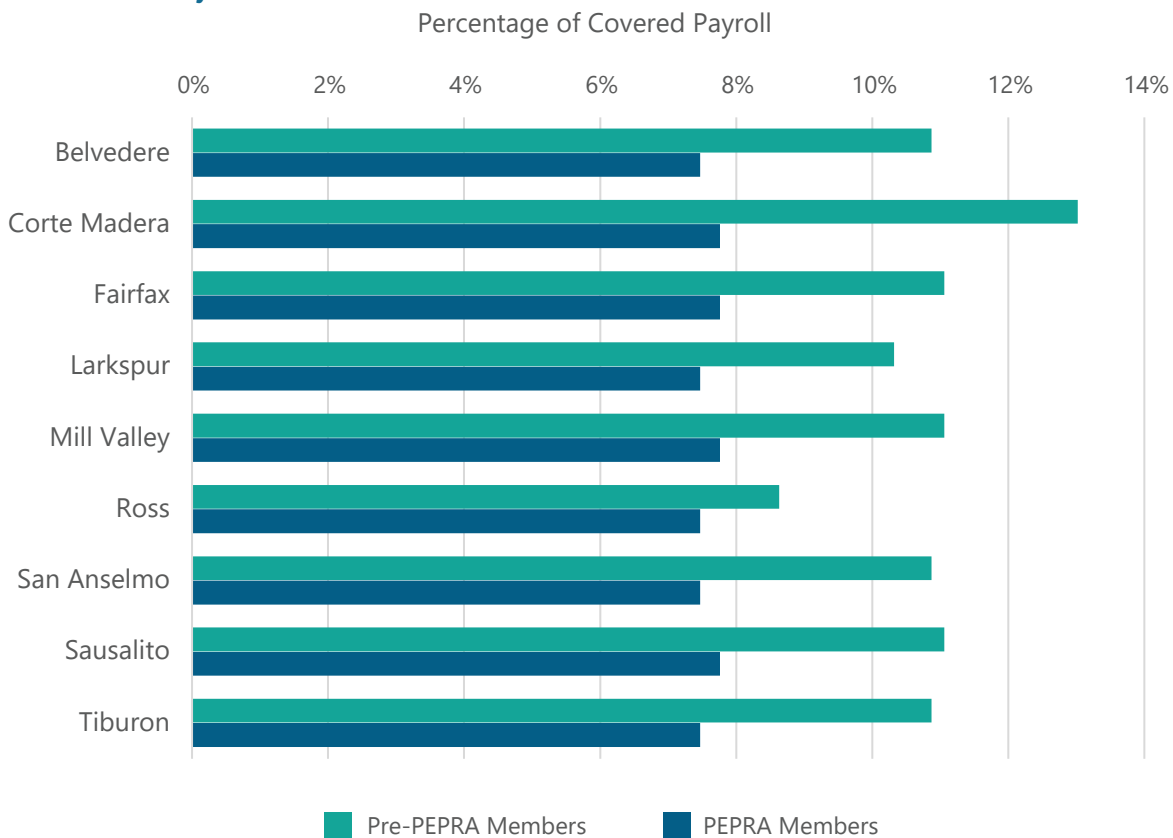
Percentage of Covered Payroll

Note: Data from CalPERS Public Agency Valuation Reports. Pre-PEPRA rates represent rates for members categorized by CalPERS as "Classic."

Figure 7 compares similar data for police and firefighters covered by CalPERS Safety plans. Public safety employee pensions typically cost more than non-safety pensions. Safety workers' retirement age for full benefits tends to be lower and disability retirements are more common, due to the physical demands and health risks of policing and firefighting. The normal cost of PEPRA benefits for public safety employees is an average of 38% less than for those hired just before PEPRA took effect: employers contribute about 13% of pay for former, compared to about 21% of pay for the latter.

Figure 7: Employer Normal Cost for Public Safety Worker CalPERS Pension Benefits Public Agencies in Marin County, FY2023
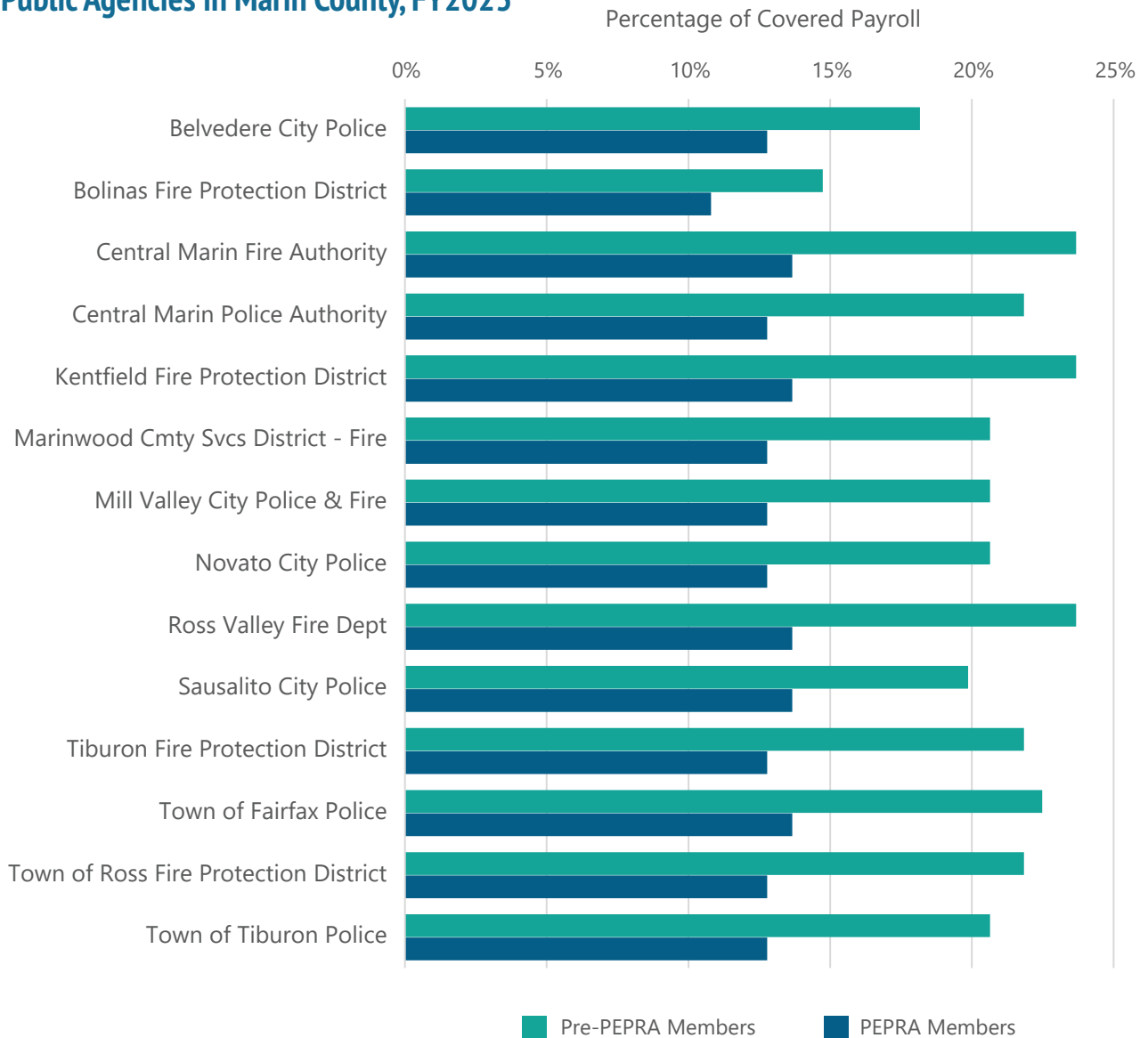

