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**Changing Tracks? The Prospect for California  
Pension Reform**

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**Abstract**

Though they cover one-tenth of all adult Californians, the state's two largest pension funds face a bleak future, with a combined deficit in the hundreds of billions of dollars. In this paper, we examine the politics and policies behind the state's pension train wreck, identifying two primary causes of the crisis. First, re-election minded officials have systematically underfunded the state's public pensions in an effort to balance the budget. Second, to make up for this underfunding, pension administrators have taken on increasing risk, investing a majority of the systems' assets on corporate stocks. This voter-sanctioned policy shift has exposed the pension funds, and their government sponsors, to increasing stock market volatility, resulting in growing pension payments at precisely the moment that state and local governments can least afford to make them.

**Keywords:** California budget, pension reform, fiscal oversight

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# Changing Tracks? The Prospect for California Pension Reform

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## Introduction

Between them, the California Public Employees' Retirement System (CalPERS) and the State Teachers' Retirement System (CalSTRS) manage the pension and disability benefits of nearly three million Californians. One of out every nine adult residents of the state is a member of one of these public pension plans. Yet, despite their economic influence and political importance, both CalPERS and CalSTRS currently find themselves in their most precarious financial positions in decades. One recent analysis has estimated their combined unfunded liabilities in the hundreds of billions of dollars (Bornstein et al. 2010), and a growing number of policymakers and observers have argued that significant pension reforms are needed to protect the financial solvency of the state's public pension systems.

Press accounts generally point to two explanations for the unprecedented gap between the retirement benefits promised to California public-sector employees and the assets CalPERS and CalSTRS currently have on hand to pay for them. The first is the pension benefit increases granted to employees in 1999 by the Democratic state Legislature and then-Gov. Gray Davis (Walters 2010). Under this view, elected officials—working to curry favor with powerful public employee unions—rushed to award generous pension benefits without providing for the necessary contributions to pay for them. This explanation is consistent with political theories predicting that elected officials will pursue policies to satisfy narrow but political powerful interest groups even if doing so results in poor public policies that diverge from the will of the broader electorate (e.g., Heclo 1978; Moe 2006; Moe 2009; Schattschneider 1960).

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Second, both CalPERS and CalSTRS suffered massive losses in the wake of the 2008 financial crisis, collectively losing \$100 billion, or nearly 25 percent of their total assets, between June 2008 and June 2009 (Bornstein et al. 2010). Combined with the steep declines after the implosion of the dot-com bubble, many observers claim that recent macro-economic forces are to blame for the pension systems' unfunded liabilities. This argument has been used to justify new "smoothing" accounting methods that spread the impact of the recent losses over a period of years by averaging recent investment performance, thus reducing the immediate budgetary impacts of losses on state and local government budgets (Mendel 2010).

While both of these factors have undoubtedly contributed to the deterioration of the balance sheets of state's two largest pension plans, we identify a third explanation: systematic changes in the way California governments fund and manage public pensions. Using longitudinal data spanning more than two decades, we document two important policy choices that have contributed to the underfunding of CalPERS and CalSTRS and increased their exposure to macro-economic volatility. Over the past 30 years, both systems have become increasingly reliant on investment earnings—in particular, appreciation in the value of assets—to fund retiree benefits. In the early 1980s, employee and employer contributions represented nearly 60 percent of new assets added to the pension systems in any given year. Yet by the late 1990s, contributions represented less than one-fifth of new assets, while investment earnings made up roughly 80 percent. Almost 60 percent of those earnings were produced by appreciating prices, rather than more stable revenue sources such as dividends and interest payments. We find little evidence that this shift toward earnings was the result of improved investment performance.

Although return on investment did not increase markedly during this period, both CalSTRS and CalPERS dramatically shifted their investment strategies, embracing greater risk. Since the 1980s, both systems have moved their portfolios away from bonds and mortgages toward corporate stocks. While this change in strategy did not directly produce pension underfunding, it greatly increased the systems' exposure to stock market volatility and amplified the impacts of the 2001 and 2008 recessions, increasing state and local governments' contributions at precisely the moment they could least afford to pay them.

We also provide evidence that electoral politics, rather than interest group capture, served as the primary driver of pension underfunding in California. Our findings provide new evidence that public officials are indeed "deferring a portion of current labor costs in the form of unfunded pensions in order to provide a higher level of services to current taxpayers without having to raise current taxes" (Marks, Raman, and Wilson 1998, p. 176). Since at least the administration of Gov. Jerry Brown, elected officials have turned to the state's pension funds to provide budgetary relief at times of fiscal scarcity.

By the early 1990s, these efforts reached new heights, including Gov. Pete Wilson's failed attempt to take control of the CalPERS board and gain the power to appoint the system's actuary. Our data allow us to explore the causal mechanism linking state fiscal stress to public pension underfunding, one of the most robust correlations in the public finance literature (Chaney, Copley, and Stone 2002; Cogburn and Kearny 2010; Eaton and Nofsinger 2004; Mitchell and Hsin 1994; Mitchell and Smith 1994; Munell, Haverstick, and Aubry 2008; Schneider and Damapour 2002).

We conclude by considering the policy implications of the recent underfunding trends. Though benefit increases may have indeed pushed the pension systems closer to insolvency, our findings suggest that reforming government employee pensions alone will not be sufficient to ensure the long term viability of CalPERS and CalSTRS. With California's state budget facing deficits in the billions of dollars into the foreseeable future, these funds will continue to serve as attractive sources of short-term fiscal relief, though at a significant long-term costs. Indeed, it appears that ongoing efforts to "smooth" the losses from recent stock market declines represent a continuation of policies that attempt to reduce state and local governments' current pension contributions, only to shift these costs further into the future.

