When Will California Reach its Potential (Employment)?

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June 2015

The current economic expansion has had an unusually large spike in the number of long-term unemployed. This roughly corresponds to the decline in manufacturing, the shrinkage of a construction sector bloated by the housing bubble, and the changes in the finance, legal and professional services sectors. There has been much policy discussion to the effect that more monetary or fiscal stimulus would be required to re-employ the long-term unemployed and these idle resources have created a large gap between potential and actual economic activity.

Another view that we at the Anderson Forecast have favored is that the coming of the information age has eliminated jobs that no amount of stimulus would bring back. Some examples of this are the GM/Toyota plant in Freemont being transformed into a highly automated, robot driven Tesla plant, the elimination of human toll takers on the Golden Gate Bridge, and the automated warehouse handlers in The Inland Empire.

So who are these long-term unemployed who are still looking for work or who are discouraged and have dropped out of the labor force? While there are not good data on it for the State of California, economics suggest they are the mid- to late-career Boomers. Gen-Xers and Millennials, viewing the changing employment landscape and the cost to move their skill sets into expanding sectors will have observed a long potential working life ahead of them and ample time to earn a return on this investment. However, those who are late career do not have too many potential years left to recoup the cost obtaining new or enhanced skills and therefore their incentives are much lower. This puts them in a position where their current skills, rusting from years of disuse, have not been in high enough demand to bring them back to work. In this essay we re-examine the potential employment and economic growth with an eye to this shifting demographic and conclude that while the data are not crystal clear on where the level of the potential is, it is most likely considerably below that predicted by metrics previously employed.

We have been measuring this potential output/employment gap in several ways. One has been by the difference between the trend employment and actual employment with the idea being that trend represents potential employment. By the first metric California, after a spectacular year of more than 3% growth in jobs, was at the end of 2014 approximately 700K jobs from potential. As can be seen from the graph, this analysis is highly dependent on how the trend is identified and presumes that the potential grows that trend at the rate of the State’s population growth. Though illustrative of the gap, it is highly analyst dependent. Nevertheless, this analysis suggests that the State will reach potential at the end of the decade because the trend is growing at a rate only slightly slower than employment.
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Chart 1

![CA Actual Versus Trend Employment](chart1)

**CA ACTUAL VERSUS TREND EMPLOYMENT**
(CPS SURVEY, 000 PEOPLE EMPLOYED)

Source: CA EDD and UCLA Anderson Forecast

Chart 2

![Employment / Population](chart2)

**Employment / Population**
(CA 1990-2014, 15 years and up)

Source: CA EDD and UCLA Anderson Forecast
Another, perhaps better, measure is the employment to population ratio. This fell during the recession, as it does during all downturns, but has not come very far back towards its previous levels. If measured against its 1999 peak, potential employment in California is 1.7M jobs above actual employment. Measured against its level at the beginning of the 2008/2009 recession it is 900K shy, a larger gap than that measured by trend growth in employment. This metric does not rely on arbitrary intervals for calculating trends and is therefore free of being influenced by the very different growth patterns of California in the 70s, 80s, 90s and 00s.

An explanation for the downward trend in Chart 2 might be that Boomers are getting older, aging out of the work force and therefore demographics have shifted the equation. However, an examination of the data for California suggests that this might not be the case. Chart 3 shows the demographics for California from the 2010 census and the 2015 Intercensal estimate. While it is true that boomers are aging, the Millennial Generation cohorts are just as large as the aging Boomer cohorts in California. Relative to the U.S., the California population is younger and the Boomers are being replaced at a rate of slightly more than 1 to 1 by Millennials.

On the surface these data seem convincing. The employment/population ratio is down by about 900K relative to the pre-recession peak and the demographics do not suggest a downturn in the number of people available for employment. However, it is important to observe that we are counting the population as having the same characteristics today as it had a decade ago.

There are two numbers to consider in this type of analysis, the numerator – employment, and the denominator, the population 15 and over as a proxy for population available to enter the work force. The only way the proxy works is if the ratio of people available to enter the work force to the population 15 and over remains constant. In this balance of this essay it is argued that it does not.