Note: Data from CalPERS Public Agency Valuation Reports. Pre-PEPRA rates represent rates for members categorized by CalPERS as "Classic."

MCERA Normal Cost

MCERA pensions consist of Miscellaneous and Safety plans, similar to CalPERS. Prior to PEPRA, MCERA pension plans tended to be more generous on average than CalPERS. For instance, some plans had higher COLAs, and benefit formulas for public safety workers in particular tended to be more generous than the average CalPERS safety pension. Consequently, PEPRA benefit limits imposed a proportionally larger benefit cut for MCERA members hired after 2012 compared to CalPERS Public Agency plan members. Employer normal cost for MCERA is steadily decreasing as new hires replace pre-PEPRA retiring workers.

The employer normal cost for non-safety employees hired before PEPRA currently ranges from 11.1% for the County, which accounts for the largest share of workers within MCERA, to 14.51% for Tamalpais Community Sanitation District, compared to PEPRA rates just under 10% across all Miscellaneous plans. For public safety employees, PEPRA cut the benefits by one-third to one-half. Typical employer normal cost of benefits for police and firefighters hired before 2013 range from 21.2% for the County to 27.74% for the South Marin Fire plan. In contrast, the normal cost of pension benefits for public safety workers hired under PEPRA is between 14.5% for the County and 15.8% for South Marin Fire. (See **Figure 8**.)

Figure 8: Employer Normal Cost, MCERA Plans, FY2023
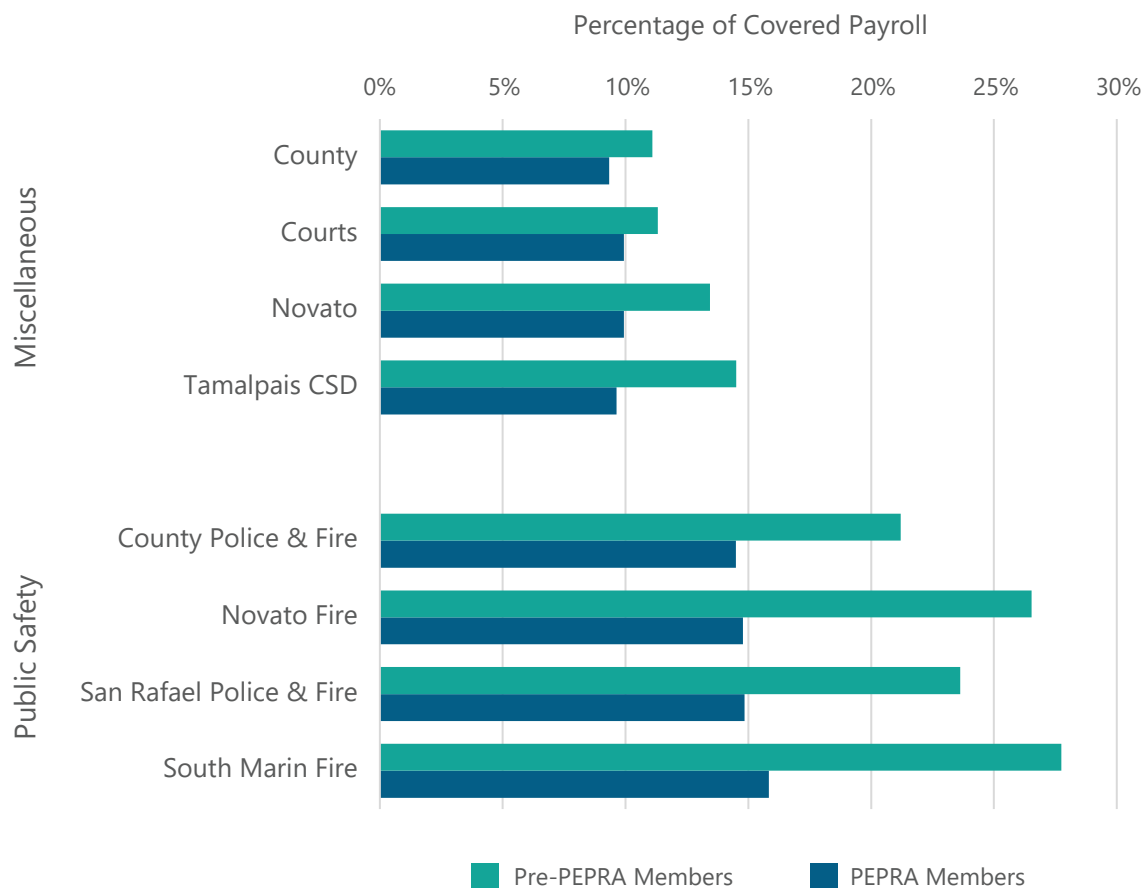
Note: Data from MCERA FY2021 Actuarial Valuation. Administrative costs not included. For agencies with multiple pre-PEPRA pension benefit tiers, the tier with the most employees was selected for this chart.

