



PPIC

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Preparing for California's Next Recession

Technical Appendices

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Appendix A. Policy Responses to Recessions

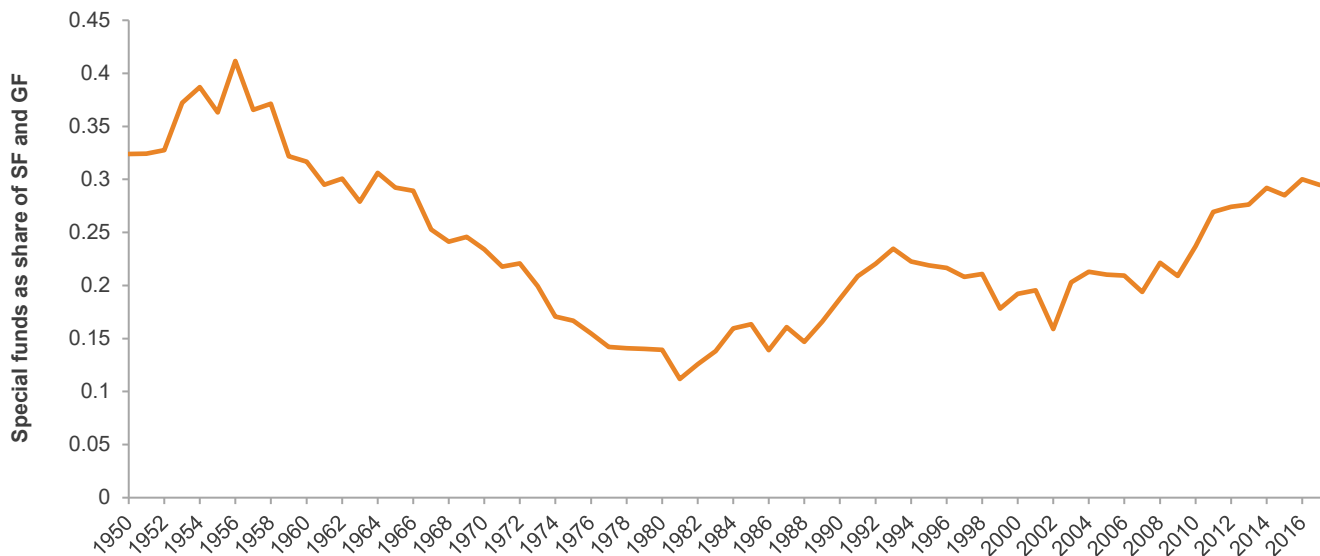
This appendix discusses in greater detail the different policy responses to recession-driven drops in General Fund revenue. The discussion here focuses on strategies generally, and includes some examples employed by California policymakers in the past four recessions. It divides the discussion into four areas: spending, revenue, borrowing and other measures.

Spending Cut Challenges

Spending cuts represent one set of options in response to falling revenues. In simple terms, policymakers reduce the dollars budgeted for particular agencies and their programs in an effort to close a budget gap. California’s finance structure is complicated, however, by a number of state provisions that restrict how revenue is allocated and used, an interdependence with the federal government for health and social service programs, and other considerations, including political ones. Combined, these various provisions and restrictions make the task of reducing spending more difficult.

Special funds. Since passage of Proposition 98, there has been a notable shift relative distribution of dollars between the General Fund and special funds. Between 1977 and 1988, special fund resources accounted for about 15 percent of the total revenue available (General Fund and special fund revenue). By 2017, the share had nearly doubled to 29 percent (Figure A1). It is worth noting that if one looks further back, the size of the special fund revenue was even higher than it is today.

FIGURE A1
Special funds have grown faster than the General Fund since 1988



SOURCE: Legislative Analyst Office historical tables.

With an increasing share of revenue coming into the state’s treasury designated for special funds, policymakers are more restricted in how those resources can be accessed during an economic crisis. It is not to say that it is impossible to draw on special fund dollars, but that the designation does make it more difficult.

Proposition 98. Proposition 98 (1988) guarantees a certain level of funding for California’s K–12 schools and community colleges each year (K–14). Proposition 98 establishes a spending floor for K–14 education, implying that the legislature could allocate resources in addition to the guaranteed level; that has occurred rarely. Guaranteed funding is provided by a combination of General Fund and property tax revenues. The guarantee was designed to account for changes in the level of school enrollment, changes in the economy, and the resultant changes in revenues. Depending upon changes in the economy and General Fund revenues, one of three different tests applies:

- Test 1—Calculates K–14 funding as the percentage of General Fund revenue the state provided to K–14 education in 1986–87.
- Test 2—Calculates K–14 funding as a function of the prior year’s funding level and adjusts it for changes in total student enrollment and inflation.
- Test 3—Calculates K–14 funding level as a function of the prior year’s funding level, adjusting for enrollment and changes in General Fund revenue.

Since Proposition 98 went into effect, Test 2 has been operative the most often (LAO 2017). The Legislature can suspend the guarantee for one year and provide any level of K–14 funding with a two-thirds vote. This has happened twice (2004 and 2010).

Caseload-driven spending and federal constraints. State policymaker control over spending in a number of health and social service programs is limited by both the nature of the program and its interdependence with the federal government. State Medi-Cal costs, for example, are driven by the number of participants, the type of services provided, and how much the state pays providers for those services. Participation rates (caseloads) drive spending in other health and human services as well. Changing the cost to the state, therefore, requires changing the legislation or regulations that govern these programs. For example, the state could reduce costs by changing eligibility requirements or lowering the benefits provided per participant. It has been done, but the process is more complicated than simply changing the number in a line item in the budget. Two important points further complicate these decisions. First, the administration of many health and human services programs is intertwined with federal law and regulations. Second, during an economic downturn, the demand for these programs typically will increase.

