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A post-Great Recession overview of labor market trends in the United States and California

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Introduction

It has been well over a decade since the economy tumbled into what is now dubbed the Great Recession—reflecting the historical severity and swiftness of the downturn. The recession officially lasted from December 2007 through June 2009. However, the economy underperformed for nearly a decade as the output gap—GDP coming in under potential—did not close until the end of 2017.[1] After being in the grips of the worst recession since the Great Depression the economy is currently in a lengthy expansion with record job growth, stock market performance, and unemployment rates. But, troubling challenges remain such as weak wage growth, depressed employment rates, high rates of poverty, and increased inequality.

We are currently in the third longest expansion on record—however it isn't the strongest. Nine years into the recovery, annual economic growth (GDP) has been tepid, averaging only 2.2%. In contrast, growth rates were higher, on average, over the three previous expansions—2.8% (2002q1-2007q3), 3.7% (1991q2-2000q4), and 4.4% (1983q1-1990q2). The trend reflects a successive weakening of expansionary GDP growth over time. The current recovery has yet to record a single year of growth above 3%—a first since World War II.

It took a long time to dig out from the loss of jobs due to the Great Recession, which was especially severe in California. (As documented in previous CWED briefs: 2010, 2012 and 2016). It wasn't until mid-2014, after more than *six years,* that the U.S. fully recovered the number of jobs lost during the downturn—an unprecedented length of time. In past briefs we argued against the structural change narrative that dominated the discourse regarding depressed labor force participation and employment rates. Those who espoused the structural change perspective, many rather early in the downturn, argued that monetary and/or fiscal policy would be ineffective. Instead we argued that there remained significant cyclical slack in the labor market. That was, and still seems to be, the case as recent job growth continues to bring workers into the labor market.

How close are we to full-employment? It remains unclear. Trends discussed in this brief suggest that there is still room for further tightening of the labor market. What is clear is that after a long period of wage stagnation the majority of workers are just starting to see real raises (above inflation) in their pay checks. The Federal Reserve is already increasing interest rates; core inflation has been hovering between 1.7% and 2.3% since 2016. Policymakers at the Fed, who have hinted at a more aggressive approach, should think hard as that would put the brakes on this expansion when most workers are just getting ahead.

There has been a lot of media attention around advances in automation and how robots are leading to widespread joblessness as the demand for workers shrinks. We find that both of these claims are dubious, at least on a large scale. As this brief will show, job growth is in an unprecedented stretch of monthly gains, unemployment is low and falling, and productivity growth has been on the wane—not much support for the hypothesis of automation causing mass worker displacement. The "gig" economy continues to get significant media attention, but it remains a small fraction of all jobs—estimated to be 0.5 to 1.0 percent of the workforce. The Labor Department recently released the Contingent Worker Survey after a hiatus since 2005. The share of workers that engage in alternative work, including independent contractors and temp workers, did not change—estimated at 10.1% in 2017 compared to 10.7% in 2005. The vast majority of the workforce continue to work in traditional employment situations.

This brief examines many facets of the economy and the labor market in particular—including jobs, unemployment, employment, wages, and poverty for the U.S. and for California. We analyze labor market trends in the long run, putting special emphasis on the period since the Great Recession. We find an economy that continues to recover even as the reverberations from the last economic jolt are still with us.

Highlights

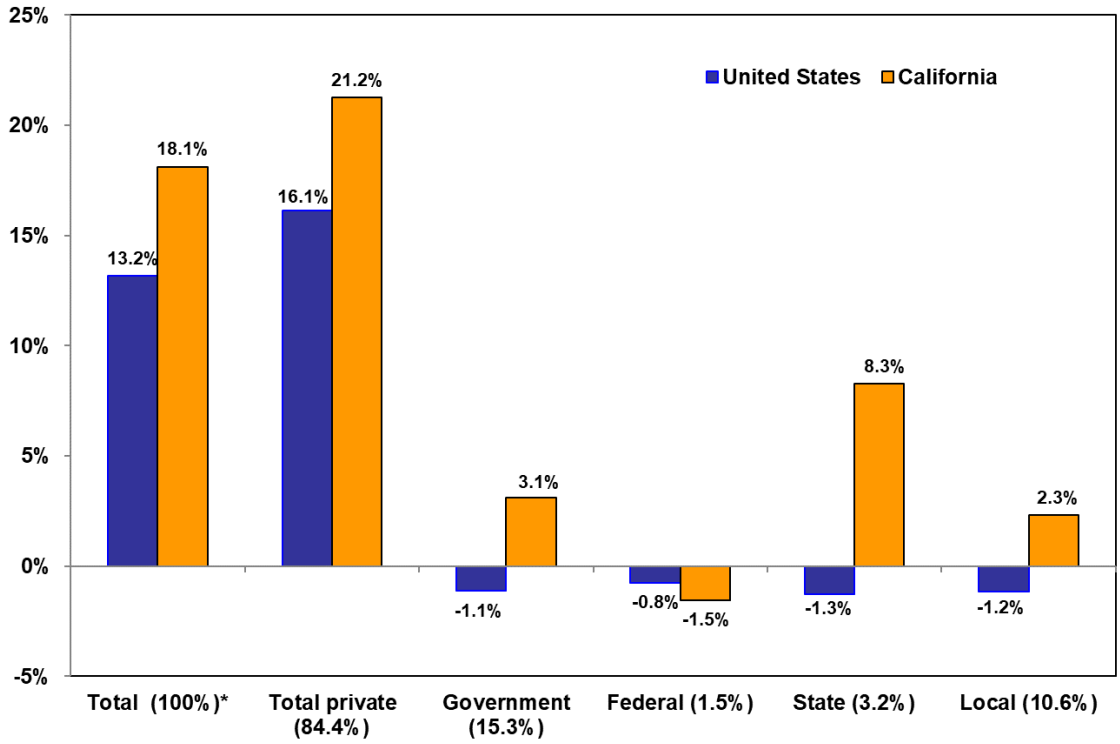
- It took over six years to fully recover the number of jobs lost due to the recession. At its worst, the U.S. shed 6.3% of its jobs (-8.7 million) with the corresponding figure for California being 8.3% (-1.3 million). The U.S. is currently in an unprecedented streak of monthly net job gains that began in October 2010—resulting in 18.3 million jobs in the U.S. with 1.3 million of them in California.
- Over the recession and its aftermath 164,000 public servants lost their jobs in California—net job growth since December 2007 has been just 2.3%. Accounting for population growth in California over the last decade results in a public-sector jobs gap of 157,200.
- Unemployment soared to over 12% in California and stayed in double-digit territory for an unprecedented forty-three consecutive months (February 2009 to August 2012)—attesting to the severity of the crash in the Golden State. Rates for April 2018 were 3.9% and 4.2% for the U.S. and California, respectively.
- Disparities in unemployment persist by region and race/ethnicity even as rates have substantially improved. County-wide rates vary from a low of 2.7 in San Mateo to a high of 19.1 in Imperial County for 2017. For that year, rates were 3.5% for Asians and 4.1% for non-Latino Whites; Latinos and African-Americans had higher rates of 5.6% and 7.3%, respectively.
- It is often beneficial to look beyond the unemployment rate to better assess labor market tightness. In California, 2017 annual rates of long-term unemployment (24.9%), underemployment (9.8%), employment (59.2%) and prime age employment rates (76.7%)—are all worse than they were in 2007 prior to the recession even as unemployment was *lower* in 2017. All of these indices continue to slowly improve as job growth continues, signaling that a cyclical response is still at play in the labor market.
- Employment rates have not fully recovered. California would have an additional 1.1 million workers if the 2017 employment rate (59.2%) were the same as it was in 2007 (62.1%).
- Over the last 17 years, inflation-adjusted wages in California increased by 14%, 8%, and 23%, for the bottom, middle, and top terciles, respectively. Wages did not surpass inflation until 2014 for the bottom two terciles—facilitated by a tightening labor market but also driven by strong state and local minimum wage policies.
- The incidence of poverty has improved modestly over the recovery. In California official poverty rates fell from 16.9% to 13.9% overall and from 24.3% to 18.6% for child poverty from 2011 to 2016. The more comprehensive Supplemental Poverty Measure ranks California as having the highest rate of poverty at 20.6%.
- It was not until 2016 that typical household incomes (adjusted for inflation) in California finally surpassed the previous peak of $65,852 reached in 2006. Over the last decade, incomes for a typical household increased by just 1.2% and they are up just 2.1% since 2000.

The Jobs Recovery

The good news is that the trend in job growth is in record territory. The U.S. is in an ongoing seven and a half year stretch of consecutive monthly job gains—a record. A few things to keep in mind. One, the jobs shed due to the recession and the subsequent jobs gained in the recovery are not the same. Two, U.S. averages are just that, averages, which is why we present California-specific figures—nuances exist across the U.S. and within each state. Recall that the trough in jobs was more severe in California on a percentage basis (-8.3%) than the U.S. on average (-6.3%)—with corresponding losses that amounted to 1.3 and 8.7 million jobs for California and the U.S., respectively.[2]

Chart 1 depicts job growth by major sectors over the *recovery* which officially started in June 2009.[3] The U.S. has averaged 164,000 jobs a month since recovery ensued. But, the current streak of successive monthly job gains did not begin until October 2010—gains from that point through April 2018 have averaged 198,600 for a total of 18.1 million. Monthly net jobs in California are typically more volatile with an average of 30,800 since October 2010 for a total of 2.8 million.