Of course, massively underfunded public pension funds are not phenomena unique to California. Retirement systems across the country—including the federal Social Security system—face daunting deficits that recent estimates suggest reach into the trillions of dollars (e.g., Bloomberg 2009; Rauh 2010). Yet, in most cases, we believe the cause of these deficits is the same: In the face of short-term re-election incentives, elected officials everywhere—whether city council members, state legislators, or members of Congress—have viewed the assets held in trust by retirement system administrators as attractive sources of money, shamelessly raiding these funds to balance their budgets by vastly underfunding their own contributions. For a period of time, healthy returns on investment largely kept the effects of underfunding hidden below the surface. Not until the last recession did the full scale and consequences of underfunding become a salient focus of political debate.

Unfortunately, few of the ideas emerging from this debate are likely to produce permanent solutions for closing the vast deficits. Though many political elites have proposed wide-ranging pension reforms, including both candidates vying to become California's next governor, these policy changes will likely produce only a portion of savings needed to balance the books of the state's retirement systems. And permanent solutions to the growing pension crisis are surely needed. If nothing is done, pension systems across the country will, sometime in the not-so-distant future, be forced to begin selling off their assets to make their annual benefit payments. This selloff is likely to occur around the same time for many plans, producing a market panic that will further devalue the assets of the retirement systems,

creating a downward spiral that will produce great pain not only for retirees and public employees, but also the taxpayers who are these plans' final guarantors.

### **Financing Pensions in California**

It is difficult to overstate the economic and political importance of CalPERS and CalSTRS to California government. As a system for public school educators, CalSTRS manages the retirement and disability benefits for roughly 1,700 school districts, community college systems, county offices of education, and regional occupation programs across the state. The vast majority of all other public employees are covered by CalPERS, whose membership includes employees of more than 1,500 state and local government agencies and administrative employees at more than 1,400 school districts. Though a small number of local and special-purpose governments sponsor their own retirement plans, many of them have closed their pensions to new members and have instead joined one of the two big systems.

Both systems provide public employees with "defined-benefit" retirement plans. Under these plans, employees can retire with predefined annuity payments after reaching the minimum retirement age and working the minimum number of years required by rules of their plans. Their annual pension benefit is based on age at retirement, number of years worked, and the salary received at the end of their career. The benefits are frequently revised to provide for a cost-of-living adjustment.

Money to pay the benefits comes from three main sources. First, employees contribute a set percentage of their wages into the pension system during the course of their working lives. Second, employers, including the state government, make an annual required contribution. Set as a percent of total payroll expenses, the employer contribution is calculated by pension actuaries based on the current funding status of the pension systems, the projected salaries of employees at retirement, life expectancy, and the expected return on investment for existing assets. Finally, the pension systems invest the employee and employer contributions—and existing assets—to maximize returns.

Given the long time horizon between initial employment and retirement, these plans take advantage of compound interest to reduce the out-of-pocket costs of pension benefits for the government agencies that sponsor them. While CalPERS' actuaries calculate the required contributions from various state agencies and local governments for plans under its management, the annual employer contribution for CalSTRS comes from the state General Fund at a rate set by statute. Changes to these statutes must secure approval from state legislators and the governor.

In practice, the line between the employees' and the employers' contributions is thin. Labor contracts negotiated between employee unions and public agencies usually require the employers to "pick up" a portion of their employees' contribu-

tions. These “pick-ups” reduce the amount employees must contribute and increase the employer costs.

To insulate the management of the pension systems from political influence, both CalPERS and CalSTRS are governed by independent boards of directors. CalPERS’ 13-member Board of Administration includes six directors elected by active and retired employees, two directors appointed by the governor and one director appointed jointly by the Speaker of the Assembly and the state Senate Rules Committee. Four state officials—the state treasurer, controller, director of the state’s Department of Personnel, and a member designated by the State Personnel board—serve as *ex-officio* members. The 12-member Teachers’ Retirement Board includes five gubernatorial appointees, three people elected by current educators, and four *ex-officio* members, including the state Superintendent of Public Education.

Independent administration, however, has not been sufficient to protect pension assets—collectively, CalPERS and CalSTRS control hundreds of billions of dollars worth of investments—from desperate lawmakers at times of harrowing budget deficits. In the early 1980s, for example, Gov. Jerry Brown attempted to divert \$100 million in CalPERS funds to help balance the state budget (Vellinga 1992). Though Brown’s plan was eventually rejected by the courts, Gov. Pete Wilson again set his sights on the pension fund in the early 1990s. Facing a budget deficit of nearly \$15 billion in 1991, Wilson used \$1.9 billion in CalPERS reserves to reduce the state’s required contribution to the pension system.

Governor Wilson also proposed legislation to revamp the CalPERS’ Board of Administration by giving himself the power to appoint a majority of its members. The proposal failed, though lawmakers did pass legislation giving the governor the power to hire the pension system’s actuary—the official in charge of calculating the state’s annual pension payment. This change was short-lived, however. Proposition 162, a labor-backed constitutional amendment approved by voters in 1992, reaffirmed CalPERS’ power to hire its own actuary and provided employees with a right to actuarially sound pensions.

Despite strong opposition from the CalPERS board, California courts refused to block Wilson’s \$1.9 billion diversion. This one-time relief, however, did little to fix the underlying structural gap in the state budget. In 1992, the state again faced a significant budget deficit, and Wilson again turned to the pension system for help. The legislature passed and Wilson signed a new law altering the payment schedule used by the state to make its pension payments. Under the new schedule, the state would make twice-yearly payments to cover its annual required CalPERS contribution.

