# California's Fiscal Ship:
## Will it Sink as Freight Carriers From China Turn Around?

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As the national economy hums along in the 10th year of expansion, ripples have appeared on the California shore. But big waves emanating from the nascent trade wars have not appeared. The question for California's logistics industry is will they appear soon? And for State government, if they do what will be the impact? This concern was an integral part of Governor Brown's final budget message last May and must be part of the next governor's 2019 budget message. In spite of concerns about the risk of a full-blown trade war, our forecast for the U.S. economy is one of growth, albeit slower growth.[1] California, continually one of the most prosperous states, is expected to continue to grows apace.

However, the emphasis on "tit-for-tat" and "standing-ground" tariff policy with respect to China looms large. Thus far is that U.S. trade policy with countries other than China has been mostly rhetoric tossed with some relatively small and mutually advantageous modifications to existing agreements. That may not be the case with U.S/China trade relations and if not, a re-allocation of resources away from Chinese imports through the Golden State's ports would make our forecast too optimistic. Were that, or some of the other risks we describe for our national forecast come to pass the aforementioned risk for the State comes into play; that of the reliance of State Government on a volatile tax base; the income of successful entrepreneurs and holders of stock options.

In this California report we look at some scenarios based upon the volatility of State revenues, and what that might mean for the State General Fund and the provision of public goods. We begin with a look at employment, the best contemporaneous measure of economic activity in the State for a window on where the State's economy is today. We then follow with an analysis of the sufficiency of the State rainy-day fund for the next economic downturn, and then we conclude with our "most-likely" forecast scenario.

### Employment Retrospective

The California employment picture of consistent growth in the labor force and in the number of people employed has changed a bit since our last report of June 2018. While three months does not make a trend, there is the appearance of one in the making. Specifically, for the first time in this expansion the two measures of employment we follow are now moving in different directions.

Non-Farm Payroll employment, which measures the number of jobs, reached 17.2 million in July and that is 10.6 percent higher than the pre-recession peak. It is also 21.0 percent higher than employment at the depths of the recession. Although growth is slower this year than in 2015, the growth rate from the previous July 2017 is still at a 2 percent rate, approximately the same for the period July 2016 to July 2017.

1. *David Shulman, "A Wile E. Coyote Economy?" UCLA Anderson Forecast. September 2018.*

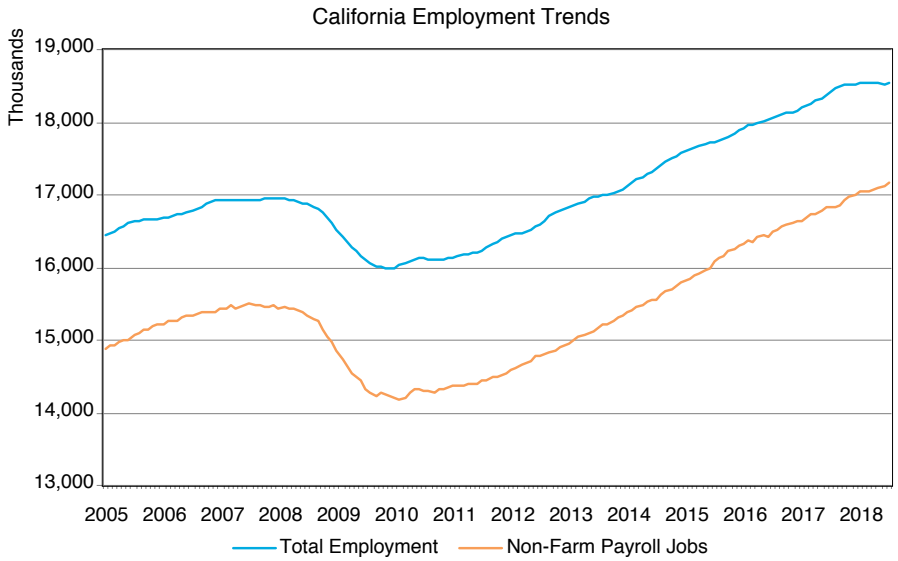
Total employment, which measures the number of people employed and includes farm workers and non-farm non-payroll sole proprietors has dropped from a 2% growth rate to a July to July growth rate of only 0.7%. In part, this is due to a reduction in farm employment of nearly 4 percent since China responded to U.S. tariffs with duties on agricultural exports from the U.S.