CalSTRS Normal Cost

Even before 2013, California teachers had a relatively modest pension benefit of 2% of final average salary at age 60, especially considering that they have never been covered by Social Security during their years of teaching in California. In comparison, most CalPERS members participate in Social Security, and the lowest CalPERS benefit tier pre-PEPRA was 2% at 62. In addition, CalSTRS pension benefits—both pre- and post-PEPRA—include a 2% simple COLA, in contrast to the compound COLA in CalPERS plans.[22] This means that CalSTRS pension benefits lose purchasing power more quickly than CalPERS pensions.[23]

PEPRA reduced pension benefits to 2% of highest average salary at age 62 for teachers hired after 2012. In addition, teachers pay for more than half the normal cost of their pension, in part due to increased contributions to protect their modest COLA. For FY2022 (based on the FY2020 actuarial valuation), the total normal cost for teachers hired since 2013 is 18.086% of pay, of which teachers contribute 10.205% and schools contribute 7.881%. For teachers hired before 2013, the total normal cost is 20.833% of pay, with 10.250% coming from teachers and 10.583% coming from schools. The employer cost for ongoing pension benefit accrual is 26% less for teachers hired under PEPRA than for older hires. (See **Figure 9**.)

These employer costs for ongoing teacher pension benefit accrual need to be put into further perspective. Given that schools do not contribute the 6.2% Social Security payroll tax for teachers, this means that the employer cost for California teacher retirement benefit accrual is just 1.8% and 3.8% above the baseline cost for Social Security for PEPRA and pre-PEPRA benefits, respectively.

Figure 9: Employee and Employer Normal Cost for CalSTRS as a Percentage of Payroll, FY2022
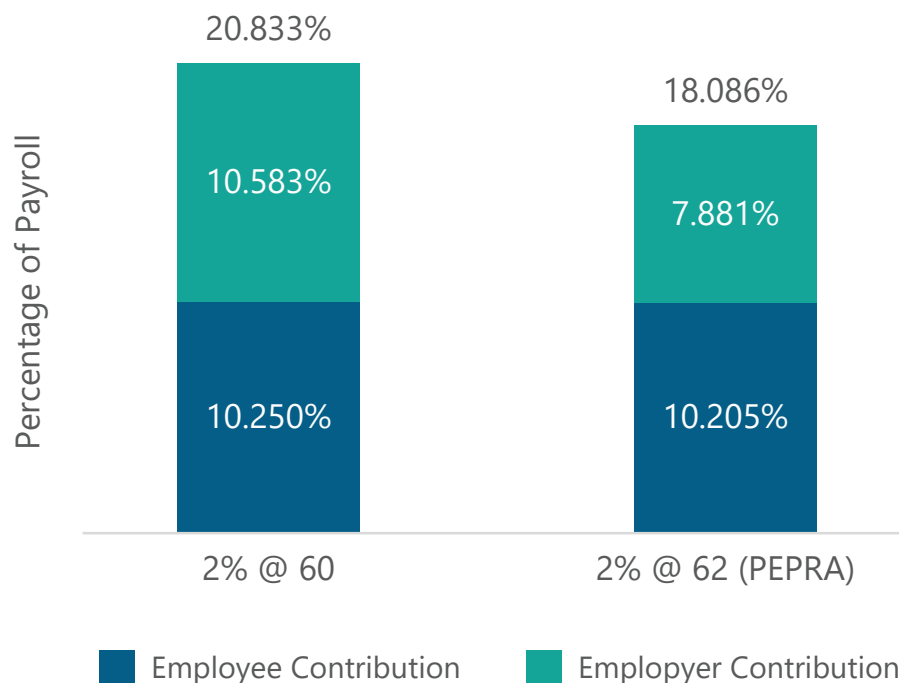
Note: Data from CalSTRS FY2020 actuarial valuation.

Sources of Current Unfunded Liabilities

Unfunded liability costs—not current benefit accrual—account for the lion's share of employer contributions to Marin County public employee pensions. In addition, the unfunded liability costs are mostly tied to legacy benefits accrued before 2014. The cost impact of unfunded liabilities has been magnified by policy changes requiring employers to pay them off on a shorter timetable (i.e., accelerated amortization). While painful in the short and medium term, these policies save tax dollars in the long run. As of FY2021, accounting and funding policy reforms have borne fruit, boosted by surplus investment returns: we can expect Marin County taxpayer costs for unfunded liability service to flatten or decline, depending on plan demographics and funded status.

To begin, contribution rate increases over the last decade are largely due to the growth of unfunded liabilities, from three main sources:

- ***Extraordinary losses from the 2008 financial crisis***. Not only did these losses require a long time to pay off, progress was hampered by deficient funding policy: CalPERS's lax amortization policy before 2014 and the state's systematic underfunding of CalSTRS.

- ***Unfunded benefit enhancements enacted in the late 1990s and 2000s***. The fiscal impact of the 2008 crisis was compounded by benefit enhancements that were not accompanied by additional funding, on the problematic assumption that investment returns on existing assets alone would be sufficient.

- ***Increase in cost estimates for accrued benefits due to more stringent actuarial assumptions.***

The terms of the state's funding plan for **CalSTRS** make it possible to distinguish the impact of benefit and funding policies on pension liabilities, in a way that is not possible for CalPERS and MCERA. **Figure 10** shows the FY2020 distribution of CalSTRS assets and liabilities by benefit structure and service period, as defined by the state's funding plan. Benefits accrued after 2014 account for 20% of teacher pension obligations, and benefits accrued by retirees and employees before 2014 account for the other 80% ($258 billion).

Pre-2014 obligations further break down into $213 billion in core pension benefits in effect as of 1990, and unfunded benefit enhancements enacted in the late 1990s and early 2000s ("Post-1990 Benefits"). The latter makes up just 14% of CalSTRS's total pension liability, but 72% of the total unfunded liability. Notably, some of these benefit enhancements expired in 2010, and the rest are not applicable to teachers hired after 2013.