Chart 1. Job growth since the start of the recovery
(June 2009 to March 2018)



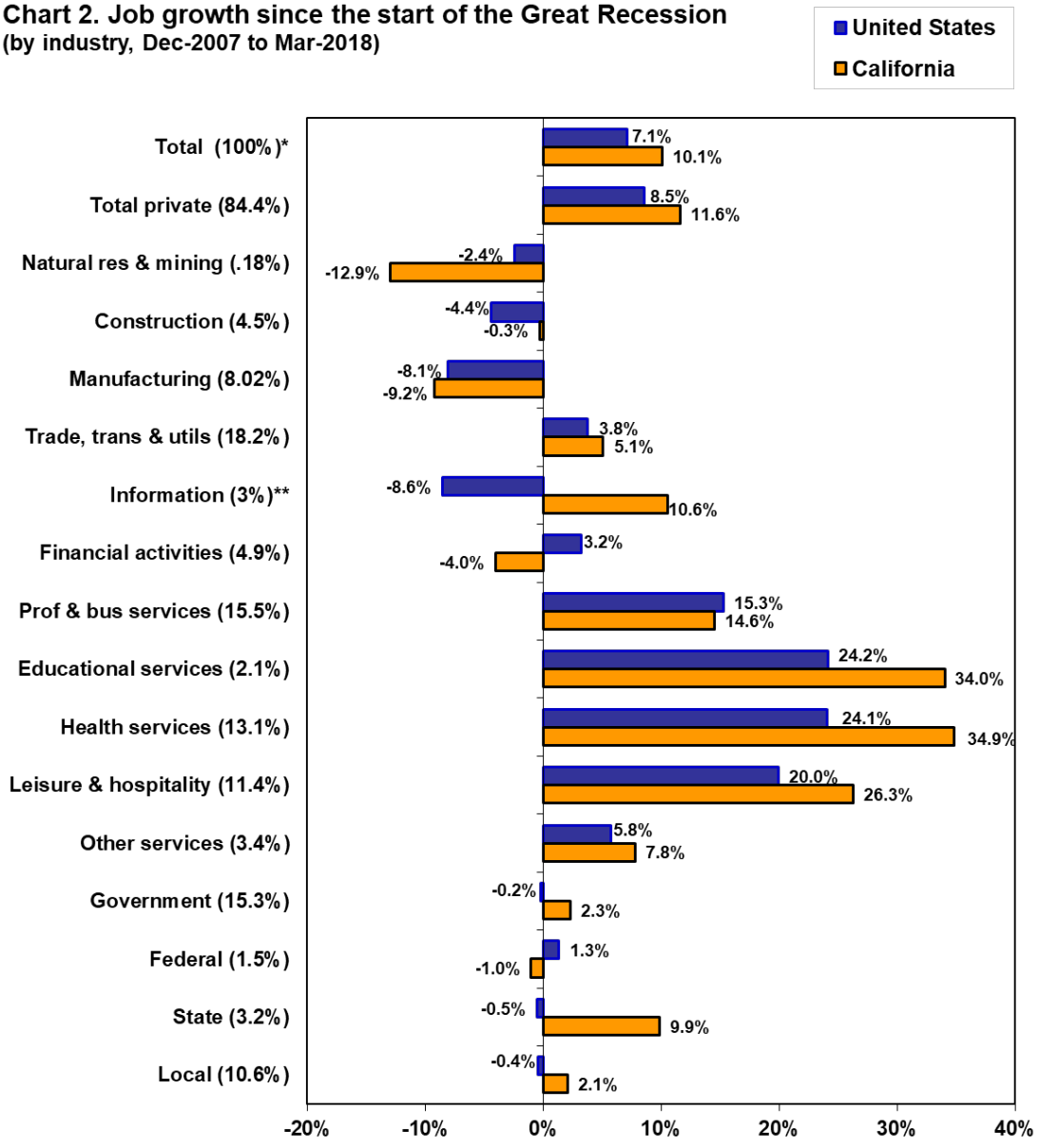
Note: *Sector shares of total employment for California in 2015 are in parentheses.
Source: Allegretto's analysis of Bureau of Labor Statistics, Current Employment Statistics (CES) data..

The recovery in jobs when we look at major sectors is mixed. Percentage growth in the private sector is far ahead of the public sector for the U.S. and California. Overall government employment in the U.S. declined by -1.1% over the *recovery* while California experienced a 3.1% increase. A further breakout of the public sector shows a mixed picture. Approximately two-thirds of public employment is in local government dominated by

employment in education, including public school teachers and staff. This sector continued to shrink over the recovery for the U.S. even as it expanded slightly in California (more on this below).

Job growth over the recovery must be measured in terms of both the time horizon (we just marked the ninth anniversary of recovery) and compared to the last economic peak (December 2007). This perspective (**Chart 2**) puts recent gains against the substantial losses that occurred over the downturn.

Chart 2. Job growth since the start of the Great Recession
(by industry, Dec-2007 to Mar-2018)



Notes: *Industry sector share of total employment for California in 2015 are in parentheses. **Non-seasonally adjusted data.
Source: Allegretto's analysis of CES data.

Chart 2 shows that overall employment for the U.S. and California surpassed the losses owed to the Great Recession which occurred in May 2014. Today, more than a decade since the onset of the Great Recession, employment is up 7.1% and 10.1% in the U.S. and California, respectively. The lackluster annual net growth over

the last decade illustrates that much of the employment growth over the recovery was just digging out of the massive jobs crater. In fact, it took over *six years* to lose and fully recover the number of jobs lost due to the recession—an unprecedented length of time. In this context, the net positive growth in total employment has been tepid.

Job growth by industry over this cycle remains mixed. Chart 2 shows the largest sectors (shares in parentheses) have had some of the strongest growth in the U.S. and California. Specifically, health services, leisure & hospitality, and professional & business services have had strong gains. However, many sectors have yet to regain previous peak level employment and other industries have experienced only small net gains. The largest gaps remain for natural resources & mining, manufacturing, and construction.

The bursting of the housing bubble was central to the recession and greatly affected the construction and financial services industries. In California, at its worst point, construction jobs were down 36%. As of March 2018, the number of construction jobs is now just approaching its previous peak level attained in December 2007—but the sector remains down by 4.4%. The financial and banking sector, also closely tied to the housing and financial bust, currently remains well below (-4.0%) its pre-recession peak in California and above the previous peak in the U.S. by 3.2%.

The continued shift from a manufacturing economy to a service-based economy is evident in Chart 2. The slow return of manufacturing jobs since the Great Recession combined with the longer-term structural shift away from manufacturing to services are both at play in today's economy. Manufacturing jobs are still shy of their December 2007 level—down 8.1% and 9.2% in the U.S. and the Golden State, respectively. Manufacturing jobs in the U.S. are down by 27% or by 4.6 million compared to January 2000—many attribute this more recent decline to automation but the latest research begs to differ.

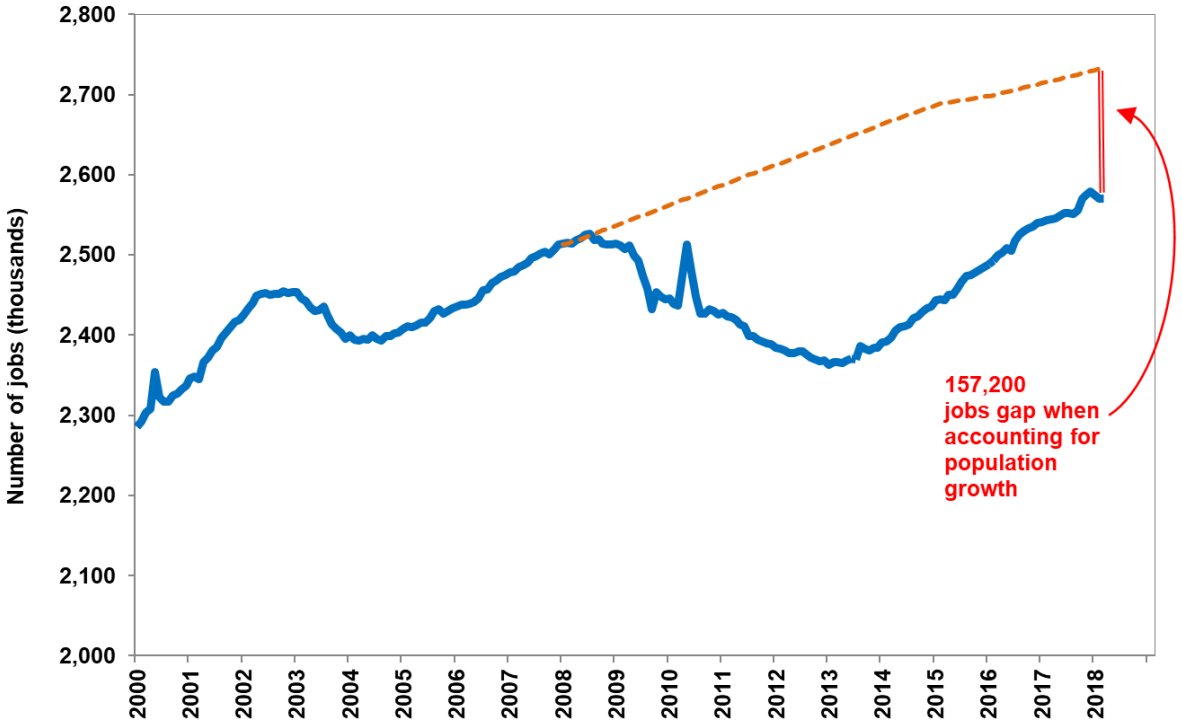
Susan Houseman of the Upjohn Institute and her colleagues have provided analyses into the causes of job losses in manufacturing. In short, Houseman found it was the introduction of China into world trade that was the main cause and not the adoption of new technologies that explains manufacturing declines. Houseman was able to separate confounding effects attributed to the relatively small computer industry from the rest of manufacturing. She showed that computers played an oversized role in the manufacturing output and productivity numbers which lead to incorrect conclusions. Her analysis points primarily to trade policy and not robots that precipitated the post-2000 decline.

