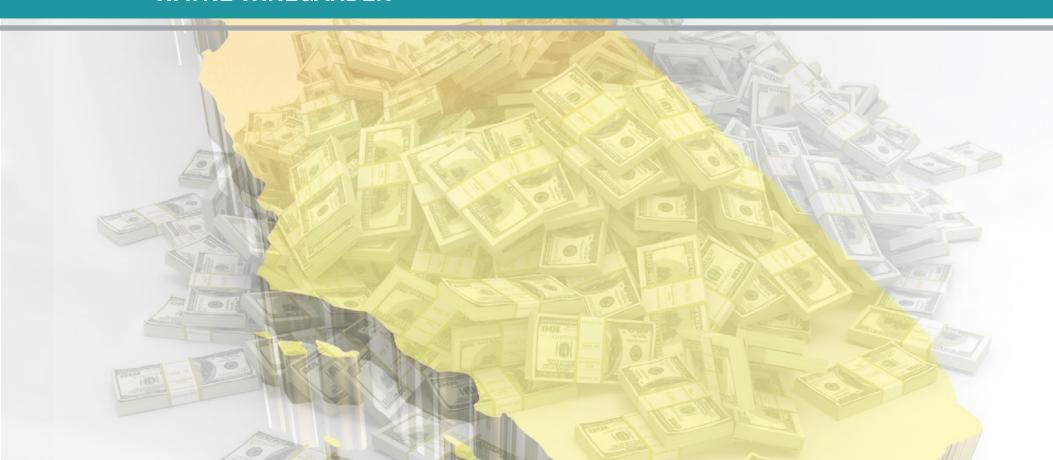


Reforming Public-Sector Pensions to Improve California's Fiscal Outlook

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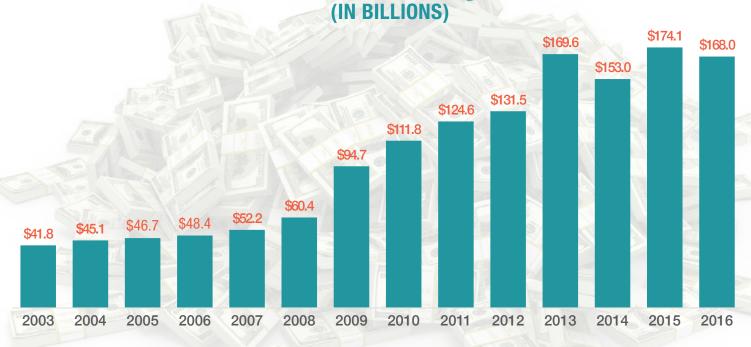
In addressing prevalent economic misnomers, Milton Friedman often employed the saying "there ain't no such thing as a free lunch". His wisdom needs to be applied to California's pension crisis. Advocates for the status quo continually ignore the very costly bill that Californians will be forced to cover if we continue down our current path.

Perhaps just as importantly, since the pensions offered to California's public-sector workers are overlygenerous, reforms are possible that will ensure that these pensions are affordable for taxpayers and also that public sector workers have a secure retirement.

There is a limited window to act, however, because over time this win-win scenario becomes harder to implement. The purpose of this chartbook, and accompanying report, is to help encourage a positive solution to this impending crisis.

These changes are only possible if lawmakers have the political will to enact meaningful reforms.

California's state pension debt remains near historic highs.



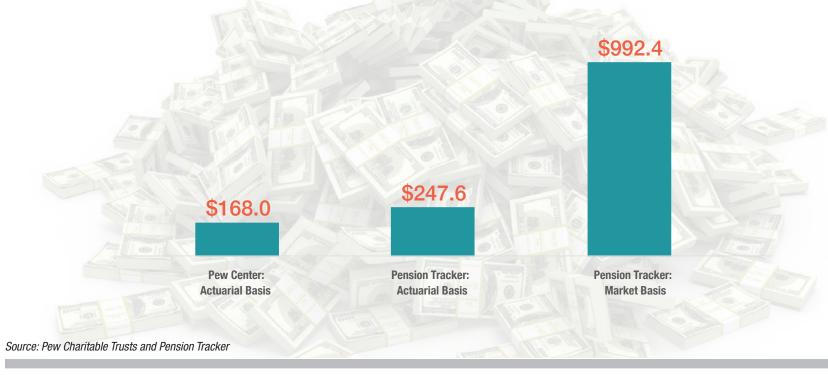
Source: Pew Charitable Trusts

California's state government consistently failed to make the required contributions to its public pensions while offering current and former employees overly-generous benefits. The result is the persistent unfunded liabilities associated with California's public pensions.

