

The Economic/Pandemic Question: To Close or Not to Close?

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Summary

- As 2020 draws to a close, labor markets in California are weaker than those in the U.S. overall.
- Non-pharmaceutical interventions (such as mask mandates and restrictions on business operations) tend to be more restrictive in CA than elsewhere.
- Across the U.S. in October 2020, states with more restrictive non-pharmaceutical interventions tended to have higher unemployment rates, though historical evidence suggests that more restrictive non-pharmaceutical interventions may not significantly affect economic activity in the near term and may help in the long term.
- Looking to the future, the forecast for the state is for the technology sectors, residential construction, and logistics to lead the recovery, and for California post-pandemic to grow faster than the U.S.

Introduction

Since the pandemic-induced recession began last March, we have said that the course of the pandemic, and the public health policy response to it, is critical to the economic forecast. As well, we have pointed out that we do not know what the future will bring with respect to the pandemic. What we do know is that the pandemic is raging across the

country once again. California has responded, as before, with more restrictive non-pharmaceutical interventions (NPI) via mask mandates, closures, and gathering restrictions. We expect that to continue, particularly through the holiday season as significant traveling by Americans has thus far presaged further increases in COVID cases.¹ We also know that at least three vaccines are in the latter stages of testing and approval. Does this mean that we are out of

1. Though total domestic and foreign air travel remained significantly below a year ago, from the last week in October to the last week in November, the total number of passengers processed by TSA increased by 16%. A year previous the increase was 8%. <https://www.tsa.gov/coronavirus/passenger-throughput>

the woods soon? The answer is maybe. There is still much that is unknown, however for purposes of our forecast, we are assuming that by summer a large number of people will have received one of the vaccines. In this California report we ask two questions: where are we now? And what are the likely future effects of the more restrictive NPIs on the state’s economy? The short answer is that the state has higher unemployment than in the U.S. overall, and the state is due to grow faster than the U.S. once restrictions are lifted and the pandemic is in the rear view mirror.

Sectoral employment retrospective

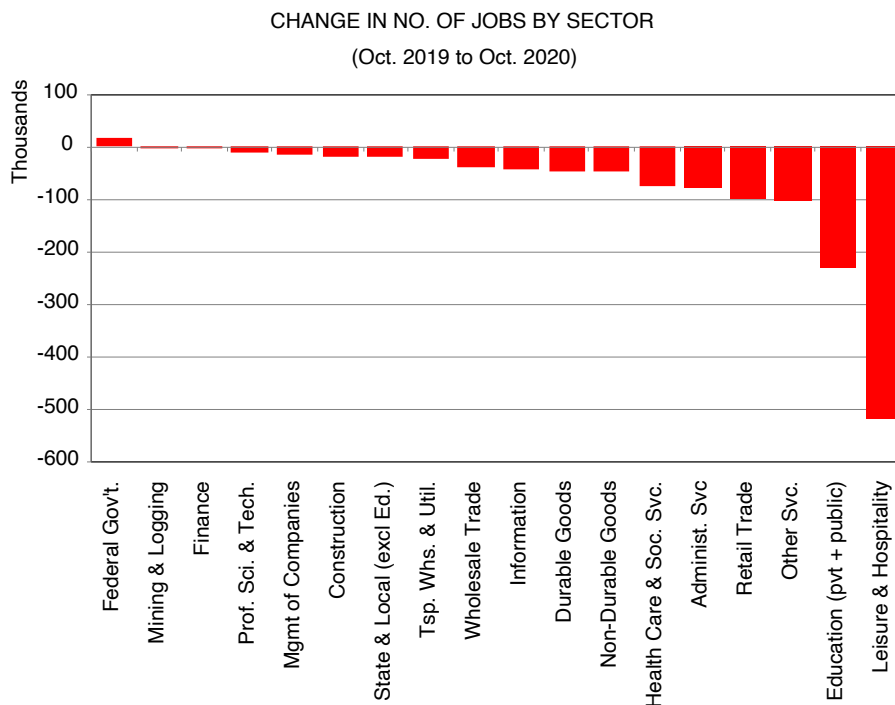
The near-term recovery in employment in the state depends critically on the course of the pandemic. As we move through Thanksgiving to New Year’s Eve and usher 2020 out, we are confronting new highs in COVID cases and changing restrictions on economic activity. How this plays out is an open question, however, to make our forecast we must first make an assumption about the pandemic and the policy response. Our assumption is that the elevated number of cases will remain for the balance of the year, and households will remain cautious when it comes to holiday activities including in-store shopping. This will mean a weak growth rate