Because the law specified that payments would be made six months in arrears, the contribution for fiscal year 1992 would not be made until July 1993, the start of the next fiscal year, providing one-time savings for the state budget (Walsh 1997).

In June 1993, before any payments could be made under the new schedule, the state adopted another law specifying that the pension contribution would instead be made *12 months* in arrears, further delaying the payment (Walsh 1997). It would take the pension system almost five years of lawsuits to recover the more than \$700 million in funds it was shorted as a result of the delays.

While the diversions proposed by Brown and Wilson represented the most brazen state attempts to use pension assets to balance the state budget, broader and more gradual trends suggest that the state has been largely successful in minimizing its contributions to CalPERS and CalSTRS in recent decades. Figure 1 provides a summary of the combined employee and employer contributions into the two systems taken from annual data collected by the State Controller's Office. In 1981, more than 60 cents of every dollar added into the CalPERS system came from funds contributed by state and local governments and their workers. A decade later, employees and employers were contributing just 21 cents of every dollar, a decline that would continue during the course of the 1990s. In 2000, state and local governments and their employees collectively contributed just under \$2.1 billion into CalPERS—\$500 million less (in nominal dollars) than the combined employee/employer contribution 15 years earlier.<sup>1</sup> During the same 15-year period, the average CalPERS benefit payout had grown more than two-fold. CalSTRS contributions followed generally similar trends.

Both pension systems have, over time, become increasingly reliant on investment earnings. As Figure 2 indicates, both CalPERS and CalSTRS were receiving nearly 80 percent of their new funds from investment returns by the late 1990s. One potential explanation for this stark reversal is that both systems simply became better investors, reaping significantly higher returns than they had in the early 1980s.

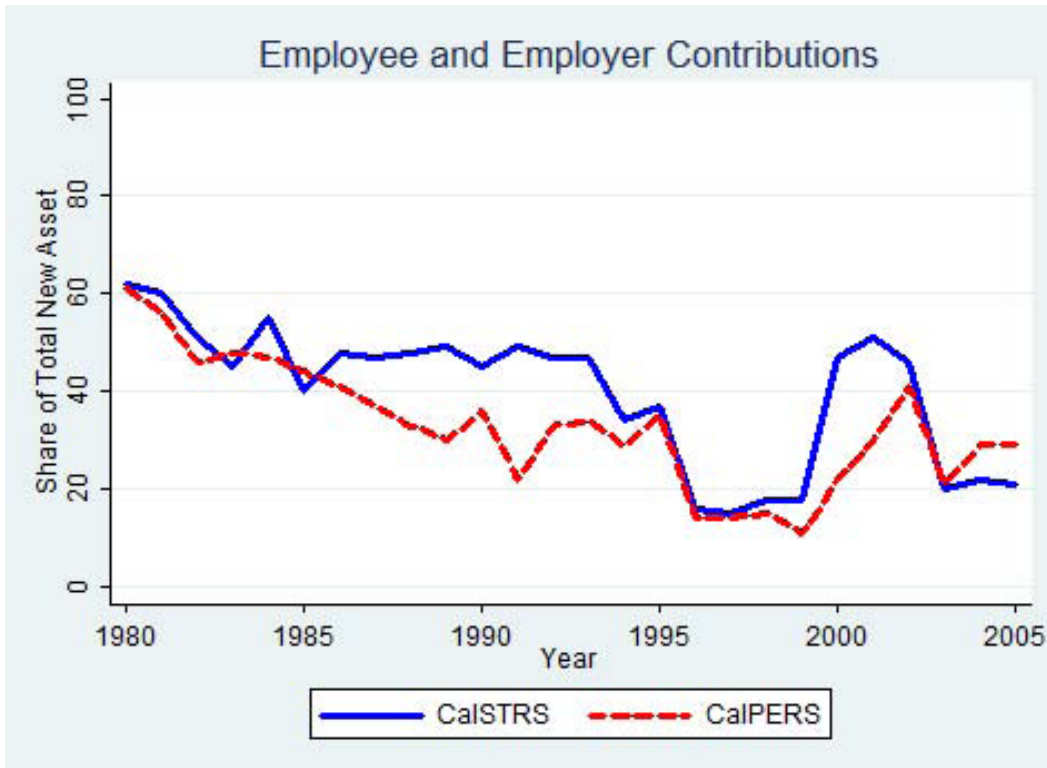
Figure 3, which plots each system's investment earnings as a percent of assets held at the beginning of the fiscal year, shows that this is clearly not the case. Indeed, with the exception of the late 1990s, when investment earnings rose, the trend line in Figure 3 is remarkably flat. Between 1985 and 1995, investment earnings at both systems actually *declined*. Indeed, there is little evidence that CalPERS and CalSTRS increased their reliance on earnings because their investment performance was improving.

### **Risk and Reward**

While California's public pension systems have not seen sharp improvements in their investment earnings over the past 30 years, they have fundamentally changed their investment strategies to take on greater risk. These changes have been made possible by the voter-sanctioned evolution of state law. In 1966, voters amended the state constitution to repeal its prohibition against using public funds to purchase