California's unfunded pension liabilities spiked following the Great Recession, and have remained unsustainably high ever since.

Accounting for market risk, debt is 4x as high





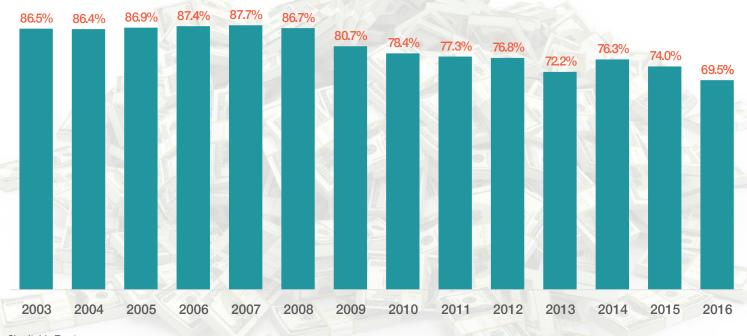
California's estimated unfunded pension liabilities vary depending on how the liabilities are estimated – an actuarial basis (as reported by Pew Charitable Trusts) or a market basis (appropriately accounting for risk, as estimated by Pension Tracker).*

On a market basis,** California's unfunded pension debt is four times as high.

^{*} Note: Pension Tracker includes some local pension funds that the Pew Charitable Trusts does not include, which is why Pension Tracker actuarial estimates are higher than Pew Center's.

^{**} A market basis accounts for the risk discrepancies between the funds' assets & liabilities, which differs from an actuarial basis that uses the expected returns on assets to value the liabilities.

California is not reducing its debt burden – in fact, it's getting worse.

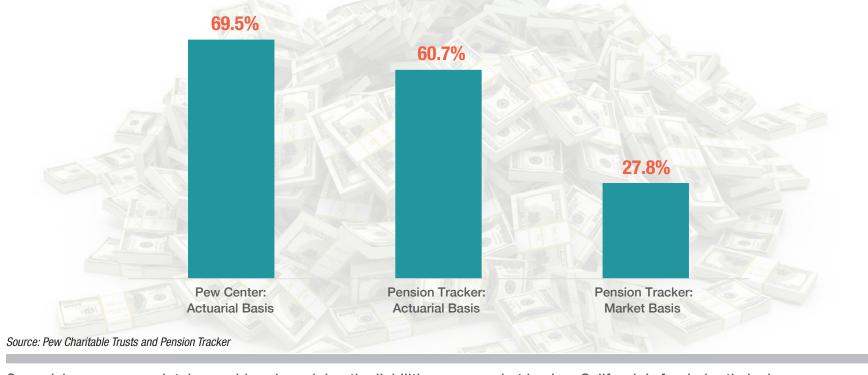


Source: Pew Charitable Trusts

The funded ratio gives a sense of how far the pensions' assets are from covering all of their liabilities.

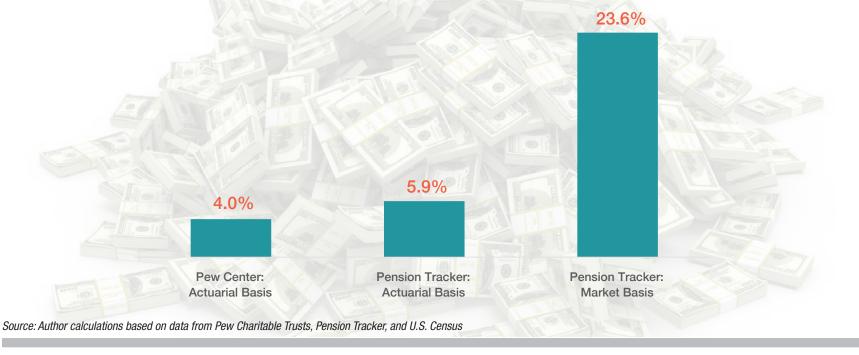
California's funded ratio is only 69.5 percent. Perhaps most important, the funded ratio is trending lower even as the burden from the pension debt on Californians in dollar terms has been leveling off. This indicates that California is not making progress in reducing the burden of its pension debt.