through the balance of the year and into early 2021. With at least three vaccines in the latter stages of testing and approval, for the purposes of our forecast we also assume that a large number of people will have received one of the vaccines by summer, ushering in the beginning of a return to normalcy.

In the 2020 recession a few sectors have been shouldering the brunt of the job loss.

On a year over year basis, including the recovery of some of the lost employment occurring between April and October, leisure and hospitality, retail, and education remain the weakest (Figure 1). Since October 2019, 1.37 million non-farm payroll jobs in California have been lost. Leisure and hospitality and education account for 55% of the job loss, with almost 80% of the education employment decline in the public sector. Another 15% of the job loss is in retail and other services for a total of 70% of all unemployment in the state. These sectors will also be impacted by the rate of recovery as they each involve a higher level of human contact than other economic activity.

Figure 1 Change in Number of Jobs by Sector

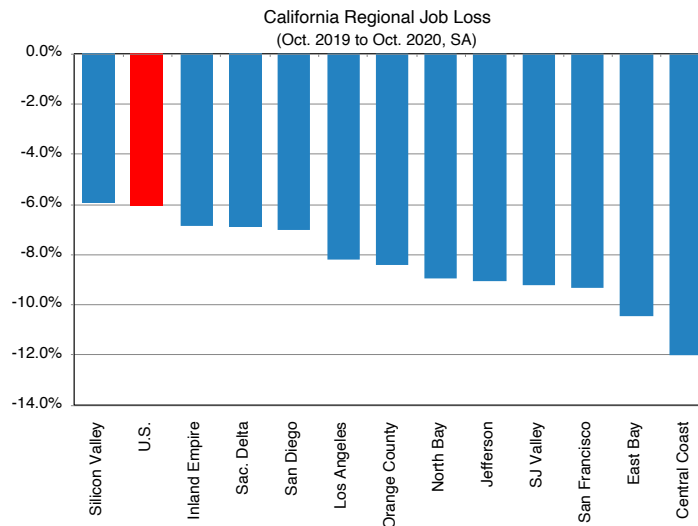


Source: California EDD

Regionally the recession has been uneven as well (Figure 2). However, unlike the great recession, there is not the bifurcated impact of inland vs coastal California. San Francisco, the North and East Bay, the Great State of Jefferson, and the San Joaquin Valley have all contracted by about the same percentage. The Inland Empire, Silicon Valley, San Diego, Sacramento and the Delta have fared better and contracted less. Some of this is due to the impact of a shutdown in tourism. San Francisco is a major destination for international tourists, and Napa and Sonoma for domestic tourists. The Inland Empire has been rebounding with residential construction and logistics, and Silicon Valley with the demand for new software technologies for the new way in which business and socializing are being conducted today. Also important in understanding regional differences is the way in which commuters appear in the data. The data on unemployment are from the CPS (Current Population Survey also known as the Survey of Households). This survey polls individuals by their domicile. The payroll employment data shown here in Charts 1 and 2 are from the Current

Employment Statistics survey which collects data on payroll jobs by the employer’s location. For example, the Inland Empire lost 6.9% of its payroll jobs from October 2019 to October 2020 while Orange County lost 8.39%. However the unemployment rate in both places rose about the same amount, about 5 percentage points (3.9% to 9.0% in the IE and 2.6% to 7.5% in Orange County). The differential stems from the fact that commuters into Orange County from the less expensive communities in the Inland Empire, particularly those working in the northern parts of the county’s leisure and hospitality industry, are counted as unemployed in Riverside County and not in Orange County. We find the same pattern with San Joaquin and the East Bay relative to Silicon Valley and San Francisco in Northern California. Since lower income sectors are projected to grow slower than higher income sectors, and commuters from inland counties are more likely to be lower income, the spillover effects of the growth of technology, advanced manufacturing, and professional services in the coastal cities may be less pronounced than in previous recessions.

