California Center for Jobs & the Economy

California Business Roundtable

Jobs, Poverty & Upward Mobility

Data Report

Prepared for
California Business Roundtable

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The James Irvine Foundation

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Summary

Scope and Structure of this Report

Under a grant from The James Irvine Foundation, California Business Roundtable (CBRT) has convened a collaborative process among a broad range of stakeholder groups to address the issues affecting poverty, jobs, and upward mobility in California. This report provides background data to serve as a base for those discussions, including:

- Demographic Data providing basic population information on those in poverty, the working poor, and the income levels providing the ladder for upward mobility.
- Jobs Data describing California's changing jobs structure by industry, wages, and hours worked.
- Employment Data detailing the changing structure of the state's labor force.
- Cost of Living Data to address one of the most frequent issues raised in the project's focus groups—the effect of constantly increasing living costs on their opportunities to move ahead—including comparative costs on housing, commuting, energy, and other cost-of-living factors.

Within these categories, the report presents a series of factors that fall within three general categories:

- Technical Factors, primarily consisting of the different poverty measures and how these vary for California and its regions as an appropriate benchmark for defining poverty, the working poor, and middle and upper income groupings. Where applicable, data contained in this report is presented by income group defined by the ratio of income to poverty (official poverty threshold): 1-99% of poverty, 100-199%, 200-299%, 300-399%, 400-499%, and 500% and over.
- Individual Factors describing the populations within each of the income groups.
- Structural Factors identifying shifts in California's economy affecting the significance of the individual factors in the changing distribution across the income groups.

Higher Cost of Living Determines California's Effective Poverty Rates

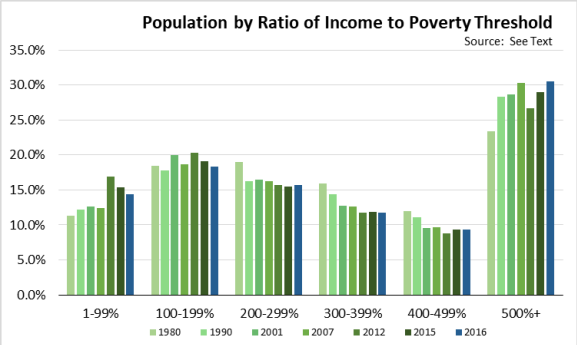
As measured by the official poverty measure (OPM), California's poverty rate has differed from the US average but not by overly large margins in recent years. From 1995 to 2003, the California rate averaged 1.9 percentage points above the US rate, dropping to 0.2 percentage points below from 2005 to 2009. During the recent recovery period from 2010 to 2016, California's rate was 0.8 percentage points higher on average.

The OPM measure, however, is a national average and does not take into account California's broader social safety network and much higher costs of living. Adjusting for noncash assistance payments and differences in specified expenses (primarily housing costs) under the supplemental poverty measure (SPM), California has had the highest poverty rate among the states since the SPM was introduced in 2011. In the most recent data (2014-2016), California's SPM rate was 20.4% vs. the state's 2016 OPM rate of 14.4% and the US SPM rate of 14.7%.

Poverty rates vary widely across the state. In 2016, the OPM varied from 9.4% in the Bay Area to 20.6% in the Central Valley. As recently as 2013, a quarter of the Central Valley's population lived in poverty as defined by the OPM.

Costs of living also vary widely, affecting which income groups can be considered as "working poor," "middle class," and "upper income." As measured by the 2015 regional price parity (RPP), costs of living vary from below the US average (100.0) in the interior regions (89.6 in Imperial County and 92.7 in Kings County), to 124.1 in San Jose-Sunnyvale-Santa Clara MSA and 122.0 in Santa Cruz-Watsonville MSA. Under the RPP, a basket of goods and services costing $100 at the US average would cost only $89.60 in Imperial, but $124.10 in San Jose. The defining component, as with most other cost and income delineations, is the significantly higher housing costs in the Bay Area and coastal counties.

Middle Class Incomes Have Narrowed

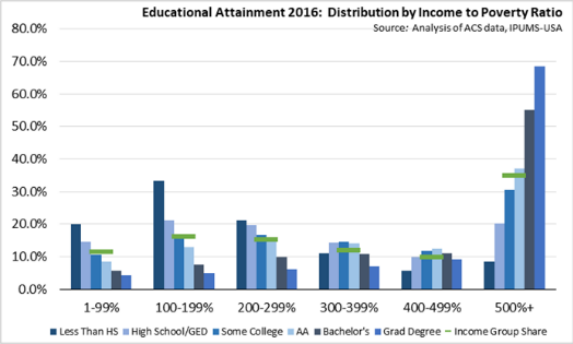


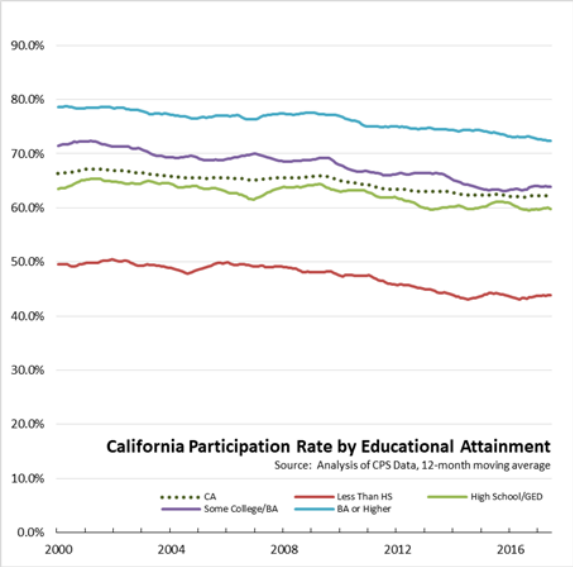
Middle income groups have steadily lost ground as the California economy has shifted away from traditional middle class income employment, and increasingly to a two-tiered pattern of jobs creation primarily at the higher and lower wage levels. Combined, the middle three income groups (200-499% of poverty income) went from 46.9% of the population in 1980 to 36.6% in 2015 and 36.8% in 2016. Movement out of the middle incomes, however, has been in both directions: the lowest two income groups grew from 29.7% in 1980 to 34.4% in 2015 and 32.7% in 2016; the highest level—500% and more of poverty income—grew from 23.4% in 1980 to 29.0% in 2015 and 30.5% in 2016.

While growth in the higher incomes has positive attributes, the hollowing out of the middle has diminished space and opportunities on the upward mobility rungs for both middle and lower income aspirations. The middle income tranche has become increasingly a gap separating the

extremes rather than the path for generational economic progress, especially when taking into consideration the high and growing costs for housing, energy, commuting, and other basic costs of living. With neither the assistance available at the lower income levels nor the household resources at the highest, the middle income levels now come with growing barriers from living costs that divert available household time and income resources from savings, asset acquisition, and education, and thereby restrict the upward mobility opportunities that once defined this state.

Educational Attainment and Income





Education continues to show a strong relationship to income level. Possession of any college degree—beginning with an AA and moving up—results in the income distribution sharply shifting towards the higher income groups.

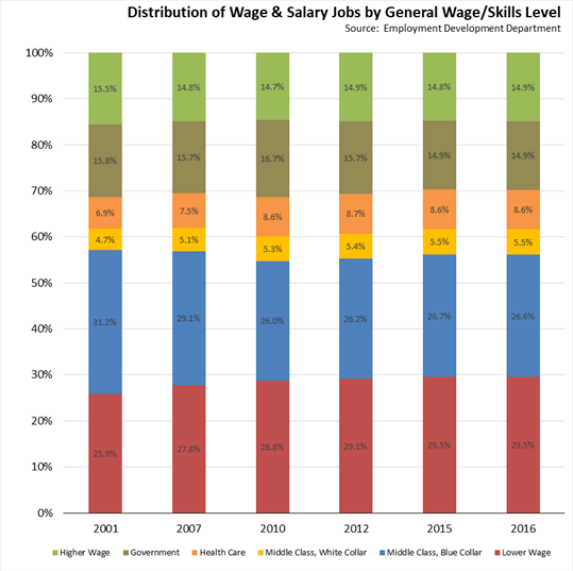
At the other extreme, California continues to have the highest share among the states of adults with less than a high school education, at 17.6% of persons age 25 and older in 2016. While in prior years, persons at this educational attainment level still had opportunities for higher wage jobs in traditional industries such as manufacturing and construction, these jobs have declined, require increasingly higher skills levels, or now face increasing regulatory barriers to entry. However, no meaningful progress on poverty and income mobility in the state can be achieved without addressing this component of the population through skills upgrading, policies more conducive to expansion of higher wage/higher hour jobs at this level, or other means. This point becomes all that more important when considering that this group also has historically low and now declining rates of labor force participation and consequently lower likelihood of being a source of earned income within their households.

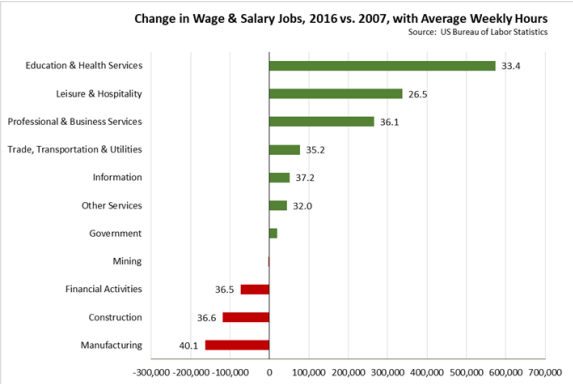
Changing Jobs Structure and Income

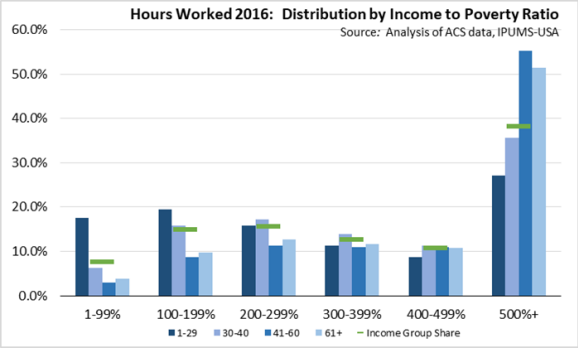
Between 2010 when the recovery began and 2016, California generated 2.2 million wage and salary jobs, producing a net increase of 1.1 million jobs compared to the pre-recession level. However, the nature and distribution of those jobs shifted notably from patterns in the past.

Combined, the Middle Class, Blue Collar and Lower Wage jobs open to lower skills/education levels went from 56.9% of the jobs mix in 2007, to 54.8% in the trough year of 2010, and going to 56.1%

in 2016. However, the mix between these very different wage level jobs changed, with Lower Wage jobs expanding to replace the declining Middle Class, Blue Collar. As a result, while job opportunities for lower educational attainment groups have grown during the state's recovery, they are at significantly lower wage levels. The opportunities this economic mix now provides either to avoid poverty—especially cost of living adjusted poverty—or provide a base from which to pursue upward mobility are as a consequence significantly diminished.







The nature of the jobs shift intensifies this effect. Looking at the structural shift by comparing the changes between 2007 and 2016, the jobs now available to lower skills provide significantly lower hours than the higher wage jobs they replaced in manufacturing and construction. While employment in more than one job is a potential coping response, this response is less likely at the lower incomes—41.0% of employed persons below poverty usually worked less than 30 hours a week in 2016—than in the higher incomes.

The distribution of jobs growth has also shifted. Overall, the Bay Area—with 19.4% of the population—accounted for 30.2% of the recovery jobs growth between 2010 and 2016, and nearly half (46.2%) of the net jobs growth between 2007 and 2016.

Breaking these totals out by wage and skills level, the distribution is even more skewed. Los Angeles region accounted for 47% of the net jobs loss between 2007 and 2016 for the Middle Class, Blue Collar jobs in construction and manufacturing. At the other extreme, the Bay Area secured 84% of the net jobs growth in the Higher Wage industries (Information, Management of Companies & Enterprises, and Professional, Scientific & Technical Services) and 31% of the net jobs growth in the Middle Class, White Collar industries (Arts, Entertainment & Recreation and Educational Services). While California has created jobs since the recession that can provide an option for upward mobility, their concentration within the Bay Area means that that cost barriers created by housing and commuting result in these jobs not being a viable option for most lower income families.

Potential Effects of Automation

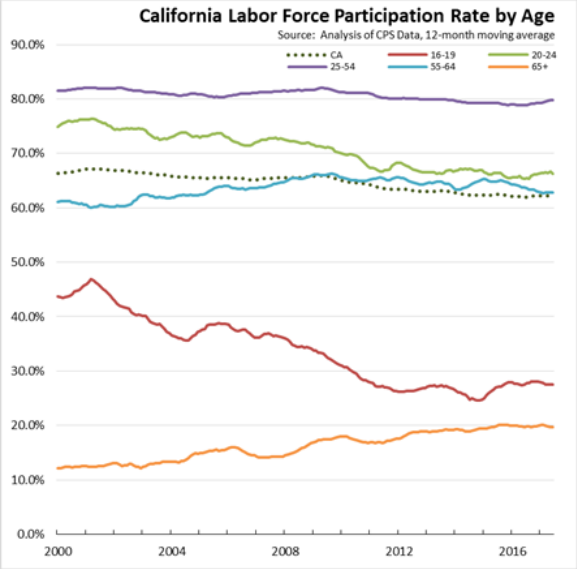
Increasing potential for technology applications, in particular artificial intelligence, has raised concerns over the number and types of jobs that will be created in the future. On one more dystopian extreme, some analysts foresee the pace of technology overwhelming the ability of the economy to adapt, and have proposed measures such as Universal Income to compensate for what they project as a lack of jobs and work and eventual creation of a permanent underclass. Others, looking at the history of technology absorption that has replaced but also created new jobs, view the current prospects—although accelerated—still capable of repeating instead the cycle of increased productivity and lower prices that historically have led to higher real incomes and creation of new job opportunities including within entirely new industries. Still others see technology adaptation as essential, enabling the developed economies to adjust to aging populations and static or declining labor forces through rapid advances in productivity.

Regardless of the net outcome, one thing is for certain—the nature of work within many occupations is likely to change as new technology is introduced. As in past cycles, these changes in turn will require workers to acquire different skill sets. Not all will require a college degree, but many will require proficiencies above what is currently provided through the K-12 and jobs training systems.

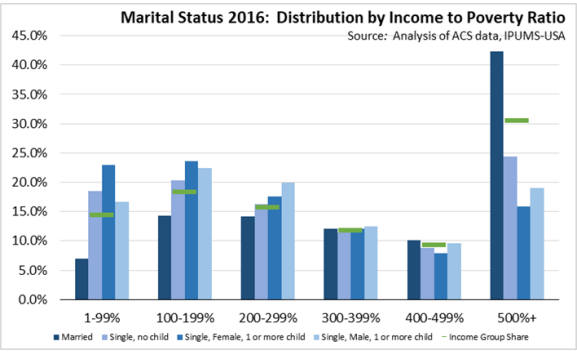
As importantly, technology will also change the nature of the employers providing these jobs, and the competitive ability of a state like California to retain and expand future jobs will shift as well. For example, the higher wage technology and information industries have concentrated in the Bay Area to an extraordinary degree, but instead of locating their expansions and ancillary operations in other regions of the state as in past economic development patterns, have instead chosen to locate in other states and other countries with the required labor force skills and more amenable living and operating costs. To a large extent, the effects of technology on jobs in California will depend on how competitive the state remains for the jobs that will emerge as the economy evolves.

Changing Labor Force and Income

California along with the rest of the US has experienced significant declines in labor force participation rates, a trend that began before but intensified with the recent recession. California's rate also dropped below the national average beginning in 2010, even though: (1) the state's population although aging is relatively younger than the US as whole and (2) California's fastest growing demographic group—Latinos—is younger still and has maintained much higher participation rates than the state overall.



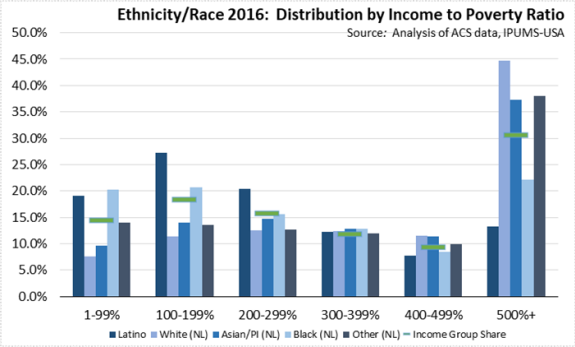
While people are working longer beyond age 65, the labor force increase has not been sufficient to compensate for declines among youth (16-19) and young adults (20-24) and comparatively lower rates for age 55-64. From 2001 to 2017, total civilian population age 16 and older in California grew by 5.2 million, with 4.1 million (79%) of this amount age 55 or older. Combining reduced participation at the younger ages with marginal reductions as the working adult population has aged has produced a decline in the potential number of working members per household. And in a state where more than one income is generally needed to afford growing housing costs, having only one has increasingly become a barrier to upward movement.

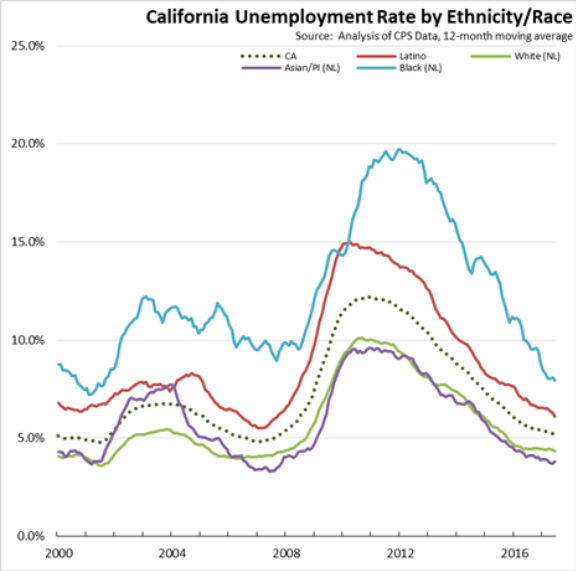


Having the potential for more than one income in a household continues to be associated with higher income levels. While the percentage of persons in families with married parents (both parents present or one not present) declined in the highest income group in the years following the recent recession, the relative share has remained stable and the percentage itself gained in 2016. Single mothers have significantly higher presence in incomes below poverty and the next higher income group, while single fathers show a higher relative share in the next four income levels above. The relative share for single mothers below poverty, however, has declined from more than twice as high in the beginning years of the 2000s, to 60 percent above in 2016.

Employment also translates into more sustainable income levels. While the upper income groups experienced some degree of higher unemployment during the recession (400-499% unemployment rate at 7.2% and 500%+ at 4.4% in 2012), the brunt of the recession fell on the lowest income levels (100-199% at 15.5% and below poverty at 33.3%).

Race/Ethnicity and Income

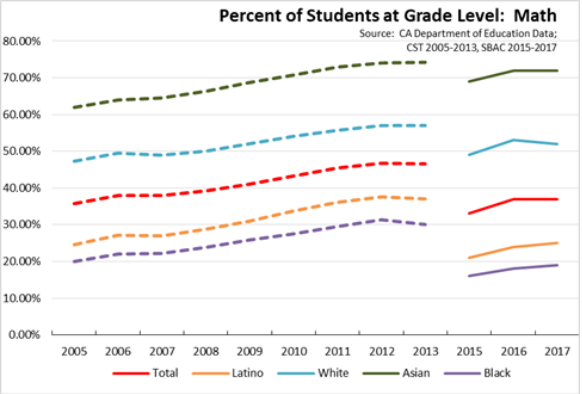


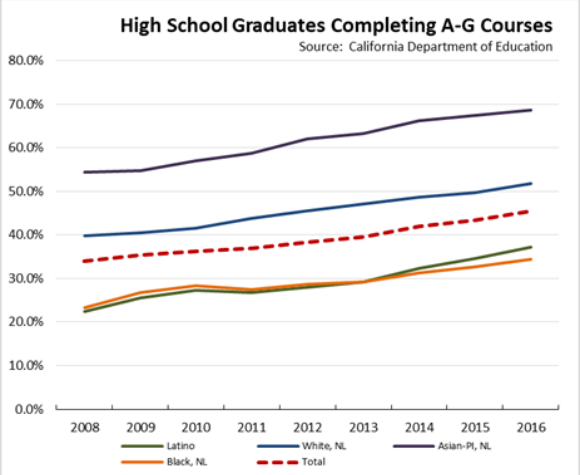


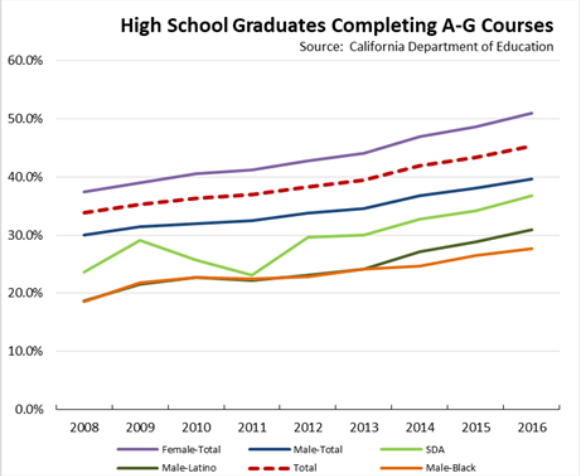
The ethnic/racial distribution for the 300-399% income group in 2016 substantially reflects the population distribution overall in California. Differences, however, exist in the higher and lower income groups. Latino and Black Californians show a higher relative share in the lower income ranges. In the highest, 500%+ income range, the relative share for non-Latino Blacks is 20% below the income range share, and for Latinos, 60% below.

On a relative share basis, the race/ethnicity distribution has been relatively stable since before the recession in 2007. The changes shown in the distribution within each income group are largely explained—with some slight differences—instead by the underlying changes in the overall population distributions as Latinos and Asian-Pacific Islanders have grown as a share of total population and the labor force, non-Latino Blacks remained essentially level, and non-Latino Whites declined.

Incomes, however, reflect the differing effects of the recession on each of these groups. Unemployment rates for Latinos and non-Latino Blacks peaked much higher, and through 2016 still had not returned to recovery levels, in particular for Blacks. While Latinos maintained a higher labor force participation rate than the other demographics throughout this period, the non-Latino Black rate sank well below the others and began to recover only in 2016.



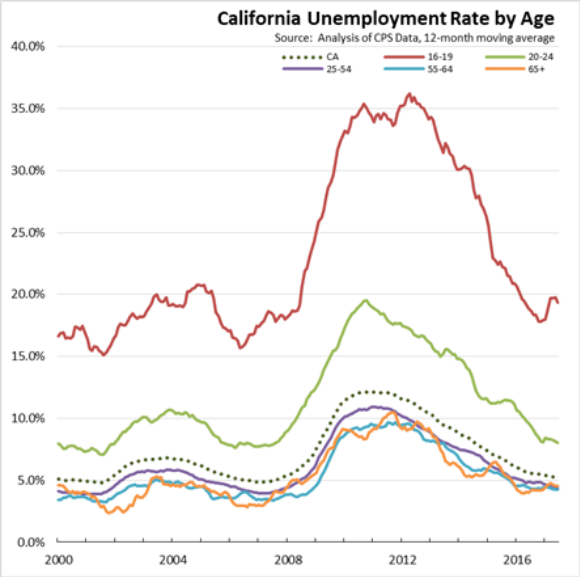




As indicated above, educational attainment remains associated with income level, but despite a 30% increase in Prop. 98 funding from 2007-08 to 2017-18 and a redirection of significant resources to focus on disadvantaged students through the Local Control Funding Formula (LCFF), significant gaps remain in educational outcomes by demographic and region. While year-to-year comparisons are difficult to make directly on test score results due to the changes the schools have made over the years, the general comparison shows a large and continuing gap in the proficiency levels reached by Latinos and Blacks especially in the Math skills critical to current jobs in Higher Wage industries and to occupations at all wage levels that are changing in the face of technology.

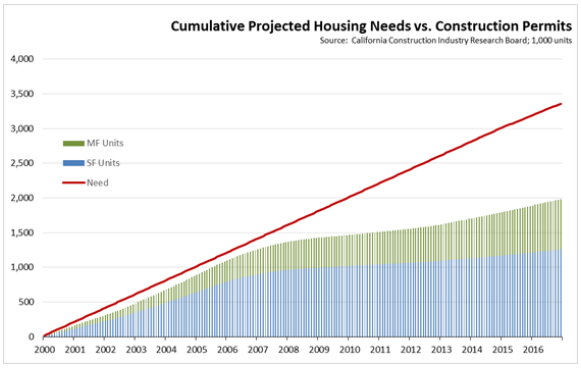
The effects of the schools' performance on incomes becomes even more evident when measured by the percentage of high graduates completing the A-G courses required for application to University of California and California State University. White and Asian-PI (all race designations for non-Latinos) students are being prepared for college at levels significantly above Latino and Black students. Males, especially Latino and Black Males, show completion rates that are well below Female levels, with SDA (socioeconomically disadvantaged/low income) students as a group at only just over a third of SDA graduates in the latest, 2016 results.

In a time of transition when required skill levels are likely to change substantially for most occupations—both the current mix and the yet-to-be-known evolving structure—California schools remain largely focused on college-track education. And in this respect, the results shown in the charts suggest that the schools no longer are functioning as the primary asset for adjusting to technological change, but instead now come close to serving as a winnowing process that risks relegating another generation—especially Blacks, Latinos, and low-income males—to the income levels in which they are now without the skills necessary for upward mobility in a changing state.

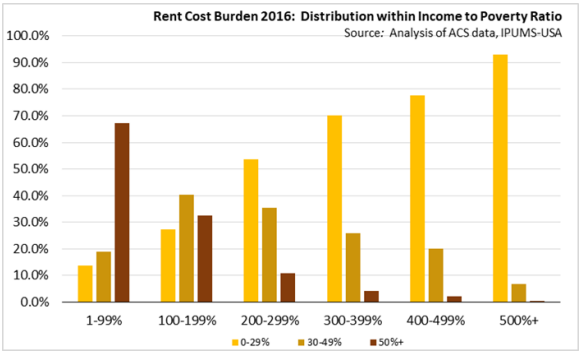


Youth employment in prior years served as an option to at least partially compensate for this situation. Most research shows long term positive effects on life-time earnings from early employment and development of both workplace skills and experience that adds significantly to future employability. Youth employment in California, however, has crashed. Unemployment remains well above all other age groups, while participation rates have sunk some 60%. Employment for age 16-19 in 2016 was less than 2/3 of the previous 2001 level. While higher income levels have relatively greater opportunities to compensate for lower youth employment opportunities through internships and similar situations, this path is not as available to all income levels.

Costs of Living

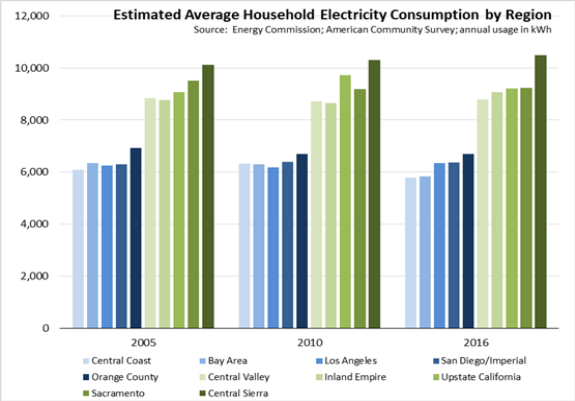


Since the 1980s, California has failed to produce sufficient new housing to keep up with the state's population growth, a shortfall that accelerated beginning in the year prior to the recent recession. Cumulative new housing under permit has failed to keep up with the required cumulative increase in new units, as taken from the Department of Housing & Community Development's state housing plans. Not even taking into account the previous deficit accumulated during the 1990s, new housing construction from 2000 to 2016 fell short of meeting supply needs by an estimated 1.4 million units.



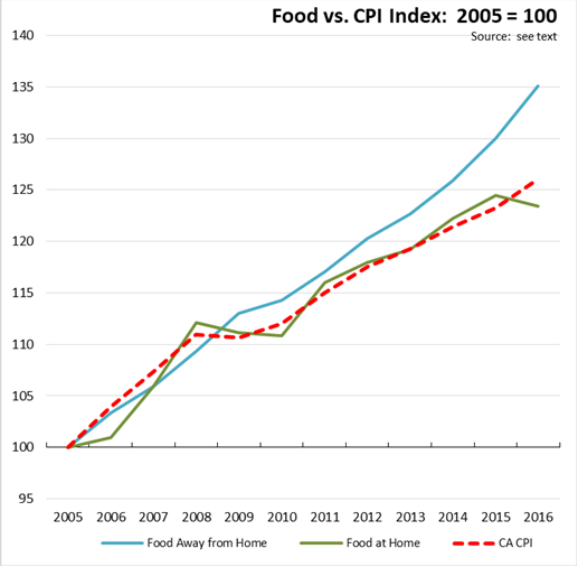
As prices have risen in response to supply constraints, the percentage of persons considered rent cost burdened has increased not just in the lower income ranges, but the middle income groups as well. While housing tends to be treated as a low income issue, rising costs increasingly represent a barrier, by otherwise absorbing available household income, to movement through the middle income ranks.