Other spending considerations. Other areas of the budget present challenges that may be characterized as political rather than procedural. Corrections spending, for example, presents policymakers with the conundrum of either maintaining the current level of spending or finding ways to reduce costs, most likely by shrinking the size or number of facilities. But, because of court-ordered capacity caps, a smaller prison system would result in the early release of convicted individuals. Health care for those incarcerated is overseen by a court-appointed master, essentially putting those costs beyond the reach of legislators as well. Prior to the Great Recession, economic declines had a more modest impact on the corrections budget compared to other programs. During the Great Recession, state prison spending slowed with major reforms that had the effect of shifting some inmates and the associated costs to local jurisdictions (Lofstrom and Martin 2015).

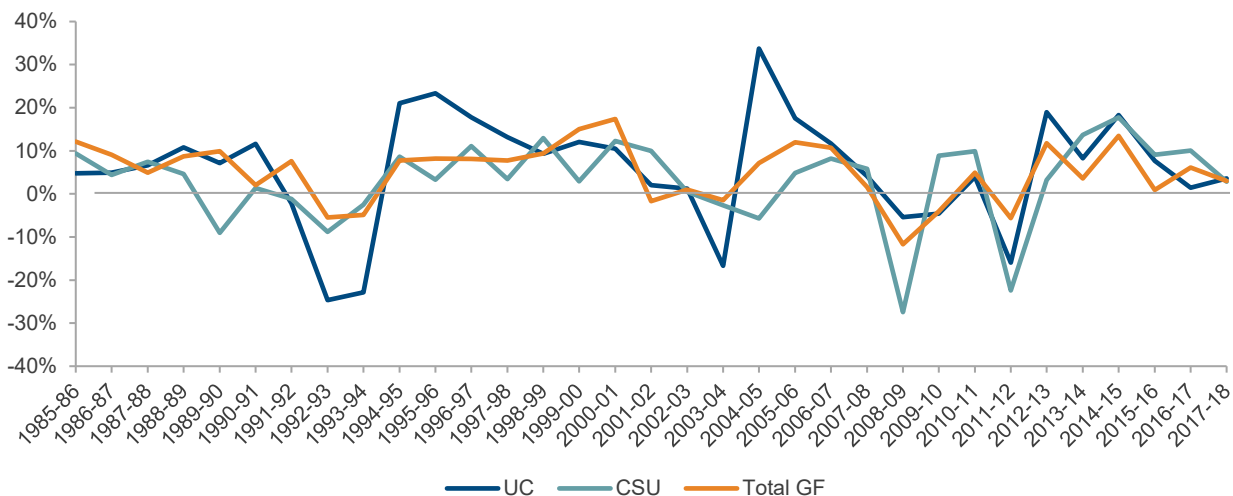
The reality is that, over time, an increasing share of the state’s budget has been fenced off in special funds, or encumbered by constitutional restrictions, federal regulations, or court orders. The largest General Fund program areas that remain are

- The four-year university systems—the University of California (UC) and the California State Universities (CSU)
- Natural resources, and
- Funds to support the administration of state government and the courts.

Together, these areas represented approximately 30 percent of the total General Fund in the 2018-19 enacted budget. Historically, when the state has found itself in a fiscal crisis, these are the areas that feel the effect quickly. For example, Figure A2 plots year-over-year changes in spending for the UC and CSU systems as well as for the total General Fund for the past 25 years, spanning three recessionary periods. During those downturns, the state’s universities experienced real cuts ranging from 9 percent to 25 percent, often significantly deeper than the General Fund as a whole. These reductions led to the systems adapting by a combination of turning away more students for admission and increasing tuition.

FIGURE A2

Recessions cut deep into CSU and UC budgets



SOURCE: Legislative Analyst Office historical tables.

NOTE: Percent change represents year-over-year difference for the General Fund and the CSU and UC systems.

Raising Revenue

Cutting spending is difficult. Raising revenue is equally challenging. And, like several of the spending categories, legal and political constraints complicate decisions regarding many of the state’s many revenue streams—including those from the federal government. These complications have been compounded over the years, often the result of decisions made during earlier recessions.

State taxes

Given that recessions tend to lead to spending cuts, we might think that the corresponding recessionary response in terms of revenue would be increased taxes. But the relationship between economic peaks and valleys and policymaker action is less clear cut in terms of taxation (Berger and Hogue 2016).

As already discussed, while the state generates General Fund revenue from a variety of sources, the primary sources are the personal income tax, sales tax, and corporate income tax. It therefore stands to reason that policymakers would turn to these levers when additional revenue was needed. But raising taxes has not been an inevitable response to budget shortfalls. In fact, during the recession of the early 1980s, voters actually approved measures that reduced revenues.¹

In the most recent downturn, California did turn to broad-based tax hikes to fill budget gaps. In 2009, during a special session of the legislature, lawmakers put together a fiscal package that included a combination of nearly \$15 billion in spending cuts and \$12.5 billion in tax increases. The package increased sales and personal income taxes as well as the vehicle license fee (Steinhauer 2009a). Three years later, Proposition 30 (2012) was put on the ballot as the state continued to struggle with the effects of the Great Recession. Passed with 55% of the vote, the proposition increased income taxes on earning above \$250,000 and added 0.25% to the state sales tax, generating billions for the General Fund. The measure was presented as a temporary response to an extreme situation. In 2016, however, Proposition 55—which extended the income tax increases to 2030—passed by an even greater margin (63%).²