Figure 2 California Regional Jobs Loss



Source: California EDD

Human contact sectors: How long until recovery

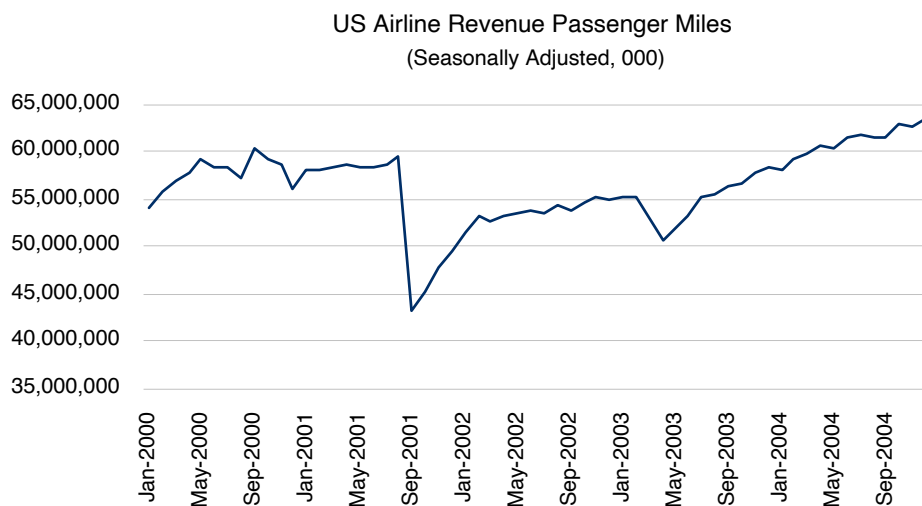
In previous California reports we wrote about our analysis of fear-of-flying data and how that informs our forecast for the current downturn. It bears repeating as it is an important element of the forecast. What is different now from last June when we did this analysis is the new, more acute, wave of infections. It is possible that we are in for a long winter and that the pandemic will not cease to have a major impact on the leisure and hospitality, retail, other services, and education sectors until widespread vaccination occurs. In our national forecast we assume that this is late spring to early summer 2021. What that means for the recovery of the human contact intensive sectors is that their recovery, which began in June, will experience a hiatus until the coming June.

To understand how long it will take, we turned to an analysis of the loss in passengers from the 9/11 attacks on American aviation. Though quite different than a pandemic, it is similar in two respects. First, the demand for domestic air travel is discretionary, and second, the decline in demand was a consequence of safety concerns. Figure 3 shows the decline

in traffic and the return to the previous peak. There is a 31 month recovery in commercial airline domestic travel as measured by revenue-passenger-miles. However, the decline and recovery, then as now, is confounded with a recession. Beginning in March of 2001 and extending through November of the same year the economy contracted. It was a mild recession, however that loss of income affected the demand for passenger traffic as well.

In a 2004 study by Ito and Lee,² these and other factors affecting the demand for air traffic were separated out. They found that while there was a 30% instantaneous decline in demand right after 9/11, there was a relatively rapid recovery of all but 7.5% of that decline. That residual persisted through the extent their data. This result is consistent with other studies of the economic impact of accidents on air traffic (see for example Barnett and LoFazo (1983) and Squalli (2005)³). Applying their model to the leisure and hospitality demand in California presents a somewhat gloomy picture. Specifically, the sector remains at 20% below its previous peak at the end of our forecast horizon (2023) due to both the safety and income effects. That translates to 200,000 relatively low-income Californians with long-term unemployment for 30 months following the end of the pandemic.

Figure 3 U.S. Airline Revenue Passenger Miles



Source: U.S. Department of Transportation

2. Harumi Ito and Darin Lee. 2005. "Assessing the Impact of the September 11 terrorist attacks on US airline demand." *Journal of Economics and Business*. Vol:57 (1). Pp:75-95.