Before crunching some numbers consider an example. A 55 year-old factory worker skilled in assembly work and laid off in 2008 is 62 years old today. Suppose that aside from occasional temporary jobs he has been out of work for 7 years. Is that person really available for the labor market? While speculative, the answer is likely no. Were the assembly job he lost offered to him at something similar to the old wage, perhaps, but it won’t be. That assembly job is...
no longer being done with manual/mechanical labor but by a robotic machine. So, though he did not want to retire at 55, he has been retired for sometime and life has adjusted. Moreover, he is now eligible to supplement his savings or pension with social security. An increase in aggregate demand and improving labor markets does not come with an attractive job for our factory assembly line worker left behind by the information revolution.

There are three factors affecting the actual and potential employment to population ratio. First is the bulge in the population associated with the Boomers. What is important here is not that the Millennial cohort coming into prime working ages is about the same size as the Boomer cohort aging out, but that the Boomer cohort aging out is larger than the Silent Generation before them. Though more Boomers are working as a percentage of their cohort as compared to past cohorts of over 60-somethings, the issue is not those that are working who are already counted in potential, but those that are not. Boomers that are not working, and not realistically available for work, should not be counted as part of the support for potential employment and output. In other words, in the full employment equilibrium employment to population ratio calculation those not realistically available ought not be counted.

Second, the returns to staying in school have expanded and there is now an incentive to not be available for work (and not be a support for potential employment and GDP) among the 15 to 18 year olds who are currently getting their education. The high school graduation rate in California has been edging up from a pre-recession 67 percent to 80 percent in 2014. It is unlikely that an improving labor market will diminish the differential returns to schooling as firms in this expansion are using more and more equipment and software to replace workers at the low end of the skill set. Moreover, it is a matter of public policy to discourage drop-outs and to encourage high school graduation. The same is true for post-secondary education. Thus, it is more realistic to measure population from age 19 rather than age 16 in calculating potential employment. To be sure, some 15 to 19 year olds are in the labor market and available, though their employment prospects are not good, but a larger percentage of 19 to 23 year olds are in school than before and are therefore not available. So while the exclusion of the high school aged population is not entirely correct, it may well be a reasonable approximation.

**Chart 4**

**High School Graduation Rates**

![High School Graduation Rates Chart](source: CA Department of Education)
The third change relates to women in the labor force. Though we do not have good data for California female labor force participation, on a national level, women have been dropping out of the labor force since the peak in 1998. This has accelerated during recessions but the downward trend of the last 17 years has continued to present. Clearly, women who want to work and are out of the labor force due to discouragement at job prospects are available as potential employment, but fewer are in the “want to work” category. The surveys of women out of the labor force are mixed. On the one hand, women respond to survey questions in a way that suggests that they increasingly value good jobs and a career, and on the other, the number of women who are saying family is the most important factor in their lives and they have chosen to remain at home doing non-market work such as raising children regardless of their market driven job prospects. This trend shows up in the national numbers and is embedded in the previously discussed California numbers.

What happens when we attempt to adjust the employment to population ratios to account for these three factors? The dearth of data to forecast each of these trends puts us at a disadvantage. Will more teens stay in high school longer and more go to college regardless of the state of the labor market? Does the downward trend in female labor force participation continue? And what about our 62 year-old factory worker? Do more Boomers opt for retirement amid improving 401(k) values driving their participation rates down, or does the wave of new seniors keep on working longer? What we do know is that these three forces are working to lower the equilibrium employment to population ratio and are part of the explanation for the failure of this metric, as commonly calculated, to show an economic recovery.

To get a sense of the consequences of these changes on potential employment levels, the first approximation is to compute the ratio based on the population ages 19 to 64. This eliminates youth who are staying in school longer and seniors who are working longer but is silent on the trend in female labor force participation. When this is done, the employment gap of 905K relative to 2007 estimated for 2014 shrinks to 557K. At the expected rate of growth of this demographic over the next five years and a 2% growth in employment, California hits the recovered point of actual and potential employment being the same, in September of next year. This estimate may be too pessimistic since much of the employment gap was made up during the first four months of 2015 as a consequence of California’s labor markets continued expansion at a rapid clip.
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The analysis also points out the weakness of using trend unemployment. The sensitivity of the trend to the starting and ending date means that one can get just about any gap. Nevertheless, were the trend to be adjusted for the growth in the working age population it would bend over and the gap, however defined, would be smaller. Some cursory experimentation with this show the magnitude of the closing of the gap to be similar to that found using the employment to population ratio.