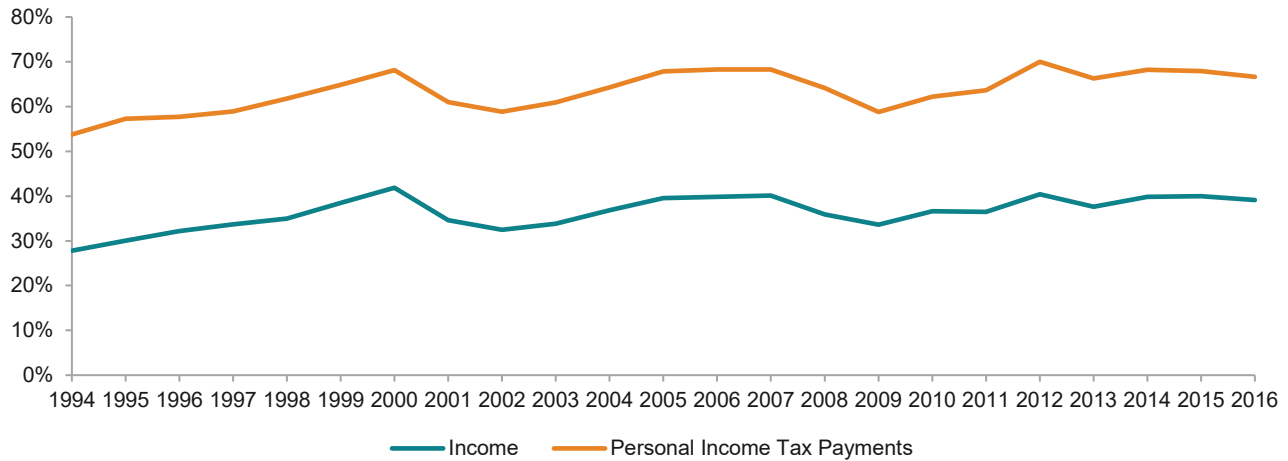
California's dependence on PIT for state revenues is intensified by its progressive tax structure. Californians earning the most income contribute the greatest amount of revenue to the state's General Fund, and many of these high earners receive capital gains and other equity such as stock options, tying the General Fund even more closely to market fluctuations. Not only are these the highest-earning Californians, but their income levels also have the highest growth rate across the state. This high growth rate further increases the revenues generated from the PIT, outpacing other sources of state revenues—namely sales tax and corporate tax. While the personal income growth generates more money for the General Fund, it also makes the state more dependent on this volatile revenue stream.

¹ In 1982, three Propositions, 5, 6, and 7 put limits on the inheritance tax and introduced indexing to the personal income tax brackets.

² Proposition 30's sale tax increases expired in 2016.

FIGURE A3

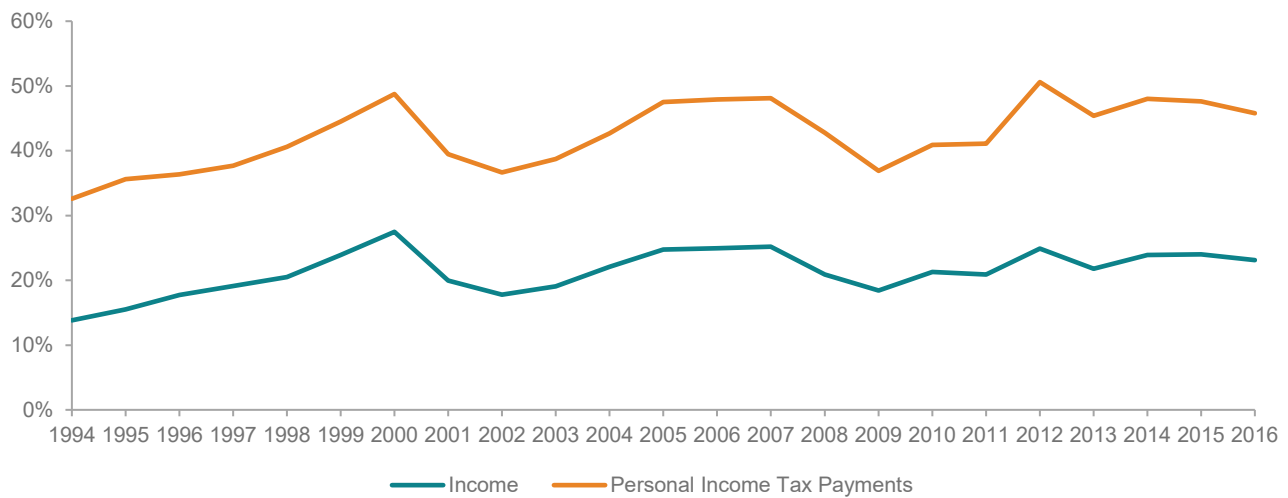
Share of income and income taxes paid by the top 5% of earners in California



SOURCE: Franchise Tax Board.

FIGURE A4

Share of income and income taxes paid by the top 1% of earners in California



SOURCE: Franchise Tax Board.

Corporate income taxes represent the third-largest source of revenue for the state. The federal government taxes business owners' personal incomes, but California taxes both the personal income of the business owner and the income of the business. Businesses in California are assessed according to their designations (S corporations, LLCs, LPs, C corporations, partnerships, sole proprietorships). Compared to other states, California's corporate taxation for traditional corporations is 8.84%, higher than average; it is applied to net taxable income from business activity in California. The alternative minimum tax rate is 6.65%, The S corporation rate is 1.5%, and banks and financials have the highest rate of 10.84% (State of California, Franchise Tax Board 2018). The 2017 federal reduction of the rate of taxation for corporations from 35 to 21 percent is about average compared to developed nations. With this federal tax cut, the different corporate taxation rates across states could create some incentives

for businesses to relocate. However, California remains among the three states with the most Fortune 500 companies (New York and Texas also boast more than 50 companies each).