Accounting for market risk, California's pension crisis is even worse.



Once risks are appropriately considered – valuing the liabilities on a market basis – California's funded ratio looks even worse.

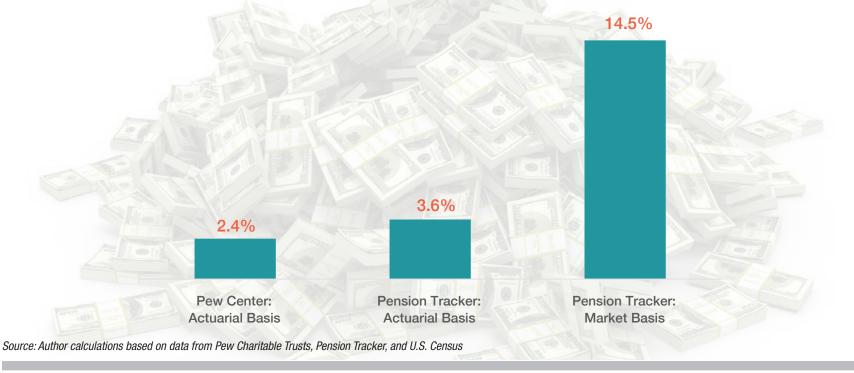
Funding California's unfunded pension debt could require up to 24 percent of total state and local tax revenues.



Based on a 3.5 percent borrowing cost* for the state, covering the total costs on the unfunded liabilities of the state pension systems would require the government to annually spend between 4.0 percent (actuarial estimate) and 23.6 percent (market estimate) of California's 2015 total state and local tax revenues.

^{*} Assumes 30-year repayment period and 3.5% interest rate (reflects California's average borrowing cost).

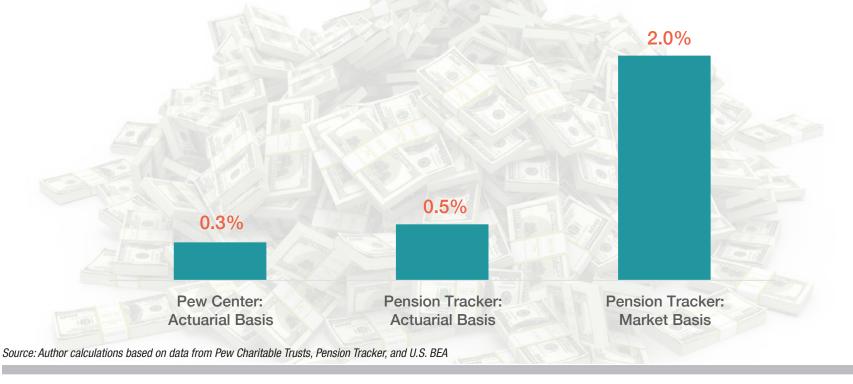
Even if interest costs are ignored, the required annual payment on California's unfunded pension debt remains large.



Assuming zero percent interest costs, the unfunded liabilities of the state pension systems would still require annual government contributions equal to an additional 2.4 percent (actuarial estimate) to 14.5 percent (market estimate) of 2015 total state and local tax revenues.

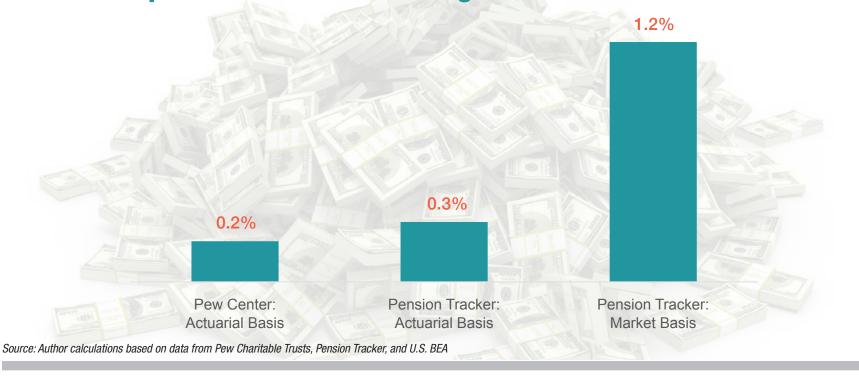
Regardless of the discount rate used, the funds required to pay down the unfunded debt of the public pension systems are large relative to current tax revenues of California's state and local governments.