Californians have also seen rapid escalation in utility costs, the other cost component related to housing used in the cost burden calculations. Between 2010 and 2016, US Energy Information Administration data indicates the average California utility bill rose $150 a year, while dropping $5 in



the rest of the US. The average, however, does not apply across all of California. While the higher income coastal regions generally benefit from the state's mild climate through low utility bills, the lower income interior regions with more variable weather rely on electricity usage well above the state average, with estimated average household consumption as much as 81% higher in the interior regions than in the lowest consumption coastal region.

Other basic costs of living have risen as well, often in response to the same rent and energy cost increases faced by employers, along with other higher California operating costs due to taxes and regulations. The cost of food, specifically prepared food, has grown more rapidly that the general rate of cost increases in California. Food prepared at home, however, shows much slower upward cost pressure, with two deflationary periods in 2009-10 and 2016.



Introduction

Purpose

Under a grant from The James Irvine Foundation, California Business Roundtable (CBRT) has convened a collaborative process among a broad range of stakeholder groups to address the issues affecting poverty, jobs, and upward mobility in California. This multi-pronged effort incorporates the following objectives:

- To ensure both worker and employer voices are heard, understood, and addressed, conduct quantitative non-partisan research program that will study the needs, anxieties, perceptions, and goals pertaining to the workforce and quality of life issues in California.
- To develop a common dataset among all stakeholders that can eliminate the debate on the source and quality of information and allow the stakeholders to focus on solutions.
- To utilize a stakeholder process to examine the various local and state-level initiatives currently in place.
- To develop viable policy solutions to address challenges impacting poverty, jobs, and upward mobility in California.
- To conduct an educational outreach campaign based on a well thought out statewide strategy and stakeholder involvement to move forward actionable and viable policy options.

This report contributes to the second objective, by providing data on the following issues:

- Demographic Data. Basic population information on those in poverty and the working poor.
- Jobs Data. California's changing jobs structure by industry, wages, and hours worked.
- Employment Data. Changing structure of the labor force.
- Cost-of-Living Data. To address issues raised frequently in the project's focus groups, including comparative costs on housing, commuting, and other cost-of-living factors.

Data Notes

The information contained in this report draws on existing series maintained on the Center's websites along with additional data drawn and developed from public data bases for the purposes of this research effort.

Where available, data presented in this report is provided both for the state and regions. The regional delineations are the same as contained in the Center's current web sites, based on the original state Go-Biz regions shown below. In some cases, however, the nature of the data does not allow disaggregation to the regional level, and only state-level results are shown.

California Regions

Data for this report remains consistent with these regional designations with two exceptions due to data limitations. Regional data derived from MSA (metropolitan statistical area) level series includes San Benito County in the Bay Area grouping and Nevada County in a combined Central Sierra/Upper California grouping. This shift has little effect on the final numbers, as the two counties combined had a 2016 population of 159,000 (0.4% of the California total). The report notes where this shift has been made.

In addition to the data discussed in this report, several of the indicators have also been compiled by county and Congressional, Senate, and Assembly District depending on data availability. Select indicators have also been compiled for the 50 states and DC for comparative purposes. These indicators have been made accessible through the Center's web sites during the current upgrade.

Much of the data contained in this report draws from published series maintained by various state and federal agencies. In addition, some of the analysis draws on the increasing availability of PUMS (public user microdata sample) data for the primary data surveys, in particular the American Community Survey (ACS) and Current Population Survey (CPS):

- Estimates from microdata are subject to some variance depending on the statistical program used, but the differences are small and generally below 1%. To allow for replicability, CPS estimates in this report use the DataFerrett tool provided through the US Census Bureau, and ACS estimates are from UC Berkeley's Online Data Analysis System accessible through IPUMS-USA, University of Minnesota, www.ipums.org.

- To simplify the presentations, margins of error are not included in the tables, but generally will be higher for smaller populations and smaller sample sizes. To reduce this effect, results are generally presented in comparative rather than absolute values. In the case of the smaller-sample size CPS, data is pooled into multi-period averages, generally 12-month moving averages.

- For ACS data, the use of state and regional levels in the report allows analysis from the 1-year survey results. The background data provided for counties and legislative districts on the Center's site, however, is necessarily taken from the 5-year results. To provide comparability, the Center's data series include both the 5-year results for the state and regions. These data differences should be noted when moving between the 50-state comparisons and the California comparisons.

The focus of the overall project effort is not just on the poverty population, but as well on the "working poor" and the current conditions in California that are associated with or provide barriers to upward economic mobility. To assist in this analysis, the population data is provided consistently within the following Income to Poverty Ratio groups: 1-99%, 100-199%, 200-299%, 300-399%, 400-499%, and 500% and over. While the highest income group is the largest in size, top coding in the ACS prevents further disaggregation.

Under the ACS data used to describe the population characteristics within each group, the ACS assigns persons within each category based on the ratio of total family income to the relevant poverty threshold. Each person within a family falling, for example, within the 100-199% range is then assigned within that range. Because the data is based on total family income reported for the prior year, technically the ratios apply to the prior year. However, much of the other ACS data applies to prior year or prior multi-year periods as well, and to remain consistent and conform to the general reporting practices, the data is treated as in the year it is reported. Where this factor becomes critical in the current and future analyses for the project, adjustments are made.

While this framework provides a useful way of analyzing factors associated with these standard levels of income, the concept of which range should be associated with "working poor" or "middle class" necessarily has to remain flexible. As detailed in this report, income opportunities and cost of living vary widely in the state. A 2-adult/2-child family making 300% of poverty income (about $72,000) may have the resources to pursue a middle class lifestyle in the Central Valley (as well as

many other states), but would be hard-pressed to afford housing, childcare, quality education (either private or through higher-cost housing location, public), commuting, and other basic living costs in the Bay Area and much of Southern California.

Each table containing this Income to Poverty Ratio data presents the data in two different ways. The first set of six income columns shows the distribution within each income level—the entries add up to 100% going from top to bottom. The second set of six income columns shows the distribution of each population group across the different income levels—the entries add up to 100% going from left to right. These two ways of looking at the data are used to show how each income group has changed over time, and through shifts in population group share, some possible indications of why.

To keep consistent with the published ACS results, all data from the ACS is based on the population for whom poverty status is determined. The ACS poverty status determinations cover about 98% of total population in each of the years. Because poverty status is assessed based on family income, the primary component not included is population living in group quarters, a classification that includes college residence halls, residential treatment centers, skilled nursing facilities, group homes, military barracks, correctional facilities, and workers' dormitories. In 2016, the California group quarters population was 814,000, or 2% of the total population.

Data Series

Historical data by state and region for the elements included in this report are provided in the accompanying spreadsheet, which allows comparison of the same area between two time periods or of two different areas for the same time period. In addition, as indicated above, specific indicators also have been incorporated into the Center's current web site upgrade and displayed, as appropriate for comparative purposes, for the other states, counties, and the Assembly, Senate, and Congressional Districts.

To keep consistent with the most recently available ACS data from 2016, most of the analysis is done through this year. Most of the non-ACS data series, however, are included on the Center's web site update, and contain more recent data through the most current available.

Definitions of Poverty

The concept of income-based poverty levels was first developed as federal anti-programs expanded in the early 1960s. The initial levels were based on the 1961 "economy food plan" developed by the US Department of Food & Agriculture (the lowest cost of four "nutritionally adequate" food budgets) and data showing that food expenses then consumed one-third of income. The current poverty measures are based on that initial estimate from the Social Security Administration, with revisions in 1969 and 1980 and with annual updates for inflation using the CPI-U.[1]

"Poverty income" has two different meanings for federal agency purposes:

[1] Consumer Price Index, All Urban Consumers. Prior to 1969 revision, indexed by change in per capita cost of foods in the economy food plan.

- The most widely used figure, Poverty Thresholds, is calculated for statistical purposes by the US Census Bureau and varies by family size, number of children, and age of householder. Adjustment for inflation is done through a detailed calculation that breaks these factors into 48 thresholds (see columns 3-11 in Table 2). This Official Poverty Measure (OPM) is used to determine the number of people living in poverty for statistical reports. Every member of a family is considered in poverty if the before-tax cash income is less than the dollar value of their threshold. People not living in families are counted based on their thresholds. The annual Poverty Threshold is the same for all parts of the US. Poverty Threshold is the main delineation point used in this report.

- Poverty Guidelines are calculated for program purposes and eligibility determinations by the US Department of Health and Human Services. The guidelines vary by family size and are updated annually by applying the CPI-U to the weighted average Poverty Thresholds (see second column in Table 2). Three different sets are published: the 48 contiguous states, Hawaii, and Alaska.

Beginning in 2011, US Census Bureau and Bureau of Labor Statistics published the Supplemental Poverty Measure, which adjusts the Poverty Threshold for specified noncash assistance payments and for regional differences in specified expenses, primarily housing. This measure is published as an annual average for the US and (except for 2014) as a moving 3-year average for the states. This measure is still considered "experimental" and has not yet been incorporated into the official data surveys and reports.

Under the Supplemental Poverty Measure (SPM), the OPM Threshold (cash income) is adjusted as follows:

- Reductions for receipts from cash assistance and noncash benefits from Social Security, refundable tax credits (EITC, child credits), food stamps (SNAP), Supplemental Social Security, housing subsidies, child support received, school lunch, Temporary Aid for Needy Families (TANF)/general assistance, unemployment insurance, Low Income Home Energy Assistance Program (LIHEAP), workers' compensation, and Women, Infants & Children (WIC).

- Additions for payments for medical out-of-pocket payments (MOOP), work expenses (e.g., commuting, uniforms, tools), employment taxes (FICA), income tax, and child support paid.

- Adjustments for regional cost differences are made from an index calculated from regional median rents compared to the national level.

Because the core data for the SPM draws from the March Annual Social and Economic Supplement to the Current Population Survey, state estimates for the SPM are drawn from 3-year averages in order to ensure statistical validity.

Table 1 compares the 2016 OPM threshold to the SPM thresholds for a household with 2 adults and 2 children.

Table 2 compares, by household size, the 2016 Poverty Threshold to the California SPM (renters) for both the metropolitan portion (MSAs) and the non-metropolitan areas. Separate calculations not shown in the table cover homeowners with a mortgage and homeowners without a mortgage.

Table 3 illustrates the wide regional variations in poverty levels stemming from housing costs, through the 2015 SPM thresholds by MSA for a household with 2 adults and 2 children. These levels range from $20,251 for a homeowner without a mortgage in Merced, to $36,570 in San Jose-Sunnyvale-Santa Clara for homeowners with a mortgage, the highest threshold in the nation.

In addition to the federal efforts, development of comparable measures incorporating regional cost of living differences has been undertaken by research institutes in a number of states. Stanford Center on Poverty and Inequality in cooperation with Public Policy Institute of California developed a California Poverty Measure (Bohn 2013) for the state and counties. In general, this measure shows relatively higher poverty rates than those from the OPM, and somewhat lower than the SPM. Updates are infrequent, although the 2015 estimates have just been released.

Poverty Rates

The resulting poverty rates for California under the three measures are shown in Table 4, with the official poverty rates for the regions in Table 5. As indicated previously, comparable rates from the 5-year ACS data for all geographic levels in California are accessible through the Center's web site.

As shown in Table 4, California's official poverty (OPM) rate had its recent peak at 17.0% in 2012, reaching levels previously seen during the earlier 1990s recession. In 2016 not counting the District of Columbia, the state's OPM rate was the 20th highest among the states. Ranked by SPM, however, California has had the highest rate among the states since this indicator was introduced in 2011.

Poverty levels also vary widely across the state. As shown in Table 5, OPM rates remain elevated in Central Valley and the rural counties of Upstate California/Central Sierra, and along with Inland Empire indicate continued slow recovery from the Great Recession. Other regions of the state exhibit rates close to the national average, while Bay Area and Orange County show significantly lower rates. Cost-of-living adjusted rates, however, would show significantly higher poverty, especially with the continuing rapid increases in housing costs.

Drawing from the trends shown in Table 4, the data tables in the following sections of this report generally will show results for the following years: 2007 as the year with the recent lowest poverty rate, 2012 as the peak poverty year following the recession, and 2016 as the most recent year for which complete data is available.

Table 1: US OPM & SPM Thresholds, Two Adults & Two Children

OPM Threshold	SPM Thresholds		
	Owners with mortgages	*Owners without mortgages*	*Renters*

2005	$19,086	$21,064	$17,643	$20,641
2006	$20,444	$22,010	$18,301	$21,278
2007	$21,027	$22,772	$19,206	$22,418
2008	$21,834	$24,259	$20,386	$23,472
2009	$21,756	$24,450	$20,298	$23,874
2010	$22,113	$25,018	$20,590	$24,391
2011	$22,811	$25,703	$21,175	$25,222
2012	$23,283	$25,784	$21,400	$25,105
2013	$23,624	$25,639	$21,397	$25,144
2014	$24,008	$25,844	$21,380	$25,460
2015	$24,036	$25,930	$21,806	$25,583
2016	$24,339	$26,336	$22,298	$26,104

Source: US Census Bureau

Table 2: OPM & SPM Thresholds, California Renters, by Household Size, 2016

Size of Family Unit	Weighted Average	Related Children Under 18 Years								
		None	*One*	*Two*	*Three*	*Four*	*Five*	*Six*	*Seven*	*Eight*
OPM Poverty Threshold - US										
1 person	$12,228									
Under 65	$12,486	$12,486								
65 +	$11,511	$11,511								
2 people	$15,569									
Householder under 65	$16,151	$16,072	$16,543							
Householder 65 +	$14,522	$14,507	$16,480							
3 people	$19,105	$18,774	$19,318	$19,337						
4 people	$24,563	$24,755	$25,160	$24,339	$24,424					
5 people	$29,111	$29,854	$30,288	$29,360	$28,643	$28,205				
6 people	$32,928	$34,337	$34,473	$33,763	$33,082	$32,070	$31,470			
7 people	$37,458	$39,509	$39,756	$38,905	$38,313	$37,208	$35,920	$34,507		
8 people	$41,781	$44,188	$44,578	$43,776	$43,072	$42,075	$40,809	$39,491	$39,156	
9 people +	$49,721	$53,155	$53,413	$52,702	$52,106	$51,127	$49,779	$48,561	$48,259	$46,400
SPM - CA Metro Renters										
Under 65		$11,540								
65 +		$11,540								
2 people										
Householder under 65		$16,272	$17,414							
Householder 65 +		$16,272	$17,414							
2 or more Adults										
3 people		$24,900	$21,917							
4 people		$30,455	$27,737	$24,900						
5 people		$35,604	$33,072	$30,455	$27,737					
6 people		$40,450	$38,060	$35,604	$33,072	$30,455				
7 people		$45,059	$42,781	$40,450	$38,060	$35,604	$33,072			
8 people		$49,474	$47,289	$45,059	$42,781	$40,450	$38,060	$35,604		
1 Adult with Children										
Single Parent			$17,414	$20,674	$23,726	$26,618	$29,381	$32,036	$34,601	$37,086
SPM - CA Non-Metro Renters										

Under 65	$11,972								
65 +	$11,972								
2 people									
Householder under 65	$16,881	$18,066							
Householder 65 +	$16,881	$18,066							
2 or more Adults									
3 people	$25,832	$22,737							
4 people	$31,595	$28,775	$25,832						
5 people	$36,936	$34,310	$31,595	$28,775					
6 people	$41,964	$39,485	$36,936	$34,310	$31,595				
7 people	$46,746	$44,383	$41,964	$39,485	$36,936	$34,310			
8 people	$51,326	$49,059	$46,746	$44,383	$41,964	$39,485	$36,936		
1 Adult with Children									
Single Parent		$18,066	$21,448	$24,614	$27,614	$30,480	$33,235	$35,896	$38,474

Source: US Census Bureau

Table 3: SPR Threshold by MSA, Two Adults & Two Children, 2016

	Owner w/ Mortgage	Owner w/o Mortgage	Renter
US	$26,336	$22,298	$26,104
California Metro	$25,109	$21,447	$24,900
California Non-Metro	$26,058	$22,106	$25,832
Bakersfield MSA	$24,934	$21,326	$24,728
Chico MSA	$26,058	$22,106	$25,832
Fresno MSA	$25,386	$21,640	$25,172
Hanford-Corcoran MSA	$24,554	$21,063	$24,355
Los Angeles-Long Beach-Anaheim MSA	$33,523	$27,280	$33,157
Modesto MSA	$26,336	$22,298	$26,104
Oxnard-Thousand Oaks-Ventura MSA	$34,371	$27,868	$33,988
Redding MSA	$25,664	$21,832	$25,445
Riverside-San Bernardino-Ontario MSA	$28,410	$23,736	$28,140
Sacramento--Roseville--Arden-Arcade MSA	$27,885	$23,371	$27,624
Salinas MSA	$30,762	$25,366	$30,448
San Diego-Carlsbad MSA	$32,837	$26,804	$32,483
San Francisco-Oakland-Hayward MSA	$35,905	$28,931	$35,494
San Jose-Sunnyvale-Santa Clara MSA	$37,848	$30,278	$37,400
San Luis Obispo-Paso Robles-Arroyo Grande MSA	$30,689	$25,316	$30,376
Santa Cruz-Watsonville MSA	$35,437	$28,607	$35,035
Santa Maria-Santa Barbara MSA	$33,421	$27,209	$33,057
Santa Rosa MSA	$32,325	$26,450	$31,982
Stockton-Lodi MSA	$26,730	$22,571	$26,491
Vallejo-Fairfield MSA	$29,930	$24,789	$29,631
Visalia-Porterville MSA	$24,262	$20,860	$24,068

Source: US Census Bureau

Table 4: Comparison of Poverty Rate Measures, California & US

	California			US	
	OPM	*SPM*	*CPM*	*OPM*	*SPM*
1995	16.5%			13.8%	14.2%
1996	16.7%			13.7%	14.3%
1997	16.0%			13.3%	13.8%
1998	14.9%			12.7%	13.1%
1999	13.7%			11.9%	12.6%
2000	12.7%			11.3%	12.6%
2001	12.9%			11.7%	13.3%
2002	13.3%			12.1%	13.8%
2003	13.7%			12.5%	14.2%
2004	13.2%			12.7%	13.9%
2005	13.3%			13.3%	13.9%
2006	13.1%			13.3%	13.8%
2007	12.4%			13.0%	14.3%
2008	13.3%			13.2%	14.7%
2009	14.2%			14.3%	15.1%
2010	15.8%			15.3%	15.9%
2011	16.6%	23.5%	21.5%	15.9%	16.1%
2012	17.0%	23.8%	21.2%	15.9%	16.0%
2013	16.8%	23.4%	21.0%	15.8%	15.8%
2014	16.4%		20.6%	15.5%	15.3%
2015	15.4%	20.6%	19.5%	14.7%	15.1%
2016	14.4%	20.4%		13.7%	14.7%

Source: US Census Bureau, Small Area Income & Poverty Estimates (SAIPE); Public Policy Institute of California & Stanford Center on Poverty & Inequality.
Notes: California SPM is 3-year average; US SPM prior to 2009 is from Fox (2013), as reported on Stanford Center's Poverty & Inequality Trend Data.

Table 5: OPM Poverty Rate, Regions

Year	Bay Area	Central Coast	Central Valley	Inland Empire	Los Angeles	Orange County	Sacramento	San Diego/ Imperial	Upstate California/ Central Sierra
2005	9.4%	13.8%	18.8%	13.2%	15.7%	8.8%	11.7%	11.5%	15.3%
2006	9.7%	11.8%	18.9%	13.0%	14.9%	9.7%	10.9%	12.0%	15.4%
2007	9.0%	11.2%	17.7%	11.8%	14.1%	8.9%	11.1%	11.6%	14.9%
2008	8.9%	12.6%	19.5%	13.5%	14.7%	9.9%	11.9%	13.1%	17.1%
2009	9.6%	15.4%	20.3%	15.4%	15.6%	10.7%	13.2%	13.1%	16.3%
2010	11.1%	15.7%	22.5%	17.1%	17.0%	12.2%	14.9%	15.2%	18.2%
2011	11.7%	16.1%	23.8%	18.0%	17.7%	12.9%	16.0%	15.7%	19.2%
2012	11.7%	15.7%	24.2%	19.0%	18.4%	12.9%	16.7%	15.4%	19.6%
2013	11.3%	16.3%	24.6%	18.2%	18.3%	13.5%	16.5%	15.6%	19.2%
2014	10.3%	16.4%	24.3%	18.7%	18.1%	12.8%	16.2%	15.1%	17.9%
2015	10.1%	15.4%	22.7%	17.5%	16.1%	12.7%	15.0%	14.4%	18.8%
2016	9.4%	12.3%	20.6%	16.4%	15.7%	11.0%	14.4%	12.9%	18.9%

Source: US Census Bureau, ACS
Note: San Benito County included in Upstate California/Central Sierra

Demographics

Introduction

For each indicator shown below, the structure of the data comes first from a designation by income group. The ratio of income to poverty is determined based on family income and the relevant poverty threshold, with the ratio for unrelated individuals determined based on their relevant threshold. Attributes in each of the indicators are then aggregated from all family members and persons within each income group. For example, a family earning 300-399% of poverty income may have a member with a high school degree and another with a graduate degree. Both persons are statistically assigned to this same income group even though individually they may have different or no annual income. This same factor applies to the subsequent sections as well where the income groups are used. Additional details on each of the indicators is provided in the Data Dictionary.

Changes in the distributions between the years considered are affected by two factors: changes in the underlying poverty income distribution as the population has shifted from middle to the higher and lower income groups, and changes within each population group distribution of socioconomic characteristics as the state's age, ethnic, employment, and other structures have shifted over time.

To identify where demographic/economic factors have shifted more to one income group or another, a simplified measure of relative share is used, calculated as the demographic/economic factor share by income divided by the total population share by income (both factors from the second set of income group columns in the tables). For example, the relative share for Latinos below poverty is calculated as follows from the data in Table 10:

Year	(1) Population Share of 1-99% Income Group	(2) Share of Latinos in the 1-99% Income Group	(3) Relative Share = (2)/(1)
2007	12.4%	17.8%	1.4
2016	14.4%	19.0%	1.3

The decline in the relative share indicates that while both poverty and share of Latinos in poverty increased relative to 2007, the change in Latino share (6.7% change) was lower than the change in total poverty share (18.0%) meaning Latinos performed relatively somewhat better in this time period on this measure. These calculations are found in the Attachment 2 tables. These relative shares can be used to determine: (1) where a demographic/economic factor is relatively more present (>1) or less (<1) within an income group, and (2) where a sizeable change has occurred based on comparing relevant relative share in each of the three years. Rounded to the first decimal, these calculations indicate where the changes over time are more likely to be statistically significant.

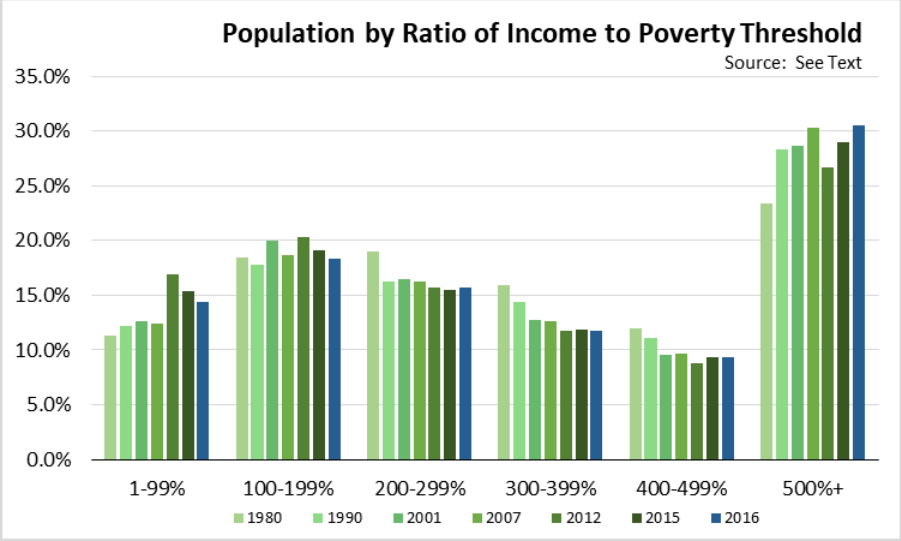
Population—Decline of Middle Class Incomes

The overall shift in California's income structure is illustrated in the following chart showing the total distribution among the income groups. Data was developed from the ACS microdata along with the comparable microdata from the 1980 and 1990 Census available on the IPUMS.org site.

As indicated, the middle income groups have steadily lost ground as the California economy has shifted away from traditional middle class income employment, and increasingly to a two-tiered pattern of jobs creation primarily at the higher and lower wage levels. Combined, the middle three income groups (200-499% of poverty income) went from 46.9% of the population in 1980 to 36.6% in 2015 and 36.8% in 2016.

Movement out of the middle incomes, however, has been in both directions. Combined, the lowest two income groups grew from 29.7% in 1980 to 34.4% in 2015 and 32.7% in 2016. The highest level—500% and more of poverty income—similarly grew from 23.4% in 1980 to 29.0% in 2015 and 30.5% in 2016.

While growth in the higher incomes has positive attributes, the hollowing out of the middle has diminished space and opportunities on the upward mobility rungs for both middle and lower income aspirations. The middle income tranche has become increasingly a gap separating the extremes rather than the path for generational economic progress.

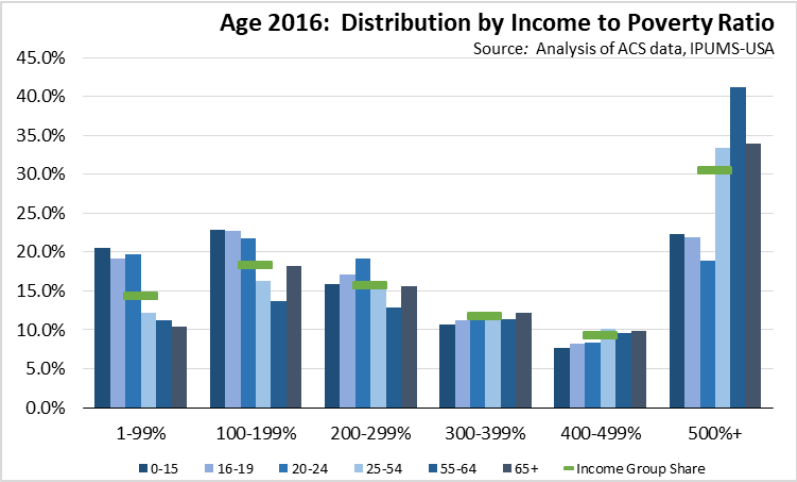


Age

As shown in the first Total column of Table 6, California since the Great Recession has seen major changes in its age structure. Children (0-15) dropped from 22.9% to 20.7% of total population, while seniors (65+) grew from 10.8% to 13.6%. The other three cohorts, especially working-age adults (25-64), show somewhat lower shifts. These changes represent an ongoing trend rather than being the result of lower childbearing rates due to the recession.