However, it is more than farm employment that has caused this shift. (Chart 1). What other explanation might there be for the difference between the two measures? It could be measurement error as the metrics come from two different surveys and the annual benchmark revision next March could correct it. However, it is more likely an outcome of tight labor markets. Likely the explanation is that firms are now having to convert contract workers to regular employees with associated benefits in order to retain their skilled workforce. That conversion would increase the number of non-farm jobs without changing the metric for the number of people employed. This is good news for employees who will continue to experience an increase in compensation through the year.

The growth in non-farm payroll jobs continues to be dominated by the health care sector and leisure and hospitality reflecting the demand of aging and retiring baby-boomer Californians (Chart 2). The next two sectors with the largest number of new jobs over the last year are education and construction. On a percentage basis (Chart 3) the construction and logistic sectors are the fastest growing sectors in the State.

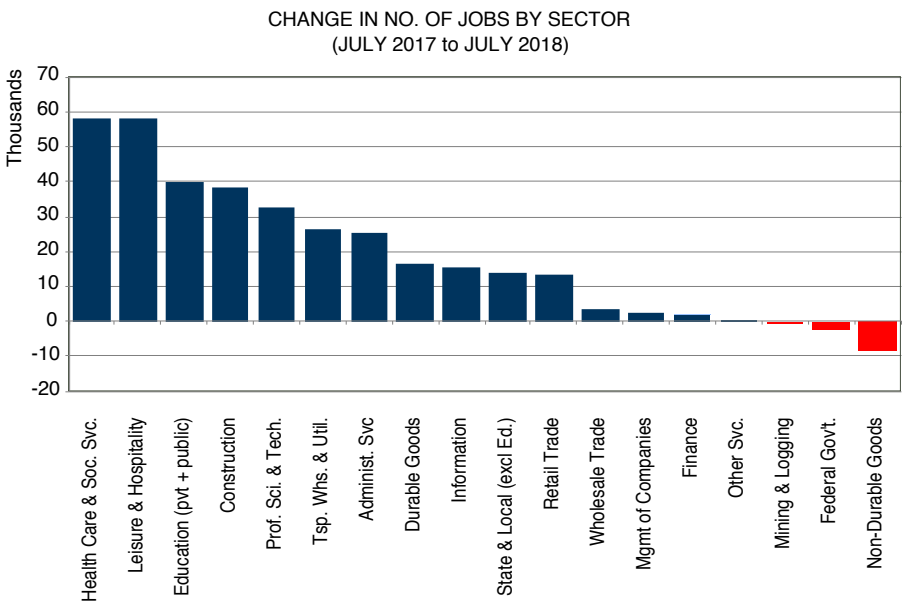
Herein lies the source of risk for the continuation of the expansion in California. Construction is negatively related to interest rates, and our National forecast has them increasing. While the demand for housing is such that it will only slow home construction the same is not true for office and retail construction. The new tariffs announced as this article is being written will negatively affect the logistics industry. Even though our forecast is for it to have only minimal effects, there is an increasing risk that the escalation of the trade war with China will have a significant negative impact. Finally, education is dependent on public financing. Were construction and logistics to contract in the coming year, this could reverberate through the California economy. The third growth sector, education, would then be impacted by the fall off in State general fund revenues. Is that enough to derail the State budget and halt the expansion? The answer is, it depends on the magnitude of the slowdown and that is the subject of the analysis in the next section.