The annual payment on California's unfunded pension debt is difficult for families and businesses to afford.



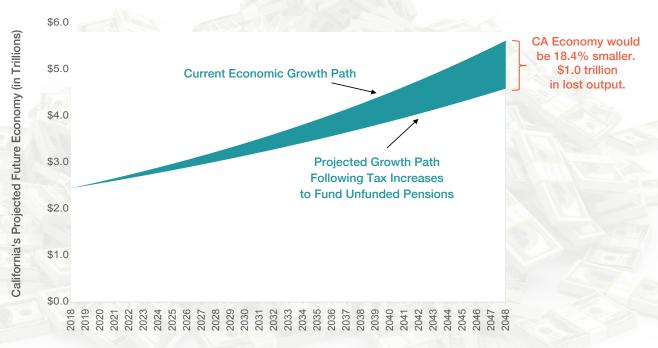
Relative to the economy, Californians would need to annually devote up to an additional 2-cents of every dollar in economic activity toward the state's current public-sector pension debt over the next 30 years just to pay off the debt that has already been accumulated.

Even ignoring interest costs, the annual payment on California's unfunded pension debt is crushing for families and businesses.



Assuming zero percent interest costs, the unfunded liabilities of the state pension systems would still require an additional 1-cent of every dollar in economic activity to be devoted toward the state's current public-sector pension debt over the next 30 years just to pay off the debt that has already been accumulated.

Fully funding California's public sector pensions will cause the state's economy to be \$1 trillion smaller by 2048.



Source: Author calculations based on data from Pension Tracker and U.S. BEA

Funding the required revenues through tax increases* would reduce California's inflation adjusted economic growth from 2.8 percent annually – the average growth rate since the end of the Great Recession – to 2.1 percent annually. Over 30 years, California's economy would be over 18 percent smaller, costing over \$1 trillion in potential economic activity.

* Required revenues based on the more accurate market valuation of the public pension system's unfunded liabilities, but conservatively assuming a zero percent cost of money (an unrealistic understatement of the actual costs).

California's Median Household Income: All Households and Households Over Age 65 2016



Understanding the benefit levels of current public-sector retirees relative to key benchmarks provides insights whether benefit reforms are fiscally and economically justified. Two key benchmarks are the median income of California households, and the median income of California households who are retirement age (over 65).

Average pension payments exceed median pension payments, which means that benefits are more than generous.

ALL PENSIONERS				
	Total	CalPERS	CalSTRS	
2017 Annualized Pension Payments	\$33,047,563,713	\$19,855,316,431	\$13,192,247,282	
Average Pension Payments	\$39,475	\$35,202	\$48,298	
Median Pension Payments	\$31,452	\$25,644	\$43,511	
# of pensioners	837,179	564,035	273,144	

Source: Author calculations based on Open the Books 2017 data

Open the Books captures each pension's monthly annuity amount for 837,179 state and local pensioners from either CalPERS or CalSTRS during 2017. These data were annualized by multiplying the monthly annuity amount by twelve. Combined, the total annualized pension payments were \$33.0 billion in 2017. The average annualized pension was \$39,475, which exceeded the median pension paid (\$31,452) indicating that there is a bias toward "high-income" annualized pension benefits.

About 40,000 retired state workers receive a pension worth more than \$100,000 annually – the highest earning \$373,309.