Comparing the relative shares of each population group (second set of income columns in Table 6):

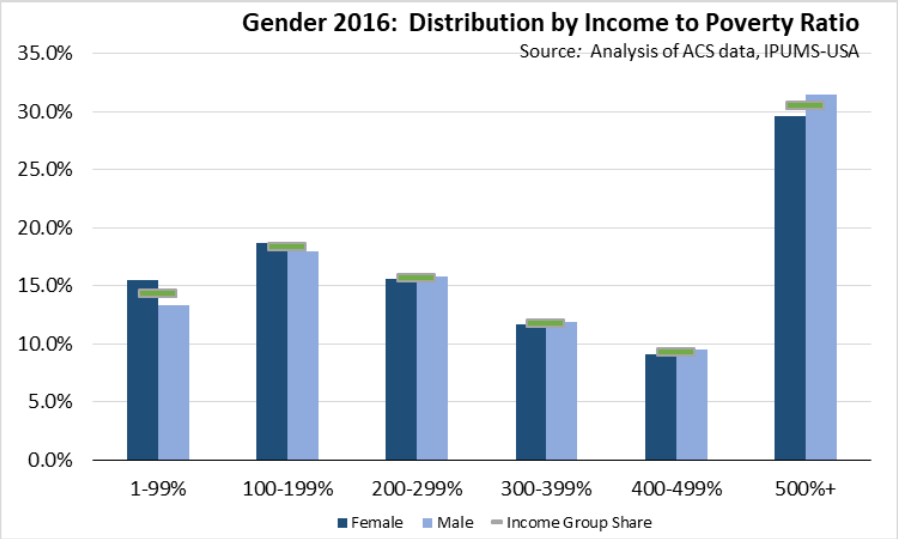
- The lowest two income groups are relatively younger. Containing 32.7% combined of the total population, these two groups cover 43.4% of children, 41.7% of youth, and 41.5% of young adults in 2015. Prime working age adults account for only 28.4%, and seniors 28.6%. This distribution has become more skewed towards the younger ages since 2007.



- The next two income groups come closer to reflecting the total population distribution in 2016, with the exception of 200-299% having relatively higher youth and young adults and 300-399% somewhat lower.

- The two highest (400-499% and 500%+) income groups are relatively older, with a relatively higher share of prime working adults (43.6%) and seniors (43.7%) Young adults entering the workforce, as expected, have a significantly lower share at 27.2%.

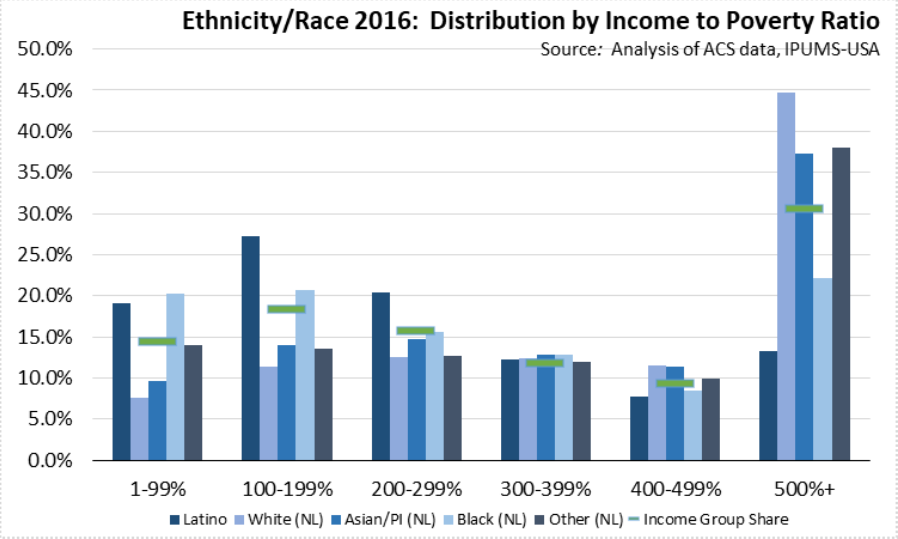
Gender



From Table 8, the major differences are in the following categories:

- Persons below poverty contain a significantly greater share of females, reflecting the greater incidence of single mothers with children. The difference continued in 2012 even as more males dropped below poverty. The relative shares by gender show no major differences in all other income groups. The differences narrow in the middle four income groups, and while widening in the highest income group do not show as large a difference as in the lowest.

Ethnicity/Race



From Table 8, the major differences are in the following categories:

- Latinos and Non-Latino Asian-Pacific Islanders grew both in absolute and relative terms during this period, going from 36.3% and 12.6%, respectively, in 2007 to 39.0% and 14.4% in 2016. Non-Latino Whites decreased both in total numbers and relative share from 42.4% in 2007 to 37.5% in 2016. Non-Latino Blacks remained essentially stable in total numbers, while dropping slightly from 5.8% to 5.5% in population share.

- The ethnic/racial distribution for the 300-399% income group in 2016 substantially reflects the population distribution. Differences arise in the higher and lower income groups.

- Compared to the population share for each income group, Latinos constitute a relatively higher share in each of the three lowest income groups in 2016, with the highest disparity in the 100-199% group.

- Non-Latino Blacks have the highest disparity relative to population share in the 1-99% income group, at 50% higher than the income group population share), but track close to the total for the next three higher income groups. Their relative share is 20% below the total 500%+ income group, while the relative share in this category for Latinos is 60% below.

- Non-Latino Whites and Asian-Pacific Islanders show relatively lower population shares in three lowest income groups, while having higher shares beginning in the 400-499% level. Their relative shares in the highest income group are 50% and 30% higher, respectively.

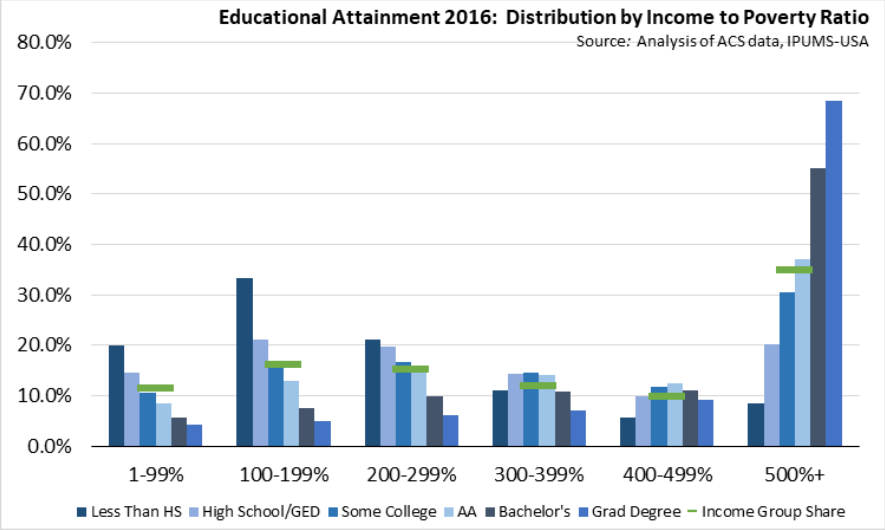
- On a relative share basis, the population group distribution is relatively stable in all three years. The changes shown in the distribution within each income group (first set of income group columns) are largely explained—with some slight differences—instead by the underlying changes in the overall population distributions. The main differences are that comparing 2007 and 2016: Non-Latino Whites show an increase in their relative share of the 1-99% income group; Latinos gained in relative share at the 300-399% income level and improved at the 1-299% levels, moving more to the middle but not the highest incomes; Non-Latino Asian-Pacific Islanders gained in the highest income but dropped in the 200-299% and 400-499% middle incomes; and Non-Latino Blacks saw higher relative share at 400-499% while improving at the two lowest levels.

Educational Attainment

One of the key factors affecting California's persistently high poverty rates and upward mobility opportunities is the extreme spread in educational attainment among the working age adult population, persons age 25 and up.

In 2005, the published ACS 1-year state level estimates show California had the 4th highest (all states and DC) percentage of persons with less than a high school diploma, going to the highest in 2013-2015 and in the latest data for 2016 at 17.6% of adults age 25 and older. California had the next to lowest percentage with a high school diploma or GED in all years 2005-2016. Combined,

California in 2016 had 38.0% of its working age population with a high school diploma or less (vs. 41.7% in 2005), the 29th highest.



While in prior years this education level still had substantial upward mobility opportunities through higher paying blue collar industries such as construction, manufacturing, transportation, and warehousing, these avenues are now reduced as discussed in the subsequent sections. While the state's current education, regulatory, and tax policies focus on creating higher paying opportunities requiring a college degree, this approach bypasses nearly 40% of the potential labor force lacking any portion of these credentials. Significant improvements in the state's current income picture cannot be accomplished without addressing the circumstances of this population, whether through policies to foster higher paying employment opportunities commensurate with these skill levels, more effective retraining programs or technical education opportunities, efforts to reduce living costs more in tune with the existing employment wage mix, or universal income proposals that assume persons at this skill level have no employment future.

At the other end of the spectrum, California has a high percentage of adults with college degrees. The most recent published 2016 ACS 1-year estimates place California a 32.9% with a BA, graduate, or professional degree, the 15th highest among the states and DC, up from 29.5% (13th highest) in 2005.

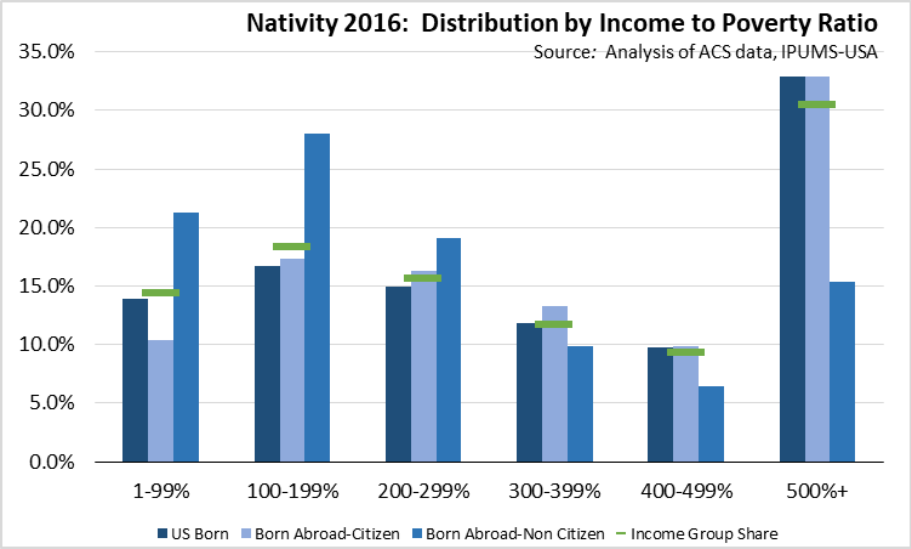
The interactions between educational attainment and income level is explored in Table 9. The major differences among the categories are:

- In 2016, 54.0% of persons age 25 and above with less than a high school education fell within the lowest two income groups, or nearly twice as large as the relative total share for these income groups. This share is improved from 60.8% in 2012, but is still somewhat above the 53.3% level in 2007 when more, better paying job opportunities were available at this skill level. This group still shows a relatively higher share of the 200-299% income group, before dropping off sharply in the three highest income groups.

- Acquisition of a degree is associated significantly with the higher income groups. Beginning with the group holding an AA degree, the income distribution is shifted sharply towards the higher income groups.

- The 300-499% income groups show relatively greater shares for High School Degree, Some College, and AA, indicating that opportunities still remain to make higher incomes with less than a BA or higher degree. These income groups, however, comprise just over a fifth of the total population.

Nativity



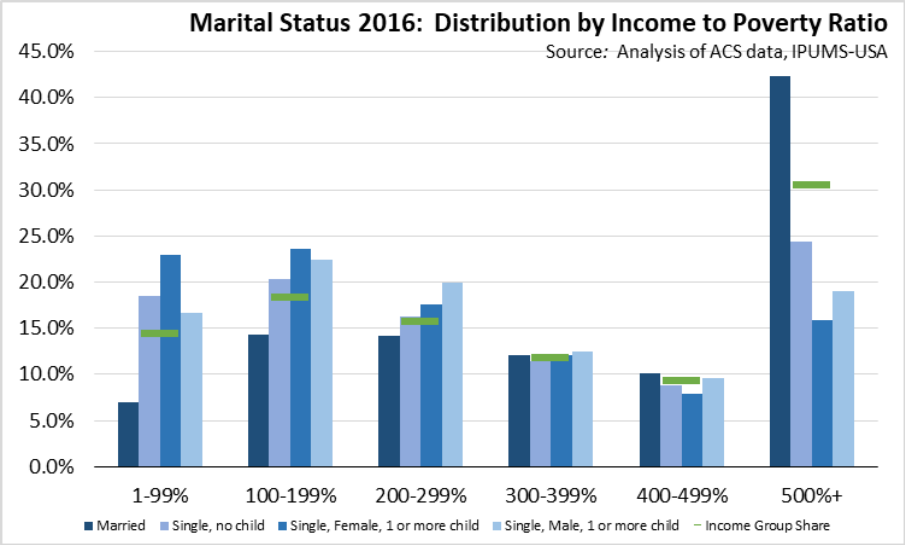
From Table 10:

- US born citizens generally follow the overall income group distribution, but with somewhat higher relative share in the 500%+ income level.

- Naturalized citizens tend to be more represented in the 4 highest income groups, with a lower relative share in incomes below poverty.

- Noncitizens show a much higher relative share in the 3 lowest income groups.

Marital Status



From Table 11:

- Having the potential for more than one income in a household continues to be associated with higher income levels. While the percentage of persons in families with married parents (both parents present or one not present) declined in the highest income group in the years following the recent recession, the relative share has remained stable and the percentage itself gained in 2016. The relative share has also remained essentially stable across the other income levels.

- For single persons with no children, the relative share shows little change over the years shown. This status, however, is more strongly represented in the 3 lowest income levels, and is 30 percent more present in the below poverty income group based on relative share. These results, however, reflect that this group is likely to be younger with many just entering the labor force.

- Persons in families with single parents with children show a similar pattern, but with a lower relative share in the highest income group. Single mothers have significantly higher presence in incomes below poverty and the next higher income group, while single fathers show a higher relative share in the next four income levels above. The relative share for single mothers below poverty, however, has declined from more than twice as high in the beginning years of the 2000s, to 60 percent above in 2016.

Summary Factors

Although not presented in a determinative manner, Tables 6 and 7 summarize the demographic factors just presented with the highest and lowest relative shares, showing which factors are most associated (highest rank) and least associated (lowest rank) with each of the six income levels. Table 6 shows the results for 2007, while Table 7 contains the rankings for 2016.

In both years, educational attainment is one of most frequent factors, accounting for nearly half of the table entries in 2007 and over 40% of the entries in 2016.

Table 6: Demographic Factors Ranked by Relative Share, 2007

Rank	1-99%	100-199%	200-299%	300-399%	400-499%	500%+
1	Less Than HS	Less Than HS	Less Than HS	High School/GED	AA	Grad Degree
2	Single, Female, 1 or more child	Born Abroad-Non Citizen	Latino	Some College	Some College	Bachelor's
3	Black	Latino	High School/GED	AA	White	White
4	Born Abroad-Non Citizen	Single, Female, 1 or more child	Born Abroad-Non Citizen	Born Abroad-Citizen	Asian-PI	Married
5	Age 0-15	Single, Male, 1 or more child	Single, Male, 1 or more child	Single, Male, 1 or more child	Bachelor's	Asian-PI
21	White	Asian-PI	Asian-PI	Single, Female, 1 or more child	Age 0-15	Single, Male, 1 or more child
22	AA	AA	AA	Born Abroad-Non Citizen	Single, Female, 1 or more child	Single, Female, 1 or more child
23	Married	White	White	Less Than HS	Latino	Born Abroad-Non Citizen
24	Bachelor's	Bachelor's	Bachelor's	Bachelor's	Born Abroad-Non Citizen	Latino
25	Grad Degree	Grad Degree	Grad Degree	Grad Degree	Less Than HS	Less Than HS

Table 7: Demographic Factors Ranked by Relative Share, 2016

Rank	1-99%	100-199%	200-299%	300-399%	400-499%	500%+
1	Less Than HS	Less Than HS	Less Than HS	Some College	AA	Grad Degree
2	Single, Female, 1 or more child	Born Abroad-Non Citizen	High School/GED	High School/GED	Some College	Bachelor's
3	Black	Latino	Latino	AA	White	White
4	Born Abroad-Non Citizen	High School/GED	Single, Male, 1 or more child	Born Abroad-Citizen	Bachelor's	Married
5	Age 0-15	Single, Female, 1 or more child	Age 20-24	Single, Male, 1 or more child	Age 25-54	Age 55-64
21	Age 65+	Other	Age 55-64	Age 0-15	Single, Female, 1 or more child	High School/GED
22	White	Asian-PI	Other	Less Than HS	Latino	Single, Female, 1 or more child
23	Married	White	White	Bachelor's	Age 0-15	Born Abroad-Non Citizen
24	Bachelor's	Bachelor's	Bachelor's	Born Abroad-Non Citizen	Born Abroad-Non Citizen	Latino
25	Grad Degree	Grad Degree	Grad Degree	Grad Degree	Less Than HS	Less Than HS

Table 8: Age by Income to Poverty Ratio, All Persons, California

Year	Age	1-99%	100-199%	200-299%	300-399%	400-499%	500%+	Total	1-99%	100-199%	200-299%	300-399%	400-499%	500%+	Total
2007	0-15	32.9%	28.7%	24.4%	21.8%	19.9%	16.0%	22.9%	17.9%	23.4%	17.3%	11.9%	8.4%	21.2%	100.0%
2007	16-19	7.6%	6.7%	6.1%	5.8%	5.2%	4.5%	5.8%	16.3%	21.5%	17.2%	12.5%	8.8%	23.6%	100.0%
2007	20-24	10.0%	8.3%	8.6%	7.8%	6.4%	4.8%	7.3%	17.2%	21.3%	19.3%	13.5%	8.6%	20.2%	100.0%
2007	25-54	36.0%	37.4%	41.5%	45.0%	47.1%	49.1%	43.3%	10.3%	16.1%	15.5%	13.1%	10.6%	34.4%	100.0%
2008	55-64	7.0%	6.6%	7.9%	9.3%	10.2%	15.2%	10.1%	9.2%	12.1%	12.4%	11.2%	9.9%	45.1%	100.0%
2007	65+	7.0%	12.4%	11.3%	11.1%	11.4%	10.9%	10.8%	8.0%	21.4%	17.0%	12.8%	10.2%	30.6%	100.0%
2007	Total	100.5%	100.1%	99.9%	100.6%	100.2%	100.5%	100.3%	12.4%	18.7%	16.2%	12.6%	9.7%	30.3%	100.0%
2012	0-15	31.4%	25.4%	21.5%	19.2%	18.1%	15.1%	21.7%	24.4%	23.7%	15.6%	10.4%	7.3%	18.6%	100.0%
2012	16-19	7.5%	6.4%	5.6%	5.0%	4.8%	3.6%	5.4%	23.3%	24.1%	16.2%	10.7%	7.7%	17.9%	100.0%
2012	20-24	10.4%	9.0%	8.5%	7.3%	6.1%	4.4%	7.5%	23.4%	24.4%	17.8%	11.5%	7.2%	15.7%	100.0%
2012	25-54	35.8%	38.4%	42.1%	43.8%	45.0%	46.6%	41.9%	14.4%	18.6%	15.8%	12.2%	9.4%	29.6%	100.0%
2012	55-64	7.7%	8.4%	9.7%	11.4%	12.5%	16.7%	11.4%	11.4%	15.0%	13.3%	11.7%	9.6%	39.0%	100.0%
2012	65+	7.2%	12.3%	12.7%	13.3%	13.5%	13.5%	12.1%	10.1%	20.8%	16.6%	12.9%	9.8%	29.9%	100.0%
2012	Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	16.9%	20.3%	15.8%	11.7%	8.8%	26.7%	100.0%
2016	0-15	29.6%	25.9%	21.0%	18.9%	17.0%	15.2%	20.7%	20.5%	22.9%	15.9%	10.7%	7.6%	22.4%	100.0%
2016	16-19	6.6%	6.1%	5.4%	4.7%	4.3%	3.5%	4.9%	19.1%	22.6%	17.0%	11.2%	8.2%	21.9%	100.0%
2016	20-24	9.5%	8.3%	8.5%	7.2%	6.3%	4.3%	7.0%	19.7%	21.8%	19.1%	12.1%	8.4%	18.9%	100.0%
2016	25-54	35.1%	37.2%	41.7%	43.5%	45.6%	45.6%	41.7%	12.1%	16.3%	15.7%	12.3%	10.2%	33.4%	100.0%
2016	55-64	9.4%	9.0%	9.8%	11.6%	12.4%	16.2%	12.0%	11.3%	13.7%	12.8%	11.4%	9.6%	41.1%	100.0%
2016	65+	9.8%	13.5%	13.5%	14.1%	14.3%	15.1%	13.6%	10.4%	18.2%	15.6%	12.1%	9.8%	33.9%	100.0%
2016	Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	14.4%	18.3%	15.7%	11.8%	9.3%	30.5%	100.0%

Source: Analysis of ACS data, IPUMS-USA, University of Minnesota, www.ipums.org

Table 9: Gender by Income to Poverty Ratio, All Persons, California

Re	Gender	1-99%	100-199%	200-299%	300-399%	400-499%	500%+	Total	1-99%	100-199%	200-299%	300-399%	400-499%	500%+	Total
2007	female	54.4%	51.4%	50.1%	49.9%	48.9%	48.7%	50.3%	13.5%	19.1%	16.1%	12.5%	9.4%	29.4%	100.0%
2007	male	45.6%	48.6%	49.9%	50.1%	51.1%	51.3%	49.7%	11.4%	18.3%	16.3%	12.7%	10.0%	31.3%	100.0%
2007	Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	12.4%	18.7%	16.2%	12.6%	9.7%	30.3%	100.0%
2012	female	53.5%	51.1%	50.3%	50.2%	49.6%	49.0%	50.6%	17.8%	20.5%	15.7%	11.6%	8.6%	25.8%	100.0%
2012	male	46.5%	48.9%	49.7%	49.8%	50.4%	51.0%	49.4%	15.9%	20.0%	15.8%	11.8%	8.9%	27.5%	100.0%
2012	Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	16.9%	20.3%	15.8%	11.7%	8.8%	26.7%	100.0%
2016	female	54.3%	51.5%	50.2%	50.0%	49.5%	49.0%	50.6%	15.4%	18.7%	15.6%	11.6%	9.1%	29.6%	100.0%
2016	male	45.7%	48.5%	49.8%	50.0%	50.5%	51.0%	49.4%	13.3%	18.0%	15.8%	11.9%	9.5%	31.5%	100.0%
2016	Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	14.4%	18.3%	15.7%	11.8%	9.3%	30.5%	100.0%

Source: Analysis of ACS data, IPUMS-USA, University of Minnesota, www.ipums.org

Table 10: Ethnicity/Race by Income to Poverty Ratio, All Persons, California

Year	Ethnicity /Race	1-99%	100-199%	200-299%	300-399%	400-499%	500%+	Total	1-99%	100-199%	200-299%	300-399%	400-499%	500%+	Total
2007	Latino	52.0%	56.1%	47.4%	36.5%	26.8%	14.6%	36.3%	17.8%	28.9%	21.2%	12.7%	7.2%	12.2%	100.0%
2007	White	25.9%	25.7%	32.7%	41.6%	50.3%	62.5%	42.4%	7.6%	11.3%	12.5%	12.3%	11.5%	44.7%	100.0%
2007	Asian-PI	9.8%	9.4%	11.5%	12.8%	14.7%	15.5%	12.6%	9.7%	14.0%	14.8%	12.8%	11.3%	37.3%	100.0%
2007	Black	9.5%	6.5%	5.6%	5.9%	5.1%	4.3%	5.8%	20.3%	20.7%	15.6%	12.8%	8.5%	22.2%	100.0%
2007	Other	2.8%	2.3%	2.8%	3.1%	3.1%	3.1%	2.9%	12.1%	15.2%	15.7%	13.5%	10.6%	32.9%	100.0%
2007	Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	12.4%	18.7%	16.2%	12.6%	9.7%	30.3%	100.0%
2012	Latino	54.5%	55.6%	46.4%	36.0%	27.0%	15.0%	38.3%	24.0%	29.4%	19.0%	11.0%	6.2%	10.4%	100.0%
2012	White	24.0%	25.7%	32.9%	41.0%	47.5%	59.2%	39.2%	10.3%	13.3%	13.2%	12.2%	10.6%	40.3%	100.0%
2012	Asian-PI	9.9%	10.5%	12.4%	13.8%	16.4%	18.0%	13.6%	12.3%	15.7%	14.3%	11.9%	10.6%	35.2%	100.0%
2012	Black	8.3%	5.4%	5.3%	5.6%	5.2%	3.9%	5.5%	25.5%	20.0%	15.2%	11.9%	8.3%	19.1%	100.0%
2012	Other	3.3%	2.7%	3.0%	3.6%	3.9%	3.8%	3.4%	16.5%	16.1%	14.1%	12.6%	10.3%	30.5%	100.0%
2012	Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	16.9%	20.3%	15.8%	11.7%	8.8%	26.7%	100.0%
2016	Latino	51.7%	58.2%	50.6%	40.9%	32.2%	17.0%	39.0%	19.0%	27.3%	20.4%	12.3%	7.7%	13.3%	100.0%
2016	White	25.1%	23.5%	28.9%	36.1%	43.1%	55.1%	37.5%	9.6%	11.5%	12.1%	11.3%	10.7%	44.8%	100.0%
2016	Asian-PI	11.3%	10.1%	12.3%	14.1%	15.7%	19.2%	14.4%	11.3%	12.9%	13.5%	11.5%	10.2%	40.7%	100.0%
2016	Black	8.3%	5.6%	5.2%	5.2%	5.0%	4.1%	5.4%	22.3%	18.9%	15.2%	11.4%	8.7%	23.4%	100.0%
2016	Other	3.6%	2.7%	3.0%	3.7%	3.9%	4.6%	3.7%	14.0%	13.5%	12.7%	12.0%	9.9%	38.0%	100.0%
2016	Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	14.4%	18.3%	15.7%	11.8%	9.3%	30.5%	100.0%

Source: Analysis of ACS data, IPUMS-USA, University of Minnesota, www.ipums.org

Table 11: Educational Attainment by Income to Poverty Ratio, Persons Ages 25 & Over, California

Year	Highest Education Level	1-99%	100-199%	200-299%	300-399%	400-499%	500%+	Total	1-99%	100-199%	200-299%	300-399%	400-499%	500%+	Total
2007	Less Than HS	40.5%	39.4%	26.8%	17.1%	10.8%	4.6%	19.4%	20.0%	33.3%	21.2%	11.2%	5.8%	8.4%	100.0%
2007	High School/GED	26.9%	27.9%	29.6%	28.0%	23.9%	14.6%	23.0%	11.3%	20.0%	19.9%	15.5%	10.8%	22.6%	100.0%
2007	Some College	15.9%	16.5%	21.1%	23.7%	24.5%	19.7%	20.1%	7.6%	13.5%	16.2%	15.1%	12.7%	34.8%	100.0%
2007	AA	4.6%	5.5%	6.9%	8.6%	9.5%	9.0%	7.7%	5.8%	11.8%	13.8%	14.3%	12.9%	41.5%	100.0%
2007	Bachelor's	8.6%	7.9%	11.5%	16.6%	21.9%	30.9%	19.2%	4.3%	6.8%	9.2%	11.0%	11.9%	56.9%	100.0%
2007	Grad Degree	3.4%	2.8%	4.1%	6.0%	9.4%	21.1%	10.6%	3.1%	4.3%	6.0%	7.2%	9.2%	70.3%	100.0%
2007	Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	9.6%	16.5%	15.4%	12.7%	10.4%	35.4%	100.0%
2012	Less Than HS	37.2%	34.4%	22.7%	14.0%	8.5%	3.7%	18.4%	26.4%	34.4%	19.2%	9.3%	4.4%	6.3%	100.0%
2012	High School/GED	24.5%	26.2%	25.8%	23.5%	20.1%	11.3%	20.3%	15.8%	23.6%	19.7%	14.1%	9.4%	17.4%	100.0%
2012	Some College	19.6%	20.4%	24.9%	26.9%	26.8%	19.2%	22.0%	11.6%	17.0%	17.6%	14.9%	11.6%	27.3%	100.0%
2012	AA	5.8%	6.3%	8.1%	9.2%	9.8%	8.8%	8.0%	9.6%	14.4%	15.8%	14.1%	11.7%	34.5%	100.0%
2012	Bachelor's	9.1%	9.2%	13.8%	19.2%	23.7%	32.8%	19.9%	6.0%	8.5%	10.8%	11.8%	11.3%	51.6%	100.0%
2012	Grad Degree	3.8%	3.4%	4.7%	7.3%	11.1%	24.2%	11.4%	4.3%	5.6%	6.4%	7.9%	9.2%	66.6%	100.0%
2012	Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	13.1%	18.3%	15.5%	12.2%	9.5%	31.3%	100.0%
2016	Less Than HS	34.3%	33.3%	23.7%	15.7%	10.5%	4.2%	17.4%	22.9%	31.1%	20.6%	10.9%	6.1%	8.4%	100.0%
2016	High School/GED	25.6%	26.4%	26.4%	24.0%	20.1%	11.8%	20.3%	14.7%	21.1%	19.8%	14.3%	9.9%	20.2%	100.0%
2016	Some College	19.6%	20.7%	23.6%	25.6%	25.2%	18.6%	21.3%	10.7%	15.8%	16.8%	14.5%	11.8%	30.5%	100.0%
2016	AA	5.7%	6.2%	7.7%	9.0%	9.6%	8.2%	7.7%	8.6%	13.0%	15.0%	14.0%	12.4%	37.0%	100.0%
2016	Bachelor's	10.2%	9.7%	13.6%	18.5%	23.2%	32.9%	20.9%	5.7%	7.5%	9.9%	10.7%	11.1%	55.0%	100.0%
2016	Grad Degree	4.6%	3.7%	5.0%	7.3%	11.3%	24.3%	12.4%	4.3%	4.9%	6.2%	7.1%	9.1%	68.4%	100.0%
2016	Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	11.6%	16.2%	15.2%	12.1%	10.0%	34.9%	100.0%