**Figure 1. Employee and Employer Contributions.**

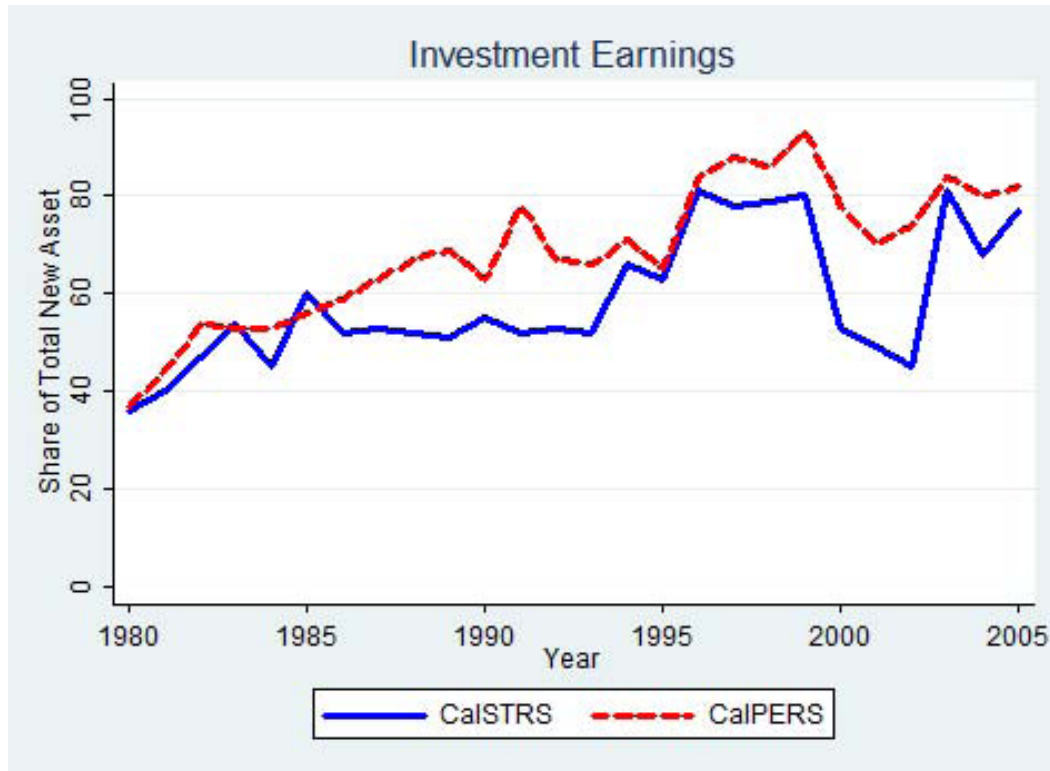


Source: California State Controller, Public Retirement Systems Annual Report, Various Years

corporate stocks. Instead, Proposition 1 allowed public pension funds to invest up to 25 percent of their assets in large, publicly listed companies with a history of paying regular dividends. In 1984, voters approved another amendment, Proposition 21, scrapping the 25-percent cap and the requirement that investments be limited to companies with a history of paying consistent dividends, allowing pension funds to invest unlimited amounts of money in the stock market.

As can be seen in Figures 4, 5, and 6, the latter change had significant impact. Bonds, which represented nearly half of the pension funds' assets in the early 1980s, declined to less than a fifth of their investment portfolios a decade and a half later. In the face of falling interest rates, both systems dramatically increased their investments in stocks.<sup>2</sup> A mere 20 percent of the pension portfolios in the early 1980s, equities have come to dominate the assets of both CalPERS and CalSTRS. By the late 1990s, corporate stocks made up almost 60 percent of the pension systems' assets, a figure that dropped only slightly after the 2001 recession. Mortgages, once a significant portion of the systems' portfolios, now represent a small part of their

Figure 2. Investment Earnings, Excluding Investment Losses



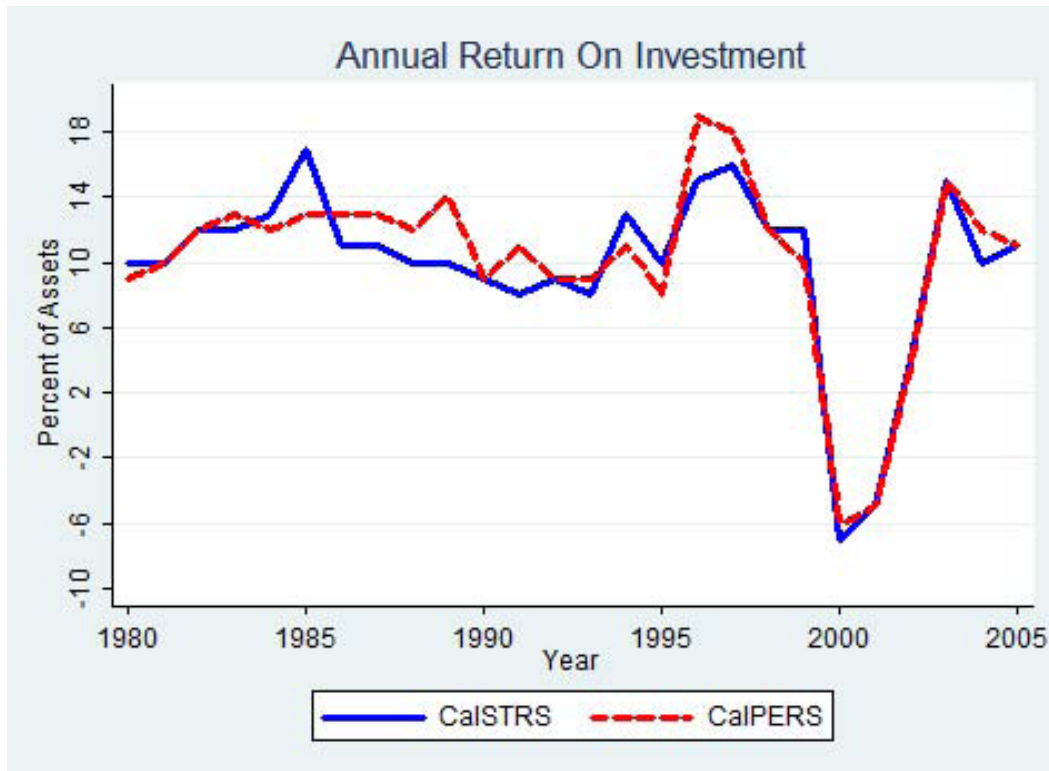
Source: California State Controller, Public Retirement Systems Annual Report, Various Years

assets. Remaining assets include real estate holdings, venture capital, and other, more exotic, types of investments.