To put government employment trends into perspective for the Golden State, we assess the growth in public sector jobs against population growth (**Chart 3)**. This sector merits consideration to the extent that government workers—such as educators, librarians, police, fire fighters, social workers, construction, and those who maintain our parks—help to support our communities, enhance our lives and keep us safe. Measured against the last economic peak, there remains a shortfall in public sector jobs in the U.S. (-0.2%) with 2.3% growth in California. The last peak in public sector employment occurred in June 2008 (about a half a year after the recession ensued)—the sector ultimately shrank by 6.5% over the recession. Meaning that 164,000 public servants lost their jobs during the recession and its aftermath as entities in the state enacted policies to balance budgets. It took until August 2016 to regain the level of jobs lost. The dotted line in Chart 3 estimates population growth in California over the last decade. Putting the two series together uncovers a public-sector jobs gap of

157,200. Two of every three public sector jobs in the state are at the local level and upwards of 80% of local employment is in K-12 education. The jobs gap, at least in part, reflects teacher shortages across the state.

As an aside, the large spike in government jobs in 2010 represents, in quick succession, the hiring and dismissal of short-term census takers. This is informative given the debate at the time about the efficacy of fiscal policy to stimulate the economy and whether the government can or should be the employer of last resort during recessions. At the time the census jobs were very much needed and helped many workers find employment even if temporarily.

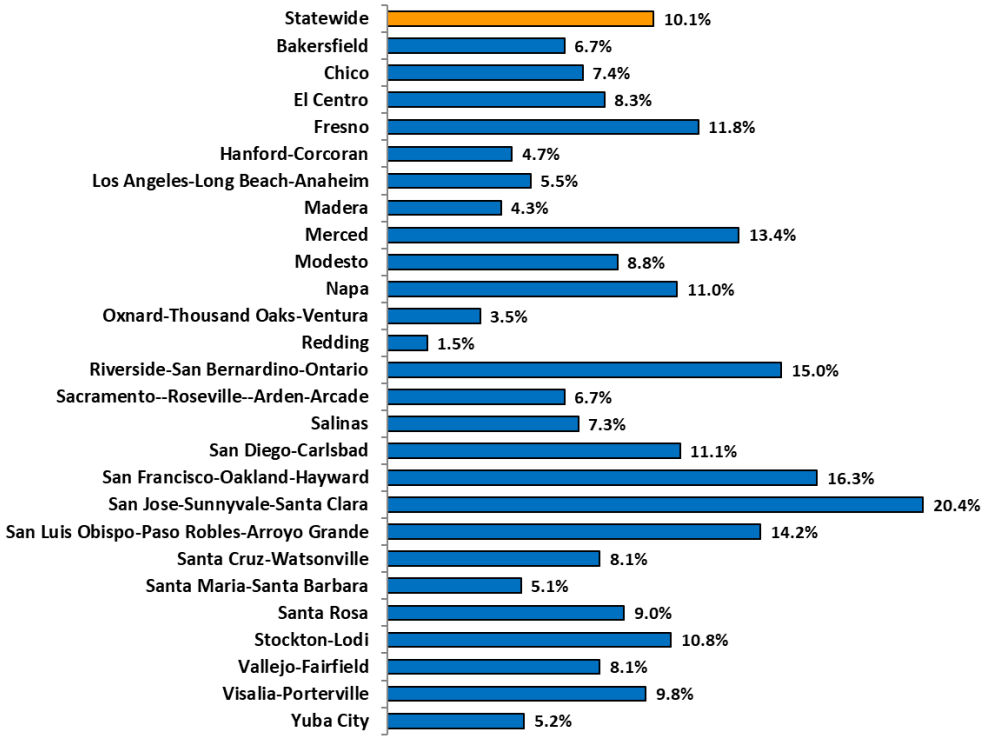
Chart 3. California's public sector jobs lag behind population growth
(Jan-2000 to Mar-2018)



Source: Public sector jobs from CES data, seasonally adjusted. California population data are from the U.S. Census, taken from FRED (Federal Reserve Economic Data).

There has been considerable variation in job growth across California's metro-areas. **Chart 4** shows metro-area job growth from December 2007 through March 2018. Out of the 26 metro-areas, 9 have had job growth above the state average while 17 are below. The San Jose-Sunnyvale-Santa Clara MSA of Silicon Valley experienced the fasted growth since the last peak. The Bay Area of San Jose-Oakland-Hayward is also expanding at a rapid pace. The Los Angeles-Long Beach-Anaheim MSA has experienced rather tepid growth of 5.5%. The much smaller MSA of Redding (population of approximately 200,000) has experienced the lowest growth.

Chart 4. Considerable variation in job growth in California's metro areas (Dec-2007 to Mar-2018)



Source: Analysis of CES seasonally adjusted monthly data. Growth in total nonfarm jobs at the MSA-level.

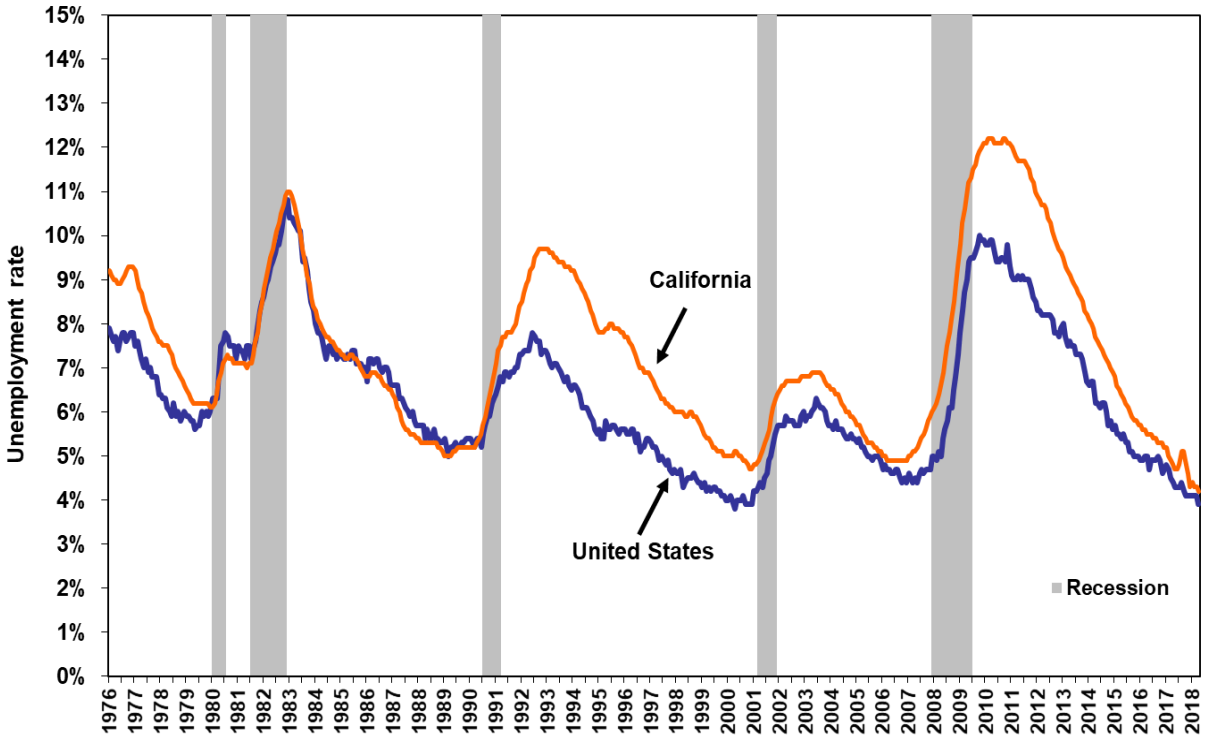
Unemployment and Labor Utilization

In this section we look into a set of economic indicators to better assess labor demand and utilization. There is much talk that the economy is at full employment but relying solely on unemployment rates may not be sufficient for such an assessment. Full employment itself is a bit of an elusive concept. It represents an economy where everyone who wants a job has one at the hours they want. It does not mean an unemployment rate of zero. There is always some amount of unemployment as workers quit jobs to look for more suitable employment (frictional), some workers are laid-off due to insufficient work (cyclical), and there are those who find it hard to find work due to a myriad of reasons (structural). In this section, we start with unemployment rates—the most known and widely cited labor market measure—and then assess other measures of labor utilization that offer insight into the degree of labor market tightness.

Chart 5 shows unemployment rates in the U.S. and California. As discussed, the Great Recession was severe in terms of job losses and hence high rates of unemployment followed. The rate soared to over 12% in California and stayed in double-digit territory for an unprecedented 43 consecutive months (February 2009 to August 2012)—attesting to the severity of the crash, the enormity of the housing bust and subsequent financial meltdown that disproportionately hit California. Notably, the U.S.–California gap has widened immediately following official recessions (since the early-1990s), but more recently the gap has narrowed as rates for March 2018 were 4.1% and 4.3% for the U.S. and California, respectively. Fourteen states hit record lows for

unemployment in March 2018—the lowest rates include Hawaii (2.1%), New Hampshire and North Dakota (both 2.6%).