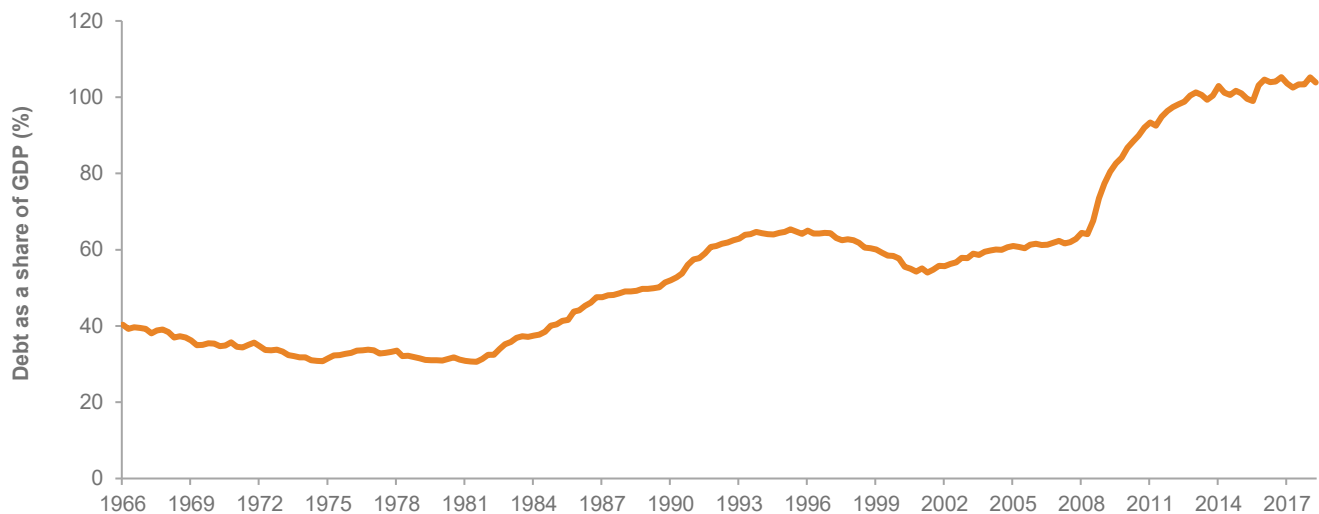
Federal funds

One of the state’s larger sources of revenue is the federal government, which has played a significant role during recessions. During the past four recessions, the state experienced a decline in General Fund revenues while federal dollars to the state increased. In the three most recent recessions, those additional federal dollars helped offset the decline. While the influx of federal money didn’t solve all of the problems facing policymakers, the additional funds did shorten the list of difficult decisions.

Whether California can rely on the federal government to play this role in the future may be one of the biggest uncertainties facing the state. The inability of federal officials to agree on basic issues of fiscal policy—with the recent longest running partial shutdown of the government being the most outstanding example—does not bode well for the prospect of swift action should an economic crisis emerge. The federal government’s own financial situation also has changed over time. The country’s level of total debt relative to GDP has risen dramatically since the Great Recession (Figure A5). The 2017 tax cuts are projected to add to that figure.

FIGURE A5

Current level of federal debt may be obstacle to future stimulus



SOURCE: Federal Reserve Economic Data (FRED), St. Louis Federal Reserve.

In 2017, the state received over \$100 billion in federal funds. These funds are distributed through federal grants and go to the state government, as well as local government, school districts, higher education institutions, among other recipients. The largest share of this revenue goes to the Health and Human Services Agency, but other state programs do receive a sizable share of their revenues from the federal government (K–12 education, and transportation). Prior to the expansion of Medi-Cal in 2014 under the Affordable Care Act (ACA), the total level of federal assistance to the state was around \$70 and \$80 billion.³ This shift in health policy moved federal funding to California beyond the \$100 billion mark.

³ PPIC Blog-Murphy, “Federal Funds and California’s Budget” (<https://www.ppic.org/blog/federal-funds-californias-budget/>)

Even absent a recession, California could stand to lose federal funds. Given the current political gulf of understanding between California and the president and congressional Republicans, there could be changes to the level of federal funding the state receives. Attempts to repeal the ACA were halted last year, but California's federal funding could see swift shifts if changes are made to federal social safety net programs like Supplemental Nutrition Assistance Program (SNAP), or welfare programs (operating as CalFresh and CalWORKs in California). As the largest state in the nation, California would see the largest drop in funding revenue should the federal government make funding cuts.

Borrowing

In addition to increasing revenue or cutting spending, policymakers have used borrowing in the past to bridge budget gaps. The type of borrowing has varied. The state often engages in short term borrowing to manage its cash flow, but during severe fiscal crises, it has entered into longer term obligations. The state also has used different means to borrow funds, at times formally going out on the market and securing the support of investors, and at other times internally shifting funds or deferring payments to programs. A common feature of all of these measures, however, has been to secure additional resources for a given year, only to incur obligations at some future point.

The most common type of borrowing is short term (less than one year), necessitated when spending outpaces incoming revenue, California has turned to short-term borrowing simply to smooth out cash flows.⁴ Though the terms are short and the costs are relatively low, the amounts can be significant. Decker (2015) reports that during the Great Recession, the state borrowed between \$5 billion and 10 billion in a given year.

Policymakers have turned to longer-term borrowing during times of fiscal stress. In the wake of the dot-com recession of the early 2000s, the state turned to voters to approve \$15 billion in Economic Recovery Bonds (Proposition 57, 2004). The measure, which passed with more than 63% of the vote, provided revenue relief and helped close the budget deficit. This borrowing to close a deficit gap incurred several subsequent years of debt service. The total cost of the bonds was more than \$19 billion with some savings (\$60 million) realized because they were paid off ahead of schedule. The final payment was made in 2015 (California Treasurer, 2015). Somewhat ironically, Proposition 57 was paired with Proposition 58, a balanced budget amendment to the state constitution. Proposition 58, which passed with more than 70% of the vote, created a reserve fund (subsequently amended by Proposition 2 in 2014) and was supposed to make it more difficult for the budget to go into deficit.

Policymakers have also borrowed internally. It is possible to use resources from special fund (SF) accounts to shore up General Fund. According to one estimate, the state can temporarily shift dollars from 700 of the more than 1,300 special funds. Though the borrowing is often is short term (less than one year), the magnitude is significant. This type of borrowing can come with a cost, as many of the funds are paid back with interest. Over the period 2008 to 2012, the balance of borrowing from special funds peaked in 2009 at over \$19 billion. The highest balance in any year during that time fluctuated between \$8 billion and 19 billion (Decker 2015).

Finally, though technically not borrowing, the state has deferred payments to local government or state programs in a given year with a promise to pay back the funds at some point in the future. The use of deferrals was relatively widespread during the last recession and over the course of three years, amounted to almost \$11.5 billion in future obligations (Table A1).