Not only are two-thirds of school and state contributions to CalSTRS dedicated to paying down the unfunded liability, the entirety of this cost is for benefits accrued before 2014. Meanwhile, benefits accrued after 2014 are currently fully funded. In other words, the lion's share of CalSTRS's current unfunded liabilities—and more than half of current taxpayer costs for teacher pensions—are associated with legacy costs from unfunded benefit enhancements enacted two decades ago, and accrued before 2014.

Figure 10: Breakdown of CalSTRS Assets and Liabilities, FY2020 ($ Millions)
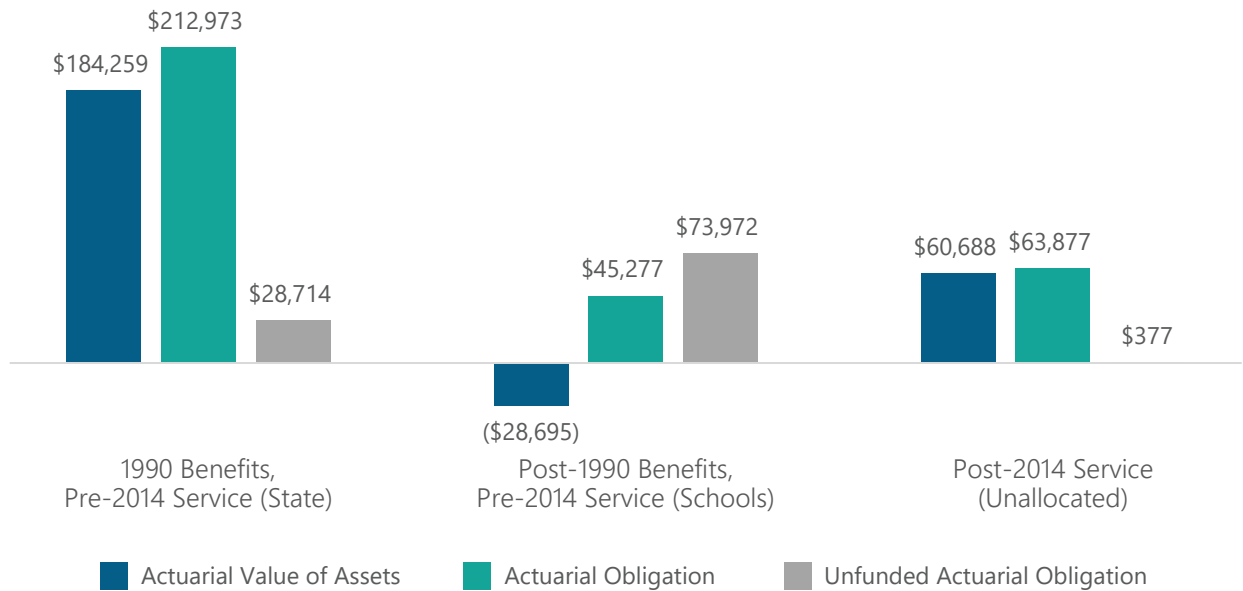
Note: Data from CalSTRS FY2020 actuarial valuation.

Post-1990 benefit enhancements were created by several state bills enacted in 1998 and 2000 in order to attract and retain teachers. The measures with the greatest cost impact are as follows: The salary base for calculating pension benefits was changed from the average of three highest years of earnings to the single highest year for teachers with at least 25 years of service.[24] In addition, teachers who worked 30 years or more were promised a longevity bonus of $300/month added to their pension.[25] Both are legacy benefits, for which teachers hired after 2012 are not eligible. Finally, one-quarter of employee contributions was diverted from the core pension program to a supplemental retirement benefit from 2001 through 2010, without replacing these revenues with state or employer contributions.[26]

These measures were arguably necessary to address a severe teacher labor shortage that forced schools to hire teachers on emergency credentials and entice existing teachers to stay longer. But the policy decision not to appropriately fund these benefits—even after the dot-com bubble collapse of 2001 and the financial crisis of 2008 pushed CalSTRS funding levels lower and lower—itself incurred a high cost.

MCERA has little remaining unfunded liability because of the impact of its aggressive amortization policy—and the relatively high employer contribution rates that resulted from this policy prior to the investment windfall of FY2021. (See Section 3 for further discussion of amortization policies.) The County and Novato plans had surpluses—that is, no unfunded liability—at the end of FY2021, while San Rafael was a few years away from 100% funding. San Rafael has had the highest employer

contribution rates within MCERA due to a relatively high unfunded liability burden in relation to payroll. MCERA currently projects that the city's total contribution rate will be reduced by one-third over the next five years—the timeframe for recognizing surplus returns and losses for contribution rate setting purposes under the current funding formula.

3. Getting It Right: Actuarial, Accounting, and Funding Reforms

CalPERS, CalSTRS, and MCERA have adopted significant changes related to pension cost accounting and funding that put the pension systems on a more solid financial footing, including the following:

- All three systems adopted more conservative actuarial assumptions, including reduced discount rates and ongoing improvement in life expectancy, producing more rigorous estimates of benefit cost.

- CalPERS and MCERA, which determine their own contribution rates, have adopted stricter actuarial assumptions and accounting methods that ensure progress in meeting pension funding goals.

- In 2014, after systematically underfunding CalSTRS for over a decade, the State of California enacted a plan to help CalSTRS achieve 100% funding by June 30, 2046. Employee, employer, and state contribution rates were increased incrementally over the next several years. CalSTRS was also given limited authority to adjust rates.

- PEPRA mandates a best-practice funding policy for all public pensions in California: pension contribution holidays are prohibited, so that employers must pay at least the normal cost of pension benefits, even when a plan is super-funded. (Employees have always paid out of every paycheck for their share of the normal cost.)

The cost impact of these changes accounts for most of the rate increases that employers have experienced over the last several years.

## Actuarial Assumption Changes: Discount Rates and Life Expectancy

CalPERS, CalSTRS, and MCERA all made significant changes in two sets of actuarial assumptions that are critical drivers of benefit cost: the discount rate and retiree life expectancy.