Chart 5. Monthly unemployment rates for the United States and California (Jan-1976 to Apr-2018)

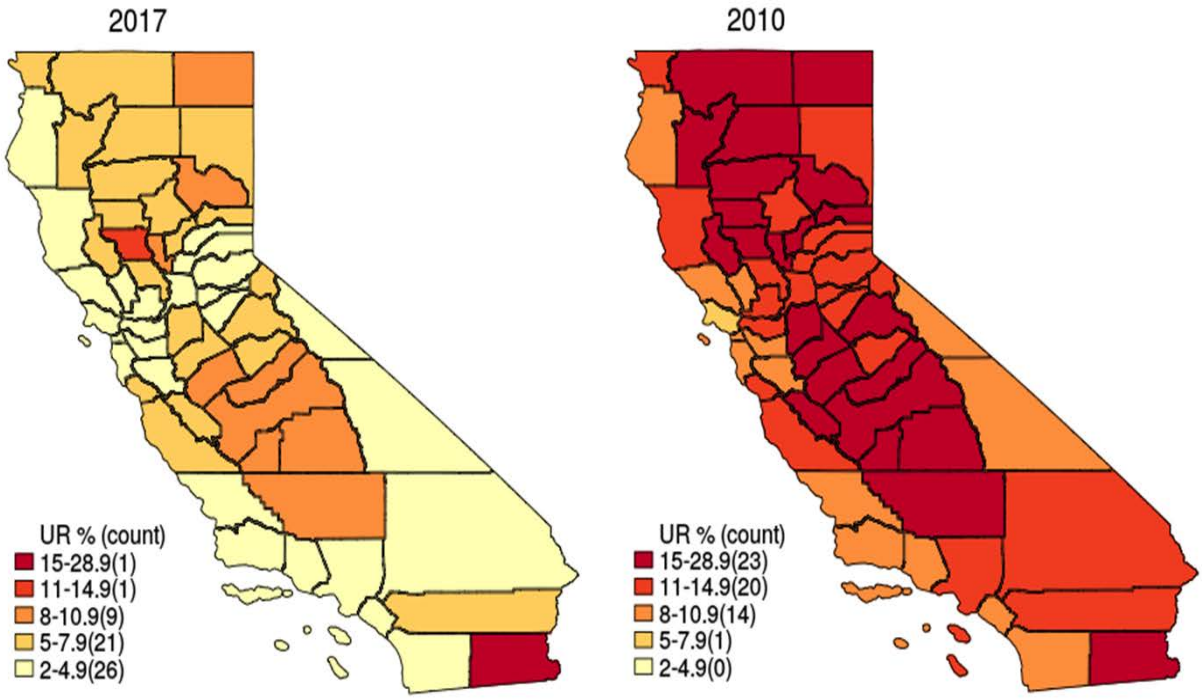


Source: Analysis of BLS Current Population Survey (CPS) data, seasonally adjusted monthly unemployment rates.

The recession hit hard throughout the Golden State and more so in certain areas. **Chart 6** shows county unemployment rates for 2017 and 2010. The heat maps—both on the same scale—show the stark improvement over the eight-year period. In the historically tough labor market of 2010, when the state rate remained above 12% on a monthly basis for the entire year, more than one in every three counties had unemployment rates above 15%. Marin at 7.9% was the only county that had a rate below 8%. The overall lightening of the map indicates a much improved economy by 2017. Imperial County (19.1%) had the sole rate over 15% in 2017. There were 26 counties with unemployment rates below 5% and rates have continued to improve into 2018.

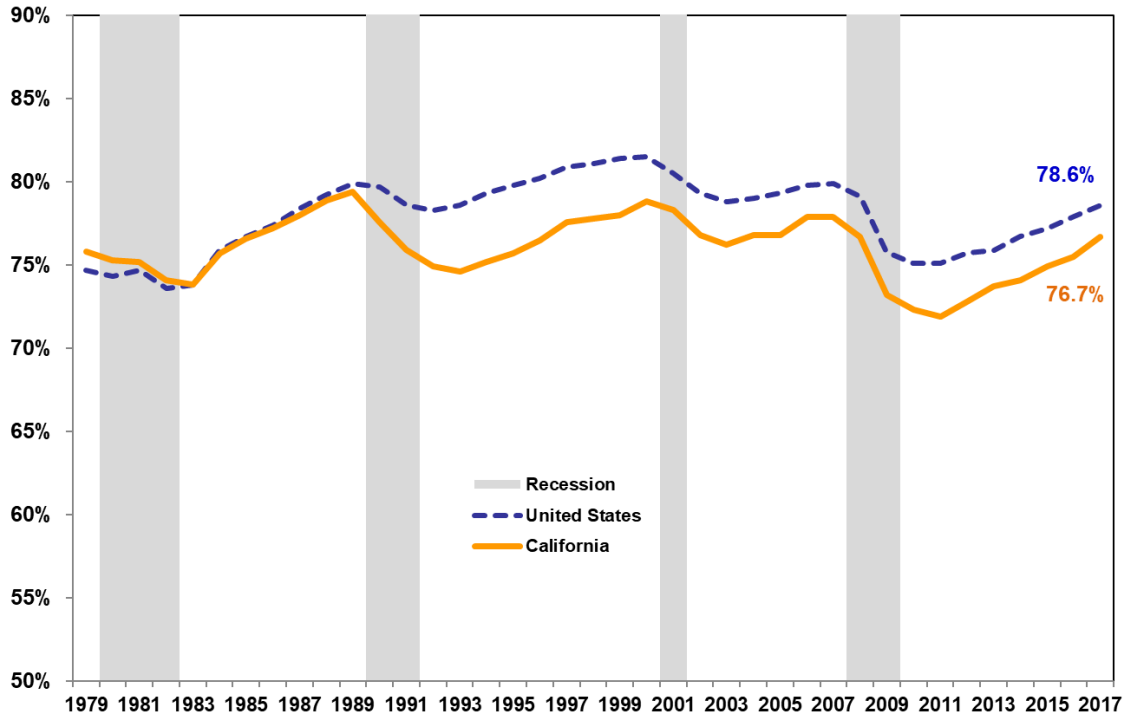
Significant disparities in unemployment always exist by race/ethnicity (**Chart 7**). In 2007, prior to the onset of recession, annual unemployment in California was lowest for Asians (4.0%) followed closely by Whites (4.3%), then Latinos (6.4%), and the rate for African-Americans was highest and near double-digits (9.9%). The rates peaked in different years during or in the aftermath of the recession: 14.7% in 2009 for Latinos; 10.0% and 9.6% in 2010 for Whites and Asians, respectively; and 19.7% in 2011 for African-Americans. There have been marked declines in unemployment rates for all race/ethnic groups even as disparities persist.

Chart 6. Unemployment rates in California, by county



Source: Bureau of Labor Statistics, Local Area Unemployment Statistics annual data.

Chart 7. Employment rates of prime aged (25-54) adults continue to recover

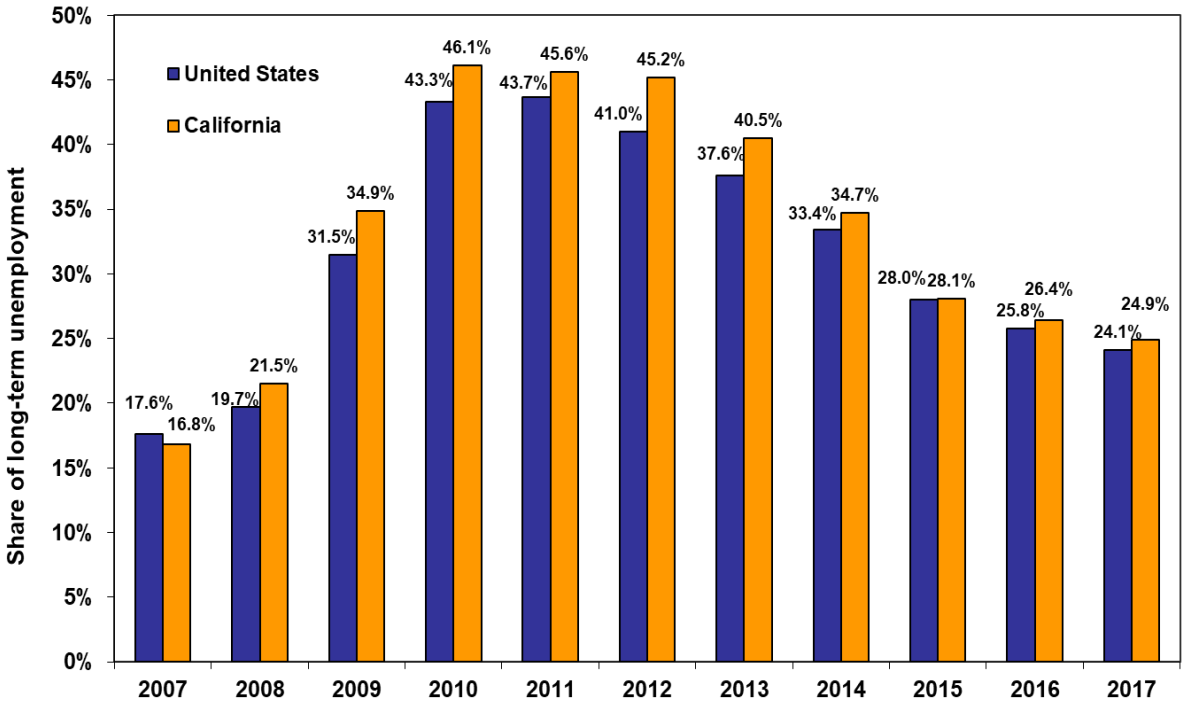


Source: Author's analysis of CPS annual data 1979-2017.