⁴ In any given year, revenue tends to come into state accounts unevenly, with January and April representing peak months. Payments are similarly uneven, with July and September typically the largest disbursement months (Decker 2015). When resources are tight, the state needs to borrow money in order to make sure it has cash on hand to distribute. Issuing revenue anticipation notes provides that bridge. The state isn't the only government to do this. Local governments, particularly school districts, face uneven revenue flows and often turn to the short-term bond market to smooth their cash flow as well.

TABLE A1

Deferrals amounted to real money (\$ in millions)

	FY 2011	FY 2012	FY 2013	Total
K–12 schools	2,500	4,500	1,500	8,500
CCC	200	200	300	700
UC	250	250	250	750
CSU	500	500	500	1,500
Transportation	450			450
Mental health	300	300		600
SSI/SSP	246			246
CalWORKs	600	360	140	1,100
Total	\$3,450	\$5,450	\$2,550	\$11,450

SOURCE: Decker, 2015.

Other Measures

In addition to cutting spending, raising revenue, or borrowing, policymakers have employed one-time measures to help offset a recession-driven drop in resources. But, when officials are scrambling to find a way to make the numbers work and limit program cuts, they may turn to variations of these options.

- Accelerating tax collections.** Throughout the year, taxpayers are required to estimate income taxes withheld by their employer or to make quarterly payments to the states. Faced with large deficits, the state increased withholding schedules by 10% and accelerated quarterly payments in 2009 (AB 17X4). Prior to the change, taxpayers would pay four equal installments, in April, June, September, and January. After the change, taxpayers had to pay a larger share of their estimated taxes in April and June.
- Delaying payments to agencies or individuals.** In July 2008, the state began delaying payments for days or months totaling nearly \$20 billion. In 2009 and 2010, the state delayed another \$6 billion in payments to the courts and state education systems (Decker, 2015). Individuals and businesses working with the state got caught up in I.O.U.s (warrants), with the state controller issuing 28,000 for more than \$50 million on July 1, 2009 alone (Steinhauer, 2009b). The inability of the legislature to pass a state budget was the driving force behind the delays during that time.
- Delaying tax refunds.** A variation on the delaying of payments option concerns tax refunds. The state requires personal income tax returns to be filed for the prior calendar year by April 15. Taxpayers can begin filing as early as January. The consequence is that the state pays billions in refunds during the first few months of the year. By delaying those checks, the state can shift the obligation to later in the year, as was done in 2009 when the state held \$2.8 billion in tax refunds for a short period (Decker, 2015).

Appendix B. Calculating the Impact of Recessions

Calculating the past or future impact of recessions on the state budget is far from a precise science. In this appendix, we seek to lay out the assumptions, decisions, and calculations we made to arrive at our estimates.

Calculating Historical Effects of Recessions

Estimating the historical impact of recessions is a three-step process.

- Determine the period that the recession affected California revenues.
- Develop a baseline estimate of what revenues would have been without a recession.
- Calculate the difference between actual revenues for the period and the baseline.

To determine the period of the recession, we begin with the NBER definition. Then, based on the total General Fund revenue (constant 2017 \$), we identify the first year of the recession impact to be the first year that revenues declined in real terms. The end of the recession is identified as the year when total revenues exceed the level they were at in Year 0, the year prior to the start of the recession, or year-over-year revenues grow more than 10%. Table B1 presents total revenue data and year-over-year differences for the recessions as we define them.

TABLE B1

Historical recessions vary in impact on General Fund revenues

Scenario	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5
Early 1980s oil shock	1979	1980	1981	1982	1983	
Total revenue (\$ billions)	50.9	48.3	49.1	46.8	50.4	
Change over prior year		-5.1%	1.7%	-4.7%	7.7%	
Early 1990s slump	1989	1990	1991	1992	1993	1994
Total revenue (\$ billions)	67.7	64.0	68.1	64.6	61.7	64.4
Change over prior year		-5.5%	6.4%	-5.1%	-4.5%	4.3%
Dot-com bust	1999	2000	2001	2002		
Total revenue (\$ billions)	99.9	96.8	96.1	105.8		
Change over prior year		-3.1%	-0.8%	10.1%		
Great Recession	2007	2008	2009	2010	2011	2012
Total revenue (\$billions)	119.0	93.2	98.1	103.6	94.1	106.0
Change over prior year		-21.7%	5.3%	5.6%	-9.2%	12.6%

SOURCE: Author calculations based on historical revenue from the California Department of Finance, Historical Table A (January 2019) using the FRED annual personal consumption implicit price deflator indexed for 2017 dollars.

To determine the impact past recessions had on revenues, we develop a range of estimates, comparing actual revenues during the period to two different baselines. The baselines used estimate the level of revenues in the year prior to the recession’s impact (Year 0), inflated annually at 2% and 4%. Over the past 40-plus years, revenues have grown at a real rate of about 4%.

TABLE B2

Historical revenue levels compared to hypothetical baselines (billions \$)

Scenario	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5
Early 1980s oil shock - actual	50.9	48.3	49.1	46.8	50.4	
Projected 2% growth		51.9	52.9	54.0	55.1	
Projected 4% growth		52.9	55.0	57.2	59.5	
Early 1990s slump - actual	67.7	64.0	68.1	64.6	61.7	64.4
Projected 2% growth		69.1	70.5	71.9	73.3	74.8
Projected 4% growth		70.4	73.2	76.1	79.1	82.2
Dot-com bust - actual	99.9	96.8	96.1	105.8		
Projected 2% growth		101.9	104.0	106.1		
Projected 4% growth		96.8	96.1	105.8		
Great Recession - actual	119.0	93.2	98.1	103.6	94.1	106.0
Projected 2% growth		121.4	123.8	126.3	128.8	131.4
Projected 4% growth		123.8	128.7	133.8	139.2	144.8

SOURCE: Author calculations drawing on revenue projections from the California Department of Finance, 2019-20 budget (January 2019).