Chart 1



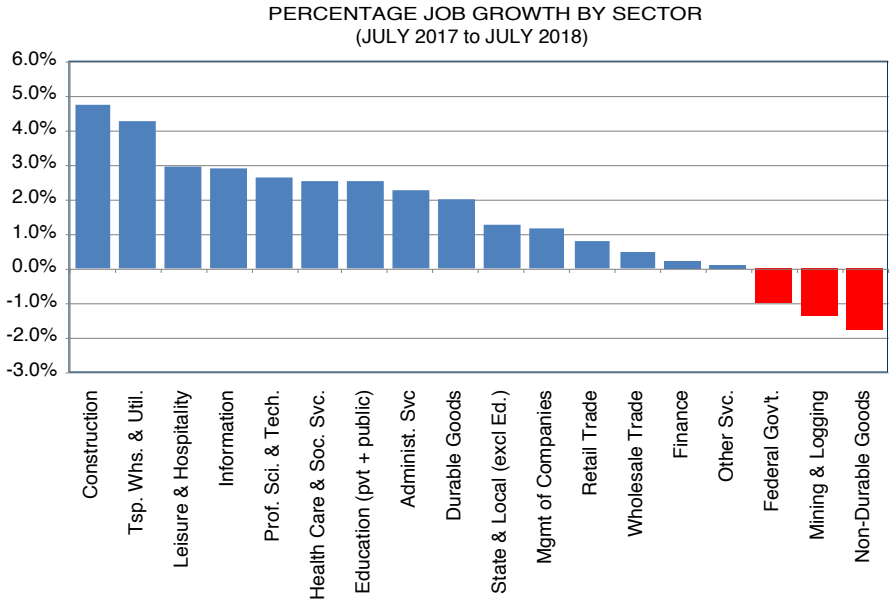

*Source: EDD.ca.gov*

Chart 2




*Source: EDD.ca.gov, UCLA Anderson Forecast*

Chart 3




*Source: EDD.ca.gov, UCLA Anderson Forecast*

## The Risk To The General Fund

The last two recessions (2001 and 2008/2009) were accompanied by a large drop in State personal income tax revenues. The consequence for the State economy was a cutback in government services with concomitant spillover effects. The only change in the State income tax code since that time has been an increase in the tax on high income earners; individuals whose income is positively correlated with the state of the economy.

To explore the risk associated with this as the economy cools over the next few years we look at the volatility of tax revenues and project what the impact on the State General Fund would be for a garden variety recession. It is important to keep in mind that there is no such thing as a garden variety recession. Rather they are characterized by certain sectors being hit harder than others. In California, it was the aerospace contraction (1990), the dot-com bust (2001) and the housing collapse (2008/2009). Will the next one be mild or not? That is still an open question. Nevertheless, as forecasters we look at the prospects under an assumption that the future will be somewhat like the past, and that is the methodology embodied herein.

To quantify volatility, consider personal income tax revenue receipts on a fiscal year basis (July 1 to June 30) deflated for inflation (Chart 4).

The trend in these revenues needs to be removed so that secular growth in the economy does not distort the analysis. If we estimate the trend[2] we get the fitted red line (Chart 5). The line represents the secular growth in income and the difference between the line and the actuals (called the residuals) is how much over or under trend real income is at that point in time.

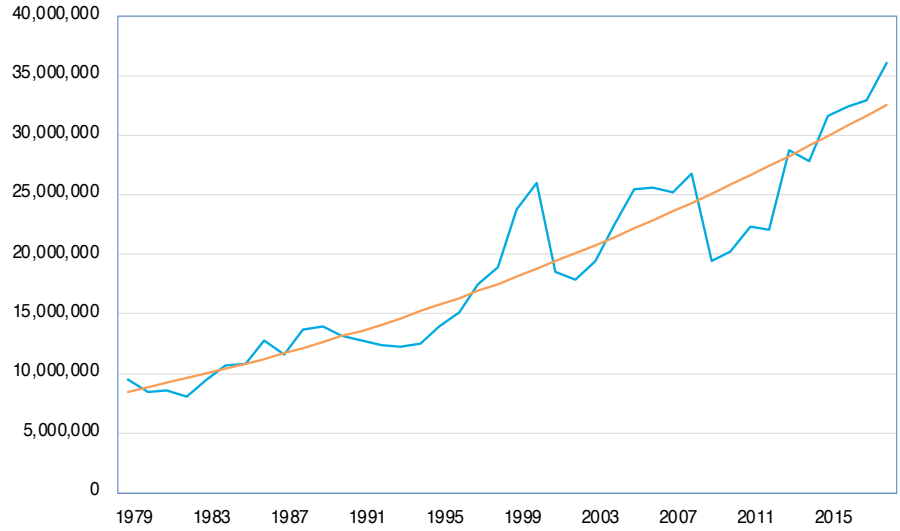
Now to get some idea of volatility, we calculated the standard deviations of residuals from the trend line—the difference between actuals and trend—for the first 20 years of data. This tells us how far off, on average, the actual is from the trend. Then for each subsequent year, we dropped the first year, added the subsequent year and recalculated the standard deviation. (Chart 6).[3]