Unemployment rates are often the sole indicator examined to determine the extent of labor market tightness by analysts or pundits—which is often misleading. Recall that non-employed workers who are not actively engaged in a job search are not included in the ranks of the unemployed. All else being equal, for example, the unemployment rate may decrease by dint of non-employed workers who simply stop looking for work. Thus, we now turn to a series of other economic indicators to help assess the labor market.

A second measure of labor market utilization and tightness is how long it takes the unemployed to find work. Long-term unemployment (LTU) consists of workers who have been unemployed for at least 27 weeks as a share of total unemployment (**Chart 8)**. Historically elevated LTU rates—exceeding 40% in California from 2010 through 2014—a stark comparison to peak LTU shares of around 25% over the previous three downturns (not shown).

Chart 8. Long-term unemployment improves but remains relatively high



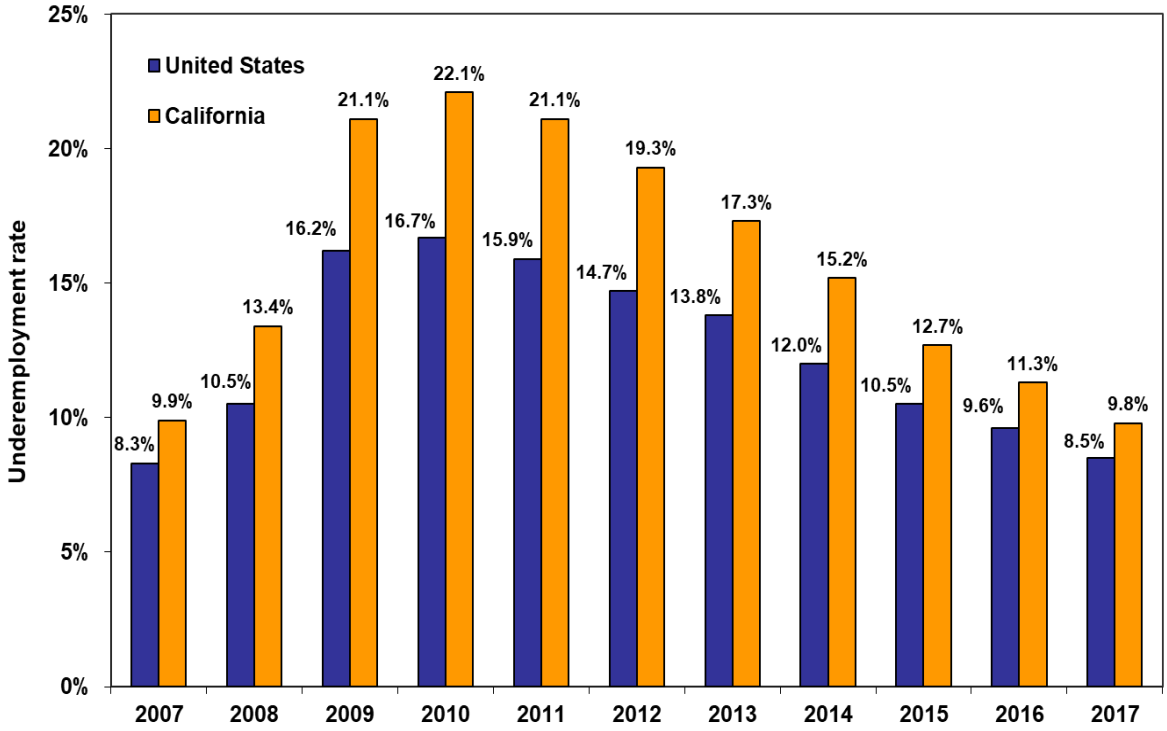
Note: The long-term unemployed are those who have been unemployed for at least 27 weeks as a share of total unemployment.
Source: Analysis of CPS annual LTU data provided by the Economic Policy Institute.

Annual LTU rates for 2017 in the U.S. and in California remain relatively high compared to LTU shares in 2007. In 2007, *LTU was much lower even as unemployment rates that year were higher*. In 2007, unemployment was 4.6% and 5.4% for the U.S. and California, respectively—and as shown LTU shares were, respectively, 17.6% and 16.8%. Both significantly lower than the U.S. 24.1% and California's 24.9% recorded for 2017 when annual unemployment clocked in at 4.4% and 4.8% for the U.S. and California, respectively.

A third measure that offers additional insight into labor market conditions is underemployment (referred to as the U6 measure by the BLS). It includes discouraged and marginally attached workers, part-timers who want

full-time work, and those who gave up searching for work altogether (**Chart 9)**. California's rate has been consistently above the national average from 2007 through 2017—the differential was stark over the recession and initial weak recovery—again signaling that the recession hit California particularly hard. Since then both the state and national rates have decreased substantially and the gap between them has narrowed. In 2017, rates nearly recovered to their pre-recession rates—but still nearly one in ten in California were underemployed.

Chart 9. Underemployment rates: A broad measure of labor utilization

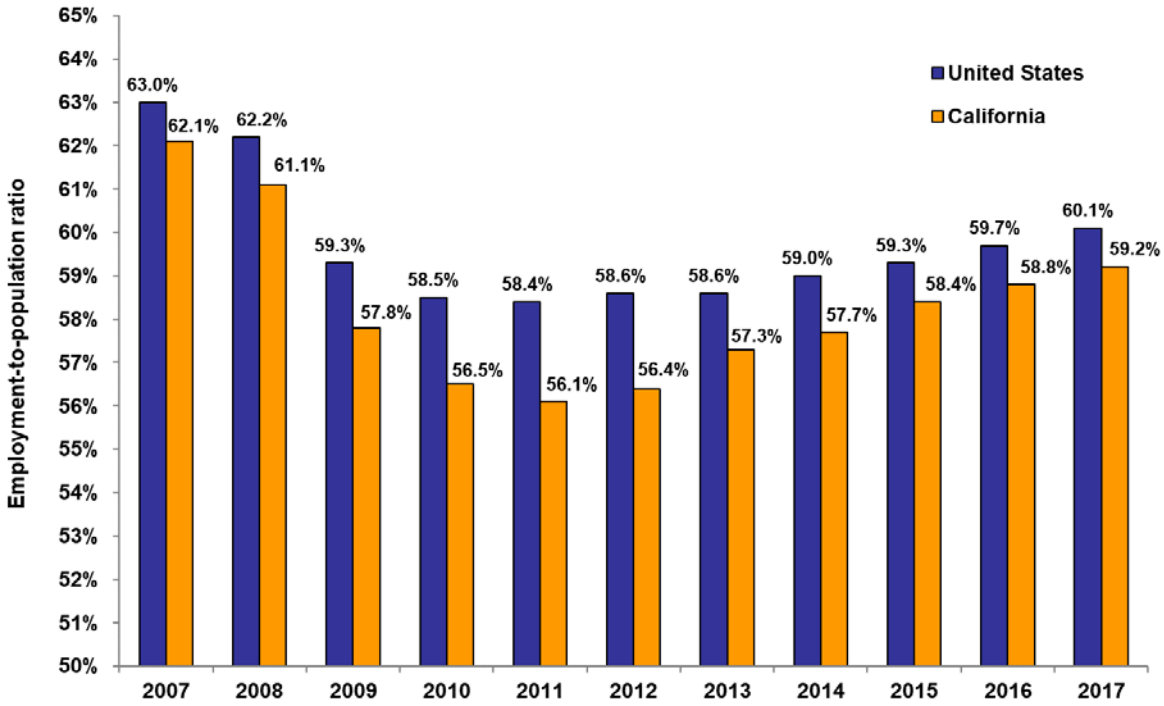


Note: Underemployment is defined as the BLS U6 measure. It includes discouraged and marginally attached workers, and part-time workers who want full-time employment.
Source: Analysis of Current Population Survey annual U6 rates provided by the Economic Policy Institute.

A fourth measure to evaluate the health of the labor market is the employment rate or EPOPs—the share of the working age population (16+) that is employed (**Chart 10**). Along with California's deteriorating job market and persistently high unemployment over the downturn, the employment rate took a tumble. Here again even as unemployment rates were lower in 2017 compared to 2007, employment rates remained significantly depressed in 2017. Notably, California would have an additional 1.1 million workers if the 2017 employment rate was the same as it was in 2007.[4]