Source: Analysis of ACS data, IPUMS-USA, University of Minnesota, www.ipums.org

Table 12: Nativity by Income to Poverty Ratio, All Persons, California

Year	Nativity	1-99%	100-199%	200-299%	300-399%	400-499%	500%+	Total	1-99%	100-199%	200-299%	300-399%	400-499%	500%+	Total
2007	US Born	68.0%	62.8%	67.7%	72.8%	77.1%	80.7%	72.3%	11.7%	16.2%	15.2%	12.7%	10.4%	33.9%	100.0%
2007	Born Abroad-Citizen	7.9%	11.7%	12.9%	13.4%	13.1%	12.7%	12.1%	8.1%	18.1%	17.3%	14.0%	10.5%	31.9%	100.0%
2007	Born Abroad-Non Citizen	24.1%	25.5%	19.4%	13.7%	9.8%	6.6%	15.6%	19.2%	30.6%	20.2%	11.1%	6.1%	12.8%	100.0%
2007	Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	12.4%	18.7%	16.2%	12.6%	9.7%	30.3%	100.0%
2012	US Born	69.7%	65.4%	70.0%	74.4%	78.1%	79.4%	72.7%	16.2%	18.2%	15.2%	12.0%	9.4%	29.1%	100.0%
2012	Born Abroad-Citizen	8.5%	12.9%	14.0%	14.7%	14.4%	14.2%	13.0%	11.0%	20.0%	17.0%	13.2%	9.7%	29.1%	100.0%
2012	Born Abroad-Non Citizen	21.8%	21.7%	16.0%	10.9%	7.6%	6.4%	14.3%	25.8%	30.9%	17.6%	9.0%	4.6%	12.1%	100.0%
2012	Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	16.9%	20.3%	15.8%	11.7%	8.8%	26.7%	100.0%
2016	US Born	69.9%	66.1%	69.2%	73.0%	76.0%	78.3%	72.6%	13.9%	16.7%	15.0%	11.8%	9.7%	32.9%	100.0%
2016	Born Abroad-Citizen	10.0%	13.1%	14.3%	15.6%	14.6%	14.9%	13.8%	10.4%	17.4%	16.3%	13.2%	9.8%	32.9%	100.0%
2016	Born Abroad-Non Citizen	20.1%	20.8%	16.5%	11.4%	9.4%	6.8%	13.6%	21.3%	28.0%	19.1%	9.9%	6.4%	15.4%	100.0%
2016	Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	14.4%	18.3%	15.7%	11.8%	9.3%	30.5%	100.0%

Source: Analysis of ACS data, IPUMS-USA, University of Minnesota, www.ipums.org
Note: US Born includes born abroad of US citizens

Table 13: Marital Status by Income to Poverty Ratio, Persons Age 15 & Over, California

Year	Status	1-99%	100-199%	200-299%	300-399%	400-499%	500%+	Total	1-99%	100-199%	200-299%	300-399%	400-499%	500%+	Total
2007	Married	18.8%	29.8%	35.2%	38.6%	41.8%	52.3%	38.4%	6.1%	14.5%	14.9%	12.6%	10.6%	41.3%	100.0%
2007	Single, no child	68.1%	59.9%	55.5%	53.2%	51.0%	43.0%	53.4%	15.9%	21.0%	16.9%	12.5%	9.3%	24.4%	100.0%
2007	Single, Female, 1 or more child	10.5%	7.5%	6.7%	5.8%	5.2%	3.2%	6.0%	21.8%	23.3%	18.1%	12.0%	8.5%	16.3%	100.0%
2007	Single, Male, 1 or more child	2.6%	2.7%	2.6%	2.4%	2.0%	1.5%	2.2%	14.5%	23.0%	19.2%	13.9%	9.0%	20.5%	100.0%
2007	Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	12.4%	18.7%	16.2%	12.6%	9.7%	30.3%	100.0%
2012	Married	18.6%	30.1%	35.0%	39.8%	43.5%	53.0%	37.3%	8.4%	16.3%	14.8%	12.5%	10.2%	37.8%	100.0%
2012	Single, no child	67.6%	58.6%	54.8%	51.6%	49.4%	42.3%	53.6%	21.3%	22.2%	16.1%	11.3%	8.1%	21.1%	100.0%
2012	Single, Female, 1 or more child	10.6%	7.9%	7.3%	6.2%	5.1%	3.2%	6.6%	27.2%	24.5%	17.4%	11.0%	6.8%	13.1%	100.0%
2012	Single, Male, 1 or more child	3.2%	3.3%	2.9%	2.4%	2.1%	1.4%	2.5%	21.2%	27.0%	18.3%	11.3%	7.1%	15.1%	100.0%
2012	Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	16.9%	20.3%	15.8%	11.7%	8.8%	26.7%	100.0%
2016	Married	18.6%	29.7%	34.4%	38.9%	41.4%	52.6%	38.0%	7.0%	14.3%	14.2%	12.0%	10.1%	42.3%	100.0%
2016	Single, no child	68.5%	59.2%	55.3%	52.0%	50.7%	42.6%	53.2%	18.5%	20.4%	16.3%	11.5%	8.9%	24.4%	100.0%
2016	Single, Female, 1 or more child	10.1%	8.1%	7.1%	6.5%	5.4%	3.3%	6.3%	23.0%	23.6%	17.6%	12.1%	7.9%	15.8%	100.0%
2016	Single, Male, 1 or more child	2.9%	3.0%	3.1%	2.6%	2.5%	1.5%	2.5%	16.7%	22.4%	20.0%	12.4%	9.5%	19.0%	100.0%
2016	Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	14.4%	18.3%	15.7%	11.8%	9.3%	30.5%	100.0%

Source: Analysis of ACS data, IPUMS-USA, University of Minnesota, www.ipums.org

Employment

Labor Force Status

Labor force status is shown in Table 19 for each of the income groups. As expected, the percentage of persons employed rises sharply with income. In 2016, just under one-third of persons in the 1-99% income group responded as being employed in the prior week, while nearly three-quarters were employed in the 500%+ income group. Still, about one-third of those below poverty indicated employment, a figure that quickly rose to over half for the 100-199% group.

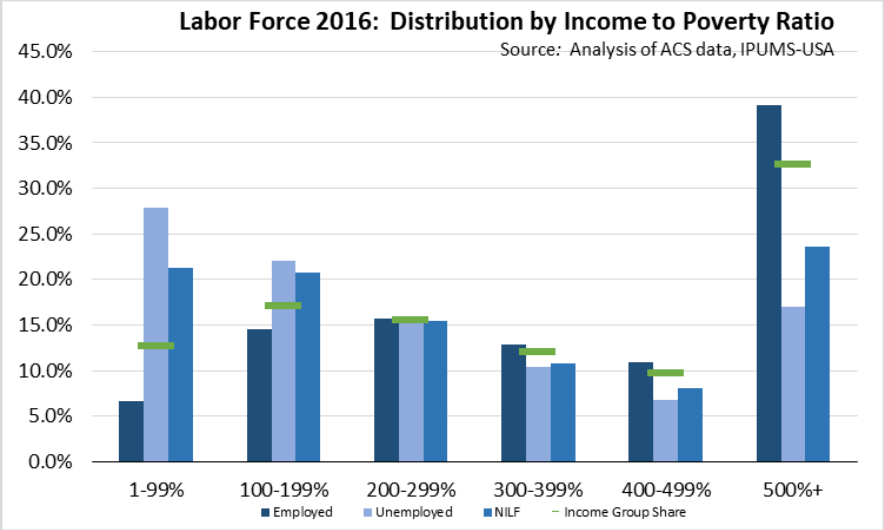


Table 14: Labor Force Rates by Income to Poverty Ratio, Persons Ages 16 & Over, California

Year	1-99%	100-199%	200-299%	300-399%	400-499%	500%+	Total
Unemployment Rate							
2007	22.2%	10.1%	7.4%	5.7%	4.7%	3.0%	6.6%
2012	33.3%	15.5%	10.8%	8.5%	7.2%	4.4%	11.2%
2016	22.3%	9.4%	6.4%	5.2%	4.1%	2.9%	6.4%
Labor Force Participation Rate							
2007	41.6%	55.8%	64.4%	69.1%	71.0%	75.6%	65.4%
2012	45.9%	58.7%	65.5%	68.5%	70.0%	74.9%	64.8%
2016	40.2%	56.5%	64.5%	67.9%	70.4%	74.1%	64.1%

Source: Table 19

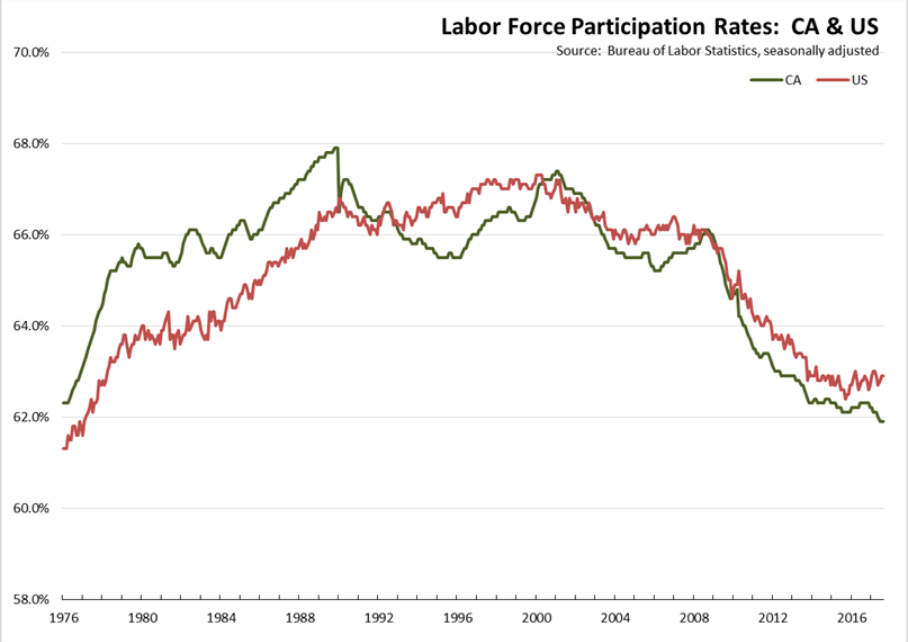
The higher income groups were also more likely to remain employed during the recessionary period covered by the data tables. The labor force data in Table 19 translates into the unemployment rates shown in Table 14 by income group. While the upper income groups experienced some degree of higher unemployment in 2012, the brunt of the recession fell on the lowest income levels.

Moreover, while labor force participation rates softened for the upper income groups and the state as a whole, they increased at the lower ends—a reflection both of the longer eligibility period for unemployment insurance during the period along with a likely continued search for earned income rather than reliance on government assistance as a recession response.

Looking at the relative shares, the 200-299% income group essentially represents the state averages in all three years. The higher incomes then show an increasing relative share for employment, reaching to 20% higher in the 500%+ income group, and decreasing shares of unemployment and nonparticipation in the labor force. The lower income groups show the opposite trend, with the below poverty income group having an unemployment relative share that is 120% higher in 2016

Labor Force Participation

One key factor in the shift from middle to lower income groups is the state's declining labor force participation rate. A significantly decreasing share of working-age persons are now even looking for employment, with a resulting decline in incomes and, more critically in a state where multiple incomes are required to afford housing, a decline in the number of workers per household.



Labor force participation is also an important factor when assessing economic trends through comparative unemployment rates. The official rates are determined only from those employed or actively seeking employment. While a specific demographic group may show a low unemployment rate, this result is less meaningful if their participation rate is low as well. For example, California and the rest of the US now show unemployment rates that historically have been considered at or near "full employment." However, because participation rates are now low as well, the current unemployment levels are not fully comparable with those previous historic benchmarks. Significant

numbers of persons who would have been employed in prior economic recoveries remain outside the labor force.

A number of more detailed studies have attempted to analyze why this trend is occurring nation-wide rather than California, and have identified a number of factors including: the aging of the population, diminishing demand for certain skills especially for lower-education workers who previously were employed in manufacturing and other blue-collar skill industries, increased use of disability and other income support programs that reduce the potential incentives for employment, and the effects of the Affordable Care Act in providing health care options especially for older workers who previously remained employed in large part to continue their employer-provided health benefits prior to Medicare eligibility. The data in this section identifies some of the demographic factors associated with the declining rate in California, but again is descriptive rather than attempting to be explanatory.

Overall, California's participation rate has been falling significantly since the recession, falling below the national rate beginning in 2010. The most recent data shows the seasonally adjusted rate close to its lowest level since the series began in 1976. California's rate has shown some improvement in the preliminary data through the end of 2017, but remains subject to revision to the final estimates to be released in March.

While some of the factors identified in the national studies likely apply to California as well, they do not fully explain why the state's rate has fallen so low and continues below the national average. California's population although aging is relatively younger than the US as whole. California's fastest growing demographic group—Latinos—is younger still and has maintained much higher participation rates.

The following data breaks out employment status by demographics for the state as a whole. The data was compiled from the monthly Current Population Survey (CPS) microdata accessible through the Census Bureau's DataFerrett. Due to the smaller survey size, the data is presented as 12-month moving averages to increase the level of significance.

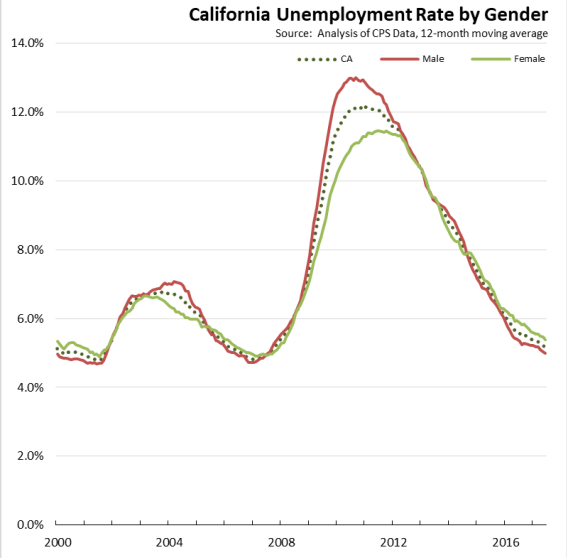
Factors more closely associated with declining labor force participation are identified by comparing current participation by demographic to rates seen in the previous recent high in the first half of 2001. Estimates of "nonparticipating" members for each demographic are then calculated by applying, generally, the previous participation rates to the current population numbers. This approach accounts for the changing composition of the population, while identifying those demographic components with more significant internal structural change.

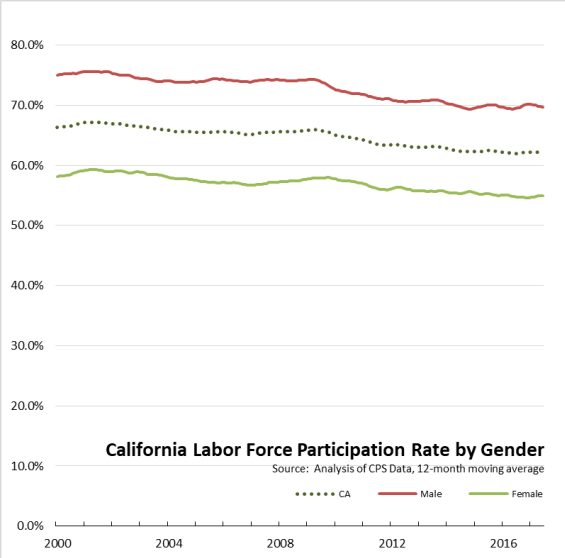
Gender & Age. Unemployment rates and labor force participation rates (for civilian population age 16 and over) are shown by gender and age demographics in the following charts.

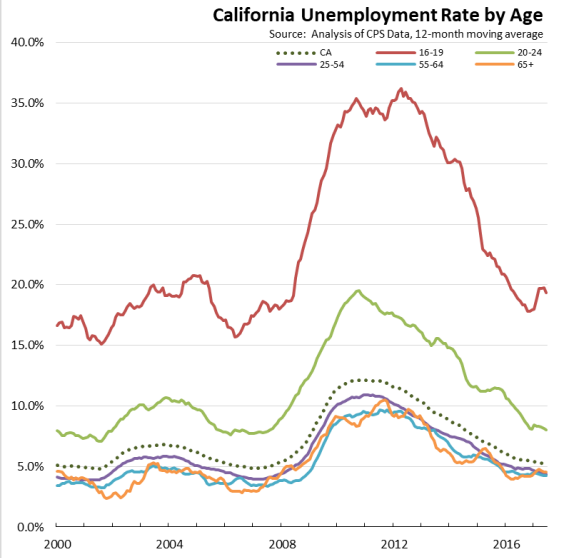
From this data:

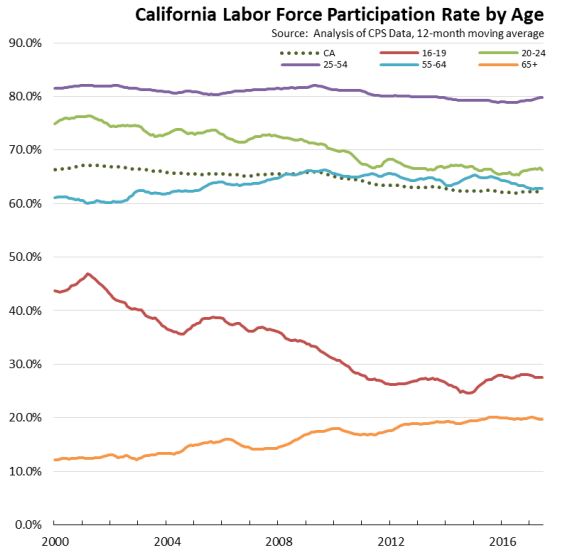
- The core components of California's labor force are aging, and as a result, the total number of traditional prime working age adults is beginning to show far lower levels of growth if not

outright stagnation. From June 2001 to 2017, total civilian population age 16 and older grew by 5.2 million (12-month moving average). Of this growth, 4.1 million (79%) were age 55 or older. As a consequence, strategies to increase incomes overall may require achieving participation rates above historical levels for the core working ages of 25-54, or even higher participation for the 55 and older Californians as well.









- Youth employment has crashed. Unemployment remains well above all other age groups, while participation rates have sunk some 60%. Employment for age 16-19 is now only 2/3 of the previous 2001 level. This outcome is critical to future income mobility as early employment has been associated in a number of recent studies as having a positive effect on life-time wages—especially for those with lower education attainment—as a result of early acquisition of employment skills and experience for future job openings. Higher income

levels have relatively greater opportunities to compensate for lower youth employment opportunities through non-paid internships, while this path is not as available to lower income levels.

- Californians are working longer. Participation rates for age 65 and older have increased from 12.5% to around 20%—26% for men alone. Age 55 to 64 is the only other age group showing a participation increase, although at lower levels.

- Participation rates for the core working demographic (age 25-54) has shown the most stability, remaining only slightly below the previous high of 82.1%.

- While males faced significantly higher unemployment during the recession, the rates have returned to only a 0.4% point difference compared to females since.

- Participation rates, however, are significantly different, with the lower female participation rates contributing to the slightly higher relative share of females in the below poverty income group. Participation rates for males, however, took a somewhat steeper dive during the recession.

The effects of participation rates from the age factors are summarized in Table 15, comparing labor force by age and gender in June 2017 (12-month moving average) to what it would have been if labor force participation had continued at the June 2001 rates. The exceptions are age 55-64, which uses the higher post-2001 peak participation rate, and age 65 and over where the 2001 and 2017 factors are reversed to estimate the effects of increasing participation within this age group.

Table 15: Effect of Age & Gender on Labor Force Participation, California

	16-19	20-24	25-54	55-64	65+
Males					
Labor Force at Jun 17 Rates	291,000	983,000	7,018,000	1,628,000	597,000
Labor Force at Jun 01 Rates*	486,000	1,168,000	7,224,000	1,680,000	412,000
Difference	-195,000	-185,000	-206,000	-52,000	185,000
Females					
Labor Force at Jun 17 Rates	279,000	883,000	5,679,000	1,400,000	446,000
Labor Force at Jun 01 Rates*	468,000	971,000	5,836,000	1,509,000	255,000
Difference	-189,000	-88,000	-157,000	-109,000	191,000
Total					
Labor Force at Jun 17 Rates	570,000	1,866,000	12,697,000	3,028,000	1,043,000
Labor Force at Jun 01 Rates*	954,000	2,139,000	13,060,000	3,189,000	667,000
Difference	-384,000	-273,000	-363,000	-161,000	376,000

*Source: Analysis of CPS data, 12-month moving averages; * - age 25-54 at post-Jun 01 peak, age 65+ 2001 and 2017 factors reversed*

From this analysis, the state's changing age structure is a dominant factor in the current declining participation rate. Even if participation rates were closer to their previous recent highs as in Table 15, the state's overall participation rate in June 2017 would have been 66.0% rather than the actual

62.1%. This upside estimate is lower than the results coming from the subsequent demographic factors and in the absence of higher participation rates closer to those in the 1980s and 1990s, is likely near what California can achieve given its current age structure. This level, however, is equivalent to those seen in California prior to the recession and moreover, would mean another 1.2 million employed and providing earned income to shift the current income distribution back into the middle levels.

Second, while national studies have identified males, especially lower education males, as the primary demographic behind the declining national rate, the results in Table 15 show the effects are more dispersed across both genders in California except at ages 20-24.

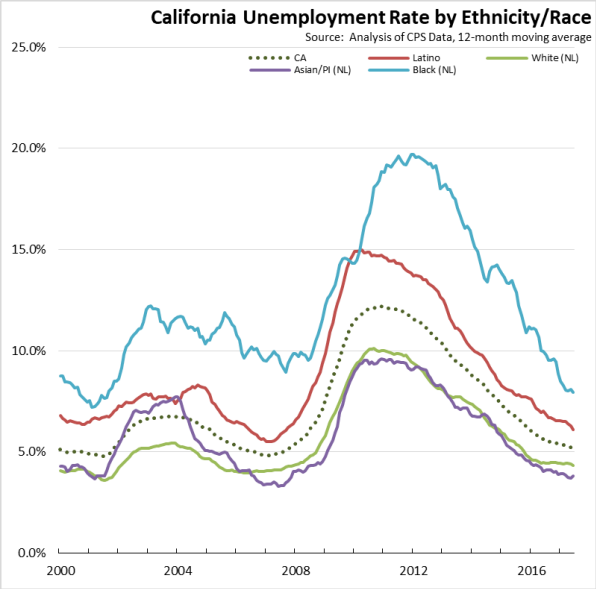
Third, another dominating factor in California is the worsening participation rates among youth and young adults. Given their significantly higher relative share among the lower income levels, declining employment among these two age groups has had a similar effect on poverty in the state. Declining participation also limits opportunities for these cohorts to begin upward mobility, as discussed above.

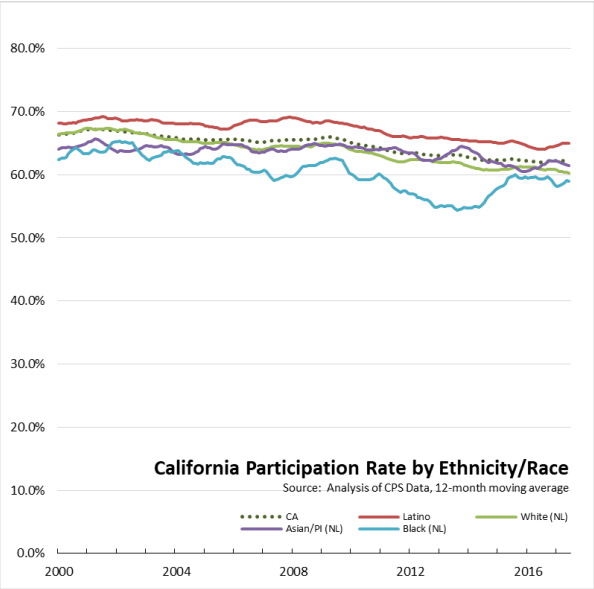
Ethnicity/Race. Unemployment rates and labor force participation rates (for civilian population age 16 and over) are shown by ethnicity/race demographics in the following charts. All race data are for the non-Latino (NL) component.

From this data:

- Non-Latino Blacks sustained significantly higher employment impacts during the recession, both in terms of unemployment and exit from the labor force. While their rates have begun to moderate, they remained well outside recovery levels in June 2017. These reduced employment levels track with their higher relative share in the below poverty income group.

- Latino unemployment and participation are both above the state average, reflecting continued entries into the labor force from this relatively younger population. As a growing share of the total labor force (34.9% vs. 41.0% for non-Latino Whites and 16.3% for non-Latino Asian/Pacific Islanders), the employment performance of this demographic will have an increasing weight within the state averages.





The effects of participation rates from the ethnicity/race factors are summarized in Table 16, comparing labor force in June 2017 (12-month moving average) to what it would have been at the previous June 2001 participation rates.

Table 16: Effect of Ethnicity/Race on Labor Force Participation, California

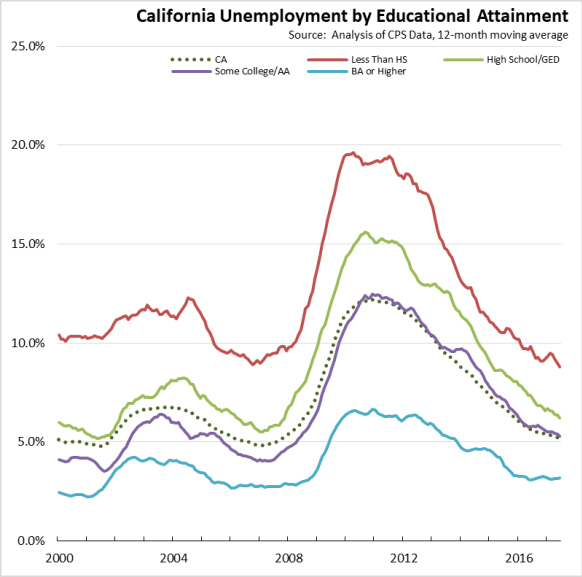
	Latino	White (NL)	Asian/PI (NL)	Black (NL)	Other (NL)
Labor Force at Jun 17 Rates	7,003,000	7,644,000	3,098,000	1,016,000	443,000
Labor Force at Jun 01 Rates	7,450,000	8,528,000	3,296,000	1,095,000	380,000
Difference	-447,000	-884,000	-198,000	-79,000	63,000

Source: Analysis of CPS data, 12-month moving averages

The biggest effect comes from reduced participation by non-Latino Whites. This effect is likely to be the result of reduced job opportunities for higher wage blue collar skills as with the national studies (for example, see data on Construction in the next chapter), but also reflects that this demographic has been aging to a higher degree than the others.

Latinos show the next highest effect on reduced labor force participation. The data, however, shows their rate has been increasing over the past year, although still well below recent highs.

Educational Attainment. Unemployment rates and labor force participation rates (for civilian population age 16 and over) are shown by educational attainment demographics in the following charts.