Chart 4


*Source: www.edd.ca.gov*

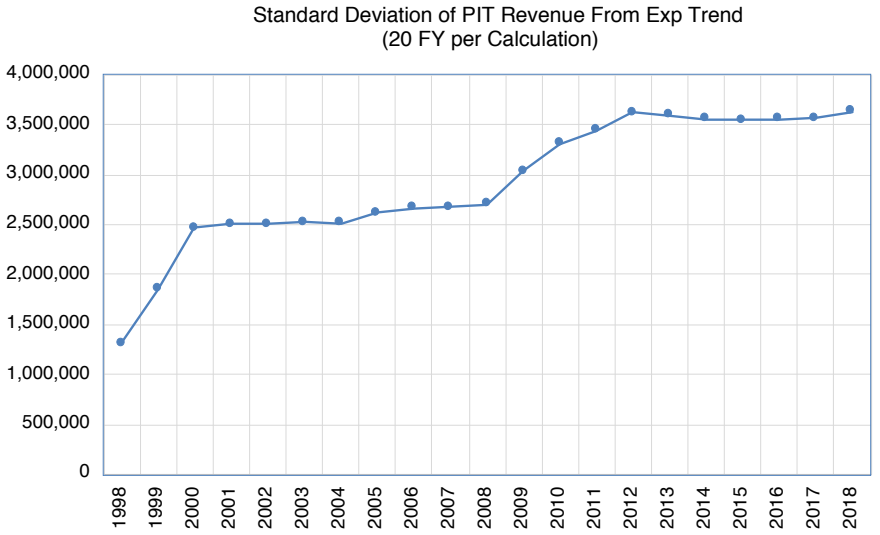
2. *A linear-exponential trend ( Personal Income = b1 * time + b2*time2) was estimated using standard regression analysis.*
3. *The calculation is done in percentages to adjust for the increasing size of real personal income.*

Chart 5




*Source: www.edd.ca.gov*

Chart 6




*Source: Demographia Numbeo, TopUniversities.org, Bestcities.org, IESE.edu, UCLA Anderson Forecast*

Why does this volatility increase over time? It could be related to the trend model. But interestingly it corresponds to the end of manufacturing in California and the rise of entrepreneurial business. That is not proof that these are anything more than spurious correlations, however, there is reason to think it is more than that.

In earlier recessions, California was more heavily a manufacturing economy. The contractions in manufacturing were associated with layoffs of manufacturing workers. But there was much less impact on high-income c-suite executives. Fewer were laid off and those who were not had, for the most part, only their bonuses affected.

Moreover, manufacturing executives in the past were not as highly compensated as those of today. It has been well documented elsewhere that increasing inequality in the U.S. today is associated with high income executives and high income entrepreneurs having their income grow very much faster than the economy as a whole. As these entrepreneurs replace manufacturing executives, the correlation between personal income and the state of the economy increases. So, this is a plausible explanation for the increase in volatility of revenue collection shown in Chart 6.

Now let us do a thought exercise. Suppose the next recession results in an initial drop in personal income tax (PIT) revenues of one standard deviation below trend. A drop of this magnitude or greater would happen in one-third of all recessions.[4]

Then the loss compared to today is the loss from above trend to the trend line to one standard deviation below the trend line. Converting this number to nominal dollars and we have a drop in General Fund revenues of $18.67B. This seems reasonable when one thinks of the last two recessions.

Also, when PIT revenues fall below trend they tend to stay below trend for at least one additional year. We estimated the magnitude of the persistent below trend revenues relative to the first-year revenue drop below trend.[5] Using this estimate, the second year would be $17.45B below the previous above trend peak. The two together represent a shortfall in revenues from the year preceding the recession of $36.12B (remember the $46B shortfall last time?).

The rainy-day fund on June 30, 2019 is projected in the Governor's May 2018 message to be funded at $13.77B; a level of funding which is much less than the $36.12B calculated in this exercise. But, of course, this is just a thought experiment. The next recession could be mild compared to the last four recessions.