Discount Rate Reduction

Since 2001, and especially after the 2008 financial crisis, each pension system has lowered its discount rate used to estimate the cost of pension benefits a number of times (**Figure 11**).[27]

CalPERS reduced its rate four times, from 8% in 2001 to 7.75% in 2003, 7.5% in 2012, to an incremental reduction to 7% in 2017-2020. CalPERS also enacted a "Risk Mitigation Policy" in 2015 requiring automatic reductions in the discount rate for the Public Employee Retirement Fund (PERF) whenever annual investment returns are two or more percentage points in excess of the target.[28]

Figure 11: Discount Rate Reductions for CalPERS, CalSTRS, and MCERA Pensions, FY2001-FY2022
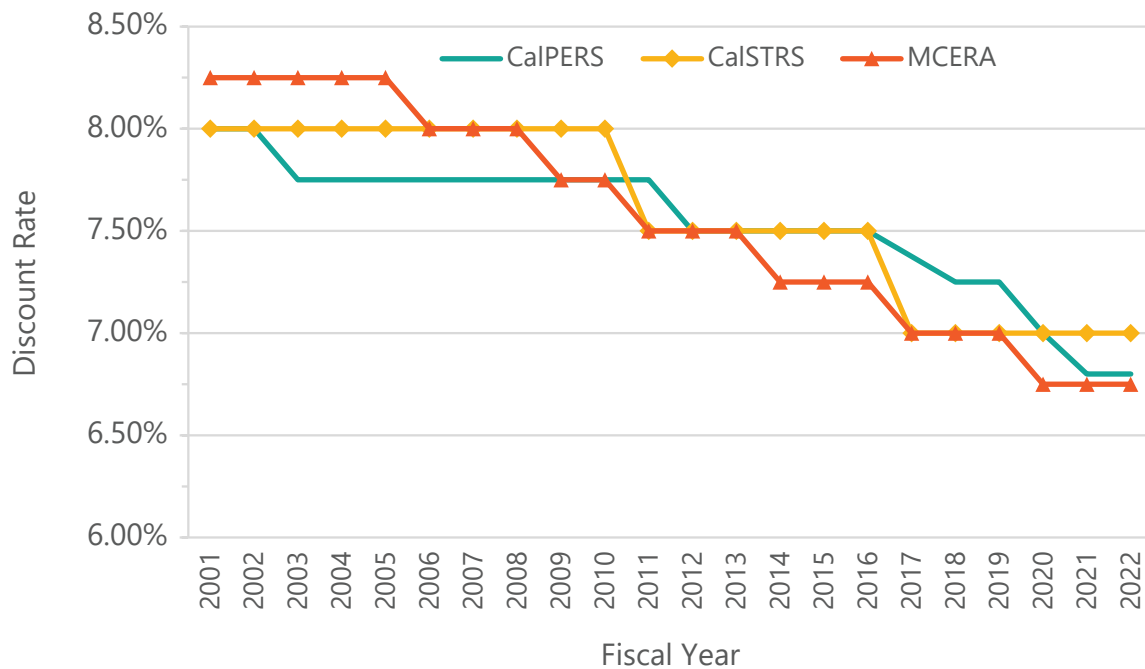
Source: Actuarial valuations and annual financial reports. CalPERS data are for PERF.

This policy was triggered for the first time at the end of FY2021, immediately lowering the discount rate from 7% to 6.8%. The new rate was formally adopted as part of CalPERS's regular asset-liability management review process in November 2021, and will be reflected in the actuarial valuation for FY2021 when it is released later this year. **CalSTRS** reduced its rate twice, in bigger increments. In 2011, the teacher pension system lowered its discount rate from 8% to 7.5%. Then in 2017, the discount rate was reduced to 7%. CalSTRS is scheduled to reevaluate this assumption again in 2023. **MCERA**, meanwhile, reduced its investment return assumption in quarter-percent increments six times, from 8.25% as of 2005 to 6.75% in 2020.[29]

Normally, lowering the discount rate increases the cost of ongoing benefit accrual (normal cost) for both employees and employers. It also increases the size of the unfunded liability associated with past service, and thus the size of employer payments for unfunded liability service.[30] Past discount rate reductions have followed this pattern, and continues to be true for employee contributions. However, CalPERS's MCERA's latest discount rate changes overlap with FY2021 surplus investment returns, which has significantly reduced unfunded liabilities. This is more than enough to cancel out the impact of a .2% to .25% reduction in the discount rate on employer costs.

Improved Mortality Assumptions

As of 2021, all three pension systems have incorporated continuous generational improvements in retiree mortality in their actuarial assumptions. This method ensures that continued life expectancy growth is captured in normal cost contributions, reducing the potential for future unfunded liability accrual from this factor.

Life expectancy assumptions are important to defined-benefit pensions because they guarantee monthly payments from retirement until death. Pensions deliver this income in an economically efficient manner: by pooling large groups of workers, pension funds need only accumulate sufficient assets to fund retirement income for the *average* life expectancy. (In contrast, individuals drawing on 401(k) plans need to plan on longer-than-average life expectancy in order to reduce the risk of running out of money.) At the same time, small improvements in average life expectancy can have significant cost implications for pensions.

Traditionally, pension systems periodically updated their mortality assumptions to reflect static, one-time increases in life expectancy. However, best-practice standards shifted in the 2010s towards mortality assumptions that anticipate continuous generational improvements in life expectancy. That is, each birth year cohort is assumed to live slightly longer than the previous cohort. This method enables pension systems to account for the cost of increased longevity up-front, rather than having to pay it later when it becomes an unfunded liability. CalSTRS and MCERA both adopted this system in 2014, and adjust their assumption set every three to four years. CalPERS actuaries recognized the need to do the same, but the pension system was technologically constrained from doing so at the time. As an alternative, CalPERS incorporated 20 years' worth of mortality improvements at once in 2014, and adopted generational mortality improvement projections in 2021.[31]

> " In 2014, after more than a decade of inadequate contributions, the State of California enacted the CalSTRS Funding Plan to ensure 100% funding of the teacher pension system by 2046.

Both sets of changes have increased contribution rates for employers and employees. At the same time, these measures significantly reduce the risk of future unfunded liability accrual.