Changing investment strategies have transformed the types of earnings CalPERS and CalSTRS use to fund employee benefits. Increasingly, the funds have abandoned fixed-income securities, which provide a steady and predictable flow of revenue from dividend and interest payments, and have instead speculated on the value of the underlying assets. By the mid-2000s, asset appreciation was responsible for more than half of the pension funds' investment earnings. In 2003, for example, employee and employer contributions added \$6.5 billion into CalPERS. Appreciation in the value of assets, on the other hand, totaled \$18.5 billion.

This shift has had momentous consequences, not only for the finances of the pension funds themselves but also for the government agencies that sponsor the plans under their management. While investment earnings from fixed-income securities are generally bounded by zero—in the worst year, investments may pay few dividends and bring in no interest payments—assets can actually *depreciate* in

**Figure 3. Annual Return on Investment**



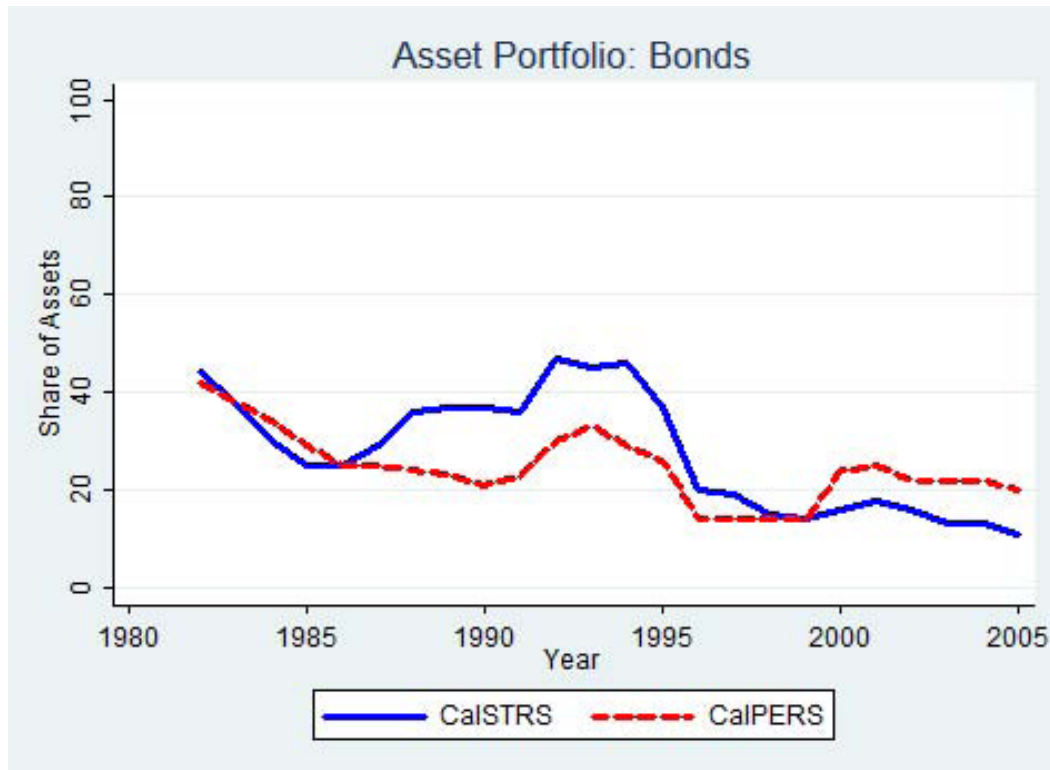
Source: California State Controller, Public Retirement Systems Annual Report, Various Years

price, wiping out not only their current value but all of the compounded interest that had been assumed by actuaries just the year before. This happened in 2001, when CalPERS and CalSTRS suffered losses during the recession, and again in 2008, when both systems were hammered by the global financial crisis.

Asset depreciation immediately and significantly reduces the funded status of the pension systems, triggering a significant increase in the required employer contributions. Of course, because asset depreciation is most likely to occur on the downward part of economic cycle, around the same time that lower tax returns increase pressure on public finances, higher pension contributions arrive at precisely the moment that government agencies can least afford to pay them. This greatly increases the political pressure to underfund.

While increasing the share of pension fund assets invested in the stock market has allowed CalPERS and CalSTRS to reap significantly higher returns than would have been possible otherwise, the dominance of equities in their investment portfolios has greatly amplified the funds' exposure to the macro-economic cycles and dramatically increased the volatility in both investment returns and employer con-

**Figure 4. Percent of Assets Invested in Bonds**



Source: California State Controller, Public Retirement Systems Annual Report, Various Years