3. Barnett, A. and LoFazo, A. J. 1983. "After the Crash: The Passenger Response to the DC-10 Disaster." *Management Science*. Vol:29. Pp:1225-1236.

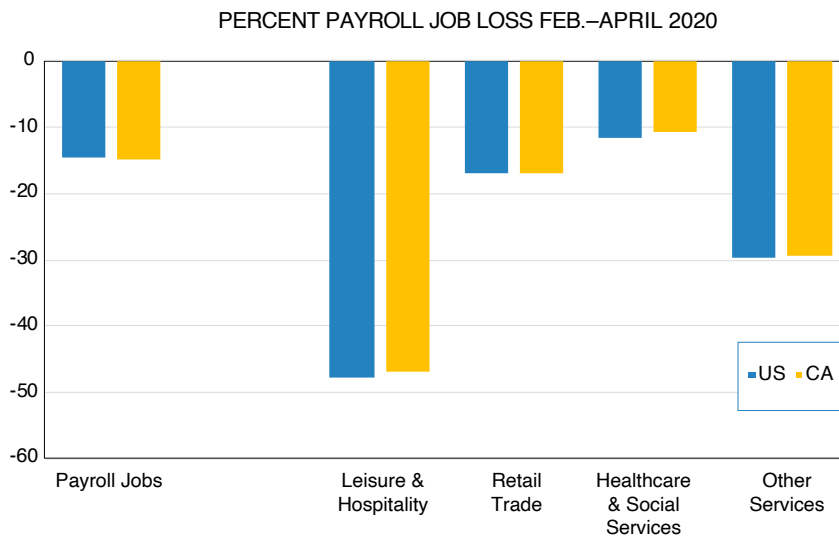
Squalli, J. 2005. "Do Consumers Have Imperfect Recollection about Airline Safety?" *Applied Economics Letters*. Vol:12. Pp:169-176.

To be sure, some will find employment in other sectors, but in an economy that is demanding technical skills, it will be challenging. There is one important caveat. Our shelter-in-place and zoom-fatigue has been said to create an enormous pent-up demand for human interaction. That being the case, we can expect a little more rapid recovery than suggested by this fear-of-flying analysis. Nevertheless, 2024 remains the most likely return-to-previous peak employment in these sectors.

Is California Falling Behind?

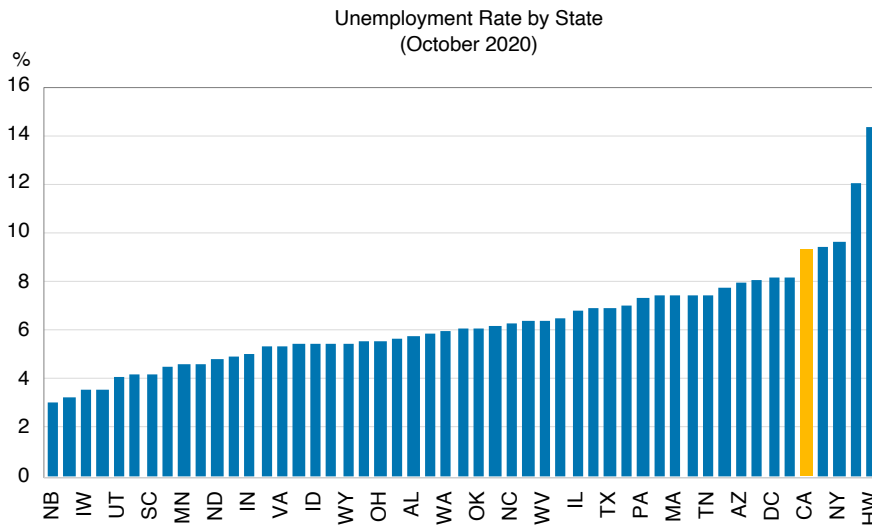
Through the initial phase of the recession, March/April 2020, the contraction in employment in California looked much like the contraction nationwide (Figure 4). One would expect California to recover *pari passu* with the national economy based on these data. The differences would be in the faster growth from the tech sectors and the slower growth from the sectors serving international tourists. Otherwise, for a

Figure 4 Percent Payroll Job Loss Feb–April 2020



Source: EDD.ca.gov, BLS.gov

Figure 5 Unemployment Rate by State



Source: BLS.gov

change, California looked to be quite average in the recessions impact.