	Over \$100,000		
	Total	CalPERS	CalSTRS
Total Pension Payments	\$4,991,724,823	\$3,296,783,137	\$1,694,941,686
Average Pension Payments	\$124,367	\$125,971	\$121,362
Median Pension Payments	\$116,810	\$119,148	\$112,915
# pensioners	40,137	26,171	13,966

Source: Author calculations based on Open the Books 2017 data

Defining high-income pensioners as people who received annualized pensions that were equal to or greater than \$100,000 a year, there were a total of 40,137 high-income pensioners who received just under \$5 billion in pension payments. This equates to an average pension received by these high-income pensioners of \$124,367, with the most generous pension paying an annualized \$373,309.

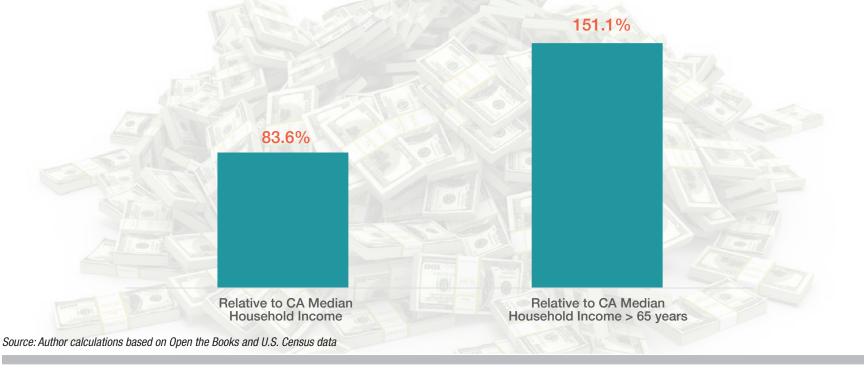
The \$100,000 high-income club of pensioners receive 3x more than the average pensioner.

	% Over \$100,000		
	Total	Calpers	CalSTRS
Total Pension Payments	15.1%	16.6%	12.8%
Average Pension Payments	215.1% higher than average pension	257.8% higher than average pension	151.3% higher than average pension
Median Pension Payments	271.4% higher than average pension	364.6% higher than average pension	159.5% higher than average pension
# of pensioners	4.8%	4.6%	5.1%

Source: Author calculations based on Open the Books 2017 data

In total, payments over \$100,000 annually were 15.1 percent of the total payments, even though the 40,137 high-income pensioners were only 4.8 percent of the total pensioners. Further, the average pension benefits of the high-income pensioners were more than 200 percent higher (three times the size) of the average pension.

The benefit levels of the average high-income state retiree far exceed the California median household income for all workers.



In comparison to the median income benchmarks, the annualized high-income pensions are exceptionally generous. The average pension payment to the high-income pensioners was nearly 84 percent larger than the median household income in California, and more than 150 percent larger than the median household income of the retirees' age cohort.

California can save \$1 billion a year in payments if it simply capped pensions at \$100,000.

\$100,000 Cap			
	Total	CalPERS	CalSTRS
Payments to High-Income Retirees	\$4,991,724,823	\$3,296,783,137	\$1,694,941,686
Total Payments > \$100k under cap	\$4,013,700,000	\$2,617,100,000	\$1,396,600,000
Annual Pension Savings	\$978,024,823	\$679,683,137	\$298,341,686
Savings as a Percent of Total Payments	-3.0%	-3.4%	-2.3%
PV of Savings over 30 years	\$12,136,350,305	\$8,434,216,037	\$3,702,134,268
Total Payments with \$100k Cap	\$32,069,538,890	\$19,175,633,294	\$12,893,905,596

Source: Author calculations based on Open the Books

Imposing a benefit cap could meaningfully reduce the annualized pension expenditures. The annual payments to current high-income retirees if their annualized pensions were capped at \$100,000 a year – a benefit that is more than double the annual income of retiree aged households in California – could save nearly \$1 billion a year in annual payments – about 3.0 percent of total expenditures. Using a conservative 7.0 percent discount rate, the present value of these savings over 30 years would be over \$12 billion.