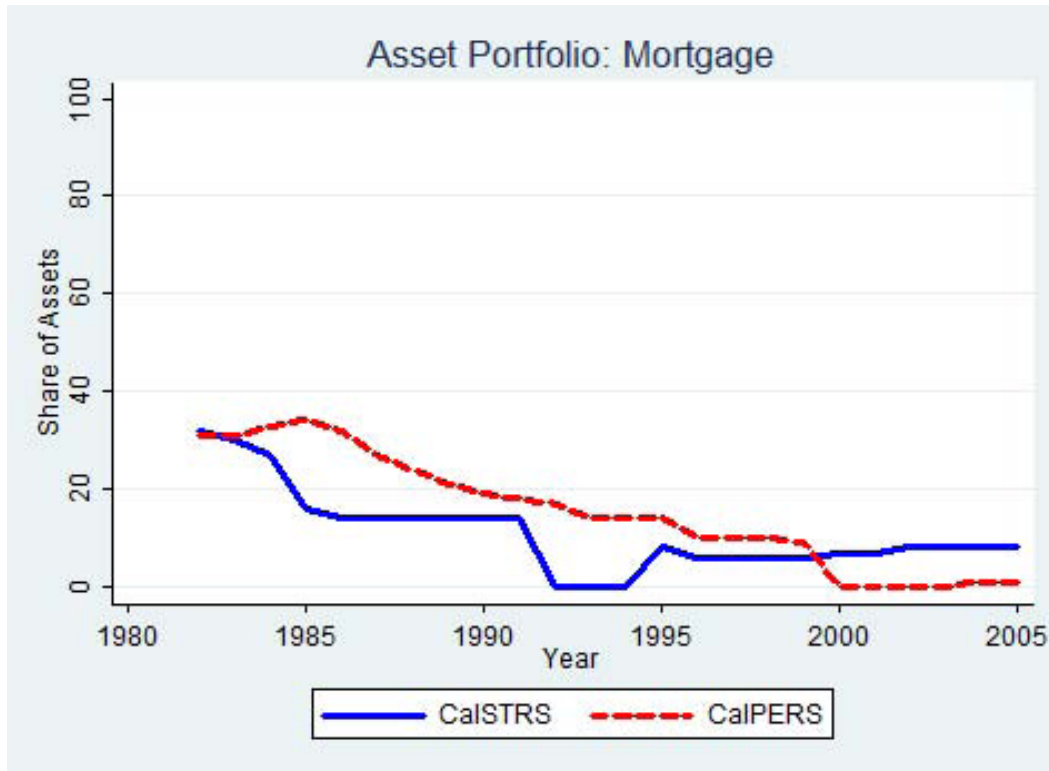
tributions. Indeed, pension fund investment decisions have greatly amplified the effects of economic cycles on the finances of state and local governments, whose required contributions now rise at the same time that the revenue available to pay them declines.

Efforts to postpone the impact of pension asset losses by recognizing them over a period of years—the “smoothing” methods used by the pension funds after both of the recent recessions—have precisely the same effect as delays sought by state lawmakers during the Wilson years, deferring increases in state payments at times of fiscal stress. Because asset gains during good years have not been similarly “smoothed,” these policies increase the underfunding of the pension plans.

### **Pension Jackpot?**

In recent months, debates about improving the solvency of California’s public pension systems have generally focused on reforming the systems to reduce the cost of pension benefits to government agencies. For example, Gov. Arnold

**Figure 5. Percent of Assets Invested in Mortgages**



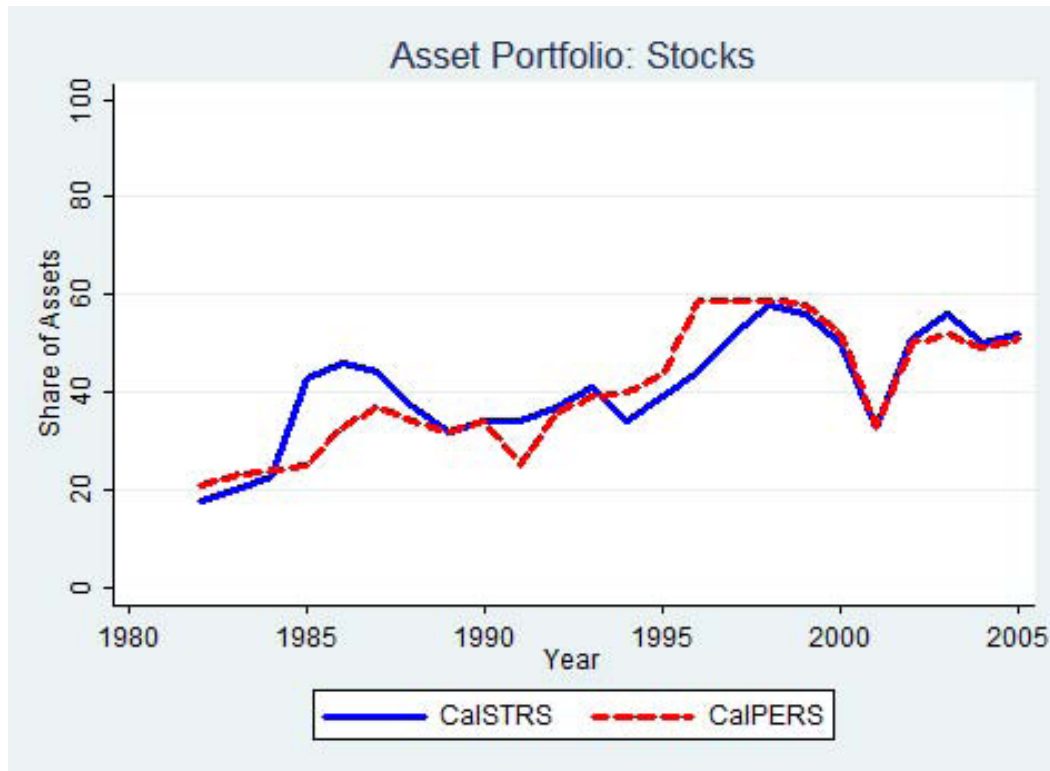
Source: California State Controller, Public Retirement Systems Annual Report, Various Years

Schwarzenegger recently won approval from several public employee unions to create two-tier pension plans that provide lower levels of benefits for new hires. Such proposals generally assume that the generous benefit increases granted in 1999 are the primary cause of current deficits, ignoring the role of state underfunding and changes in investment strategies outlined in this paper.