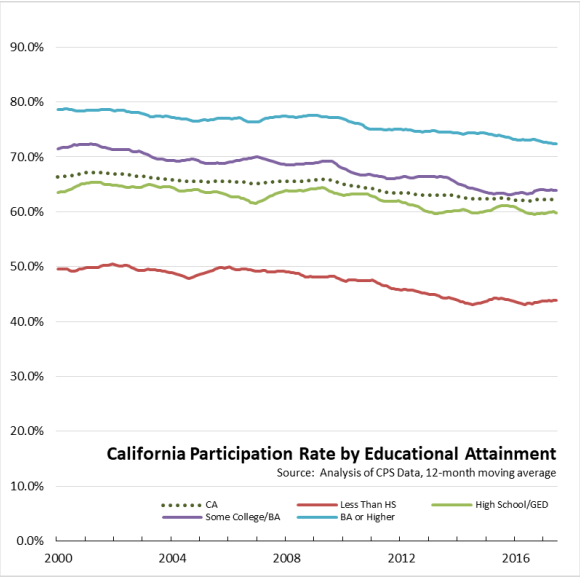


Table 17: Effect of Educational Attainment on Labor Force Participation, California

	Less than HS	High School/GED	Some College/AA	BA or Higher
Labor Force at Jun 17 Rates	2,353,000	4,313,000	5,499,000	7,039,000
Labor Force at Jun 01 Rates	2,674,000	4,708,000	6,211,000	7,637,000
Difference	-321,000	-395,000	-712,000	-598,000

Source: Analysis of CPS data, 12-month moving averages

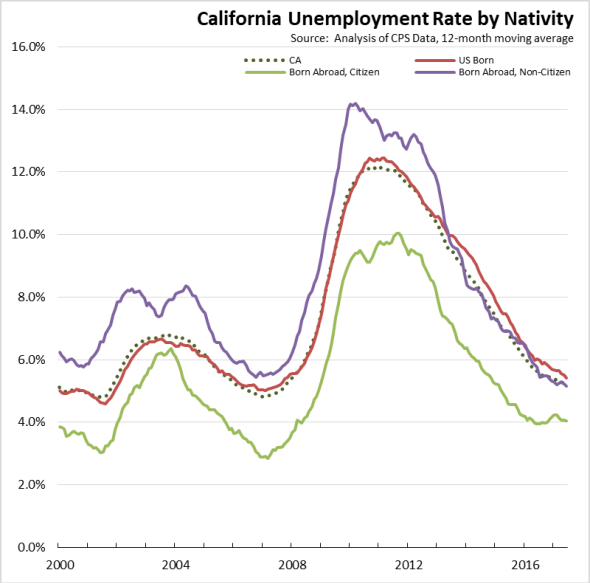
The educational attainment data (persons age 25 and older) provides additional insight to the results discussed in the previous chapter on demographics. Persons with less than a high school education—an outsized component of California's labor force—are far more likely to be unemployed. More critically, less than 50% are even in the labor force.

The effects on participation rates from the educational factors are summarized in Table 17, comparing labor force in June 2017 (12-month moving average) to what it would have been at the previous June 2001 participation rates.

The strongest effects are seen in persons with some college, including those with AA and BA and higher degrees, which combined show reduced participation of 1.3 million compared to the June 2001 rates. While some of this change may be due to aging of the population at these educational attainment levels, they indicate that while a college degree may be useful in securing a job, it does not mean all the current holders are seeking a job.

Nativity. Unemployment rates and labor force participation rates (for civilian population age 16 and over) are shown by nativity demographics in the following charts.

Citizens who were born abroad show significantly lower unemployment rates, but also one of the sharpest dropping participation rates during the recession years. Non-citizens, however, have significantly higher participation and appear to be improving over the past year.



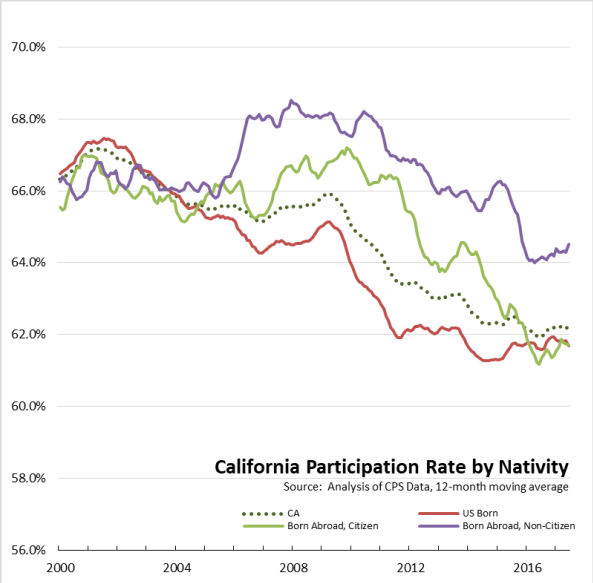


Table 18: Effect of Nativity on Labor Force Participation, California

	US Born	Born Abroad, Citizen	Born Abroad, Non-Citizen
Labor Force at Jun 17 Rates	12,968,000	3,061,000	3,176,000

Labor Force at Jun 01 Rates	14,166,000	3,298,000	3,288,000
Difference	-1,198,000	-237,000	-112,000

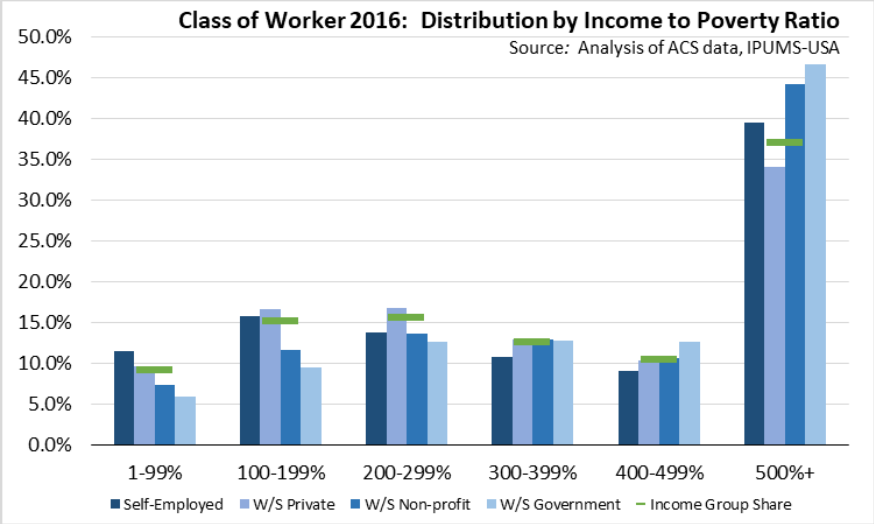
Source: Analysis of CPS data, 12-month moving averages

The effects of participation rates from the nativity factors are summarized in Table 18, comparing labor force in June 2017 (12-month moving average) to what it would have been at the previous June 2001 participation rates.

As indicated, the primary relative contraction of the labor force has come from reduced participation by persons who are citizens by birth. Naturalized citizens have withdrawn at a lower rate relative to their population size, with non-citizens continue to participate near their 2001 levels.

Class of Worker

Class of worker is defined by the nature of the employer: wage and salary private workers, self-employed, wage and salary working for a non-profit, and wage and salary working for a government agency (all levels). The effect of this factor on income category is shown in the following and Table 20.



From Table 20:

- Self-employment became a response to the declining number of wage and salary jobs during the recession, with all income groups except the top two increasing their relative share during this period and the strongest change occurring in incomes below poverty.

- The lowest three income groups show a relatively higher reliance on private wage and salary jobs.

- Wage and salary jobs in government and the non-profit sector are significantly a greater source in the 500%+ income group, with government jobs 30% more prevalent on a relative

share basis across all three years and non-profit jobs increasing to 20% more prevalent in 2012 and 2016.

Industry of Employment

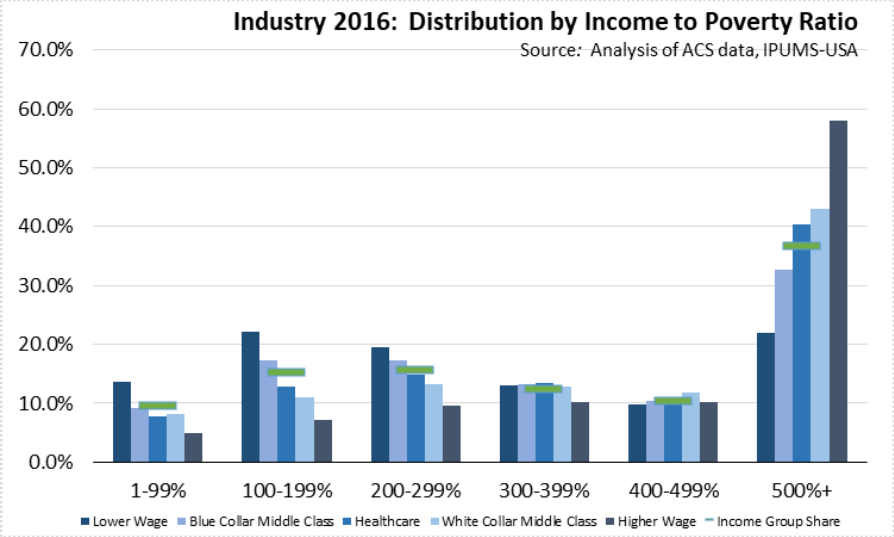


Table 21 shows the primary industry of employment reported by persons working in the previous 5 years. To simplify the presentation, the data is shown by general industry wage level, using a comparable classification as that used by the Center in previous reports (Center, 2015):

- Lower Wage—Consists of Retail Trade, Other Services, Agriculture, Forestry & Fishing, and Accommodation & Food Services.

- Blue-collar Middle Class Wage—industries with annual average wage of $40,000 and above and that predominately do not require a college degree. Consists of Mining & Logging, Utilities, Construction, Manufacturing, Wholesale Trade, Transportation & Warehousing, and Administrative, Support & Waste Services. Note that some of these industries have average wages substantially above $40,000.

- Healthcare—consists of Healthcare & Social Assistance. Because this industry combines some of the higher wage and lowest wage subindustries, it is treated as a separate category.

- White-collar Middle Class Wage—industries with annual average salaries of $40,000 and above and that generally require a college degree. Consists of Educational Services, Arts, Entertainment & Recreation, and Public Administration.

- Higher Wage—consists of Professional, Scientific & Technical Services, Information, Management of Companies & Enterprises, and Finance, Insurance & Real Estate (FIRE).

Because ACS uses industry designations derived from the occupational data, the classifications above are modified slightly from those used in the Center's prior reports. They also are not fully consistent with the industry-based data presented in the following chapter. In particular, government employment is distributed out by function rather than reported as a separate industry.

Public Administration is treated as a separate industry (which includes both government workers and private workers working in public administration on a contract basis). Employment in publicly-owned facilities such as schools, hospitals, and utilities is allocated to those industries as well.

From Table 21:

- Overall, employment level by wage classification tracks with the income group designations, with lower wage employment more prevalent in lower income levels and the opposite pattern for higher wage employment. The lower income levels, however, saw a greater concentration of their jobs within the Lower Wage industries—reflecting the predominance of these industries in the state's employment growth during this period—while the higher income levels saw more disbursed employment across industries.

- On a relative share basis, the 1-99% income group saw a decline in both Lower Wage and Healthcare jobs from 2007 to 2012 and moving into recovery in 2016.

- The 100-199% and 200-299% income groups show a relatively greater share of lower wage and Blue-collar wage jobs.

- For 300-399%, most industries retained the same relative share, but with Healthcare increasing and Higher Wage declining.

- The 200-499% income groups saw little change in their relative shares during this period, while the 500%+ group saw a relative increase in its share of Higher Wage employment.

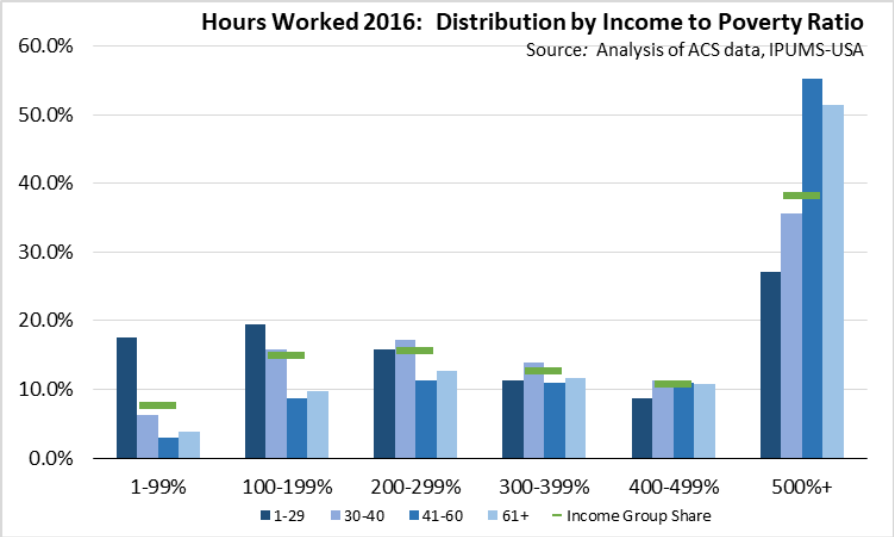
- All industry groups provide roughly equal share of jobs to the middle income groups, 300-499%. The declining share of these two groups in the population overall, consequently, may not be solely from the decline of traditional middle class wage industries such as manufacturing. This pattern may also reflect across all industries, the continuing shift of other middle class wage classifications such as back office functions to lower cost states.

- While the distribution shifted somewhat towards the lower income groups in this period, Blue-collar wage jobs remained associated with higher income groups, with 56.9% in the highest three income groups in 2007, and 56.4% in 2015. The structural shifts discussed in the next section affecting these industries necessarily reduce upward mobility opportunities to these income levels for many workers, in particular those with lower educational attainment.

Usual Weekly Hours Worked

The definition of full time vs. part time work can vary, with many companies defining full time as an average of 35 hours a week minimum for benefits purposes. The analysis below, however, is based on Internal Revenue Service and federal Affordable Care Act regulations that designate 30 hours as the defining point. Table 22 shows the number of weekly hours worked grouped as follows: 1-29

hours (part time), 30-40 hours (full time equivalent), 41-60 hours, and 60 and more hours. The hours reported cover work in all jobs. Consequently, 60 hours could be the result of full time work plus overtime in one job or part time work in two or more jobs.



From Table 22:

- The lowest 3 income groups all saw an increase in part time work during this period, with the strongest shift in those with incomes below poverty—going from 34.4% of this group in 2007 to 41.0% in 2016. On a relative share basis, part time work grew to 130% higher for those below poverty.

- Full time work is slightly elevated on a relative share basis for the middle 4 income groups.

- Additional work hours are 10-60% below on a relative share basis for the 4 lowest groups, reflecting a common theme in both the focus groups and surveys on the need for additional work. The 500%+ income group is the only level showing a high relative share over 1.0 for both 41-60 and 61+ hours worked. This data suggests that while persons in the lower income groups may be working more than one job, it is primarily to achieve the equivalent of full time work and less to secure income beyond that point.

Table 19: Labor Force Status by Income to Poverty Ratio, Persons Ages 16 & Over, California

Year	Status	1-99%	100-199%	200-299%	300-399%	400-499%	500%+	Total	1-99%	100-199%	200-299%	300-399%	400-499%	500%+	Total
2007	Employed	32.3%	50.2%	59.7%	65.2%	67.7%	73.4%	61.1%	5.7%	14.2%	15.5%	13.6%	11.2%	39.7%	100.0%
2007	Unemployed	9.2%	5.6%	4.8%	3.9%	3.3%	2.3%	4.3%	23.2%	22.5%	17.6%	11.6%	7.7%	17.4%	100.0%
2007	NILF	58.4%	44.2%	35.6%	30.9%	29.0%	24.4%	34.6%	18.3%	22.1%	16.4%	11.4%	8.5%	23.3%	100.0%
2007	Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	10.8%	17.3%	15.9%	12.8%	10.1%	33.1%	100.0%
2012	Employed	30.6%	49.6%	58.5%	62.6%	65.0%	71.6%	57.5%	7.9%	16.7%	16.1%	13.1%	10.3%	36.0%	100.0%
2012	Unemployed	15.3%	9.1%	7.1%	5.9%	5.0%	3.3%	7.3%	31.1%	24.2%	15.4%	9.7%	6.3%	13.3%	100.0%
2012	NILF	54.1%	41.3%	34.5%	31.5%	30.0%	25.1%	35.2%	22.7%	22.7%	15.5%	10.8%	7.8%	20.6%	100.0%
2012	Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	14.8%	19.3%	15.8%	12.1%	9.2%	28.9%	100.0%
2016	Employed	31.3%	51.2%	60.3%	64.4%	67.5%	72.0%	60.0%	6.7%	14.6%	15.7%	12.9%	11.0%	39.2%	100.0%
2016	Unemployed	9.0%	5.3%	4.2%	3.5%	2.9%	2.1%	4.1%	27.9%	22.1%	15.8%	10.4%	6.8%	17.1%	100.0%
2016	NILF	59.8%	43.5%	35.5%	32.1%	29.6%	25.9%	35.9%	21.3%	20.8%	15.5%	10.8%	8.0%	23.6%	100.0%
2016	Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	12.8%	17.1%	15.6%	12.0%	9.7%	32.7%	100.0%

Source: Analysis of ACS data, IPUMS-USA, University of Minnesota, www.ipums.org
Note: NILF – not in labor force

Table 20: Class of Worker by Income to Poverty Ratio, Persons Ages 16 & Over, California

Year	Class	1-99%	100-199%	200-299%	300-399%	400-499%	500%+	Total	1-99%	100-199%	200-299%	300-399%	400-499%	500%+	Total
2007	Self-Employed	12.6%	11.2%	10.2%	9.8%	10.6%	14.4%	12.1%	8.7%	13.9%	13.2%	10.7%	9.4%	44.1%	100.0%
2007	W/S Private	74.4%	76.2%	73.9%	70.1%	66.0%	60.4%	67.9%	9.1%	16.9%	17.0%	13.6%	10.4%	33.0%	100.0%
2007	W/S Non-profit	4.8%	4.6%	5.2%	5.7%	6.4%	6.6%	5.8%	6.9%	11.9%	14.1%	13.1%	11.8%	42.2%	100.0%
2007	W/S Government	8.3%	8.1%	10.6%	14.4%	17.0%	18.7%	14.2%	4.8%	8.6%	11.7%	13.4%	12.8%	48.7%	100.0%
2007	Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	8.3%	15.1%	15.6%	13.2%	10.7%	37.1%	100.0%
2012	Self-Employed	14.3%	11.8%	10.8%	10.5%	10.6%	12.6%	11.9%	13.7%	17.3%	14.3%	11.1%	8.7%	34.9%	100.0%
2012	W/S Private	71.6%	74.7%	72.0%	68.2%	63.8%	60.9%	67.5%	12.1%	19.4%	16.9%	12.7%	9.3%	29.7%	100.0%
2012	W/S Non-profit	5.3%	5.0%	6.0%	6.7%	7.6%	8.0%	6.6%	9.1%	13.1%	14.3%	12.6%	11.2%	39.7%	100.0%
2012	W/S Government	8.8%	8.6%	11.2%	14.6%	18.1%	18.6%	14.0%	7.1%	10.7%	12.7%	13.1%	12.6%	43.7%	100.0%
2012	Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	11.4%	17.5%	15.8%	12.5%	9.8%	33.0%	100.0%
2016	Self-Employed	15.2%	12.7%	10.7%	10.5%	10.5%	13.0%	12.2%	11.4%	15.7%	13.7%	10.8%	9.0%	39.4%	100.0%
2016	W/S Private	71.0%	73.9%	72.7%	69.1%	66.7%	62.2%	67.8%	9.6%	16.6%	16.7%	12.8%	10.3%	34.0%	100.0%
2016	W/S Non-profit	5.0%	4.9%	5.5%	6.5%	6.4%	7.6%	6.4%	7.2%	11.6%	13.5%	12.9%	10.6%	44.2%	100.0%
2016	W/S Government	8.7%	8.6%	11.0%	13.9%	16.4%	17.3%	13.7%	5.9%	9.5%	12.6%	12.8%	12.6%	46.7%	100.0%
2016	Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	9.2%	15.2%	15.6%	12.6%	10.5%	37.0%	100.0%

Source: Analysis of ACS data, IPUMS-USA, University of Minnesota, www.ipums.org

Table 21: Industry of Employment by Income to Poverty Ratio, Persons Ages Working in the Previous 5 Years, California

Year	Industry	1-99%	100-199%	200-299%	300-399%	400-499%	500%+	Total	1-99%	100-199%	200-299%	300-399%	400-499%	500%+	Total
2007	Lower Wage	41.4%	36.5%	31.5%	26.8%	22.9%	16.4%	25.9%	13.3%	21.2%	18.9%	13.7%	9.5%	23.4%	100.0%
2007	Blue Collar Middle Class	29.9%	36.0%	34.4%	32.3%	30.5%	26.9%	30.8%	8.1%	17.6%	17.4%	13.9%	10.6%	32.4%	100.0%
2007	Healthcare	9.8%	9.5%	10.6%	10.6%	10.9%	11.2%	10.6%	7.6%	13.5%	15.5%	13.1%	11.0%	39.2%	100.0%
2007	White Collar Middle Class	10.5%	8.8%	11.5%	14.5%	17.3%	19.3%	14.9%	5.8%	8.8%	12.1%	12.8%	12.4%	48.0%	100.0%
2007	Higher Wage	8.4%	8.8%	11.5%	15.3%	17.8%	25.8%	17.3%	4.0%	7.7%	10.3%	11.7%	11.1%	55.2%	100.0%
2007	Active Duty Military	0.1%	0.4%	0.5%	0.6%	0.6%	0.4%	0.4%	2.2%	13.9%	18.0%	18.2%	14.3%	33.5%	100.0%
2007	Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	8.5%	15.2%	15.6%	13.2%	10.7%	36.9%	100.0%
2012	Lower Wage	40.3%	38.9%	31.8%	27.0%	22.4%	15.5%	27.1%	16.9%	25.1%	18.5%	12.5%	8.1%	18.9%	100.0%
2012	Blue Collar Middle Class	29.7%	31.4%	31.2%	28.9%	27.6%	24.9%	28.3%	11.9%	19.4%	17.4%	12.8%	9.5%	29.0%	100.0%
2012	Healthcare	10.2%	10.7%	11.8%	12.5%	12.8%	13.1%	12.0%	9.6%	15.6%	15.5%	13.0%	10.4%	36.0%	100.0%
2012	White Collar Middle Class	11.0%	9.7%	12.8%	15.8%	18.5%	20.1%	15.4%	8.1%	11.0%	13.2%	12.9%	11.8%	43.0%	100.0%
2012	Higher Wage	8.7%	8.9%	11.9%	15.1%	18.1%	25.9%	16.6%	5.9%	9.3%	11.3%	11.4%	10.6%	51.4%	100.0%
2012	Active Duty Military	0.1%	0.4%	0.6%	0.8%	0.6%	0.4%	0.5%	3.1%	16.0%	19.2%	21.7%	12.1%	27.9%	100.0%
2012	Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	11.9%	17.6%	15.8%	12.5%	9.7%	32.5%	100.0%
2016	Lower Wage	40.3%	39.1%	33.6%	28.1%	25.0%	15.9%	26.9%	13.7%	22.1%	19.5%	13.1%	9.7%	21.9%	100.0%
2016	Blue Collar Middle Class	28.0%	31.9%	31.0%	29.8%	27.7%	24.8%	28.1%	9.1%	17.2%	17.2%	13.3%	10.4%	32.7%	100.0%
2016	Healthcare	10.1%	10.2%	11.4%	12.8%	12.4%	13.1%	12.0%	7.7%	12.9%	14.8%	13.4%	10.8%	40.3%	100.0%
2016	White Collar Middle Class	12.1%	10.2%	12.9%	14.9%	17.8%	18.9%	15.4%	7.2%	10.1%	13.0%	12.2%	12.2%	45.4%	100.0%
2016	Higher Wage	9.3%	8.2%	10.6%	13.9%	16.6%	27.0%	17.2%	5.0%	7.2%	9.6%	10.1%	10.1%	58.0%	100.0%
2016	Active Duty Military	0.3%	0.4%	0.5%	0.5%	0.5%	0.3%	0.4%	6.0%	15.2%	19.7%	16.2%	14.1%	28.9%	100.0%
2016	Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	9.5%	15.3%	15.6%	12.5%	10.4%	36.7%	100.0%

Source: Analysis of ACS data, IPUMS-USA, University of Minnesota, www.ipums.org

Table 22: Usual Weekly Hours Worked by Income to Poverty Ratio, Employed Persons Age 16 and Over, California

Year	Weekly Hours	1-99%	100-199%	200-299%	300-399%	400-499%	500%+	Total	1-99%	100-199%	200-299%	300-399%	400-499%	500%+	Total
2007	1-29	34.4%	18.2%	14.3%	13.4%	13.4%	12.4%	15.3%	15.6%	17.4%	14.6%	11.8%	9.6%	31.1%	100.0%
2007	30-40	55.6%	67.8%	67.7%	66.1%	62.2%	54.6%	61.0%	6.3%	16.3%	17.3%	14.6%	11.1%	34.3%	100.0%
2007	41-60	8.5%	12.3%	15.9%	18.1%	21.8%	29.5%	21.0%	2.8%	8.6%	11.8%	11.6%	11.4%	53.8%	100.0%
2007	61+	1.4%	1.8%	2.1%	2.4%	2.6%	3.5%	2.6%	3.8%	9.9%	12.3%	12.2%	10.9%	50.9%	100.0%
2007	Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	12.4%	18.7%	16.2%	12.6%	9.7%	30.3%	100.0%
2012	1-29	42.5%	23.8%	17.9%	16.2%	15.4%	12.8%	18.9%	20.6%	21.5%	15.1%	11.0%	8.2%	23.5%	100.0%
2012	30-40	49.2%	63.3%	66.1%	65.2%	63.1%	56.1%	60.2%	7.5%	18.0%	17.6%	14.0%	10.6%	32.4%	100.0%
2012	41-60	7.2%	11.1%	14.1%	16.7%	19.5%	28.2%	18.7%	3.5%	10.1%	12.0%	11.5%	10.5%	52.3%	100.0%
2012	61+	1.1%	1.7%	1.9%	2.0%	2.0%	2.9%	2.2%	4.6%	13.5%	14.0%	11.6%	9.5%	46.8%	100.0%
2012	Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	16.9%	20.3%	15.8%	11.7%	8.8%	26.7%	100.0%
2016	1-29	41.0%	23.0%	17.8%	15.6%	14.3%	12.6%	17.7%	17.6%	19.4%	15.8%	11.2%	8.7%	27.2%	100.0%
2016	30-40	50.3%	64.2%	66.6%	66.0%	63.8%	56.7%	60.8%	6.3%	15.8%	17.2%	13.8%	11.3%	35.7%	100.0%
2016	41-60	7.6%	11.3%	13.9%	16.5%	19.7%	27.8%	19.3%	3.0%	8.8%	11.3%	10.9%	11.0%	55.1%	100.0%
2016	61+	1.1%	1.4%	1.8%	2.0%	2.2%	3.0%	2.2%	3.9%	9.8%	12.6%	11.6%	10.7%	51.4%	100.0%
2016	Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	7.6%	14.9%	15.7%	12.8%	10.8%	38.3%	100.0%

Source: Analysis of ACS data, IPUMS-USA, University of Minnesota, www.ipums.org

Jobs & Wages

California's Changing Economic Structure

More so than most states, California's economy has gone through a continuing cycle of restructuring, renewal, and expansion generating new and frequently upwardly mobile opportunities for both residents and, until recently, the constant net flows of population from other states and countries. Driven largely by the ability of the state's entrepreneurs to embrace and commercialize new technologies, California has been home to a continuing series of nationally and internationally dominant industry centers that grew, evolved, and spawned successors over the years. As critically, these centers historically spread jobs and income growth to adjoining regions in the state through expansions and development of supply, back office, and support industry networks.