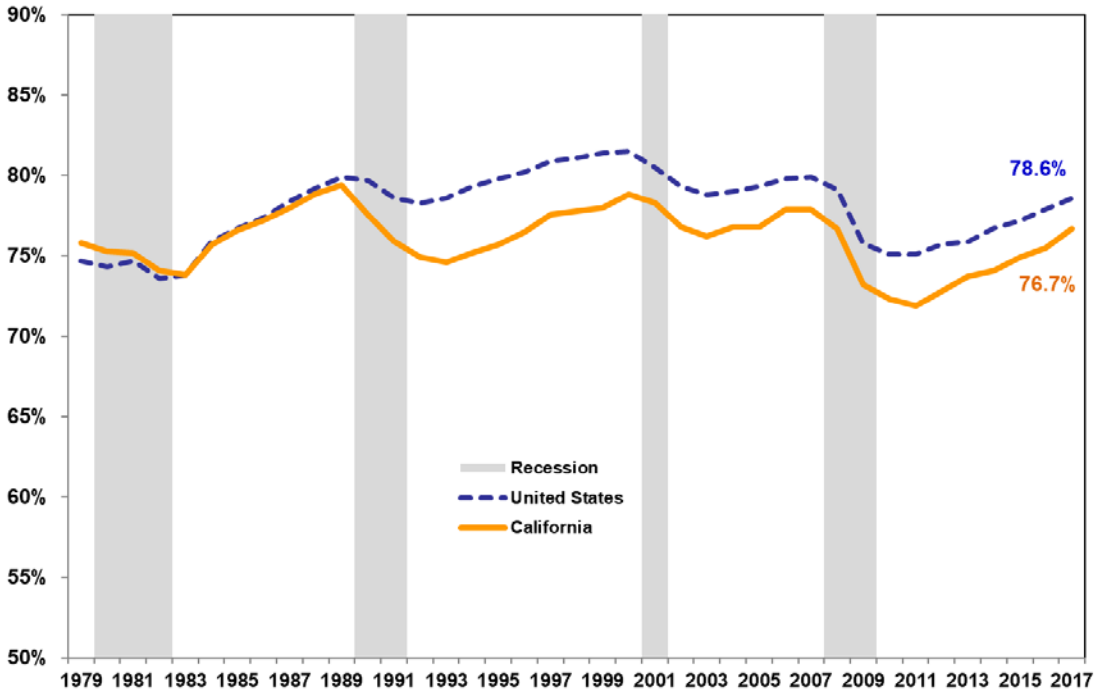
The EPOPs in Chart 10 reflect rates for those 16 years old and above. It may be informative to focus on those that typically have strong attachments to the labor force. **Chart 11** presents trends in EPOPs for prime-age workers (25-54). The early-1990s recession ushered in a permanent-relative shift in prime age workers in California compared to the U.S. average—as they have been lower since. As evidenced in the chart, these rates are cyclical—increasing during expansions and decreasing during contractions.

Chart 10. Employment rates continue to improve



Note: The employment rate is the share of the total population aged 16 that are employed.
Source: Analysis of BLS Current Population Survey data provided by the Economic Policy Institute.

Chart 11. Employment rates of prime aged (25-54) adults continue to recover



Source: Author's analysis of CPS annual data 1979-2017.

While many pundits were positing structural issues a few years back—thinking the post-Great Recession rates may not recover due to a significant structural shift—recent data indicates a continued cyclical response at play—even as subsequent peaks have been lower suggesting a coinciding structural change.

The good news is that all of these measures of labor utilization have shown significant improvement as job growth continues its long stretch. However, each of the previous measures of labor utilization show some weakness relative to their previous peak level attained in 2007 when unemployment was actually higher than in 2017. That EPOPs, along with underemployment and long-term employment, remain worse than their pre-recession rates—it may be that previous peak rates will not materialize—but until they level off it is suggestive that the labor market has not fully recovered. It is especially concerning that there are far too many prime-aged potential workers who remain on the sidelines.

The labor market indicators presented here all continue to respond positively to consistent job growth—suggestive that the economy is likely not at full-employment. Josh Bivens at the Economic Policy Institute shed further light on the caveats of leaning too much on unemployment rates to determine labor market slack. Bivens showed that the share of newly hired workers who were not in the labor market in the month prior to finding work is an important metric. The share is typically above 50% but it has recently hit new highs above 70%. There are several issues here as Bivens explained: "First, because more and more jobs are being filled by people claiming to not have been looking for work it seems like the unemployment rate is becoming less useful as a clear-cut measure of labor market slack—this means we shouldn't rely on it alone to decide whether or not the economy is at full employment. Second, even with unemployment low, it seems like Americans have plenty of appetite for new jobs (and particularly for good jobs). This means we should still be thinking hard about strategies for job creation."

Wage and Income Trends

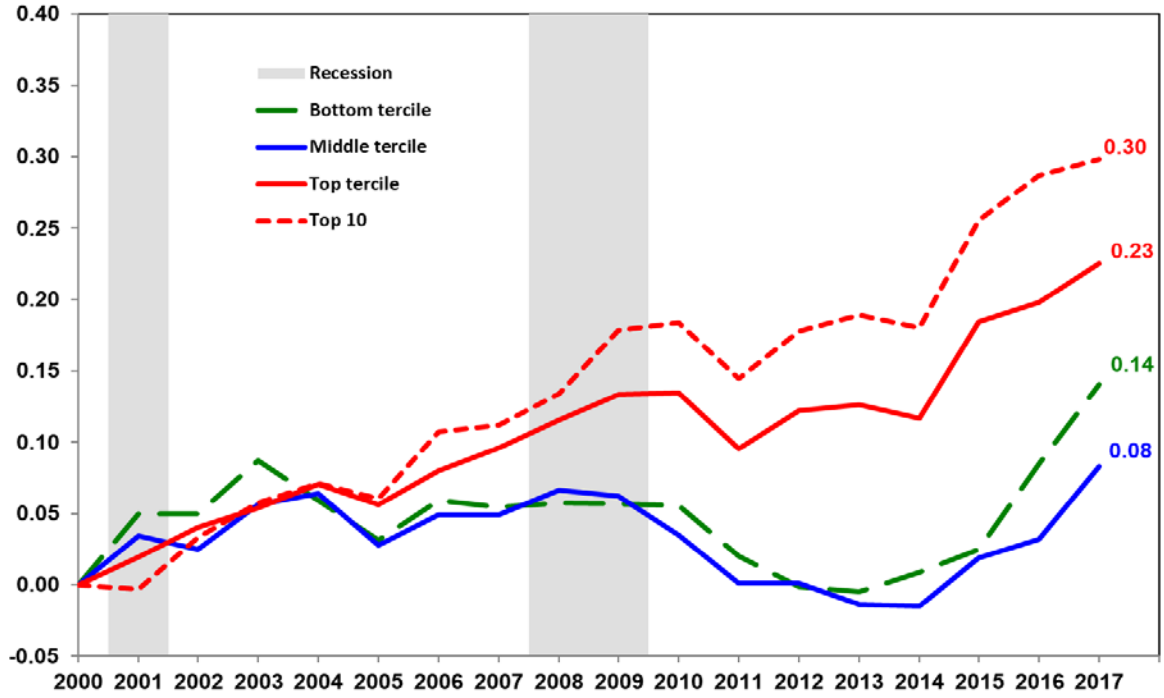
A strong tendency that bestows the majority of economic gains to those at the high end of the economic ladder persists. The inequity of post-tax income gains in the U.S. from 1980 through 2014 tells the story. The bottom 50% saw gains of 21%, while gains were 49% for the middle 40%. The gains experienced by the majority pale in comparison to the 194% and 423% gains experienced by the Top 1% and Top 0.01%, respectively. Or the 616% for the very few that represent the Top 0.001%.[5]

Wage stagnation for low- and moderately-paid workers has been an issue for decades in the U.S. Here we turn to more recent trends for Californians. Low- and median-wage workers in the state finally experienced wage growth that outpaced inflation for over the last couple of years as shown in **Chart 12.** The chart depicts wage trends by terciles (i.e. average annual wages of the bottom, middle and top third of wage earners) and separately for the Top 10%. In 2017, the average wage levels that correspond to the terciles from lowest to highest were: $11.80, $ 20.60 and $52.40. The average hourly wage for the top 10% was $85.90.

The trends are indexed to 2000 thus the wedge-type picture that has materialized is actually a depiction of increased inequality—as wage growth for higher earners outstripped that of lower earners and more so over

time. This means that even with all the recent attention paid to inequality, it continued to worsen on this side of the Great Recession.

Chart 12. Wage growth finally picks up as California increases its minimum wage and the labor market continues to tighten



Note: Each series represents annual average real wage growth (adjusted using the CPI-RS) 2000-2017. The average of each tercile is reported.
Source: Analysis of Current Population Survey data for California. Includes wage and salary workers ages 18 to 64.

Economic recovery coupled with a progressive tightening of the labor market and wage policy helped propel recent real wage gains that eluded most workers for quite some time. Over the entire 17-year period, inflation adjusted wages increased by 14%, 8% and 23%, for the bottom, middle and top terciles, respectively. Wages rose by nearly a third for the top 10%. Wage gains for the bottom two terciles did not materialize until 2014.