Accounting Method Changes: Accelerated Amortization of UAO

CalPERS and MCERA have both accelerated the timetable for paying down their unfunded liabilities or UAO. This has led to increased up-front costs for employers, but substantially reduces the cost of paying down pension debt—in the same way that a 20-year mortgage incurs less interest cost than a 30-year mortgage. (CalSTRS's accounting practices were effectively moot before the commencement of the state's funding plan in 2014, discussed later in this section.)
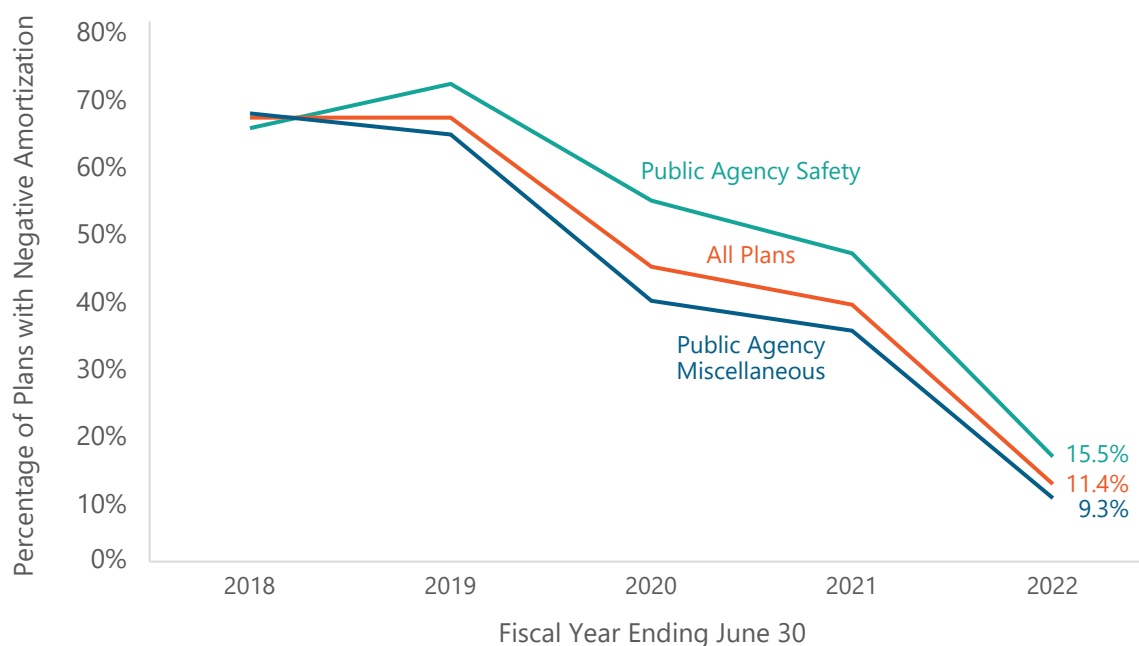
CalPERS: Accelerated Amortization and Frontloading of Payments

At the time of the 2008 financial crisis, CalPERS used a 30-year rolling amortization method. That is, each year the entire accumulated unfunded liability was re-amortized over 30 years. This is similar to refinancing a home with a 30-year mortgage every year. This practice is now frowned upon by the actuarial community because it defers a part of the pension cost to the next generation.[32]

Since 2008, CalPERS has shortened its amortization period twice. In 2012, CalPERS switched to close-ended 30-year amortization. Each year, the amortization period on the remainder of the original unfunded liability was shortened by one year. Newly accrued actuarial gains or losses—e.g., from surplus investment returns or reduced discount rates—were amortized separately over 30 years. (When surplus investment returns are amortized, the required "payments" are negative and reduce the total UAO payment.)

Then starting in 2018, the amortization period was slashed from 30 to 20 years, with a 5-year ramp-up for investment related gains and losses. CalPERS took an additional step, changing employer contribution calculations from a fixed share of payroll over time to a fixed dollar amount (level-payroll vs. level-dollar). The former is similar to a student loan payment plan that bases payments on a fixed percentage of income, with payments increasing over time as income grows. The latter is similar to a mortgage payment that starts off high in relation to income, but decreases in value over time due to inflation. This method frontloads costs, but has lower average payments. CalPERS phased in the impact of the new method between FY2018 and FY2022, resulting in significant rate increases. But it achieved its goal: the share of CalPERS Public Agency plans reducing their unfunded liabilities rapidly increased from about one-third in FY2018 to 89% in FY2022 (**Figure 12**).

Figure 12: Percentage of CalPERS Public Agency Plans with Negative Amortization of Unfunded Liability, FY2018-FY2022

Source: Chart reproduced from CalPERS 2021 Annual Review of Funding Levels and risks, p.23.

MCERA: Accelerated Amortization and Recognition of Deferred Investment Gains

MCERA changed its amortization method in a manner that helped defer some of the losses from FY2009, but led to faster paydown of unfunded liabilities accrued after FY2014. Before 2009, amortization periods varied across individual plans within MCERA: closed 24 years for the County and some special districts, rolling 15 years for the rest of the special districts, and rolling 16 years for Novato and San Rafael. In response to the extraordinary losses of FY2009, MCERA imposed several changes across all plans:

- Half of the 2009 losses were amortized over 30 years ending FY2039, but this UAO base would also be the first to get credit for surplus investment returns.

- All remaining unfunded liabilities were amortized over a uniform rolling 17-year period until 2014, when they would shift to a closed 17-year window.

- Subsequent additions or subtractions to the unfunded liability are amortized over closed 24 years, except for the impact of actuarial assumption changes amortized over 22 years.[33]

As of FY22, employers participating in MCERA have 17 years left on the special base for FY2009 extraordinary losses. The remaining pre-2014 unfunded liability base has only 7 years left on the payment schedule. As of the end of FY2021, MCERA was 104.5% funded, resulting in reduced employer contribution rates for FY2023 as recent investment gains begin to be reflected in contribution rates.[34]

CALSTRS Funding Plan

CalSTRS differs from most other public pensions in California in that its contribution levels are authorized by state statute, rather than by the pension fund itself. Teacher pension funding is also split between teachers, school districts, and the state. Prior to 2014, California had a policy of fixed contributions to CalSTRS as a percentage of teacher payroll, regardless of market conditions and actuarial experience. Teachers contributed 8%, and schools contributed 8.25%. While this essentially covered the normal cost of the plan, it did not cover the unfunded liabilities that CalSTRS accumulated through two successive recessions (2001 and 2008-2011).