Recovery since the Great Recession has seen a different pattern emerge. California generated 2.2 million wage and salary jobs between 2010 when the recovery began and 2016, an outcome noted by some as demonstration that the state's high regulation and high tax business environment remains a viable model for jobs growth. However, the nature and distribution of those jobs have shifted notably from patterns in the past. As detailed in the data discussions that follow:

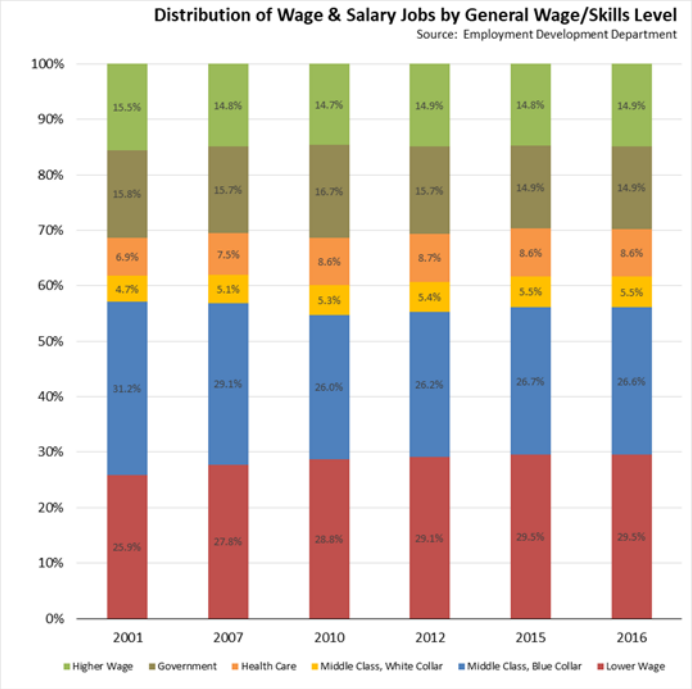
- Job creation in general and higher wage jobs in particular have been concentrated in the Bay Area to an extraordinary degree, rather than a more balanced distribution providing income and upward mobility bridge jobs to those in poverty and the working poor more broadly in the state. As critically, the high tech and information-based jobs center behind the Bay Area's growth has largely remained within that region. Rather than spreading to adjacent regions as in past development patterns, related middle class jobs creation in associated manufacturing, support businesses, back office functions, and supply networks has instead moved to other states and other nations with lower costs and offering the regulatory flexibility required for business models based on constant innovation and rapid market change.

- Job growth in other regions of the state has instead been dominated by two sources: (1) lower wage industries, in particular those under Leisure & Hospitality, and (2) jobs reliant on government spending including both direct government jobs and indirectly expansion in Healthcare & Social Assistance through increased public spending on health and welfare services. While the Healthcare component represents a broader continuum of wage and skill levels providing one of the primary upward mobility paths remaining in the state's economy, the current number of those jobs has become reliant on an increasingly volatile state government revenue stream, itself heavily dependent on the continued economic performance of a single region—again the Bay Area—in the state.

- As reflected in the previous section's data on income distribution, more traditional middle class wage jobs have declined or shown considerably lower growth compared to the pre-recession period. While growth has occurred in other middle-class wage industries such as Transportation & Warehousing, these replacements have not matched the jobs lost in terms

of numbers, wage levels, and average weekly hours. These remaining sources of upward mobility bridge jobs instead provide access for a smaller share of the state's population while providing comparatively lower income potential to deal with the growing cost of living.

Jobs by Industry



To simplify some of the presentation, industries are classified as follows according to general wage and skills level, similar to the groupings used in the previous chapter:

- Lower Wage—jobs in industries paying less than $40,000 a year on average and generally requiring less than a college degree. Covers: Total Farm, Accommodations, Food Services, Other Services, Retail Trade, and Social Assistance.

- Middle Class Wage, Blue Collar—jobs in industries paying over $40,000 a year on average but generally requiring less than a college degree. Covers: Administrative & Support & Waste Services, Construction, Manufacturing, Mining & Logging, Transportation & Warehousing, Utilities, and Wholesale Trade.

- Middle Class Wage, White Collar—jobs in industries paying over $40,000 a year on average but generally requiring some college or a college degree. Covers: Arts, Entertainment & Recreation, Educational Services, and Real Estate & Rental & Leasing.

- Higher Wage—higher wage jobs in industries generally requiring a college degree. Covers: Finance & Insurance, Information, Management of Companies & Enterprises, and

Professional, Scientific & Technical Services. In the 2016 data, these four industries had average annual wages of $111,900 and above.

- Health Care—combines many traditional middle class jobs along with lower wage and others requiring some of the highest educational levels. In the 2016 data, average annual wage was $64,600.

- Government—government jobs covering federal, state, and local agencies. In the 2016 data, average annual wage was $66,200.

Note, however, that the industry levels used vary somewhat in the discussions that follow according to the different data series used and the different levels of disaggregation available in each one. For the discussion in this section, job numbers are taken from the monthly survey data from the Current Employment Survey series. General wage data is taken from the more detailed Quarterly Census of Employment & Wages for the generally comparable industry groupings. In this data view, average annual wages are a combination metric reflecting both average hours worked and average hourly wage level.

Within this general framework, the figure above illustrates:

- The most significant shift since 2001 has been within the lower educational skill categories, with Middle Class, Blue Collar dropping from 31.2% to 26.6% and Lower Wage rising from 25.9% to 29.5%.

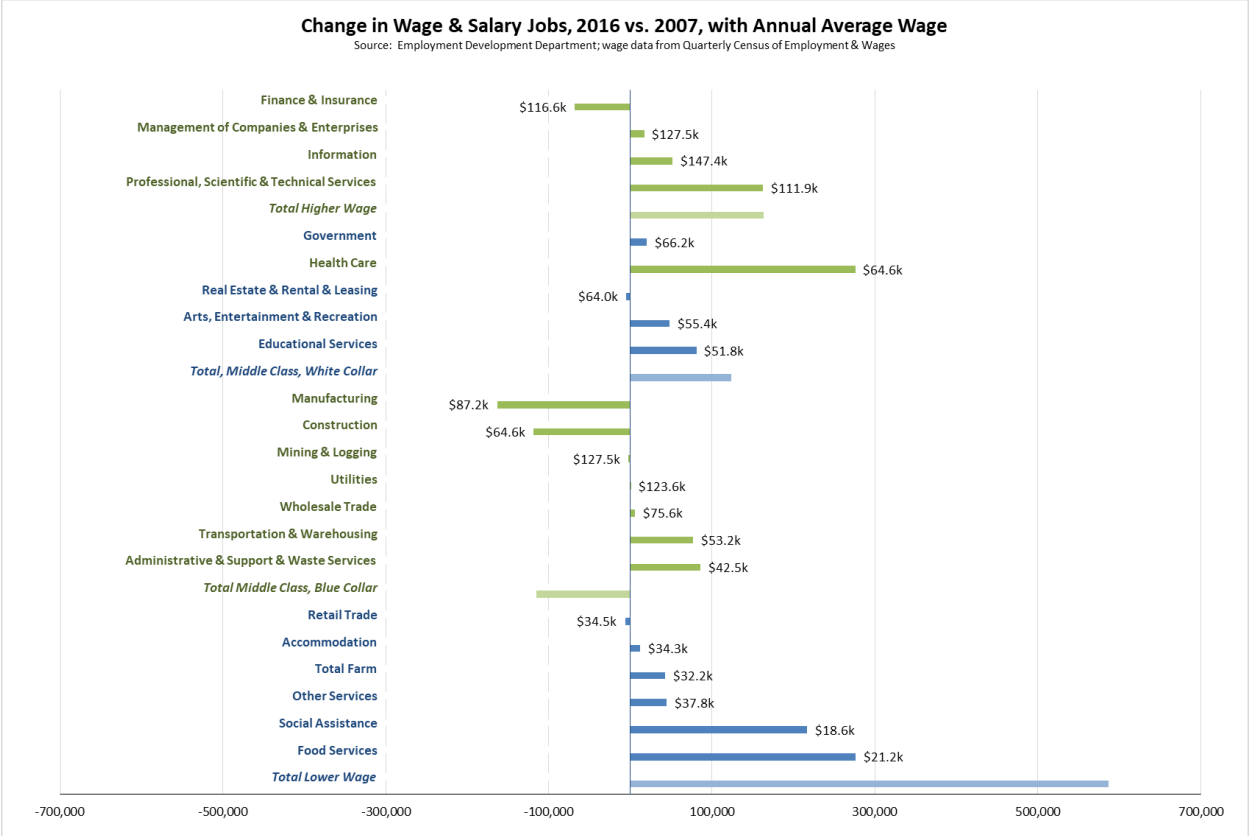
- The next most significant change was in Health Care, providing a much broader mix of lower wage, upward mobility, and higher wage jobs.

- On a relative basis, the bottom two wage/skill categories saw the sharpest contraction during the past recession. Combined, Middle Class, Blue Collar and Lower Wage went from 56.9% of the jobs mix in 2007, to 54.8% in the trough year of 2010. These two categories have yet to recover their previous share, but more significantly as indicated in the previous point, Lower Wage jobs have expanded faster than Middle Class, Blue Collar. As a result, while job opportunities for lower educational attainment groups have expanded during the state's recovery, they are at significantly lower wage levels. The opportunities this economic mix now provides to avoid poverty—especially cost of living adjusted poverty—and pursue upward mobility are as a consequence significantly diminished.

The more significant structural changes can be seen by looking at how jobs have changed compared to the pre-recession mix in 2007.

From the figure below:

- Between 2010 when the recovery began and 2016, California's job recovery created 2.2 million jobs. Of this amount, the net job expansion compared to the previous high in 2007, however, was 1.1 million jobs, distributed by industry as shown in the figure above.



- The largest structural shift in jobs was in the Lower Wage industries, accounting for 56% of the net jobs expansion. And of these jobs, most were in the two lowest wage industries, Food Services (2016 average annual wage of $21,200) and Social Assistance primarily composed of In-Home Supportive Services (IHSS) workers ($18,600).

- Health Care ($64,600) produced the second highest contribution to the structural shift, accounting for 26% of the net jobs growth.

- Higher Wage jobs accounted for 16% of net jobs expansion, primarily from Professional, Scientific & Technical Services ($111,900).

Countering this growth, Middle Class, Blue Collar jobs remained 115,000 below the 2007 level. However, there were significant shifts as well within this wage category. Manufacturing ($87,200) and Construction ($64,600) combined were 282,000 below, and were replaced by jobs in blue collar industries still paying middle class wage levels but at substantially lower levels primarily in Transportation & Warehousing ($53,200) and Administration & Support & Waste Services ($42,500).

In addition to wage level, jobs growth since the recession has varied widely by region. As shown in Table 23, the Bay Area with 19.4% of the state's population accounted for 30.2% of the total jobs

growth during the recovery period since 2010, and 46.2% of the net jobs expansion when compared to the pre-recession levels in 2007. Upstate California and Central Sierra regions still had not achieved full jobs recovery in 2016, while only Orange County and Inland Empire performed near their population share in jobs recovery but still lagged on jobs expansion.

Table 23: Distribution of Wage & Salary Jobs Growth by Region

Region	Share of Jobs Growth		Population Share
	2010-2016	*2007-2016*	*2016*
Bay Area	30.2%	46.2%	19.4%
Central Coast	2.3%	3.2%	2.7%
Central Sierra	0.2%	-0.2%	0.5%
Central Valley	8.5%	9.9%	10.8%
Inland Empire	11.3%	9.8%	11.4%
Los Angeles	23.9%	15.4%	29.3%
Orange County	9.2%	5.1%	8.1%
Sacramento	4.9%	1.6%	6.0%
San Diego/Imperial	8.2%	9.2%	8.8%
Upstate California	1.3%	-0.1%	2.9%
Total	100.0%	100.0%	100.0%

Source: Employment Development Department, Quarterly Census of Employment & Wages; distribution based on sum of county totals

Breaking these regional numbers down further to show relative changes by general wage/skill level is more difficult due to the widely differing levels of disaggregation available from the primary data sources. Due to varying sample size in the survey data along with nondisclosure procedures followed in all the data sources, data at the county and regional level varies widely.

Table 24: Distribution of Wage & Salary Jobs by General Wage/Skills Level, Share of State Change from 2007 to 2016

	Middle Class, Blue Collar			Middle Class, White Collar		Health Care	Government	Higher Wage	
Data Source	*growing QCEW***	*growing CES***	*losing QCEW**	*growing QCEW**	*losing QCEW***	*growing QCEW**	*growing QCEW**	*growing QCEW**	*losing QCEW***
California Net Change	*31,200*	*83,600*	*-275,600*	*95,500*	*-7,800*	*282,700*	*6,400*	*219,100*	*-90,100*
Bay Area	70%	15%	5%	31%	1%	19%	81%	84%	17%
Central Coast	9%	1%	1%	1%	8%	n/a	56%	-1%	2%
Central Valley	13%	23%	9%	2%	13%	n/a	245%	-2%	6%
Inland Empire	0%	50%	14%	5%	16%	12%	142%	-3%	5%
Los Angeles	-27%	18%	47%	24%	-9%	29%	-296%	5%	38%
Orange County	5%	-9%	10%	18%	7%	10%	-25%	7%	12%
Sacramento	41%	-2%	7%	1%	20%	n/a	-210%	-2%	11%
San Diego/Imperial	-17%	0%	3%	12%	34%	11%	145%	2%	7%

*Source: Employment Development Department; distribution base varies by data coverage: *California net change, **sum of County totals*

Table 24 provides a base for analysis of this factor from the best available data, showing the distribution of the structural shifts using distributions derived from the Current Employment Survey (CES) and Quarterly Census of Employment & Wages (QCEW). Note that these data series in

Table 24 are not fully comparable across industry groupings due to these data series shifts, but the columns in Table 24 have been compiled to roughly conform to the categories shown above for the state. The Table also focuses on the upward mobility job categories rather than the lower wage categories for which disaggregated data at the county level is less available. Data for the smaller counties also is generally only at much higher aggregated levels, and the table covers only the regions and categories for which adequate data is available.

From Table 24:

- The shift away from Middle Class, Blue Collar jobs (losing: Construction and Manufacturing) has been concentrated especially in the Los Angeles Region, while the Bay Area, Central Coast, and San Diego/Imperial saw significantly lower relative shares of the total state losses. The expanding portion (QCEW growing: Administrative & Support & Waste Services; CES growing: Transportation, Warehousing & Utilities and Wholesale Trade) similarly took place outside the Los Angeles Region, with much higher relative shares occurring in the Bay Area, Inland Empire (for CES growing), Central Valley (CES growing), and Sacramento (QCEW growing).

- The expanding Middle Class, White Collar jobs (growing: Arts, Entertainment & Recreation and Educational Services) evidenced more even distribution among the regions, but with Bay Area, Orange County, and San Diego/Imperial showing higher shares relative to their population share, and Central Valley, Inland Empire, and Sacramento coming in lower. The declining portion of this category (losing: Real Estate & Rental & Leasing) showed overall considerably lower losses than the other groupings.

- Health Care as expected tracked population share closer than the other categories, while Government showed much wider variation by region but with considerably lower gain level for the state as a whole. The primary factor affecting the large differences was change in employment by local education agencies.

- The expanding Higher Wage jobs (growing: Information, Management of Companies & Enterprises, and Professional, Scientific & Technical Services) were concentrated to a high degree in the Bay Area—84% of the total jobs expansion. Orange County is the only other region coming close to its relative population share, while losses were seen in Central Coast, Central Valley, Inland Empire, and Sacramento. The declining component (losing: Finance & Insurance) saw much higher losses in Los Angeles Region, while lower cost Central Valley and Inland Empire experienced not as deep of cuts relative to population share.

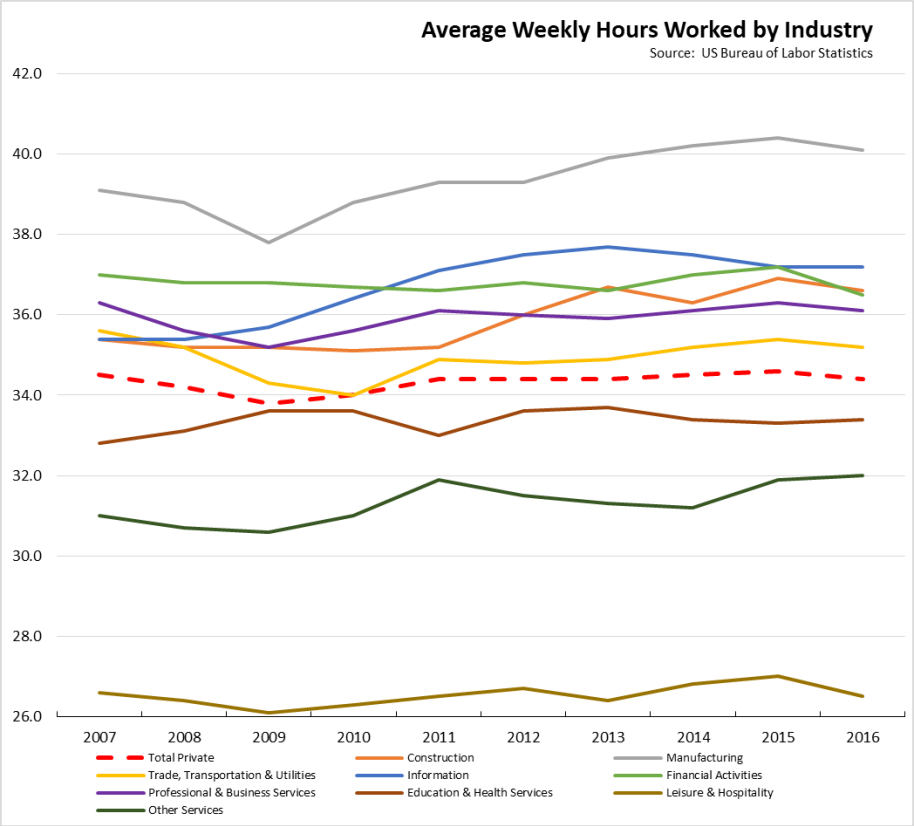
Overall, the Bay Area not only secured 46% of the net jobs expansion since 2007, this region also shows: (1) higher relative growth in the expanding and lower relative losses/higher retention in the contracting middle class wage industries providing the bridge to upward mobility and (2) significantly higher relative growth to the point of dominance in the higher wage industries upward mobility leads to. Los Angeles Region exhibits the opposite trends, but with significantly deeper relative cuts in the declining Middle Class wage industries. Other than much higher relative growth in the trade-related Transportation, Warehousing & Utilities industry, the lower income Inland

Empire and Central Valley show low expansion in the other Middle Class wage components, and negative growth in the expanding Higher Wage industries.

As indicated, expansion of Health Care jobs tracks more closely with population share than the other industry groupings. Based on average annual wage ($64,600 in 2016), this industry tracks closer to the Middle Class Wage components, but more than the other industries, provides jobs with a wider range of pay and skill levels, from lower wage to traditional middle class occupations to highly paid professions. As such, this industry has increased its role as the upward mobility bridge in regions outside the Bay Area.

Along with the associated lower wage Social Assistance, the combined Health Care & Social Assistance industry also produced the largest number of both jobs recovery since 2010 and net jobs expansion compared to 2007. By total number of jobs, since 2001 this combined industry has eclipsed both Retail Trade and Manufacturing to become the state's second largest industry just below Government.

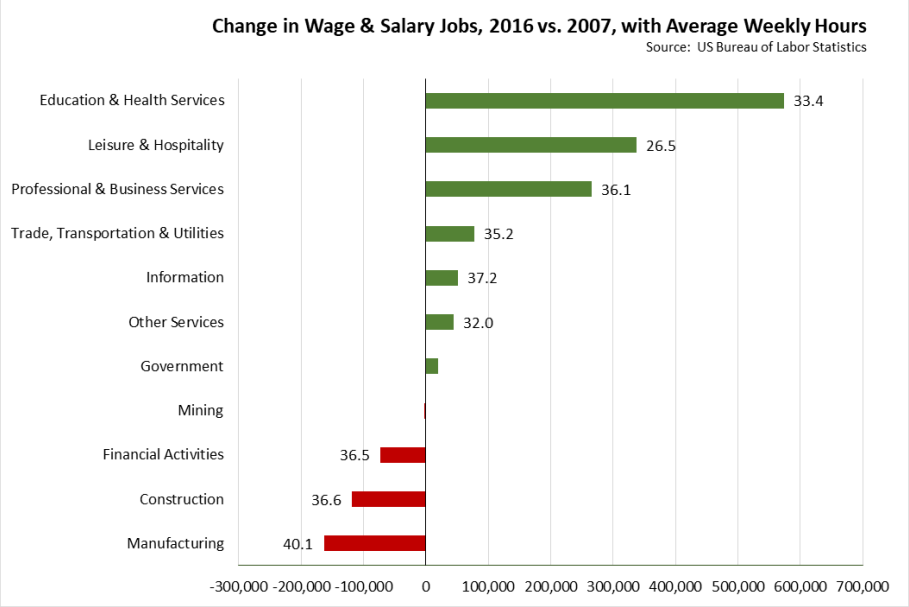
Jobs by Average Weekly Hours

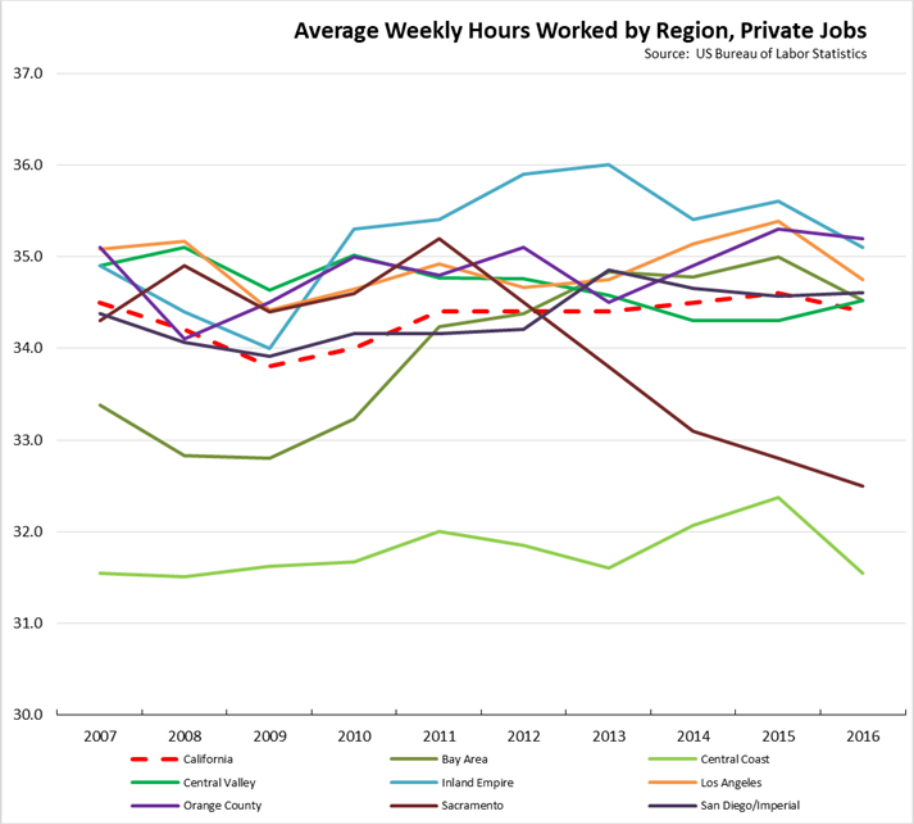


While the previous sections looked at average annual wage, some additional data at a more aggregated level provides further insights by breaking down the industries by both hours worked

and hourly pay levels. The data primarily covers all employees, although more limited break downs are also available for Manufacturing and Information for production employees alone.

As shown in the figure above, data on weekly hours by industry is available on a somewhat more aggregated industry level than in the previous sections. Overall, Private wage and salary jobs in California provide weekly hours near the general full time standard of 35+ hours, ranging from 33.8 to 34.6 hours in the period shown. The differences, however, vary widely across industries.

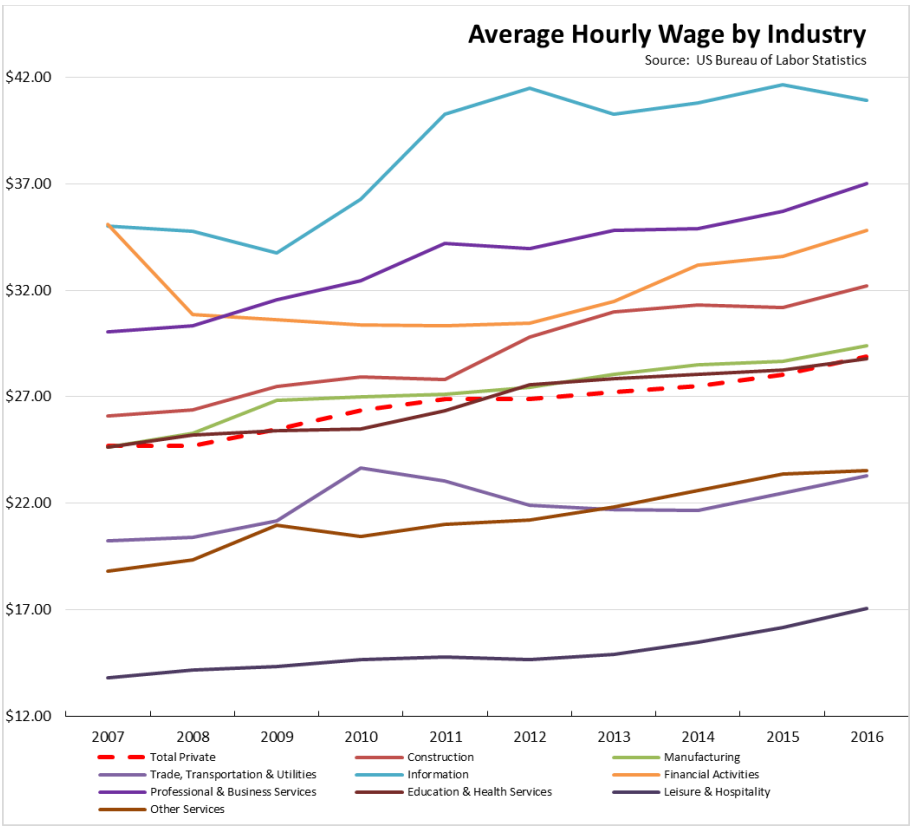




More specifically, the structural changes since 2007 have seen higher hour jobs replaced with a growing share from part time jobs, as illustrated in the first figure above. As a result, even though the state's unemployment rate has continued to decline and the total number of jobs has continued to rise, a significant portion has been less than full-time, decreasing the potential income per household and thereby the ability of the current economic mix to raise households up the economic ladder.

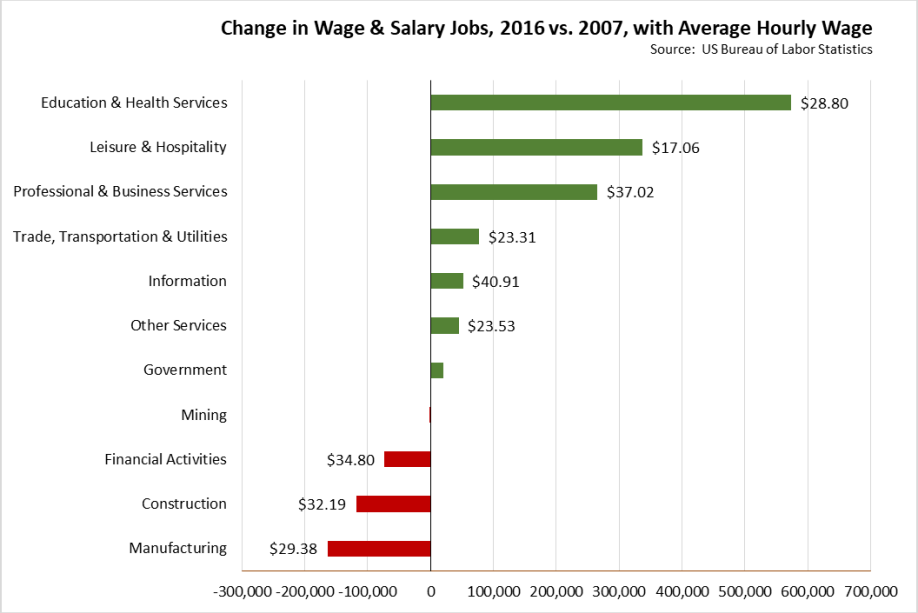
Considered by region, some differences have arisen in recent years, but most of the larger regions converged at or above the state average by 2015. The key outliers, however, are Sacramento Region and the Central Coast, both of which contain industry mixes with significantly lower average weekly hours.

Jobs by Average Hourly Wage



Following a period of slow or no growth, average hourly wages (private, all employees) in California began rising in 2015 and 2016. However, the rate and average wage level across industries vary widely, as shown in the figure above.

These industry differences are reflected in the structural changes previously discussed, as illustrated in the following figure. Average wages in the two highest job expansion industries are lower (Education & Health Services) or significantly lower (Leisure & Hospitality) than the industry jobs that have been replaced (Financial Activities, Construction, and Manufacturing). As critically, the primary expanding Middle Class, Blue Collar industry (Trade, Transportation & Utilities) has substantially lower average wages than the Blue Collar jobs being replaced. While Middle Class wage jobs are still being created for lower skill levels, they are fewer in number, do not replace the numbers that have been lost, and provide fewer hours at lower pay rates. The ability of households dependent on these jobs—especially workers with lower educational attainment levels—to keep pace with the state's growing cost of living is therefore more limited, especially in the higher cost coastal counties.