While benefit payments have indeed increased in recent years, we have found little evidence that retiree benefits have become significantly more generous. Figure 7 compares growth in the average benefit payout—total benefit payments divided by the total number of beneficiaries—for the two pension systems against growth in California personal income.<sup>3</sup> The data suggest that, between 1980 and 2000, benefit payments grew no faster than general income. While benefits began to outpace income in 2000, the growing gap appears to be driven primarily by the *decline* of California wages as a result of the 2001 recession rather than the modest increases in benefit payouts.

The data presented in this paper are not meant to suggest that the public officials should not continue with their efforts to win concessions from employees to

**Figure 6. Percent of Assets Invested in Stocks**



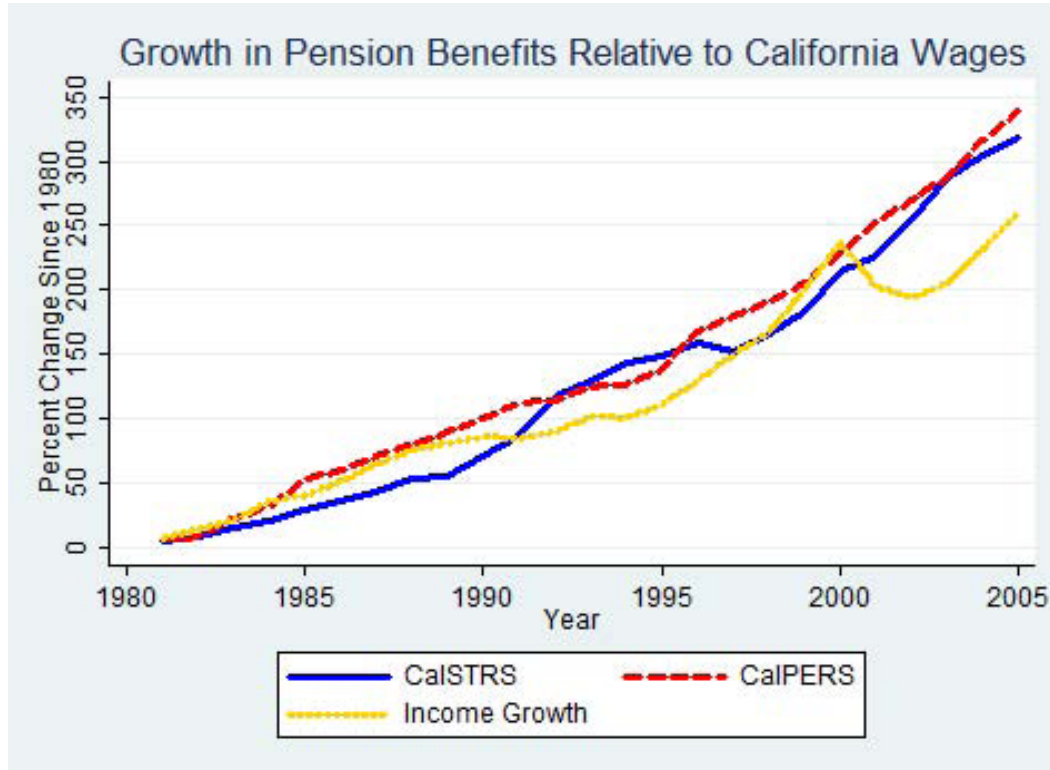
Source: California State Controller, Public Retirement Systems Annual Report, Various Years

improve the solvency of California's public pensions. However, they do provide evidence that lawmakers, driven by short-term electoral calculus, and pension administrators, rather than public employees, deserve the primary blame for allowing the systems' finances to deteriorate to where they are today.

### Discussion and Conclusion

Since the early 2000s, the state of California has faced a near-constant fiscal crisis. Year after year, lawmakers have struggled to close gaping budget deficits that dwarf the problems confronted Gov. Wilson in the early 1990s. Though recent recessions are the most proximate causes of this crisis, changes in public finances since the late 1970s have greatly constrained lawmakers' ability to permanently balance the budget. Since the approval of Proposition 13 in 1978, which limited local property taxes, the state General Fund has become a significant source of funds for local governments. In 1988, voters also passed Proposition 98, earmarking at least 40 percent of the state budget for K-14 public education.

**Figure 7. Growth in Average Pension Payment vs. Income Growth among All Californians**



Sources: California State Controller, Public Retirement Systems Annual Report, Various Years; California Franchise Tax Board

The evidence presented in this article suggests that policy decisions made during this era of growing fiscal scarcity have fundamentally changed how California governments fund the pension benefits promised to their employees. With increasing pressure on state and local budgets, CalPERS and CalSTRS have come to rely almost exclusively on investment earnings, rather than employer contributions, to pay retirement benefits to public-sector workers. In their race for earnings, these funds have largely abandoned fixed-income investments, the traditional staples of public pension funds, in favor of riskier bets on the appreciation of assets. These changes have greatly increased the pension funds' exposure to macro-economic cycles, precipitating the funding crisis that has followed huge asset losses in the 2008 recession.

As a result, California's public pension funds now face a vicious cycle of underfunding. During good years, strong investment earnings allow the state and local governments to shortchange their contributions into the pension systems. Yet dur-

ing years of stock market decline, when their required contributions are expected to rise to make up for poor investment performance, plan sponsors have even less revenue on hand and face other unpopular program cuts. At a time when constituents face police layoffs, library closures, and rising college tuition, making a significantly larger pension contribution is simply not a politically feasible alternative for elected officials.