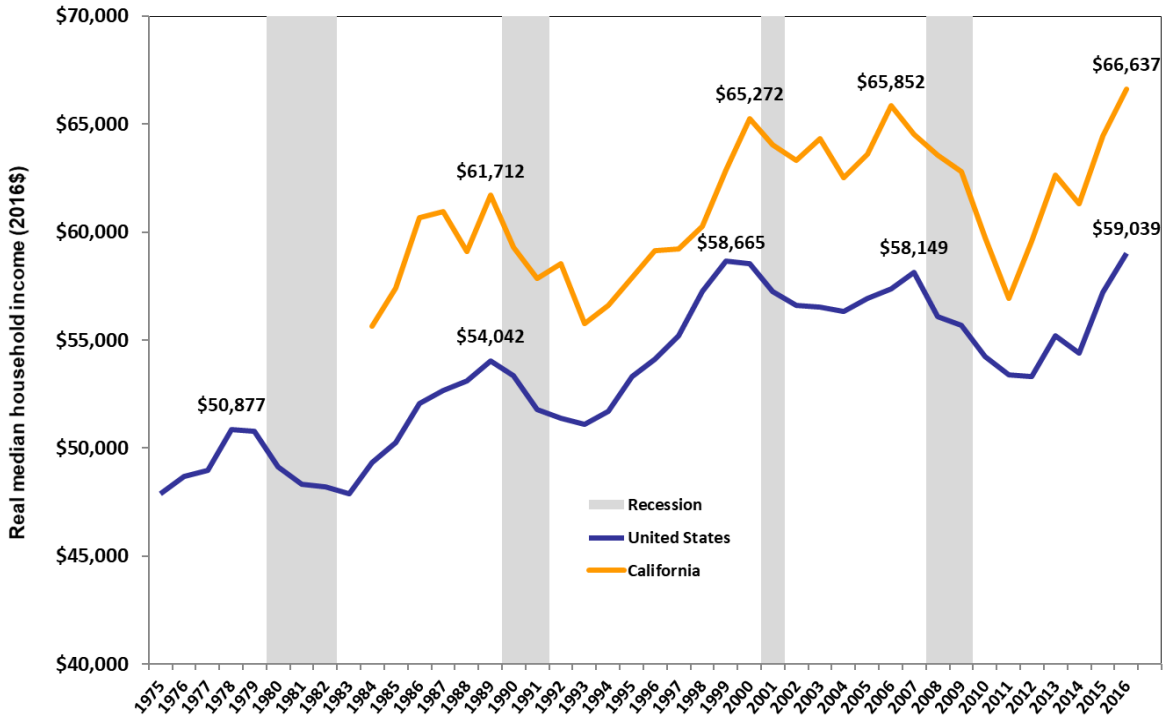
Two important factors have helped to propel this recent improvement. The labor market, even as it took a long time, picked up steam starting around 2013-14. Job growth finally went from recovering the shortfall to net growth which helped to move the needle on many labor market indices as already discussed. As the labor market recovered further, and began to tighten, real wage growth finally reached most workers in California.

Second, California enacted minimum wage policy that gave low-wage workers a raise. The state wage floor remained at $8.00 from January 2008 to July 1, 2014 when it was raised to $9.00. A dollar increase followed on January 1, 2016 with subsequent January increases of $0.50 in 2017 and 2018. Today the minimum wage for the state stands at $11.00 and will be phased to $15.00 by 2022. Over this same period, many locales within the state enacted wage floors more generous than the state minimum. For example, by the end of 2018 wage floors will be $15.00 in San Francisco, $13.23 in Oakland and $12.00 in Los Angeles. There are now nearly 40 local minimum wages throughout California. Minimum wage policies at the state and local levels help to explain

the somewhat surprising larger increases for the bottom tercile (14%) compared to the gain for the middle tercile (8%).

Household income has always been susceptible to economic fluctuations which is unmistakable in **Chart 13**. The Census Bureau releases these data in the fall for the previous year—thus they currently go through 2016. It was not until 2016 that typical household incomes finally surpassed previous peaks for the U.S. and California. California's previous peak of $65,852 was reached in 2006 (the recession started prior to the official NBER data in the state)—thus over the last decade income for a typical (median) household increased by just 1.2% and income is up just 2.1% since 2000. For the nation, on average, there have been no significant gains in 16 years as typical household income is up just 0.64%; the 2007 household income peak ($58,149) remained below the previous peak ($58,665) reached in 1999.

Chart 13. Incomes of typical households surpass 2006 levels



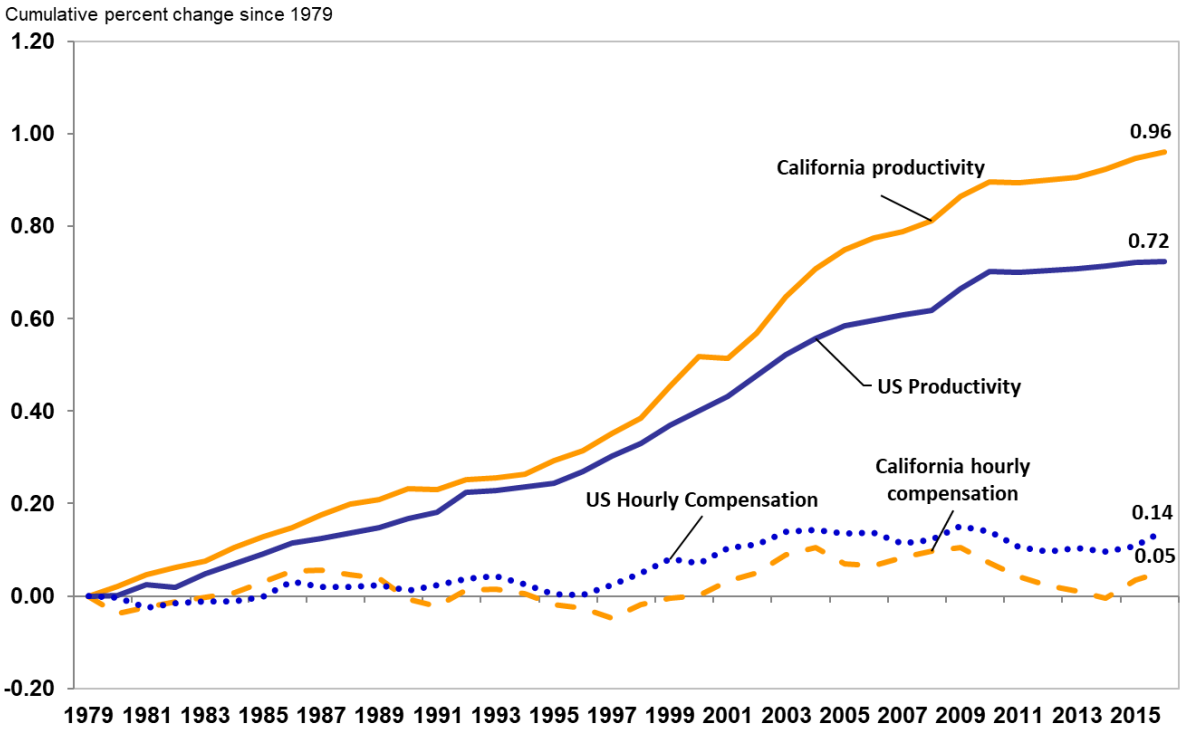
Source: Analysis of U.S. Census data median household income 1975 through 2016 for the U.S and 1984 to 2016 for California (2016 CPI-U-RS adjusted dollars).

Importantly, it isn't just that incomes for middle-income households have declined in tough times, rather, and perhaps more disturbing, is that incomes have not kept pace with productivity or economic growth during the good times. In general, incomes peak near the end of economic expansions—in other words, just prior to recessions (gray bars)—and they fall during recessions. Thus, when economic expansion is strong incomes start to rise once again. However, in recent expansions post-recession income gains have taken longer to materialize. The salient point here is that the post-WW II trend in income growth *has always been upward*—meaning median income at the peak of each successive expansion has always been higher than the previous one—that is, until the 2000-07 cycle where income gains were nonexistent for the U.S and nearly so for California. Expectation for

the 2017 data, to be released this fall, is the betterment of both trends—how strong they will be towards substantial improvement is yet unknown.

What is clear is that typical workers and their families experience the brunt of downturns but benefit less during periods of recovery and growth. The typical (median) Californian household saw a decline of 13.5% in income from 2006 to 2011. The recent break from gains in successive peak-to-peak incomes is important—especially when put into context with other economic trends. The break occurred even as the economic pie grew substantially and workers became more productive. Taken together, these outcomes are inextricably linked to ever increasing inequities. **Chart 14** helps to illustrate this point, it depicts trends in productivity growth and hourly compensation (wages plus benefits) for the U.S. and California. The visible and growing 'wedge' indicates that workers, and increasingly over time, are not benefiting from their increased productivity (trends indexed to 1979). Over the 1979-2016-time frame, productivity grew by 5.1 times that of median compensation in the U.S. and 19 times in California.

Chart 14. Growth of median hourly compensation for production/nonsupervisory workers and productivity, 1979-2016



Source: Economic Policy Institute's analysis of unpublished total economy data from Bureau of Labor Statistics, Labor Productivity and costs program; employment data from Bureau of Labor Statistics, Local Area Unemployment Statistics; wage data from the Current Population Survey and compensationdata from the Bureau of Economic Analysis, for production/nonsupervisory workers, State/National Income and Product Accounts public data series. Compensation is median.

Directly linked to ever increasing inequality and the declining share of national income going to workers is the growth in the productivity-compensation gap. Productivity and compensation once grew together; the gap only materialized in the mid-1970s. As reported by the Economic Policy Institute, productivity and hourly compensation grew at about the same rate from 1948 through 1973—productivity by 96.7% and hourly compensation by 91.3%. Increases in productivity are necessary, albeit not sufficient, for advancements in real

standards of living. Productivity gains are, in large part, what helped to build the post-WW II middle class. Over the last three and a half decades as the economic pie has grown and as the economy became more efficient workers no longer benefit as they once did—benefits now disproportionately accrue to those at the top.

A note on the robots. As Chart 14 shows there has been a slowdown in productivity growth since 2010—this belies the recent rash of stories that robots are eliminating unprecedented numbers of jobs or are disrupting the labor market as we know it (e.g. here and here). If that were the case, productivity growth would be making huge gains. Additionally, the already documented record breaking streak in monthly job growth along with near record-breaking low unemployment also push back on this notion. Historically, increases in productivity have occurred alongside employment growth—even with disruptions. It is a bit easier to imagine jobs that may go away due to technology, but a bit harder to imagine newly created jobs. Most technology compliments a worker's ability to do their job—it does not necessarily eliminate the need for a worker. This isn't to say that technology isn't affecting workers—it is—that is always the case. And, yes, sometimes it does replace the need for a worker but typically not in mass and not in a vacuum—meaning there are other effects such as price declines than may increase demand, etc. Of utmost importance is that when disruptions occur it is vital that effective policy helps to counter harmful effects imposed on workers.