Jobs by Wage Distribution

The previous data showed general wages based on the overall average by industry, but each industry provides a different mix of wage levels depending on occupations, skills, tenure, and other factors. Additional breakdowns showing wage distribution by industry are available on the national level through the Occupational Employment Statistics (OES) survey maintained by the US Bureau of Labor Statistics, but the Bureau has also begun publishing an experimental data series to provide comparable data on the state level beginning in 2012. The state information remains experimental and is not an official series maintained by the Bureau, but the data does provide insights into how wage mixes have changed across industries through much of the period covered in this report.

Wage data by industry for California in 2016 is shown in Table 25, indicating wage levels by percentile. For example, the 10th percentile wage for Manufacturing was $10.78 an hour, meaning 10 percent earned less than $10.78 and 90 percent earned more. The median—50 percent earned less and 50 percent earned more—was $20.94.

During the period 2012-2016, the California minimum wage went from $8 an hour to $9 in 2014 and $10 in 2016, an average annual increase of 5.7%. As shown in Table 25, this increase essentially set the 10th percentile level for the Lower Wage industries, but also Administrative & Support & Waste Management and Arts, Entertainment, & Recreation as well. As the mandated level continues increasing to $15 and above beginning in 2022, this requirement will begin affecting an increasing share of the employment primarily in the Middle Class, Lower Wage, and Health Care industries, both directly through the mandated wage and through additional payroll escalation as wage compaction across the wage levels becomes more significant. While workers receiving the higher wage will benefit, this process will result in additional cost pressures on the key employment opportunities for upward mobility.

Table 25: Hourly Wage Percentile by Industry, 2016

Industry	10th	25th	Median (50th)	75th	90th
Higher Wage					
Information	$13.05	$20.64	$34.24	$54.40	$78.64
Management of Companies & Enterprises	15.75	22.56	35.83	57.24	82.53
Professional, Scientific & Technical Services	14.92	22.51	36.31	57.67	81.20
Finance & Insurance	13.48	17.93	26.79	43.57	71.51
Government					
Federal, State, & Local Government	15.94	21.91	31.40	44.51	57.88
Health Care					
Health Care & Social Assistance	11.17	14.38	22.20	38.45	59.68
Middle Class, White Collar					
Arts, Entertainment, & Recreation	10.01	10.80	13.92	22.84	37.37
Educational Services	12.35	16.92	24.58	37.91	49.94
Real Estate & Rental & Leasing	10.55	13.03	18.24	27.46	44.33
Middle Class, Blue Collar					
Administrative & Support & Waste Management	10.01	11.16	14.51	22.24	34.93
Transportation & Warehousing	11.17	14.24	19.64	27.88	35.64
Utilities	23.43	32.94	42.96	55.06	64.47
Wholesale Trade	11.04	14.08	20.78	33.42	56.32
Construction	13.58	17.75	25.19	35.46	48.25
Manufacturing	10.78	13.61	20.94	37.11	62.84
Mining, Quarrying, & Oil & Gas Extraction	15.69	21.15	29.35	43.37	61.08
Lower Wage					
Accommodation & Food Services	10.01	10.16	11.49	14.53	20.99
Agriculture, Forestry, Fishing & Hunting	10.00	10.01	10.83	12.09	17.14
Other Services (except Public Administration)	10.01	11.24	15.35	24.25	36.91
Retail Trade	10.01	10.56	12.60	18.55	26.96

Source: US Bureau of Labor Statistics, OES Research Estimates by State & Industry
Note: Educational Services includes public schools; Health Care & Social Assistance includes public hospitals; Government excludes this employment

Table 26 indicates how these wage levels have changed, expressed as the average annual growth rate over the period 2012-2016. As detailed more in the next chapter, the California Consumer Price Index (CPI) grew at an average annual rate of 1.8% during this period. Applying this standard to the wage growth rates in Table 26 identifies which industries and wage levels kept pace with or bettered the cost of living in California, and which (the shaded cells in Table 26) did not.

From Table 26:

- Considered as wage growth below the increase in cost of living, wage stagnation is the most prevalent in the Middle Class wage industries, particularly in the middle ranges from the 25th to 75th percentiles, but in many cases also extending up to the 90th. These industries are generally traditional, more mature businesses that are generally more subject to the cost pressures from the state's regulatory and taxation policies affecting labor, energy, transportation, rent, and other basic costs of doing business. The weakness of wage growth in the mid-range comes on top of the shrinking contribution of these industries to overall

jobs expansion, further reducing the availability of the traditional avenues for upward mobility.

Table 26: Hourly Wage Percentile, Average Annual Growth, 2012-2016

Industry	10th	25th	Median (50th)	75th	90th
Higher Wage					
Information	0.8%	1.3%	2.0%	2.9%	2.2%
Management of Companies & Enterprises	2.7%	3.2%	4.2%	4.9%	3.9%
Professional, Scientific & Technical Services	1.3%	1.8%	1.7%	2.3%	2.2%
Finance & Insurance	1.4%	1.7%	2.0%	2.3%	2.9%
Government					
Federal, State, & Local Government	3.0%	2.3%	2.2%	2.7%	2.7%
Health Care					
Health Care & Social Assistance	2.0%	1.6%	2.2%	2.0%	2.4%
Middle Class, White Collar					
Arts, Entertainment, & Recreation	3.6%	3.3%	1.4%	1.1%	1.0%
Educational Services	1.1%	0.9%	0.7%	1.3%	2.0%
Real Estate & Rental & Leasing	3.4%	2.8%	2.6%	2.7%	3.1%
Middle Class, Blue Collar					
Administrative & Support & Waste Management	3.2%	2.4%	1.4%	1.6%	1.2%
Transportation & Warehousing	0.6%	0.0%	-0.5%	0.7%	0.6%
Utilities	3.7%	2.6%	3.4%	3.6%	2.6%
Wholesale Trade	2.7%	1.5%	1.5%	1.5%	2.6%
Construction	1.4%	1.1%	0.6%	0.4%	1.5%
Manufacturing	3.2%	1.7%	1.3%	1.4%	2.3%
Mining, Quarrying, & Oil & Gas Extraction	0.3%	0.7%	0.9%	2.8%	1.3%
Lower Wage					
Accommodation & Food Services	4.4%	3.8%	5.3%	5.8%	5.0%
Agriculture, Forestry, Fishing & Hunting	4.6%	3.8%	4.5%	4.7%	4.5%
Other Services (except Public Administration)	3.3%	2.8%	1.6%	1.9%	1.9%
Retail Trade	3.8%	3.3%	1.9%	1.5%	2.2%

Source: US Bureau of Labor Statistics, OES Research Estimates by State & Industry
Note: Educational Services includes public schools; Health Care & Social Assistance includes public hospitals; Government excludes this employment; Highlighted cells indicates wage growth rates below the 1.8% average annual increase in the California CPI.

- Wage stagnation is also evident in the Higher Wage industries, but primarily in the lower wage tranches particularly for the Information and Professional, Scientific & Technical Services industries that have provided the primary growth at this level.

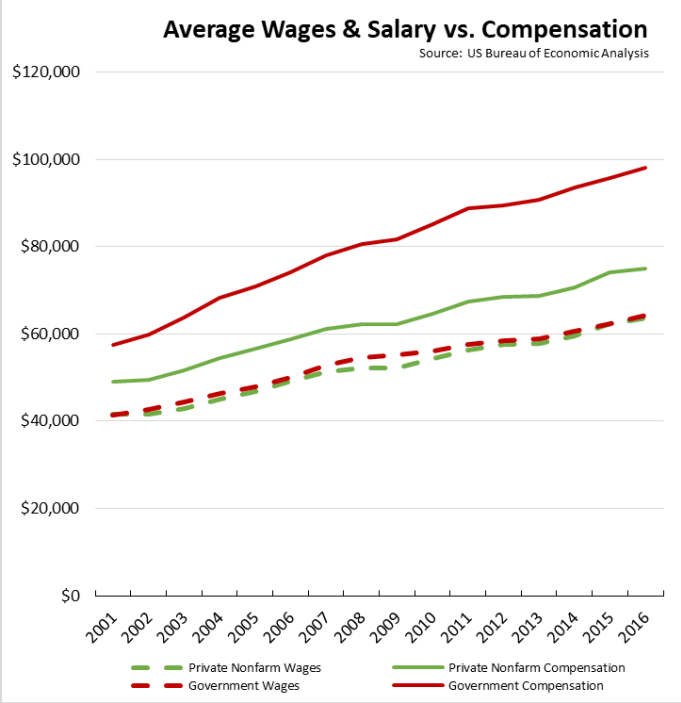
- In contrast, the Lower Wage industries generally show higher wage growth. These include the two industries starting with the 10th percentile closest to the $8.00 minimum wage in 2012: Agriculture, Forestry, Fishing & Hunting ($8.35 in 2012) and Accommodation & Food Services ($8.42). The high rate of wage growth at the 10th percentile therefore comes primarily as the result of increasing minimum wage and not necessarily productivity growth that would sustain these costs without price increases. As shown in the wage growth in the

subsequent percentiles, these same two industries also illustrate the kind of wage response generated as a result of wage compaction. While this cascading effect shows general wage improvement across all levels, the result, as discussed in the next chapter, has also produced higher costs especially those felt at the lower income levels.

Jobs by Compensation

Wages, however, are only a portion of total payments to labor. Largely due to favorable tax treatments but also as a result of cost efficiencies possible through group programs, both employees and employers have turned to increased use of benefits as part of total compensation. In fact, the survey of lower-income Californians conducted as part of this overall project (Vision Strategy & Insights, 2017) found that given a choice between a job with benefits or a job with higher pay, 59% would choose the benefits.

For the state as a whole, the structural shifts in the economy away from jobs providing higher benefits has resulted in a small shift in the compensation component provided by benefits. In 2007, US Bureau of Economic Analysis data shows benefits for Private Nonfarm (full and part-time) employees went from 19% of wages and salaries in 2007, to 18% in 2016. In this same period, benefits for Government (federal, state, and local) employees went from 48% to 53%.



The average amounts by industry and general wage/skills levels are contained in Table 27. This table was developed from US Bureau of Economic Analysis data, with the benefits portion broken down into two components. The Social Insurance amount was calculated by applying the 2016 employer tax rates for OASDI and Medicare to the average wage and salary level. The

Pensions/Insurance Funds component was then calculated by subtracting these amounts from the average compensation amount. This exercise provides an estimate of the amount provided on average within each industry for non-mandated benefits such as pensions, health insurance, life insurance, and related items. Note that Table 27 does not include monetary estimates for other employee benefits such as education reimbursement, differing levels of paid time off, on-site services such as subsidized meals and child care, and for government employees, the property value of their employment status.

Combining this analysis with the previous discussions, the structural shifts in the economy are providing fewer opportunities to secure the benefits employees prefer, especially for lower educational level workers. The industries showing jobs declines since 2007—especially Manufacturing and Mining—have significantly higher benefit levels than the industries at these skill levels that are growing. The Lower Wage industry jobs which provided 56% of the net jobs expansion since 2007 provide benefits at only one-half to one-quarter of the level for the jobs that have been lost.

Table 27: Average Wages/Salary & Estimated Compensation by Industry, 2016

	Wages & Salary	Social Insurance	Pensions/ Insurance	Total Compensation
Finance & Insurance	$117,200	$8,970	$ 9,830	$136,000
Information	149,100	9,070	9,130	167,300
Management of Companies & Enterprises	130,200	9,070	11,630	150,900
Professional, Technical & Scientific Services	113,000	8,640	5,960	127,600
Total Higher Wage	*122,900*	*9,070*	*7,730*	*139,700*
Government	64,200	4,910	28,990	98,100
Total Government	*64,200*	*4,910*	*28,990*	*98,100*
Health Care	65,900	5,040	8,860	79,800
Total Health Care	*65,900*	*5,040*	*8,860*	*79,800*
Real Estate & Rental & Leasing	65,100	4,980	5,020	75,100
Arts, Entertainment & Recreation	59,400	4,540	4,460	68,400
Educational Services	46,200	3,530	8,270	58,000
Total Middle Class, White Collar	*55,800*	*4,270*	*6,130*	*66,200*
Construction	65,300	5,000	7,600	77,900
Manufacturing	88,900	6,800	12,300	108,000
Mining, Quarrying & Oil & Gas	135,800	9,070	17,630	162,500
Administrative & Support & Waste Services	43,800	3,350	3,950	51,100
Transportation & Warehousing	56,900	4,350	8,750	70,000
Utilities	127,000	9,070	35,030	171,100
Wholesale Trade	77,300	5,910	6,790	90,000
Total Middle Class, Blue Collar	*69,000*	*5,280*	*8,420*	*82,700*
Retail Trade	35,600	2,720	4,380	42,700
Accommodation	40,000	3,060	3,540	46,600
Food Services	24,400	1,870	2,230	28,500
Social Assistance	20,000	1,530	3,470	25,000
Other Services	35,500	2,720	2,780	41,000
Farm	30,700	2,350	2,850	35,900
Total Lower Wage	*30,300*	*2,320*	*3,280*	*35,900*

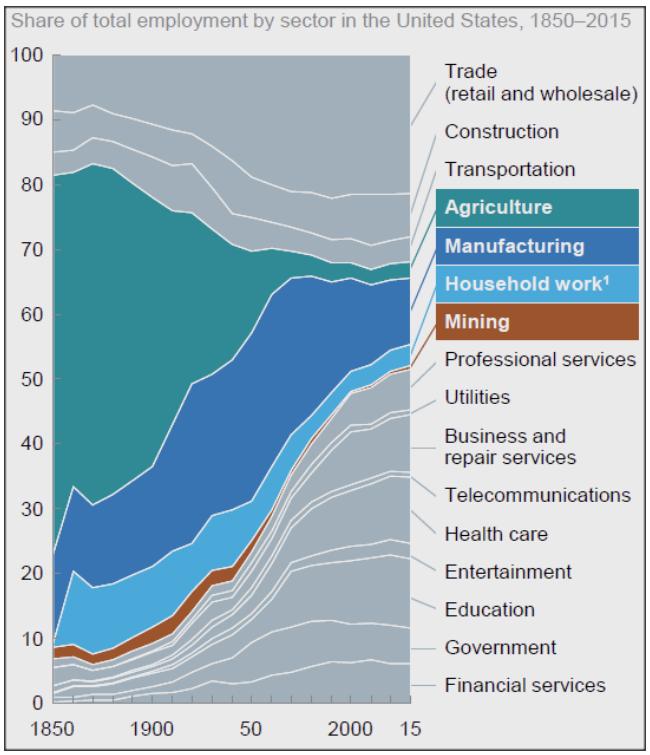
Source: Analysis of US Bureau of Economic Analysis, OES Research Estimates by State & Industry, Annual State Personal Income and Employment; see text for analysis details

Jobs Issue: Automation

The impact of automation on jobs has been a matter of controversy since the installation of the first water wheel. In the current economy, the rapid development of potentially disruptive technologies especially artificial intelligence has renewed the debate. The actual effects on the number of jobs in the state and the quality of those jobs, however, will depend on a number of factors:

- The potential for automation does not mean it will always be adopted or adopted successfully. A case on point is the State of California's serially dysfunctional attempts at automation that have sought to overlay technology on top of archaic structures and systems, rather than combining reforms and other changes that make automation viable in the first place.

- Automation historically has had multiple economic effects rather than just job reductions. While the immediate changes may be fewer workers per unit of output, increased productivity has led to higher profits and wages and thereby attracted more entrants into the industry. More producers have increased supply and led to lower prices. Lower prices have led to higher real incomes. And higher real incomes have led to demands for new goods and services, and thereby generated jobs which did not exist in the past of if they did, were there only for the incomes that previously could afford them. The actual effects of automation at any point in time have varied widely depending on the relative strength of each of these components and how quickly they have evolved. For example, the following chart illustrates the dramatic shifts in the US economy as a result of past applications of technology and subsequent changes in incomes, time allocation, and demand over time. As shown in this figure, mechanization of agriculture produced extraordinary employment changes within that industry, but also moved along with substantial expansion of jobs in other industries.



Source: McKinsey (December 2017), p. 5.

- The developed and many developing economies are now going through significant demographic changes, including lower birth rates, rising share of the senior population cohort, and differing ability to attract and absorb immigration. Many now face fewer entrants into the labor force, while several also project contracting population overall as well. The GDP growth increment possible through higher automation and productivity may in some instances track with this changing labor force size, and for most cases, will be essential in order to continue supporting aging populations on top of a shrinking labor force base. While the US and California specifically have not yet reached this demographic point, labor force growth has slowed as discussed previously and the population continues to age. Transitioning through these shifts at acceptable income levels may be dependent on increased automation.

The core of the current debate is over the scale of the now-potential technology changes and more critically, how quickly the economy is able to adapt in creating new employment for labor. On one extreme, some analysts see the pace of technology overwhelming the ability of the economy to adapt, and have proposed measures such as Universal Income to compensate for what they project as a lack of jobs and work. This view is not unlike past, more pessimistic writings on the topic. For example, Marx (1857-8) in an example of the role of capital predicted that use of the power loom would put all weavers out of work. Keynes (1930) wrote about technological unemployment, meaning ". . . unemployment due to our discovery of means of economising the use of labour outrunning the pace at which we can find new uses for labour." However, Keynes also saw this situation as a "temporary maladjustment" with the long run result of much higher standards of living

but still with some accommodations as higher incomes became possible with fewer hours worked per week.

Regardless of the long term effects on employment, other effects are still likely to occur during any "maladjustment" period, no matter how short or long. Skills of at least some portion of the labor force become outdated. Retraining, removing barriers to self-employment and entrepreneurship such as occupational licensing and taxes (Carpenter, 2017), and other responses to facilitate adaption within the economy are needed.

More critically in California, adaption to technology change likely will also require improved labor mobility. As discussed previously, job creation in California—including retention/expansion of middle class wage jobs—has been significantly stronger in the Bay Area. Yet, the ability of workers to access these jobs—both from shifting jobs within the Bay Area or moving from other regions of the state—is severely constrained by barriers to geographic mobility. Reducing or removing these barriers to facilitate adaption to change would require changes to state and local policies that now severely limit increases in housing supply and in commuting system capacity.

Conversely—or more accurately perversely—these same barriers to geographic mobility can also lead to increased pressures for automation. In a situation such as California where employment and job expansion is so heavily concentrated in one region, employers may also face shortages of the required skill levels when the costs of housing, commuting, and other costs of living outstrip what employers can pay in wages. In these cases where labor becomes constrained because of public policy choices, automation is often the only answer, both to accommodate labor shortages but also to achieve productivity levels commensurate with the wages necessary to attract and retain the skill levels available within the local labor supply.

A number of recent studies have assessed the potential for automation within industries and geographic areas. These studies generally take the approach of assessing automation potential by occupation, then determining the risk by industry or area based on overall occupational mix. More recent studies finding lower risk levels have gone deeper, assessing activities within each occupation more amenable to automation and the extent to which the potential is for greater productivity or for replacements.

Results from these studies differ widely. One of the first, Frey (2013), concluded that 47% of US jobs would be replaced by automation within 20 years. An OECD study (Arntz, 2016) comparing the risk across countries, put the US level at 9% of jobs at risk, defined as jobs having 70% or more of their activities susceptible to automation. A more recent study (McKinsey, January 2017) determined that 5% of US jobs were at risk of being eliminated due to automation from existing technologies. The McKinsey study concluded that the more pervasive effect is likely that current jobs will change—about 60% of present occupations have at least 30% of constituent activities that can be automated.

A second McKinsey study (December 2017) based on the same data provides a more detailed assessment of potential jobs change, comparing US and 45 other countries. The basic conclusions are that by 2030:

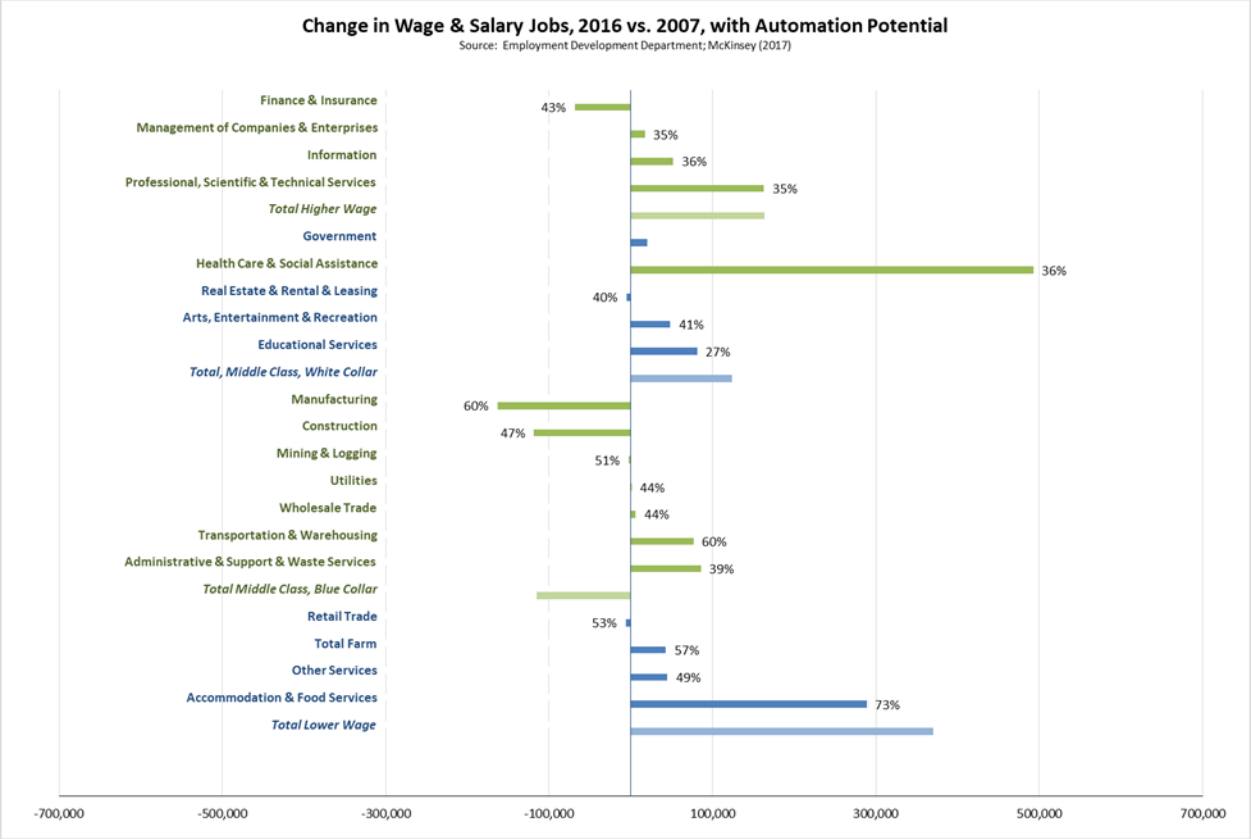
- Depending on a number of factors, the number of displaced workers in the US could range from 23% of the 2030 labor force under the "midpoint" scenario, to 44% under an accelerated "rapid automation" scenario. As critically, 8% to 33% of these displaced workers would find it necessary to change occupational groups due to the shifting nature of work in their current jobs.

- Continued wage polarization is likely to occur in the US in the absence of other actions, with higher wage jobs increasing and middle wage jobs continuing to decline.

- Even under the rapid automation scenario, however, the study projects that the US would create enough jobs to absorb these changes, as a result of ongoing job creation, jobs created as a result of new technologies, and shifts in the labor force composition. Other countries vary on this outcome depending on their estimated displacement rates and various economic, social, and demographic factors.

Results by industry from the earlier McKinsey study (January 2017) are shown in the following chart, combined with the net job expansion by general wage/skills level. The automation potential is shown as the percentage of activities within the corresponding occupational mix that have the technical potential (rather than currently economic potential) for automation. These numbers are not the risk of jobs elimination, but indicate the potential for job change within each industry which would include a combination of both jobs elimination but more broadly a changing structure of the jobs themselves.

As indicated within the chart, the industry with the highest potential (73%) is Accommodation & Food Services. As discussed in the previous section, this is also the industry that has shown the most wage growth as a result of minimum wage increases, both directly in the bottom percentiles and indirectly in the upper percentiles likely as the result of wage compaction. Combining the high technical automation potential with the ongoing cost structure changes already locked in through future minimum wage increases, this industry is likely to show the most structural and job activity change from the automation trends. While these jobs are currently an important source of employment for the lower income groups, the associated skill, wage, and total job levels are likely to experience some of the strongest changes among the industries in the coming years.



Jobs Issue: State Budget

The charts in the previous sections show that, combined, Health Care and Social Assistance provided 47% of the total jobs expansion between 2007 and 2016. While Social Assistance is primarily a lower wage industry dominated by IHSS jobs, Health Care as discussed previously provides a broader continuum of wage and skill levels and in some respects has replaced some of the upward mobility opportunities previously provided by other industries.

While some of this jobs growth has come from increased service consumption as health insurance coverage has expanded and as the population has aged, a significant component has been reliant on state government spending. Between 2007 and 2016, US Bureau of Economic Analysis data shows the contribution of Health Care & Social Assistance to California's GDP increased by $62.2 billion. Adjusting from fiscal to calendar year, the state budget documents show spending on the benefits portion (Local Assistance; state and federal funds) for health care services and IHSS in this same period grew by a total of $57.6 billion. Even adjusting the state expenditures for local administrative costs shows the role state spending has taken on in replacing bridge employment opportunities.

This shift to state spending rather than pursuing state and local policies more encouraging to middle class wage job expansion in other industries and more broadly across regions is not necessarily

sustainable. The level of continued state support for these jobs is uncertain and subject to external risk:

- Regardless of the outcome of other federal decisions, the state is already under obligation for an increasing share of total health care expenditures—the portion related to the optional Medicaid (Medi-Cal) expansion. Maintaining this commitment in the face of growing caseload will always come under challenge from competing budget interests.

- State revenues supporting these expenditures are increasingly volatile. In the current year budget, Department of Finance numbers show personal income tax (PIT) is expected to account for 69% of all General Fund revenues, up from 57% in 2000-01 and 42% in 2002-03. At the same time that PIT revenues have become more critical to the overall spending plan, they have also become more volatile as a result of measures increasing the progressivity of this tax and its reliance on the most volatile component, capital gains taxes.

- The level of PIT revenues is also highly reliant on economic performance in a single region, the Bay Area. In 2014 and 2015, Franchise Tax Board data shows the Bay Area paid 40% of all PIT, continuing to rise from prior years as the Silicon Valley economy recovered from the dot.com recession and spread through this region, but still below the recent high of 46% in 2000. As such, the health of the state budget and its ability to maintain Heath Care & Social Assistance job levels for the rest of the state are largely dependent on the outcomes from the higher wage industries in the Bay Area, and avoidance of a repeat the experience during the prior dot.com recession when PIT revenues from this region were slashed in half between 2000 and 2002.

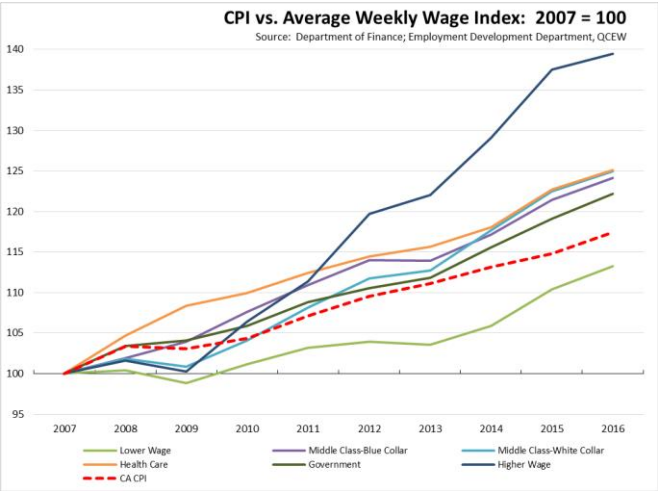
Living Costs

Reflecting a predominant theme from the focus groups conducted as part of the overall project, the survey of lower-income Californians (Vision Strategy & Insights, 2017) reported that the high cost of living was overwhelmingly perceived as the greatest challenge to getting ahead. The survey showed 56% of respondents citing this barrier, well ahead the second highest issue—jobs without benefits—at only 9%. In the survey, 61% believed that expenses are increasing faster than their salary/wages can keep up with, while fewer at 39% believed their income is not growing fast enough to enable them to get ahead.