TABLE B3

Estimated recession revenue shortfalls based on historical scenarios (billions \$)

Scenario	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Total
Early 1980s oil shock --actual	50.9	48.3	49.1	46.8	50.4		
Projected 2% growth		3.6	3.8	7.2	4.7		19.3
Projected 4% growth		4.6	5.9	10.4	9.1		30.1
Early 1990s slump - actual	67.7	64.0	68.1	64.6	61.7	64.4	
Projected 2% growth		5.1	2.4	7.3	11.6	10.4	36.7
Projected 4% growth		6.5	5.2	11.6	17.5	18.0	58.7
Dot-com bust - actual	99.9	96.8	96.1	105.8			
Projected 2% growth		5.1	7.9	0.3			13.3
Projected 4% growth		7.1	12.0	6.7			25.8
Great Recession - actual	119.0	93.2	98.1	103.6	94.1	106.0	
Projected 2% growth		28.1	25.7	22.7	34.7	25.4	136.6
Projected 4% growth		30.5	30.6	30.2	45.1	38.8	175.2

SOURCE: Author calculations simply subtracting the actual revenues from the two projected baselines (Table B2).

Projecting the Effect on Revenue of Future Recessions

To estimate the impact that future recessions may have on General Fund revenues, we construct different scenarios regarding the length and severity of the recession. In this case, the severity is thought of as the relative gap between the recession level of revenues and the projected baseline. The revenue shortfall is measured as a percentage. Table B4 provides the percentages used for both a generic group of scenarios and a group based on the historical recessions.

TABLE B4

Percentages used to estimate projected revenue shortfalls

Scenario		Year 1	Year 2	Year 3	Year 4	Year 5
Generic scenarios						
Mild		8.0	8.0	8.0		
Moderate		15.0	15.0	15.0	15.0	
Severe		22.0	22.0	22.0	22.0	22.0
Historical scenarios						
Early 1980s oil shock		7.8	9.0	15.8	11.9	
Early 1990s slump		8.3	5.2	12.6	18.9	17.8
Dot-com bust		5.9	9.3	3.1		
Great Recession		23.9	22.3	20.3	29.7	23.1

NOTE: The percentage shortfall for the historical scenarios represents the midpoint between the different growth assumptions (2 and 4%) from Table B3.

In all cases, the baseline we use to estimate the loss is one that averages the revenue projections from the Legislative Analyst Office (2018b) and the Department of Finance’s January 2019 budget. Both organizations offer revenue projections from fiscal year 2019 through fiscal year 2022. Because of the length of some of the recession scenarios, we extend the projected revenues by first calculating the average rate of growth projected by the DOF and LAO over the period 2019 to 2022 (3.0% and 3.8% respectively). Then, to remain consistent with the prior series, we project revenues for fiscal years 2023 and 2024 averaging these rates.

For all of the scenarios, we assign 2019 as Year 0 and calculate the recession impact being first felt in fiscal year 2020. For example, in the first year of the dot-com recession (2000), we estimated that revenues fell between 5.0% and 6.8% relative to the different growth projections. Applying the midpoint of those two estimates (5.9% from Table B4), we estimate that revenues would fall \$8.7 billion below what the baseline projects for 2020, or \$138.7 billion (Table B5). Table B6 calculates the annual shortfall for each of the different recession scenarios, subtracting the scenario revenue estimate from the baseline.

TABLE B5

Estimated revenues under different recession scenarios (billions \$)

Scenario	2019	2020	2021	2022	2023	2024
Baseline projected revenues	143.1	147.4	151.7	156.5	161.8	167.3
Generic scenarios						
Mild	143.1	135.6	139.6	144.0		
Moderate	143.1	125.3	129.0	133.0	137.5	
Severe	143.1	115.0	118.4	122.0	126.2	130.5
Historical scenarios						
Early 1980s oil shock	143.1	135.9	138.1	131.8	142.6	
Early 1990s slump	143.1	135.2	143.8	136.7	131.2	
Dot-com bust	143.1	138.7	137.5	151.6		
Great Recession	143.1	112.2	118.0	124.8	113.8	128.7

NOTE: Calculations are based on DOF and LAO projected revenues extended through 2024 with shortfalls calculated using percentages in Table B4.

TABLE B6

Estimated revenue shortfall under different recession scenarios (billions \$)

Scenario	2019	2020	2021	2022	2023	2024	Total
Baseline projected revenues	143.1	147.4	151.7	156.5	161.8	167.3	
Generic scenarios shortfall							
Mild		-11.8	-12.1	-12.5			-36.5
Moderate		-22.1	-22.8	-23.5	-24.3		-92.6
Severe		-32.4	-33.4	-34.4	-35.6	-36.8	-172.6
Historical scenarios shortfall							
Early 1980s oil shock		-11.6	-13.6	-24.7	-19.2		-69.1
Early 1990s slump		-12.2	-7.8	-19.8	-30.6	-29.8	-100.4
Dot-com bust		-8.7	-14.2	-4.8			-27.8
Great Recession		-35.3	-33.8	-31.7	-48.0	-38.6	-187.3

NOTE: Calculations are based on DOF and LAO projected revenues extended through 2024 with shortfalls calculated using percentages in Table B4.

Estimating the General Fund Gap Created by the Projected Drop in Revenues

To determine the scale of the budget challenge facing policymakers created by a recession-driven drop in revenue, we overlaid our revenue projections on the LAO's growth scenario of estimated spending by major areas through fiscal year 2024.⁵ To accommodate our scenarios, we extrapolate those estimates out an additional year, to 2025.

⁵ These expenditure projections are essentially a *current services* budget, attempting to capture what expenditures would be assuming no change in policy or law. The spending by major area table appears in the Appendix, figure 3.

We also assume:

- K–12 and community college funding would adjust to estimated Proposition 98 levels (Table B7).⁶
- HHS spending would rise slightly due to an increase in demand for services.⁷
- No new payments will be made to the reserves during the recession period.