However, the expansions in the state and in the U.S. overall look a bit different (Figure 5). California has one of the highest unemployment rates in the U.S. Tourism is one reason. Another is that the extent of the government intervention in California via NPI compared to other states is somewhat different, and that raises the question, what are the near term and long term economic impacts of the NPI policies in California?

Economic implications of closures

To begin to answer the question we look at the relationship between non-pharmaceutical interventions (NPI), a fancy way of saying shutdowns, gathering restrictions and mask mandates, and indicators of the labor market (the unemployment rate and employment growth rates). To analyze the relationship between labor markets and NPIs, we culled data gathered by the University of Oxford and aggregated by the New York Times.⁴ From these data we assigned each state a value with 0 indicating the least restrictive NPIs, 1 moderate, and 2 most restrictive during the month of October 2020.

In a regression of unemployment rates on this measure of public health policy, policy variation explained just under a quarter of the unemployment rate differences between states (as measured by the regression's R-squared). Using this model, we derived an unemployment for each state as if all states were at the least restrictive NPI level (Figure 6). While California is not in the middle of the pack, it is not far off, about 1.3 percentage points higher than the average. A higher implied unemployment rate in the state is due, at least in part, to the fact that California is host to over 20% of all foreign tourists coming to the U.S.; tourists who are no longer making the journey. If we repeat this exercise using a model that includes an indicator control for states with significant international tourism (California, Nevada, Hawaii, New York and Florida), California's implied unemployment rate is lower than the average for all other states.

We can also look at the relationship between payroll employment and NPIs. Using the same NPI variable as before in a

regression to explain the change in total non-farm payroll employment by state from October 2019 to October 2020, we find similar results (Figure 7). The NPI variable explains a third of the variation in growth rates in employment across states. Moreover, in this regression, the counterfactual growth of employment in California with all states set to have the least restrictive level of NPIs rests squarely in the middle of the pack.

From these simple regressions we learn two things about the forecast. First, since California, as a matter of public health policy, tends towards more restrictive NPIs than many other states, so long as the pandemic rages, employment growth will be slower and the unemployment rate higher than in the rest of the nation. Second, the underlying economy is not necessarily weaker than other states in the U.S., though each state has its own labor market idiosyncrasies.

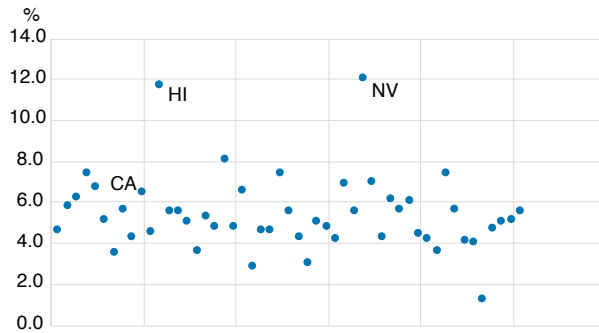
Will more restrictive NPIs have longer term adverse effects on the California economy? There is not a lot of evidence to work with, but recent studies of the 1918/1919 Influenza Pandemic suggest the opposite. For example, a research project by economists at the Federal Reserve and MIT found that over the course of the influenza pandemic, NPIs had no statistically significant impact on economic activity.⁵ The reason for this was twofold. First, in cities with less restrictive NPIs, more employees were sick and therefore produced less output. Second, because health outcomes were worse, consumers were more reticent to purchase goods and services involving higher degrees of human contact. Thus there was both a demand and supply consequence for those cities with less restrictive NPIs. Subsequent to the pandemic, and adjusting for population size and migration, they found that cities with more restrictive NPIs experienced faster post-pandemic growth. To be sure, the economy of 2020 is quite different than that of 1918. It is less rural, more urbanized, more globalized, and more mobile between regions. Nevertheless, the results are informative. Thus, with the expectation that the tech sectors along with residential construction and logistics will be leading the recovery, our forecast has California, post-pandemic, once again growing faster than the U.S.