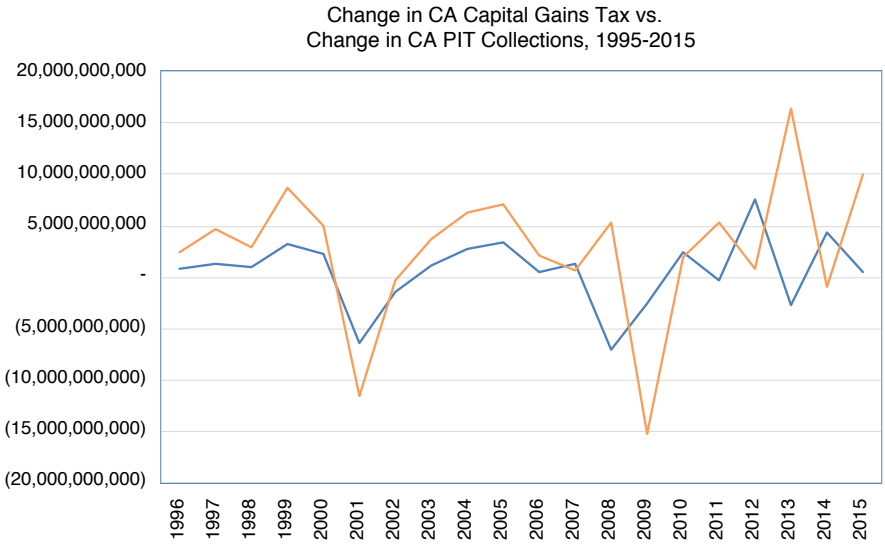
To consider something less extreme, suppose the drop is 0.5 standard deviations below trend. In this case, a recession of at least this severity would happen in two-thirds of all recessions. Using the same methodology yields a two-year drop in revenues of $27.32B. This is also much larger than the projected $13.77B rainy-day fund.

To tie this to empirical observation, consider Chart 7. The two lines represent the change in personal income tax collections and the change in capital gains tax collections (assuming all capital gains taxes are paid at the highest marginal tax rate). The correlation is evident. In 2008, there was a fall in capital gains, but the drop occurred in the fourth quarter and was not picked up in tax collections (or the absence of tax collections) until the following year. In 2012, there was a shifting of income in anticipation of the increase in taxes from Prop 30 (passed in November), but the higher taxes imposed retroactively did not appear until 2013. If one were to adjust for these events the correlation between the two would be much tighter. And the thing is, capital gains drop precipitously in recessions, even mild ones.

The implication for the forecast is that state and local expenditures are at risk in the next downturn. The rainy-day fund, like a leaky umbrella, will only keep us from being as wet as we would otherwise be, but we will be wet nonetheless. If the legislature wanted to offset this risk, there would need to be less spending today and significantly more savings for tomorrow. Or alternatively, California needs to escape the next recession relatively unscathed. While this analysis does not change our current forecast, one of slowing growth, but without a recession, it will come into play in any adjustment to the forecast if the developments in the current trade war with China result in the ships filled with goods for the warehouses in California end up turning around and heading back to China.

*4. This assumes a normal (bell curve) distribution for the residuals.*
*5. The estimate of serial correlation was a coefficient of .87.*

Chart 7




*Source: DOF.ca.gov, UCLA Anderson Forecast, CA Board of Equalization*

## The Forecast

Our current forecast for 2018 and 2019 is not much changed from the June forecast. Our forecast for 2020 is slightly weaker than our previous forecast due to the weaker national forecast. The economy has been evolving much as expected to this point and aside from the escalation on the trade front, there are no new surprises to alter the forecast.

The elevated risk we have discussed over the past year still exists. The risk to NAFTA has abated as we predicted. The modifications in the agreement with Mexico will have little effect on the U.S. and on California. Our expectation is for the same to be true with the negotiations with Canada. The risk with a trade war with China is much greater and were that to come to pass, the logistics industry—one of the fastest growing sectors in California over the last year—will be very real. Additionally, the State Budget has been expanding with increased tax revenues, but this presents a risk in any downturn. Our forecast is for California to weather these risks over the next two years. Nevertheless, they are risks that we will keep an eye out for as they have the potential to derail the forecast.

We expect California's average unemployment rate to have its normal differential to the U.S. rate at 4.4% in 2020. While the overall forecast is not much different from that released in June 2018, some economic activity has been pulled forward into 2018 due to changed fiscal policy. This results in a weaker 2020 than was implied by our previous forecast.

Our forecast for 2018, 2019 and 2020 total employment growth is 1.2%, 1.5% and 0.5% respectively. Payroll jobs are expected to grow at a 2.1%, 1.6% and 0.6% rate respectively. Real personal income growth is forecast to be 1.4%, 3.8% and 2.7% in 2018, 2019 and 2020 respectively. Homebuilding will accelerate to about 140,000 units per year by the end of the forecast horizon 2020.