As already discussed in Appendix A, depending upon the situation, one of three different tests are used to estimate Proposition 98 spending. To summarize:

- Test 1—Calculates K–14 funding as the percentage of General Fund revenue the state provided to K–14 education in 1986–87.
- Test 2—Calculates K–14 funding as a function of the prior year’s funding level and adjusts it for changes in total student enrollment and inflation.
- Test 3—Calculates K–14 funding level as a function of the prior year’s funding level, adjusting for enrollment and changes in General Fund revenue.

Test 3 is generally expected to apply during drops in revenue, commonly associated with a recession. Test 2 applies most often; Test 1 the least often (LAO 2017). Given the number of assumptions made to calculate the projected revenue, delving deep into which test would apply and what impact it would have is unlikely to introduce a great deal more precision in our estimates. Therefore, for the sake of simplicity we estimate Proposition 98 spending to be 38% of total General Fund revenues, a level that roughly aligns with historical figures. Table B7 presents our estimates of Proposition 98 spending given these assumptions.

TABLE B7

Estimated Proposition 98 spending on K- 12 and community colleges (billions \$)

Scenario	2019	2020	2021	2022	2023	2024
LAO projected Prop. 98	55.4	57.1	58.9	60.7	62.5	64.3
Generic scenarios						
Mild		51.5	53.0	54.7		
Moderate		47.6	49.0	50.5	52.3	
Severe		43.7	45.0	46.4	48.0	49.6
Historical scenarios						
Early 1980s oil shock		51.6	52.5	50.1	54.2	
Early 1990s slump		51.4	54.7	51.9	49.8	52.2
Dot-com bust		52.7	52.3	57.6		
Great Recession		42.6	44.8	47.4	43.2	48.9

NOTE: Calculations LAO (2018b) projected expenditures (Appendix figure 3), growth scenario for education and community colleges calculated for baseline and .38 * projected revenues under the various recession scenarios extended through.

⁶ Depending upon the circumstances, one of three different tests are used to estimate Proposition 98 spending. Given that we already have made several assumptions to calculate the projected revenue, we make one more here for the sake of simplicity. We estimate Proposition 98 spending to be 38% of total General Fund revenues.

⁷ Historically recessions have had a counter-cyclical impact on health and social service programs as more people feel the strain of the economic downturn and turn to government for assistance. For the purposes of these calculations, we merely increase the growth rate slightly (0.5%) during the recession years. We look forward to a more thorough exploration of the impact of recessions on the social safety net in a forthcoming publication.

TABLE B8

Estimated Proposition 98 spending gap for K- 12 and community colleges (billions \$)

Scenario	2019	2020	2021	2022	2023	2024	Total
Generic scenarios							
Mild		5.6	5.9	6.0			17.4
Moderate		9.5	9.9	10.2	10.2		39.7
Severe		13.4	13.9	14.3	14.5	14.7	70.8
Historical scenarios							
Early 1980s oil shock		5.5	6.4	10.6	8.3		30.8
Early 1990s slump		5.7	4.2	8.8	12.6	12.0	43.4
Dot-com bust		4.4	6.6	3.1			14.1
Great Recession		14.5	14.1	13.3	19.2	15.4	76.4

NOTE: Calculations based on Table B7.

With Proposition 98 spending estimated, we combine it with the slightly higher HHS spending and the LAO projections for other major areas to arrive at new total expenditures for our scenarios (Table B9). We then compare these new spending projections to our revenue estimates to arrive at the size of the remaining budget gap. This is the gap that policymakers would be required to close with a combination of spending cuts, increased revenue, borrowing, and reserves.

TABLE B9

Estimated General Fund budget gap under different recession scenarios (billions \$)

Scenario	2019	2020	2021	2022	2023	2024	Total
Generic scenarios							
Mild		4.2	6.1	7.5			17.8
Moderate		10.6	12.7	14.3	14.3		51.9
Severe		17.0	19.3	21.1	21.3	21.6	100.3
Historical scenarios							
Early 1980s oil shock		4.1	7.1	15.0	11.2		37.3
Early 1990s slump		4.5	3.5	12.0	18.2	17.3	55.5
Dot-com bust		2.3	7.4	2.7			12.4
Great Recession		18.8	19.5	19.4	29.0	22.7	109.4

NOTE: General Fund gap is estimated by adding projected Proposition 98 spending (Table B7), the slightly higher HHS spending, and the LAO projected funding for other major areas and then subtracting the revenue estimates (Table B5).

Appendix C. State Budget Reserves

Since 1980, California has established numerous policies that have underscored the importance of robust state reserves. The 1980–81 Budget Act established the Reserve for Economic Uncertainties, now known as the Special Fund for Economic Uncertainties (SFEU). As part of the General Fund, SFEU is the state’s discretionary reserve and determined as the balance between total expenditures and available resources. Its discretionary nature means that the legislature may use the funds for a wide range of needs. For example, in the recent past the legislature has had authorization to use the SFEU funds for disaster response.

Given that the state’s constitution requires the enacting of a balanced budget each year, SFEU’s balance cannot fall below zero for an enacted budget. However, the fund can carry a deficit from a previous year because the budget process relies on future estimates of revenues and those can fall short of expectations. The reserve is capped via reductions in the state’s sales tax rate that are linked to the SFEU balance. State statutes trigger a decline by one-quarter of a cent for a calendar year if the projected SFEU balance exceeds a certain threshold and if General Fund revenues exceed forecasted amounts.

After the dot-com recession in the early 2000s, voters passed Proposition 58 in 2004 that established the state’s Budget Stabilization Account (BSA), requiring annual transfers into a new reserve. Under Proposition 58, deposits were capped at fund balance of \$8 billion or 5% of General Fund revenues, whichever was larger. State law also permitted the legislature to make transfers into the BSA with the intention exceeding either threshold. The deposits were set to increase from 1 percent of General Fund revenues in 2006–07 to 3 percent in 2008–09 and all years following. And while the required transfers were an important first-step in building robust state reserves, Proposition 58 also allowed the suspension of those deposits by an executive order. Therefore, there were only two deposits made to the BSA (2006–07 and 2007–08) until 2014, under the governance of Proposition 58. Between 2008 and 2014, the annual transfers were suspended due to significant revenue shortfall caused by the Great Recession.