An expanding, prosperous economy depends on productivity growth. Relinking trends in productivity to worker pay and benefits is necessary to ensure a rising tide lifts all boats. The decoupling of productivity and wages has been, in part, due to the weakening of institutions meant to foster new and support existing laws that can level the playing field for workers. It is also the result of declining union density and the resulting ability of workers to gain their fair share through collective bargaining.

Poverty

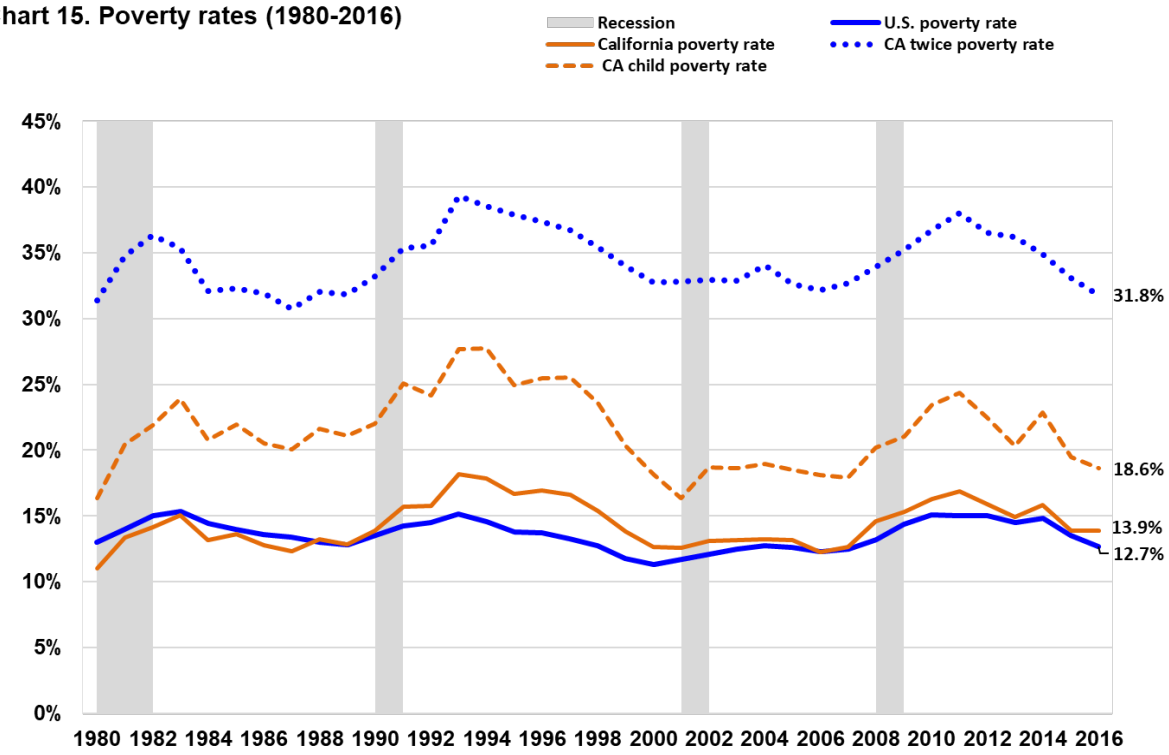
In the context of the current lengthy economic expansion, it is informative to assess how both recessions and relatively good economic conditions influence poverty. One of the most striking aspects of overall poverty (**Chart 15**) in the U.S. is that rates over the last three decades have cyclically moved within a narrow band from 11.3% to 15.3% depending on the business cycle. There have not been significant gains in reducing poverty since the 1960s—inroads that were due in part to the War on Poverty including the growth in Social Security expenditures. Those policies facilitated a precipitous and permanent drop in poverty (from 22.4% to 11.1%) from 1959 to 1973.

The overall official poverty rate for California tracks rather closely with the U.S. rate, although it was significantly higher during the 1990s. The top dotted line in the figure reports California's "twice poverty" rate—reflecting rates at double the poverty income thresholds. The twice poverty rate is a better indicator of economic insecurity given the limitations of the poverty rate. Nearly one-third of Californians were below twice poverty in 2016. The second trend, the dashed line, reports the rate of child poverty in the state—18.6% in 2016.

The Census Bureau began publishing the supplemental poverty measure (SPM) in 2011 to account for many of the government programs designed to assist low-income families and individuals that are not included in the current official poverty measure. The SPM makes additional adjusts to the official poverty measure that include:

family size, regional cost of living, taxes paid or credited, medical expenses and child support. Depending on adjustments, SPM rates based on demographical groups may be higher or lower than official rates. California's 2016 official poverty rate ranked 15th highest in the U.S. However, the state had the highest poverty rate in the U.S. when the cost of living and other variables factored into the SPM—it jumped to 20.6%.

Chart 15. Poverty rates (1980-2016)



Source: U.S. Census Bureau.

These indicators suggest that the vast and growing wealth of the U.S. is not reaching our most vulnerable in the form of permanent reductions in poverty akin to what was experienced in the 1960s. These trends often surprise many Americans, as does the fact that the U.S. has the highest rates of poverty and child poverty in the developed world and our government programs do much less to alleviate hardship.

Looking Forward

The economy is currently nine years into this expansion which is one of the longest on record. Job growth in the U.S. is also in record territory with an active streak of 93 consecutive monthly gains. The streak has resulted in net job growth of 18.3 million in the U.S. with 1.3 million of them being in California. This is good news to be sure. But conditions have to be weighed against the devastation of the Great Recession. The recession lasted eighteen months—but its severity meant that it took a long time to dig out of the hole. Gross Domestic Product ran below potential for a decade as many labor market indices such as job losses and long-term unemployment recorded their highest rates since the Great Depression. Nine years into this recovery, annual economic growth (GDP) has been rather tepid at an average of 2.2%.

Overall, the economy is on a good track but there are caveats. It took over six years to regain the nearly 9 million jobs shed over the Great Recession. It took three years for California's unemployment rate to soar from 4.9% to 12% —and another 7 years for it fall below 5%. During that time too many workers were without jobs for far too long. Workers and their families can never regain the substantial losses incurred due to the downturn. But with job growth and economic expansion the labor market slowly rebounded.

As of April, unemployment in the U.S. was at 3.9% and the Golden State was close behind at 4.2%. Is this a full employment economy? Evidence in this report suggests not. Measures of labor utilization beyond unemployment such as rates of long-term unemployment, underemployment, employment-to-population, and prime-age employment all continue to improve with job growth—signaling that a cyclical response is still at play. Interestingly, these indices are all still a bit worse than they were in 2007 prior to the recession even as official unemployment rates are currently *lower*. Until improvements in these broader indices level off there is room for further labor market tightening via job growth. The lack of strong wage growth in the U.S. is also a signal that the labor market still has enough slack that employers do not have to entice workers with higher wages.

After many years of wage stagnation for most Californians, wages for typical and low-wage workers started to grow beyond inflation in 2014. Over the last 17 years, inflation-adjusted wages in California increased by 14%, 8%, and 23%, for the bottom, middle, and top terciles, respectively. However, there was no real wage growth from 2000 to 2013 for the bottom two terciles as wage growth did not surpass inflation until 2014. Tightening of the labor market is one factor that aided wage growth. A second driver in the recent improvement in wage growth was state and local minimum wage policies in California—which is likely why growth for the bottom third outpaced that of the middle third.

The robots are not taking over the labor market and 'gigs' are not taking over traditional employment arrangements. The vast majority of workers remain in traditional employment arrangements and policies such as the minimum wage, wage theft, fair scheduling, paid time off, and worker rights more generally remain at the forefront—regardless of work arrangement. The Labor Department recently released the Contingent Worker Survey after a hiatus since 2005. The share of all alternative work, including independent contractors and temp workers, did not change—estimated at 10.1% 2017 compare to 10.7% in 2005. My colleague Annette Bernhardt provided a nice overview of the CWS and pointed out that good estimates of workers that are using on-demand labor platforms range from 0.5 to 1.0 percent of the workforce. Research and effective policy in response to a fast-changing gig economy is important even as the share of workers who are affected is small.

Many workers are just starting to see a bit more money in their paychecks after years of stagnation. The Federal Reserve has recently been contemplating a more aggressive strategy in its schedule of interest rate hikes. Is a more aggressive approach necessary? As Dean Baker pointed out: "This means the Fed should be prepared to allow the rate to rise modestly above 2.0% given its target. We will have a recession at some point in the future, which will lower the inflation rate. This means the Fed should be looking to have the inflation rise to perhaps 2.5%, or even slightly higher if 2.0% is the actual target."

Modestly overshooting the 2% target rate of inflation would benefit the economy and workers. A more aggressive approach would slow the economy and hamper further wage gains. Analyses presented in this brief point to a labor market with room for further tightening—let's hope the Feds stick to modest, slow paced interest rate hikes.

Endnotes

[1] Congressional Budget Office's estimate of potential GDP was above actual GDP from 2008 q1 through 2017 q3. FRED data here: https://fred.stlouisfed.org/graph/?g=4za

[2] See Chart 1 in this CWED 2016 brief: http://irle.berkeley.edu/files/2016/Californias-Labor-Market-Eight-Years-Post-Great-Recession.pdf

[3] California state data are mixed as they are more volatile than U.S. data. However, there has been a strong positive trend in job growth in the state since mid-2010.

[4] California population data from the U.S. Census: https://research.stlouisfed.org/fred2/series/CAPOP

[5] From Piketty, Saez and Zucman http://gabriel-zucman.eu/usdina/

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