4. <https://covidtracker.bsg.ox.ac.uk>, https://www.nytimes.com/interactive/2020/11/18/us/covid-state-restrictions.html?name=stylized-coronavirus®ion=TOP_BANNER&block=storyline_menu_recirc&action=click&pgtype=Interactive&impression_id=6b50d752-2b45-11eb-be08-77c2b2e224fa&variant=1_Show

5. Correia, Sergio and Luck, Stephan and Verner, Emil, *Pandemics Depress the Economy, Public Health Interventions Do Not: Evidence from the 1918 Flu* (June 5, 2020).

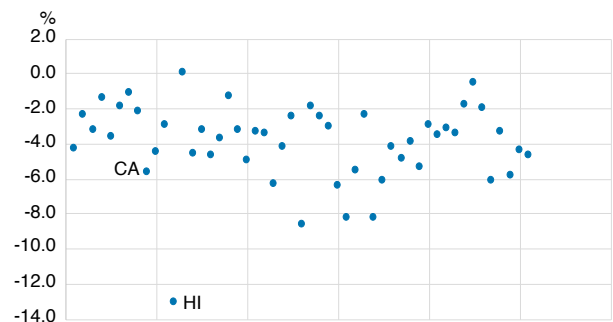
<http://dx.doi.org/10.2139/ssrn.3561560>

Figure 6 Implied October 2020 U-Rate With Less Restrictive NPI for All States



Sources: New York Times, Oxford University, UCLA Anderson Forecast

Figure 7 Implied Oct 2019 to Oct 2020 Growth Rate With Less Restrictive NPI, Non-Farm Payroll Jobs



Sources: New York Times, Oxford University, UCLA Anderson Forecast

The Forecast

Although the timing may be offset with California beginning a significant recovery later than some other states, we expect the California recovery to ultimately look very much like the U.S.⁶ The recovery in CA will be slower in the leisure and hospitality and retail sectors due to the disproportionate reliance on international tourism⁷, and mixed in transportation and warehousing due to the shift to online shopping on the one hand and the expected continuation of the trade war with China in a Biden administration on the other⁸, but faster in business, scientific and technical services and in the information sector due to the demand for new technologies for the new way we are working and socializing, and faster in residential construction as California’s shortage of housing relative to demand drives new developments.

The unemployment rate for the 4th quarter of this year is expected to be 8.9%, and for the entire years 2021, 2022

and 2023 we expect average unemployment rates of 6.9%, 5.2% and 4.4% respectively.

Our forecast for 2021, 2022 and 2023 is for total employment growth rates to be 6.1%, 3.4% and 2.2%. Non-farm payroll jobs are expected to grow 3.6%, 3.8% and 2.5% during the same three years. Real personal income is forecast to fall by -1.0% in 2021 as transfers from the stimulus packages expire and grow by 2.1% and 3.4% in 2022 and 2023. In spite of the recession, the continued demand for a limited housing stock coupled with low interest rates leads to a forecast of a relatively rapid return of homebuilding. Our expectation is for 123K net new units in 2021; a 16.2% increase from 2020 and continuing to grow to 132K for 2023. Needless to say, this level of home building means that the prospect for the private sector building out of the housing affordability problem over the next three years is nil.

6. Leo Feler, “A gloomy COVID winter and an exuberant vaccine spring” UCLA Anderson Forecast. December 2020.

7. California’s share of international tourists to the United States in 2018 was 21.39%. U.S. National Travel and Tourism Office. https://travel.trade.gov/outreachpages/inbound_general_information.inbound_overview.asp

8. William Yu and Jerry Nickelsburg. “The Pandemic and the Trade Agreement.” Cathay Bank. March 2020. And “The Economic implications of the National Security Law” Cathay Bank. May 2020.