Despite increased public appreciation for pension liabilities facing California governments, and growing political momentum for pension reform, there is little evidence that the state is prepared to reverse these trends and make the pension payments necessary to avert a solvency crisis at the pension funds. Instead, pension fund administrators have simply become more creative in finding ways to defer government contributions—one of the central causes of the current crisis—by adopting new “smoothing” methods to delay the impact of the recent asset losses. With the state government continuing to face significant budget deficits years into the future, larger pension payments will require lawmakers to decrease spending on popular programs or to increase taxes. Because both alternatives remain hugely unpopular among their constituents, we see little light at the end of the tunnel.

We believe short-run electoral incentives will push California state and local governments to deal with this new political and fiscal reality in three ways. First, they will continue to underfund public pensions, either by adopting more optimistic actuarial assumptions, continuing their practice of averaging investment earnings during bad years, or selling “pension-obligation bonds” that simply pass the cost of pension benefits on to future generations. Second, the state will implement a new tax on public-sector retirement benefits, an effort to claw back a portion of the funds paid to current retirees to offset the state’s obligation to current and future employees. Third, pension fund administrators will “gamble for resurrection” (Romer and Weingast 1991)—investing in ever-riskier assets in the hope that these will produce bigger returns that can offset the growing deficit and pension payments. All of these represent poor public policies, and none will solve the problem.



## References

- Bornstein, H., S. Markuze, C. Percy, L. Wang, and M. Zander. 2010. "Going for Broke: Re forming California's Public Employee Pension Systems." Stanford Institute for Economic Policy Research, Stanford University.
- Chaney, B. A., P. A. Copley, and M. S. Stone. 2002. "The Effect of Fiscal Stress and Balanced Budget Requirements on the Funding and Measurement of State Pension Obligations." *Journal of Accounting and Public Policy* 21(4-5): 287–313.
- Cogburn, J. D., and R. C. Kearney. 2010. "Trouble Keeping Promises? An Analysis of Underfunding in State Retiree Benefits." *Public Administration Review* 70(1): 97–108.
- Eaton, T. V., and J. R. Nofsinger. 2004. "The Effects of Financial Constraints and Political Pressure on the Management of Public Pension Plans." *Journal of Accounting and Public Policy* 23(3): 161–89.
- Evans, D. 2009. "Hidden Pension fiasco May Foment another \$1 Trillion Bailout." Bloomberg.
- Heclo, H. 1978. "Issue Networks and the Executive Establishment." In *The New American Political System*, ed. Anthony S. King. Washington: American Enterprise Institute.
- Marks, B. R., K. K. Raman, and E. R. Wilson. 1998. "Toward Understanding the Determinants of Pension Underfunding in the Public Sector." *Journal of Accounting and Public Policy* 7: 157–83.
- Mendel, E. 2010, June 18. "Calpers State Rate Up 18 Percent: How High Will It Go?" CalPensions. <<http://calpensions.com/2010/06/18/calpers-state-rate-up-18-how-high-will-it-go/>>.
- Mitchell, O. S., and P. L. Hsin. 1994. "Public Pension Governance and Performance." NBER Working Paper 463.
- Mitchell, O. S., and R. S. Smith. 1994. "Pension Funding in the Public Sector." *Economics and Statistics* 76 (2): 278–90.
- Moe, T. M. 2006. "Political Control and the Power of the Agent." *Journal of Law, Economics, and Organization* 22(1): 1–29.
- . "Collective Bargaining and the Performance of the Public Schools." *American Journal of Political Science* 53(1): 156–74.
- Munnell, A. H., K. Haverstick, and J.-P. Aubry. 2008. "Why Does Funding Status Vary among State and Local Plans?" Center for Retirement Research, Boston College.
- Rauh, J. D. 2010. "Are State Public Pensions Sustainable? Why the Federal Government Should Worry about State Pension Liabilities." Available at SSRN: <<http://ssrn.com/abstract=1596679>>.

- Romer, T., and B. R. Weingast. 1991. "Political Foundations of the Thrift Debacle." In *Politics and Economics in the Eighties*, ed. Alberto Alesina and Geoffrey Carliner. Chicago: University of Chicago Press.
- Schattschneider, E. E. 1960. *The Semi-Sovereign People: A Realist's View of Democracy*. New York: Holt, Rinehart, and Winston.
- Schneider, M., and F. Damanpour. 2002. "Determinants of Public Pension Plan Investment Returns: The Role of Fund Value Maximization and Public Choice Theory." *Public Management Review* 3(4): 551–73.
- Vellinga, M. L. 1992, February 20. "Pension Fund Suit Hits Court." *Sacramento Bee*, G1.
- Walsh, D. 1997, February 21. "Pers Due Its Cash, State Told." *Sacramento Bee*, A1.
- Walters, D. 2010, April 5. "Big Pension Increases Bite Back." *Sacramento Bee*, A3.
- Weller, C. E., and J. B. Wenger. 2009. "Prudent Investors: The Asset Allocation of Public Pension Plans." *Journal of Pension Economics and Finance* 8, 501–25.

**Notes**

<sup>1</sup> We focus on the combined employee/employer contribution because, as we describe above, state and local agencies “pick up” a portion of their employees’ contributions.

<sup>2</sup> As Weller and Wenger (2009) document, most public pension funds shifted their investments toward equities by the mid-1990s.

<sup>3</sup> California wages are calculated as total income reported to the California Franchise Tax Board divided by the number of income tax filers.