During the recovery from the Great Recession, voters passed Proposition 2 in 2014 that set aside 1.5 percent of General Fund revenues and combined that with a portion of excess capital gains revenues to allocate half of the total amount to the BSA and other half to pay down eligible debts. Given that capital gains drive much of the revenue volatility in California, Proposition 2’s focus on drawing from those revenues is particularly important. This allows the state to build out robust reserves during times of economic expansion, which may also equate to higher revenues from capital gains. Since the state relies on estimates of future capital gains revenues for allocation purposes, Proposition 2 also requires revisions of those initial estimates once in each of the two subsequent budgets – the true-up provision. This allows the state to adjust BSA deposits based on higher or lower actual revenue from capital gains taxes.

In addition, Proposition 2 amended the rules of withdrawal from the BSA, building upon lessons from Proposition 58 during the Great Recession. Under the new rules, the Legislature may reduce the BSA deposit or make a withdrawal from the BSA reserve only during a “budget emergency.” This state can only be declared by the Governor is based on: whether estimated resources in the current or upcoming fiscal year are insufficient to keep spending at the level of the highest of the prior three budgets, adjusted for inflation and population, or in response to a natural or man-made disaster. During a budget emergency, the Legislature may only withdraw the lesser of: the amount needed to maintain General Fund spending at the highest level of the past three enacted budget acts, or 50% of the BSA balance. These strong checks on withdrawals are an important safeguard in ensuring that allocation and maintenance of reserve funds remains a priority as long as a balanced budget is able to support them. Like caps on other reserves, Proposition 2 also requires the legislature to transfer annual funds into the BSA

until it reaches a threshold of 10% of General Fund tax revenue. Upon reaching this threshold, any amount above the 10% mark must be spent on infrastructure. And as General Fund tax revenues increase, so does the 10% threshold.

During the Brown administration, for the years between 2014–15 and 2018–19, the balance of the BSA reached \$13.5 billion. The state’s earliest deposit in 2014–15 was governed by Proposition 58. In the years the following, the 2015–16 deposit followed the rules established by Proposition 2. In 2016–17, there were two separate transfers – one that followed the constitutional requirements of the BSA and a second that was an optional deposit. Budget year 2017–18 only included the mandatory deposit, whereas, the state transferred both a mandatory and a separate, optional deposit in 2018–19.

Earlier this year, the Legislative Counsel Bureau released a legal opinion regarding the optional deposits into the BSA. The opinion stated that the optional contributions made in past budgets (totaling \$4.1 billion) do not count towards the 10% of General Fund revenues threshold. The opinion clarified that the legislature may continue to make optional deposits into the BSA above the 10 percent threshold but that those funds would not be subject to the requirements of Proposition 2 (Boyer-Vine, Kotani 2018). Governor Newsom accepted the opinion and proposed a Rainy day fund allocation in accordance.

The Public School System Stabilization Account

In addition to the creation of the BSA, Proposition 2 also created a K–14 specific reserve – the Public School System Stabilization Account (PSSSA). Funded by higher than average capital gains and other conditions, the new reserve is meant to ease budgetary constraints on K–12 districts and community colleges. This specific subaccount operates under a completely separate set of formulas from the BSA. The deposit into the PSSSA occurs only if the following conditions are met:

- Proposition 98 is not suspended in the fiscal year in which a deposit would be made;
- Proposition 98’s Test 1 is operative (as opposed to Test 2 or Test 3);
- All “maintenance factor” obligations created prior to the 2014–15 fiscal year have been repaid;
- A maintenance factor obligation is not created in the fiscal year in which the deposit would be made;
- The Proposition 98 funding level is higher than in the prior fiscal year, adjusted for the percent change in attendance and the change in the cost of living.

Since its creation, the 2019–20 May Revision projects the first triggering of deposits into the PSSSA. If a number of conditions are met, the formulas will require a \$389 million transfer into the account. And while there are no state-level reserves for districts to draw upon currently, schools and community colleges have been able to build local reserves during this time of economic expansion.

At the school district level, reserve funds can be restricted or unrestricted in nature. While unrestricted reserves can be used for any need, restricted reserves target specific programs. California’s K–12 local school districts are required to maintain a minimum level of unrestricted reserves, depending upon average daily attendance (Table C1). On average, the minimum is 3% of annual expenditures. However, a reserve more than twice the minimum requires an annual statement justifying the need for a higher reserve balance. As of 2016-17, unrestricted reserves for K–12 districts totaled \$11.7 billion.

The balance of the PSSSA also has implications for local reserves. State law requires a 10% cap on local reserves, once the PSSSA is able to reach a certain threshold. Small school districts, those with average daily attendance of less than 2,501 students are exempt from this cap, and state law does not require minimum or maximum reserve

levels for community college districts. Despite the absence of any requirements, community colleges' unrestricted reserves totaled \$1.6 billion in 2016-17.

TABLE C1

K-12 school district minimum reserve requirements

District average daily attendance	Number of districts	District reserve minimum requirement
0 – 300	360	Greater of 5% of total expenditures or \$67,000
301 – 1,000	162	Greater of 4% of total expenditures or \$67,000
1,001 – 30,000	506	3% of total expenditures
30,001 – 400,000	24	2% of total expenditures
400,001 and over	1	1% of total expenditures

SOURCES: California Department of Education, Criteria and standards for reviewing school district 2018-19 budgets; SACS database.

NOTE: District reserve maximum is only activated in years following a deposit in the PSSSA. Specifically, in a fiscal year immediately after a fiscal year in which a transfer in made to the PSSSA, a school district budget that is adopted or revised may not have a combined assigned or unassigned ending fund balance that is in excess of the district reserve maximum requirement.



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