In spite of the uncertainty surrounding the magnitude of the forces affecting potential employment, the implication for the California forecast is clear. Absent immigration, it is not likely that after mid 2016 there will be a large pool of labor for employers to expand into. Because of this population growth constraint, the current forecast is being revised downward in late 2016 and 2017 towards the rate of population growth (in the identified demographic). The good news is the long wait for a recovery appears to be about over. However it does mean slower growth in the Golden State through the balance of this expansion.

Employment Retrospective

California’s employment picture continues to improve with 2015 net payroll job gains through April averaging 38,000 for an improvement of 151,500 jobs since the first of the year. The unemployment rate has now fallen to 6.3%, a rate 0.9% above the U.S. rate. The gap has now shrunk from 1.4% in December and 1.6% 12 months ago.

Overall growth in employment, both measured as total number of people employed by the Household Survey and the total number of payroll jobs as measured by the Establishment Survey are still growing at faster rates than the U.S. Compared to other states with populations over five million, California has been continuously in the top 10 in the growth of payroll employment. April jobs numbers puts the State’s total employment at 4.3% above the previous peak and the number of payroll jobs at 3.6% above the previous peak (Chart 7).

The creation of new jobs in the Golden State continues to be widespread as well. In the 12 months ending April 2015, the top sectors in job creation were health care and social services, leisure and hospitality, administrative services, professional technical and scientific services, construction, retail and wholesale trade. Non-durable goods continued to be the underperforming sector as it has since the last recession began. The three months ending April 2015 showed no significant deviation in sectoral growth from the annual data with the same five leading sectors outperforming all other sectors. The only exceptions were the erosion of some of the earlier net gains in education and finance.
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Chart 7

Change In Jobs By Sector
(April 2014 to April 2015)

Source: EDD.ca.gov

Chart 8

California Employment Trends

Source: EDD.ca.gov
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Forecast

The current forecast is for continued steady gains in employment through the middle of 2016. The increase in U.S. growth rates from construction, automobiles, and business investment as well as higher consumer demand will continue to fuel our local economy. What this means is a steady decrease in the unemployment rate in California over the next eighteen months. We expect California’s unemployment rate to be insignificantly different from the U.S. rate at 4.9% during the forecast period and employment growth to then be constrained by the growth in the U.S., immigration, and natural growth in the working age population.

Our estimate for the 2015 total employment growth is 2.5%, and for 2016 and 2017 the forecast is for 2.1% and 1.3%. Payrolls will grow more at about the same rate the three years. Real personal income growth is estimated to be 4.5% in 2015 and forecast to be 4.4% and 3.5% in 2016 and 2017, respectively.

The unemployment rate will hover around 6.2% through the balance of 2015. Unemployment will fall through 2016 and will average approximately 5.2% a slight decrease from our last forecast. In 2017 we expect the unemployment rate to be approximately 5.0%, approximately the same as the U.S.

Endnotes

2. Typical employment to population ratio measures for U.S. data use the population age 16 and above. The annual breakdown of population data for California is bracketed ages 9-14 and 15-18 and therefore the population numbers here begin at age 15 and not 16. http://www.dof.ca.gov
3. The employment numbers in this essay are from the Current Population (Household) Survey and measure the number of people employed including the self employed, farm labor and those employed in family owned businesses. The two other measures of employment, Non-Farm Payroll Jobs and the BEA Total Full and Part Time Employment yield the same results as reported here for the Household employment numbers.
4. Much has been written on this subject. See for example a review of Erik Brynjolfsson and Andrew McAfee’s work on this topic: http://www.technologyreview.com/featuredstory/515926/how-technology-is-destroying-jobs/

The 18-64 year old demographic is growing slower than the overall population of California.