In 2014, after more than a decade of inadequate contributions, the State of California enacted the CalSTRS Funding Plan to ensure 100% funding of the teacher pension system by 2046. The plan, which established supplemental employee, employer, and state contribution rates over 30 years, had three key components:

- The state took responsibility for unfunded liabilities in existence in 2014 that were associated with the basic teacher pension benefit formula enacted in 1990 (2% at 60).

- Schools are responsible for the employer share of the normal cost of benefits, as well as pre-2014 liabilities created by unfunded benefit enhancements enacted in the late 1990s and early 2000s. This portion of the unfunded liability has no underlying assets, and in fact includes debt to CalSTRS for unfunded benefits already paid out. The annual interest on this debt is set by the pension fund's actual rate of investment return.

- The 2014 statute increased rates incrementally for all three stakeholders from 2016 to 2021, and gave CalSTRS limited authority to adjust state, employer, and teacher contribution rates. FY2022 was the first year that CalSTRS was able to adjust the school contribution rate.

Because rate increases were phased in over several years, it was only in FY2018 that CalSTRS began to receive contributions roughly equal to actuarial need. Anticipating this, CalSTRS originally projected that its funding level would continue to decrease for several years, before starting to increase.[35]

Since its enactment, the state has made several one-time adjustments to the funding plan in response to state fiscal surpluses and school deficits. Each year from FY2019 to FY2022, the state contributed 1-2% of payroll on behalf of schools in order to lower their net obligation to CalSTRS. In addition, the state temporarily suspended its supplemental contributions for FY2021, and then made a supplemental contribution in FY2022 that made CalSTRS whole for this loss.

The pension fund's historic 27% investment return in FY2021 reduced the state's portion of the liability, but slightly increased the schools' UAO by increasing the interest on unfunded benefits paid out before 2014.

Notwithstanding the successes of the funding plan and CalSTRS's investment returns, some aspects of the plan require evaluation and amendment in order to ensure that CalSTRS meets its long-term goal of full funding. The Legislative Analyst Office (LAO) recently made the following recommendations:[36]

- Eliminate the current complex formula for allocating the UAO to the state and employers, and move to a straightforward percentage allocation.

- Allow CalSTRS greater flexibility to adjust state contribution rates as needed.

- Allow CalSTRS to amortize unfunded liabilities over a longer period if necessary, in order to minimize the cost impact of unfunded actuarial liabilities resulting from temporary market downturns when there are only a few years left in the amortization period.

4. Conclusion: Light at the End of the Tunnel

California's public pension funds and participating employers have experienced significant challenges since the 2008 financial crisis. Both employees and employers have had to bear higher costs to compensate for extraordinary investment losses in FY2009, and to make up for past under-funding of benefits. Contribution rates have also been increased by state-level reforms to ensure the long-term sustainability of the pension funds through more conservative assumptions and accounting rules. Employees are contributing more towards the cost of their pension, and employer costs for those hired since 2013 are 25-35% lower than for older hires.

These measures have borne fruit, stabilizing pension finances and putting CalPERS, CalSTRS, and MCERA on much stronger financial footing than a decade ago.

All three pension systems have turned a corner financially on reducing their unfunded liabilities. CalPERS, CalSTRS, and MCERA are currently receiving sufficient contributions to reduce their unfunded liabilities rather than accumulate interest (i.e., positive rather than negative amortization). MCERA, and some CalPERS Public Agency plans, are currently fully funded, and those that are not can expect their unfunded liabilities to decline over time. Importantly, the forward-looking financial trajectory of the three pension systems has been strengthened by significant accounting and funding policy reforms.

Employer contribution rates are stabilizing or decreasing. MCERA has already reduced employer contribution rates by about three percentage points for FY2023. CalPERS anticipates that average employer contribution rates will remain flat in FY2024 compared to previous projections, with some variation among plans. Rates are likely to decline for many employers in the following years, as the majority of FY2021 surplus returns are recognized for funding purposes. CalSTRS is several years ahead on its path to 100% funding by 2046, though the resulting rate reduction is enjoyed only by the state under its current funding policy for CalSTRS. The total employer (school district) contribution rate stabilized at 19.1% of payroll as of FY2020, and the main challenge for schools is the withdrawal of state subsidies to reduce the net employer contribution obligation to CalSTRS.

> " Further reductions in pension benefits for new hires will have relatively little impact on total employer pension costs, while exacerbating benefit inequality among employees.

A large majority of current taxpayer costs for pensions are tied to legacy unfunded liabilities, while the cost of benefit accrual by active employees is relatively modest and slowly trending down due to PEPRA limits on pensions for those hired after 2012. The policy implication of this finding is that further reductions in pension benefits for new hires will have relatively little impact on total employer pension costs, while exacerbating benefit inequality among employees.

Endnotes

1   Nari Rhee, "How Defined Benefit Pensions Support a Quality Public Sector Workforce in Marin County," Marin Pension Brief Series #1, UC Berkeley Center for Labor Research and Education, October 2021, https://laborcenter.berkeley.edu/marin-pension-brief-no-1/.

2   Dan Doonan and Ilana Boivie, "California Key Findings – Pensionomics 2021: Measuring the Economic Impact of DB Pension Expenditures," National Institute on Retirement Security, 2021, https://www.nirsonline.org/wp-content/uploads/2021/01/pensionomics2021_ca.pdf.

3   More precisely, the unfunded actuarial obligation is the present value of estimated pension benefits (net of the present value of future normal cost contributions), minus the value of assets.

4   As a Standard & Poor Credit Rating FAQ explains, "The FE [financial economics] methodology of approximating the intrinsic value of the benefit payments to an outside and independent third party at a specific point in time fails to provide the information necessary to understand actual cost implications to governments over time. ... a government cannot easily or efficiently be bought out, merged, transferred, or changed by other methods, and its primary stakeholders—the residents—are relatively intransient, leaving the assumptions required to apply FE and treat a government pension plan akin to a corporation difficult to justify." Todd N. Tauzer and Todd N. Kanaster, "Looking Forward: The Application of the Discount Rate in funding U.S. Government Pensions," S&P Global Ratings, September 13, 2018, p.2.