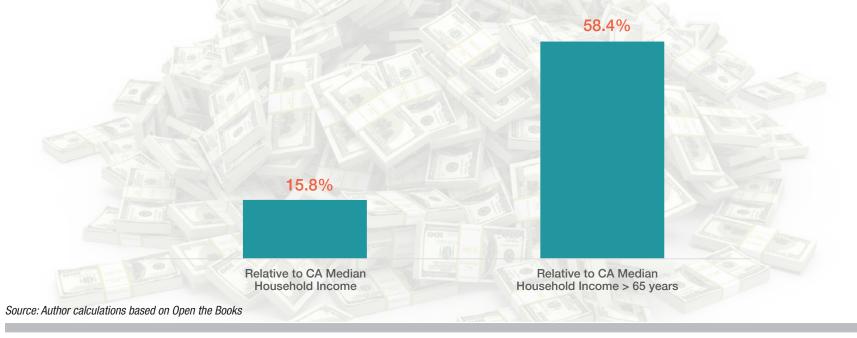
If a government worker stayed on the job for 45 years, he or she would receive a pension of nearly \$80,000.

	Full-Career Equivalent Pension Payments		
	Total	CalPERS	CalSTRS
Average	\$38,307	\$33,997	\$47,206
Percentage of avg career	48.5%	45.2%	55.6%
Full-Career Equivalent Pension Payment	\$78,449	\$75,292	\$84,970

Source: Author calculations based on Open the Books

The average pension benefits do not reflect a full-career since the average pensioner worked 20-years at CalPERS and 25-years at CalSTRS, compared to the average career of 45-years. Adjusting for the fact that the average pension does not reflect a full-career, the average full-career equivalent pension in 2017 was equal to \$78,449, even after adjusting the total expenditures for a maximum pension cap of \$100,000 per year.

The average government retiree household has a larger income than the household of the average Californian currently in the workforce.



The current career-equivalent average pension payment is about 16 percent higher than the median household income in California and 58 percent higher than the median household income of retiree households.

Therefore, after adjusting pensions to reflect a full-career, the average California public-sector pension is overly-generous relative to the average income benchmarks.

If California's government reduces the average full-career equivalent pension to equal California's median household income, the state would save billions of dollars, freeing that money to invest in communities across the state.

Average Pension Equal to Median Household Income in California			
	Total	CalPERS	CalSTRS
Full-Career Equivalent Pension	\$67,739	\$67,739	\$67,739
Adjusted for avg. career	48.5%	45.2%	55.6%
Target Average Pension	\$32,886	\$30,587	\$37,633
# of pensioners	837,179	564,035	273,144
Total Pension Payment Target	\$27,531,247,952	\$17,252,080,499	\$10,279,167,453
2017 Annualized Pension Payments	\$33,047,563,713	\$19,855,316,431	\$13,192,247,282
Annual Savings to Pension Systems	\$5,516,315,760	\$2,603,235,931	\$2,913,079,829
Percentage Savings	16.7%	13.1%	22.1%
PV of Savings over 30 years	\$68,452,189,448	\$32,303,661,884	\$36,148,527,564
Average Pension Eq	ual to Median Household Income of Re	tiree-Aged Household in Californ	nia
	Total	CalPERS	CalSTRS
Full-Career Equivalent Pension	\$49,531	\$49,531	\$49,531
Adjusted for avg. career	48.5%	45.2%	55.6%
Target Average Pension	\$24,046	\$22,365	\$27,517
# of pensioners	837,179	564,035	273,144
Total Pension Payment Target	\$20,130,947,347	\$12,614,783,200	\$7,516,164,147
2017 Annualized Pension Payments	\$33,047,563,713	\$19,855,316,431	\$13,192,247,282
Annual Savings to Pension Systems	\$12,916,616,366	\$7,240,533,230	\$5,676,083,135
Percentage Savings	39.1%	36.5%	43.0%
PV of Savings over 30 years	\$160,282,824,432	\$89,848,075,046	\$70,434,749,386

Source: Author calculations based on Open the Books

Potential savings can be realized if the average career-equivalent public-sector pension benefit is reduced to reflect the median household income in California, or the median household income of a retiree-aged household in California. Capping the average pension equal to the relevant average income benchmark can reduce the annual total pension payments between \$5.5 billion and \$12.9 billion, respectively – between 16.7 percent and 39.1 percent of the 2017 annualized pension payments as reported by Open the Books.

As these savings will be accrued annually, the present value of these savings over the longer-term (30 years) would equal between \$68.5 billion and \$160.3 billion.

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