5   CalPERS, "Annual Comprehensive Financial Report – For Fiscal Year Ended June 30, 2021," p. 24, change in net fiduciary position. CalPERS also includes Legislator's Retirement Fund and Judges' Retirement Fund, which account for a tiny share of CalPERS assets and liabilities.

6   CalSTRS, "Annual Comprehensive Financial Report – For Fiscal Year Ended June 30, 2021", p.30; MCERA, "Financial Statements with Independent Auditor's Report for the Fiscal Year ended June 30, 2021," p. 11.

7   More precisely, assets available for pension benefits are divided by the "net pension obligation," which is the present value of projected pension benefits minus the present value of projected normal cost contributions. For an explanation of present value and normal cost, see Sidebar 1.

8   CalPERS ACFR, op cit.

9   CalSTRS, "2021 Annual Review of Funding Levels and Risks," p.23, https://www.calpers.ca.gov/docs/forms-publications/annual-review-funding-2020.pdf.

10   Ibid.

11   MCERA Financial Statements, op cit.

12   MCERA, "Actuarial Valuation Report as of June 30, 2020."

13   MCERA, "Actuarial Valuation Report as of June 30, 2021."

14   Ibid., p. 5.

15   CalPERS Asset Liability Management Review webinar, December 2, 2021. Recording available at https://www.youtube.com/watch?v=6oTU86b_NSw.

16   This excludes separate state contributions for a non-guaranteed program to supplement long-lived teachers' pensions when they lose more than 15% of their purchasing power due to inflation.

17   See CalSTRS, "June 30, 2020 Actuarial Valuation," p.35; CalSTRS Employer Directive 21-05.

18   California Department of Education, "K-12 Education" (Governor's Budget Summary), 2022, https://www.ebudget.ca.gov/2022-23/pdf/BudgetSummary/K-12Education.pdf; John Ferstenwald, "Senate, Assembly agree California schools should receive billions more in unrestricted funding," EdSource, April 29, 2022, https://edsource.org/2022/senate-assembly-agree-california-schools-should-receive-billions-more-in-unrestricted-funding/671244.

19   Actuarially equivalent benefits may have different benefit formulas but result in the same financial value under a given set of actuarial assumptions. For instance, a benefit formula might replace a greater percentage of final average salary than 2% per year of service, but require a later retirement age that reduces the number of years that benefits are collected.

20   Rhee (2021), op cit.

21   For Miscellaneous employees in benefit tiers that were already closed to new members before PEPRA was enacted, employers contribute 12-14% of pay. However, there are relatively few active employees left in these tiers.

22   Simple COLAs increase benefits by a percentage of the original benefit amount each year, with no compounding action. Over 25 years, an initial benefit of $1,000 with grow to $1,480 with a 2% simple COLA and $1,640.61 with a compound COLA. Assuming that inflation averages 2%, the benefit with the simple COLA will have lost almost 10% of its value, while the compound COLA benefit will have lost none. With an inflation rate of 2.5%, the same benefit will lose 20% of its original purchasing power in 25 years.

23   The loss of teacher pension purchasing power is mitigated by the Supplemental Benefit Maintenance Account (SBMA), a separate program within CalSTRS funded by the state. The program tops off teacher pension payments when they fall below 85% of original value. However, this benefit is subject to funding availability and is not guaranteed. The state currently contributes 2.5% of teacher payroll to this account.

24   AB821 - Chapter 1028, Statutes of 2000.

25   AB1933 - Chapter 1029, Statutes of 2000.

26   AB1509 - Chapter 74, Statutes of 2000. The supplemental benefit to which 2% teacher contributions were redirected is the Defined Benefit Supplement, a cash balance plan in which members accrue a guaranteed minimum interest rate (currently less than 2%). This is a voluntary program separate from the traditional CalSTRS pension.

27   Larger discount rate reductions were incrementally phased in. For instance, CalPERS incrementally reduced its rate from 8% to 7.75% to 7.5%.

28   CalPERS, "CalPERS Funding Risk Mitigation Policy Frequently Asked Questions," n.d., https://www.calpers.ca.gov/docs/alm-funding-risk-mitigation-policy-faq.pdf.

29   Pension discount rates are derived from the expected return on investments. Thus, discount rate changes can result from changes in how pension funds invest (asset allocation policy) and/or changes in assumptions about how pension assets will perform (capital market assumptions). After 2008, all public

pension funds reshaped their portfolios in response to increased market volatility and expected low returns on bonds and Treasuries. CalPERS led the way in shifting to a more conservative asset allocation, which means lower expected returns but also less volatility and less risk of loss. This is reflected in CalPERS's 21.3% return in FY2021, which is lower than those of CalSTRS and MCERA. Recent reductions in discount rates have been driven by consensus predictions of lower returns across the market.

30   At the same time, the required contribution per dollar of unfunded liability goes down, because the interest in this debt has been lowered.

31   CalPERS adopted SOA MP-2016 mortality improvement projection scales in 2017, and MP-2020 in 2021.

32   "Actuarial Funding Policies and Practices for Public Pension Plans," Conference of Consulting Actuaries Public Plans Community working paper, October 2014, https://www.ccactuaries.org/docs/default-source/papers/cca-ppc_actuarial-funding-policies-and-practices-for-public-pension-plans.pdf.

33   MCERA County Actuarial Valuation, FY2010, p. 31.

34   MCERA FY2021 actuarial valuation.

35   CalSTRS, "Report to Legislature on the Progress of the CalSTRS Funding Plan," June 2019, https://www.calstrs.com/files/47514d1c3/calstrsfundingplanreport.pdf.

36   LAO, "Update on the Progress of the CalSTRS Funding Plan," Budget and Policy Post, November 18, 2021, https://lao.ca.gov/Publications/Report/75; LAO, "Strengthening the CalSTRS Funding Plan," March 10, 2021, https://lao.ca.gov/Publications/Report/4400.

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