Cost of Living

A general cost of living measure is the California Consumer Price Index (CPI). Rather than based on survey data, this measure is a combination of the CPI-U (all urban consumers) for the Los Angeles and San Francisco CMSAs from the US Bureau of Labor Statistics. The California CPI is calculated as a population-weighted average by Department of Finance using a formula first developed by the California Department of Industrial Relations. Between 2005 and 2016, the California CPI grew at an average annual rate of 2.1%, compared to the US CPI rate at 1.9%. On an annual basis, the gap began widening in 2015, with California at 2.3% and the US at 1.3% in 2016.

The change in this cost of living measure is contrasted with wage growth in the following chart. All values are expressed as an index with a base at the 2007 value. Average weekly wages are taken from Quarterly Census of Wages & Salaries (QCEW), and as such incorporate both changes in hourly wages and weekly hours worked.



Following initial dips during the recessionary contraction years, average wages began tracking near the cost of living for most industry groupings but with more substantial rises in 2014 and 2015 as the recovery began to take hold. As discussed in the previous chapter's section on wage percentiles, however, wages within industries evidenced differing rates of change with hourly wages falling below

the cost of living level in the lower percentiles for the Higher Wage industries, and the middle percentiles for Middle Class, Blue Collar industries. This pattern is reflected in the responses from focus groups and survey indicating the significance of living costs as a barrier for these workers.

The major exceptions in the chart are the Higher Wage and Lower Wage industries. As in all the prior data discussions, Higher Wage lies well above the cost of living trend for the state overall, although as discussed in the subsequent sections, its concentration in the Bay Area means these workers face a substantially different cost structure. Lower Wage has remained below throughout this period, although the gap has begun to close quickly beginning in 2014 as minimum wage hikes increased wages overall as discussed in the previous chapter. In this chart, the Lower Wage grouping includes Social Assistance.

Aside from methodological debates over how accurately the CPI in general measures shifts in living costs, the California CPI is based on costs only within two regions, and it is calculated based on the relative population and economic weightings of those regions several years ago. Although these regions contain a large proportion of the population, they are also the two highest cost regions in the state. Living costs vary widely across the state.

The degree of this variation is illustrated in Table 28, containing regional price parity (RPP) data calculated by MSA by US Bureau of Economic Analysis. In each year, the US level is set at 100, with the RPP for each state and MSA measured against this benchmark. In essence, the measure translates into showing that for a basket of goods and services costing $100 on average in the US, someone living in California would pay 13.1% higher—$113.10—while someone in San Jose would have to spend $123.00. The relative difference between two regions is shown by taking the ratio of their RPPs. For example, in 2015, the cost of living in Los Angeles was 21% higher than in Fresno (117.6/97.2 – 1).

Table 28 illustrates two key points. Living costs overall are higher within the coastal urban regions, but lie closer or below the US average in the interior regions. Comparing 2008 and the most recent 2015 data, these relationships have remained largely stable but with some exceptions. Relative costs grew by more than 2% in San Luis Obispo-Paso Robles-Arroyo Grande, Santa Maria-Santa Barbara, Salinas, and Oxnard-Thousand Oaks-Ventura, and fell by more than this amount in Hanford-Corcoran and El Centro.

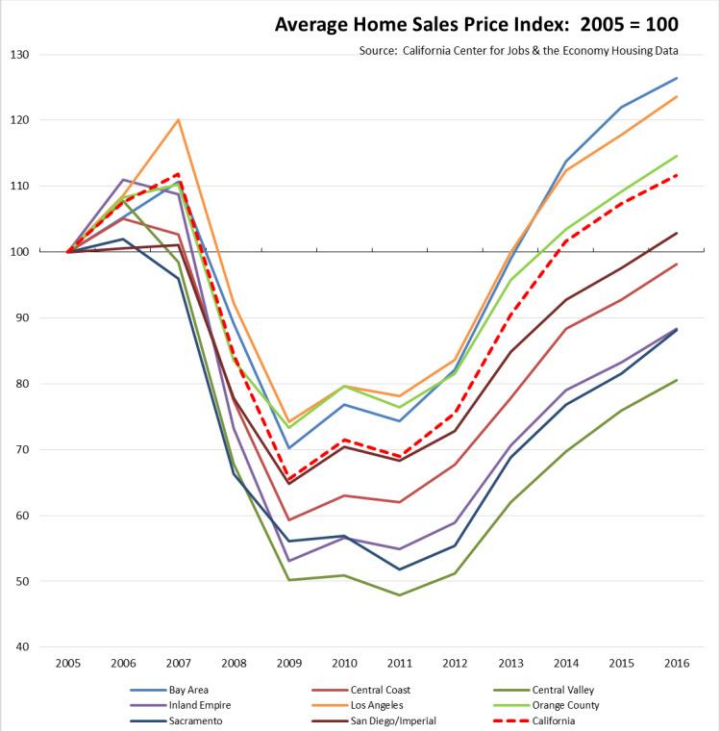
As with poverty levels, the biggest driver in regional cost levels is housing. Relative rents in 2015 as shown in the last column ranged from 50% below the state average for El Centro, to 135% above for San Jose-Sunnyvale-Santa Clara. Note that the RPP for rents covers only observed rents and does not incorporate an imputed cost for homeowners or for related housing costs such as utilities unless included in gross rent.

Table 28: Regional Price Parities

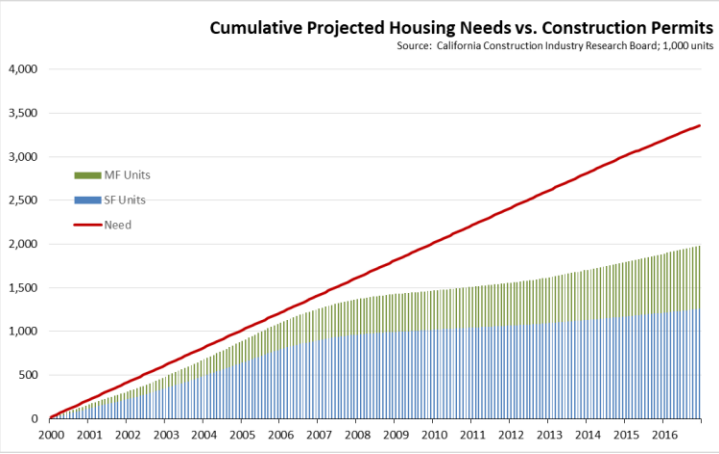
Year	Region	MSA	RPPs: All items	RPPs: Goods	RPPs: Services: Other	RPPs: Services: Rents
2008	California		113.1	103.5	105.0	154.6
	Bay Area	Napa	120.4	112.7	110.5	161.6
		San Francisco-Oakland-Hayward	122.9	112.7	110.5	186.3
		San Jose-Sunnyvale-Santa Clara	123.0	112.5	110.2	191.1
		Santa Rosa	120.6	112.7	110.5	158.3
	Central Coast	Salinas	105.1	95.8	97.6	157.6
		San Luis Obispo-Paso Robles-Arroyo Grande	104.9	95.8	97.6	153.8
		Santa Cruz-Watsonville	122.9	112.7	110.5	178.4
	Central Valley	Bakersfield	96.9	95.8	97.6	98.4
		Fresno	97.1	95.8	97.6	99.4
		Hanford-Corcoran	98.3	99.8	98.8	95.2
		Madera	97.0	95.8	97.6	99.0
		Merced	95.8	95.8	97.6	92.7
		Modesto	99.1	95.8	97.6	110.4
		Stockton-Lodi	100.5	95.8	97.6	119.5
		Visalia-Porterville	94.7	95.8	97.6	87.5
	Inland Empire	Riverside-San Bernardino-Ontario	107.5	99.0	102.5	134.5
	Los Angeles	Los Angeles-Long Beach-Anaheim	116.1	103.1	108.0	172.2
		Oxnard-Thousand Oaks-Ventura	112.6	99.0	102.5	177.3
		Santa Maria-Santa Barbara	106.8	95.8	97.6	178.8
	Other	Chico	99.5	95.8	97.6	112.8
		Redding	98.4	95.8	97.6	105.9
		Yuba City	97.7	95.8	97.6	102.3
	Sacramento	Sacramento--Roseville--Arden-Arcade	102.2	95.8	97.6	133.1
	San Diego/Imperial	El Centro	92.6	99.8	98.8	76.0
		San Diego-Carlsbad	115.1	104.8	99.9	173.6
2015	California		113.4	103.6	106.1	147.3
	Bay Area	Napa	120.1	109.0	109.3	165.7
		San Francisco-Oakland-Hayward	121.9	109.0	109.3	186.0
		San Jose-Sunnyvale-Santa Clara	124.1	108.8	109.0	207.4
		Santa Rosa	118.5	109.0	109.3	152.4
	Central Coast	Salinas	108.5	96.2	102.8	152.4
		San Luis Obispo-Paso Robles-Arroyo Grande	107.3	96.2	102.8	145.7
		Santa Cruz-Watsonville	122.0	109.0	109.3	172.9
	Central Valley	Bakersfield	97.9	96.2	102.8	93.6
		Fresno	97.2	96.2	102.8	90.9
		Hanford-Corcoran	92.7	98.7	93.8	82.4
		Madera	96.2	96.2	102.8	87.1
		Merced	95.0	96.2	102.8	82.1
		Modesto	98.7	96.2	102.8	97.5
		Stockton-Lodi	100.4	96.2	102.8	105.7
		Visalia-Porterville	95.4	96.2	102.8	83.5
	Inland Empire	Riverside-San Bernardino-Ontario	106.7	102.0	104.5	117.4
	Los Angeles	Los Angeles-Long Beach-Anaheim	117.6	104.8	107.1	165.1
		Oxnard-Thousand Oaks-Ventura	116.1	102.0	104.5	171.9
		Santa Maria-Santa Barbara	109.4	96.2	102.8	165.8
	Other	Chico	99.7	96.2	102.8	102.1
		Redding	98.1	96.2	102.8	95.2
		Yuba City	98.7	96.2	102.8	97.7
	Sacramento	Sacramento--Roseville--Arden-Arcade	102.6	96.2	102.8	117.6
	San Diego/Imperial	El Centro	89.6	98.7	93.8	73.0
		San Diego-Carlsbad	116.6	102.0	104.8	165.4

Source: US Bureau of Economic Analysis

Housing Costs



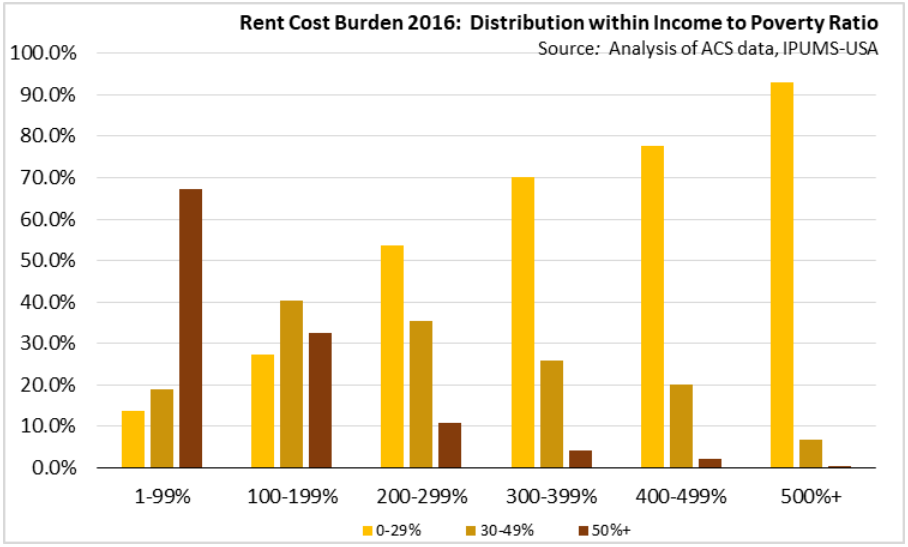
From 2012 to 2016, the average home sales price in California rose annually by 10.2%, but ranged from 8.9% in Orange County to 12.3% in Sacramento Region. All regions of the state experienced these high rates of cost escalation as housing markets recovered from the recessionary lows. By 2016, the state along with Orange County, Los Angeles, and Bay Area regions had reached or exceeded their pre-recession highs, while other regions in the state still remained below. Comparable cost growth has continued into 2017 along with associated increases in rents.



As detailed in numerous analyses (LAO, 2015; California Center for Jobs & the Economy, April 2017), since the 1980s, California has failed to produce sufficient new housing to keep up with the state's population growth. As illustrated in the figure above, cumulative new housing under permit has failed to keep up with the required cumulative increase in new units, as taken from the Department of Housing & Community Development's state housing plans. Not even taking into account the previous deficit accumulated during the 1990s, new housing construction from 2000 to 2016 fell short of meeting supply needs by an estimated 1.4 million units.

The effect of constrained supplies on rents is reflected as an increasing cost barrier to the low and middle income groups. Moderately rent cost burdened is general defined as expenditure of 30-49% of household income on housing. Severely cost burdened is expenditure of 50% or more. From the data shown in Table 29:

- As shown in the figure below, the lower two income groups show a high incidence overall of rent cost burden, with the next three, more middle income groups also showing high levels of at least moderately cost burden. On a relative share basis, the 0-99% income is far more likely to be severely cost burdened (160% higher) than moderately (30% lower); 100-199% shows higher relative share for both severely (20% higher) and moderately (50% higher); while the 200-299% income group shows higher relatively share for moderately cost burdened (40% higher), an indication of how the effects of housing supply have grown to affect middle class wage groups as well. Note that while traditional cost burden calculations are based on households, the data in the chart and Table 29 are for persons within each income range.



- While this general pattern has held throughout the period of the analysis, some easing occurred during the steep decline in housing prices during the recent recession including for the lower income groups. As prices have rebounded and as more Californians remain renters rather than re-entering the homeowner market, the relative shares have with only

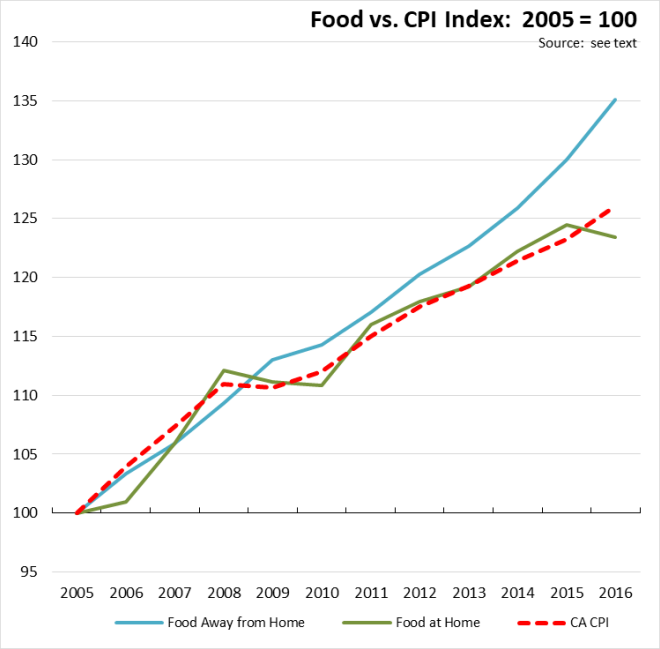
some shifts in the severely burdened category have returned to the 2007 pattern. The biggest effects are more in the shift of the renter mix among the income groups rather than the incidence of cost burden within these groups.

Food

In the focus groups and lower income survey, participants saw policy measures such as minimum wage as potentially having dual effects on their personal situations. On one hand, 63% of the survey respondents somewhat or strongly agreed with the statement: *a higher minimum wage helps workers like me*. However, 75% somewhat or strongly agreed with the statement: *a higher minimum wage causes businesses to raise prices*. More specifically, 70% cited increased minimum wage and labor costs as one of the reasons for increased food costs. (Vision Strategy & Insights, 2017)

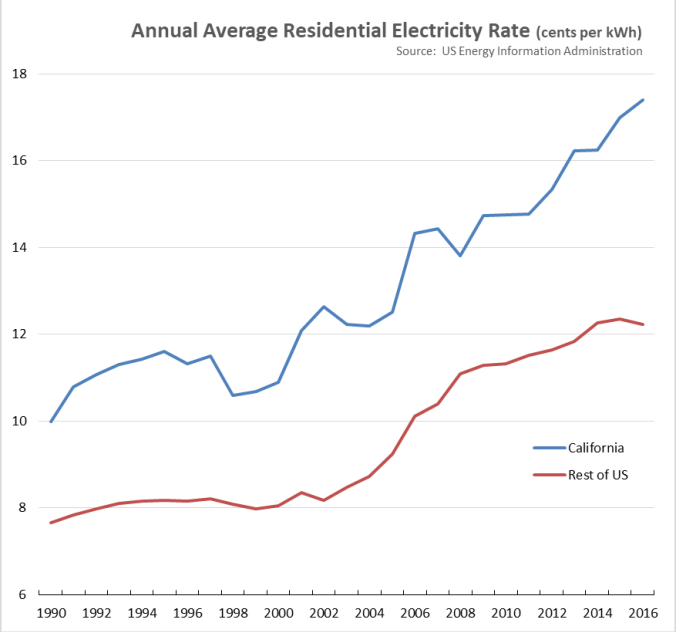
The cost of food, specifically prepared food, is in fact rising more rapidly that the general rate of cost increases in California. Using the same formula used for the California CPI, estimates for the food component were developed as shown in the following figure. Data is shown for Food away from Home (restaurants), Food at Home (groceries), and for comparison, the California CPI. All three components are shown as an index using the base as the 2005 value for each.

Overall, both food components tracked closely with the full CPI in the early part of this period, up to 2008. At that point, costs for Food away from Home began accelerating, consistent with the changing cost structure for this industry discussed in the previous chapter. Food at home, however, shows much slower upward cost pressure, with two deflationary periods in 2009-10 and 2016.

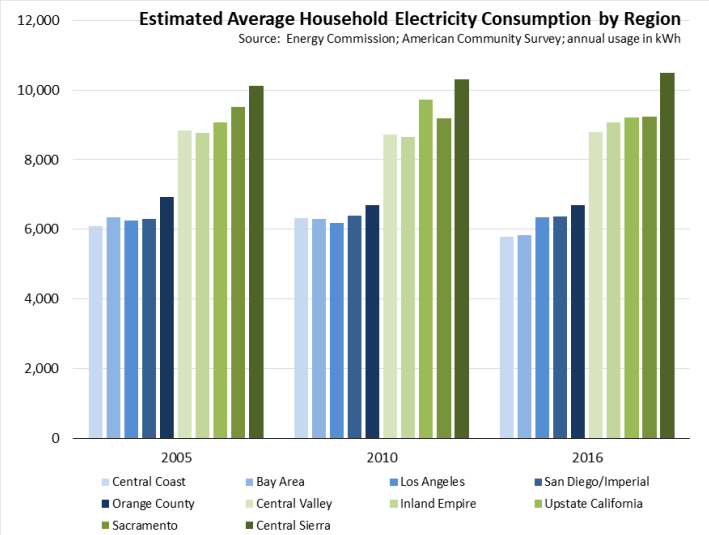


Energy

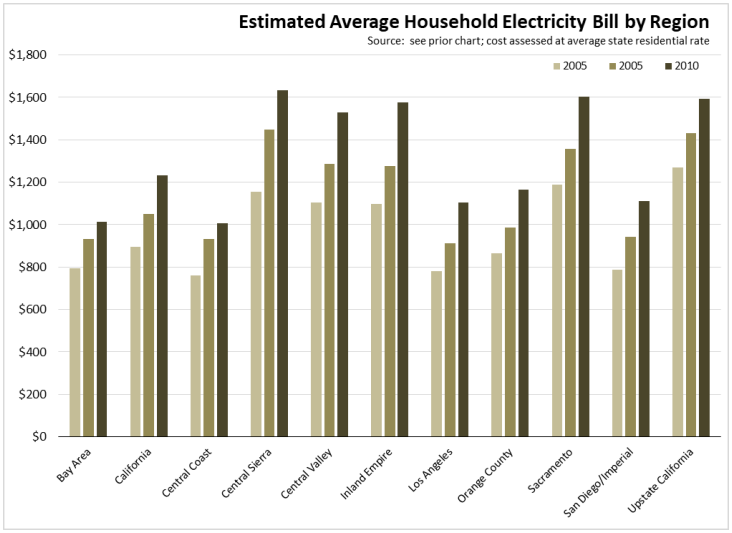
In part due to policy decisions beginning in the 1970s, California historically has had significantly higher residential electricity rates than the rest of the country, in spite of having access to much lower cost in-state hydroelectric sources and imports from other states. As shown in the chart below, this gap began closing at the beginning of the 2000s as cheaper coal generation facilities underwent retirement due to regulatory changes, but California's rates began accelerating again following regulatory changes related to the implementation of AB 32 climate change actions beginning in 2010. From 2010 to 2016, the California residential rate grew at an average rate of 2.8%, more than double the average growth of 1.3% for the rest of the US.



Also historically, Californians on average have had lower utility bills despite these higher rates, primarily due to milder climate conditions compared to virtually every other state. This gap closing, however, due to the accelerating change in the electricity rate. Between 2010 and 2016, US Energy Information Administration data indicates the average California utility bill rose $150 a year, while dropping $5 in the rest of the US.



The average, however, does not apply across all of California. The climate benefits for utility bills primarily accrue in the higher income coastal regions, while the lower income interior regions with more variable weather rely on electricity usage well above the state average. The variations by region are illustrated in the chart above. Average annual household electricity use was estimated using the Energy Commission's Electricity Consumption by County data combined with the number of households by region from Department of Finance estimates. As indicated, average household consumption was as much as 81% higher in the interior regions than in the lowest consumption coastal region.



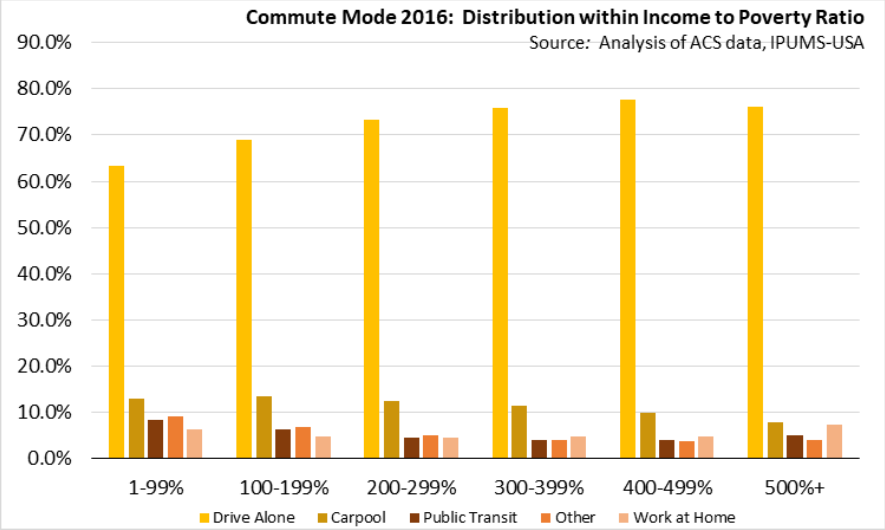
Translating the consumption numbers into costs is more difficult given the wide differences in local utility providers and rate structures. However, analyzed using the average California residential rate in each year, the chart above gives an estimate of the likely range in these values. From this exercise, the difference in annual utility bill between the lowest coastal region and highest cost interior region ranges from $510 in 2005, $540 in 2010, and $630 in 2016. In spite of the overall declining

electricity usage indicated in the previous chart, the differences have been growing due to the accelerating rate increases.

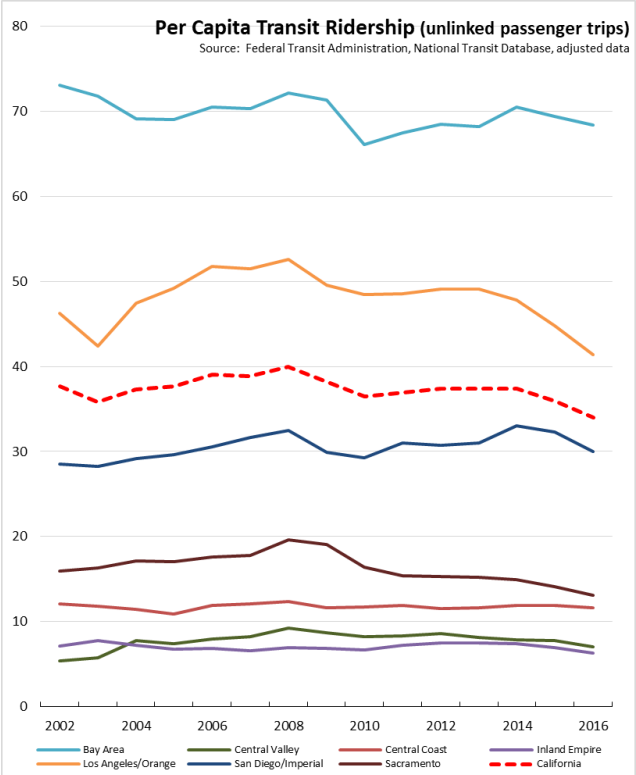
Higher utility costs also feed directly into housing affordability. The housing cost burdens discussed in the earlier section are typically based on gross rent—the amount of rent plus an imputed value for utilities if not otherwise included in the contract rent amount. The utility amounts are included to incorporate more of the full costs of housing. As electricity rates continue to rise in the state, they will also continue to influence the overall cost of housing.

Commuting

Use of single-occupant vehicles (SOV) for work commutes remains the dominant commute mode across all income groups. Use of alternative modes such as carpooling and public transit increases with household income, although some of this trend is likely related to higher public transit availability in the higher income Bay Area. Historically, however, increased public transit use has come primarily as a shift from carpooling. The share of commuters able to utilize alternative modes has been more stable.



This reliance on SOVs for jobs access indicates that the condition of the state's roads forms another barrier to jobs and upward mobility. While the Legislature in 2017 passed significant new funding for roads repair and maintenance (SB 1), only a relatively minor amount was made available for system capacity. Instead, state policy has begun emphasizing the concept of a "roads diet," limiting capacity in an attempt to reduce growth in overall vehicle miles traveled. The figure above suggests this approach will have a relatively greater impact in terms of congestion and commute times on the lower income groups than the higher.

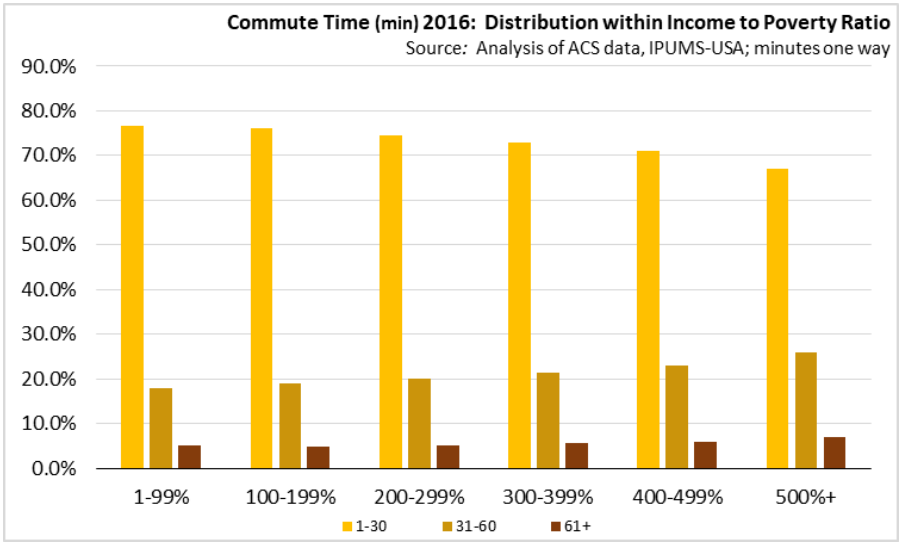


At the other end, the fastest growing commute mode since 1980 has been working at home (California Center for Jobs & the Economy, March 2016). The 2016 ACS data indicates this mode continues to grow in use and continues to exceed the number relying on public transit to get to work. While this option provides obvious flexibility benefits to workers facing challenges from commute times, childcare, and other responsibilities, the figure above indicates its use is more prevalent among the highest and lowest income groups, with lower relative shares in the middle income groups.

The low use of public transit for commuting is consistent with the overall trends for transportation in California. Public transit ridership for all purposes—commuting, shopping, school, and others—has seen declines in recent years. Since the peak ridership levels in 2008, Federal Transit Administration data shows that total ridership has dropped an average of 1.2% a year, ranging from a gain of 0.2% annually in the Bay Area to a loss of 4.2% annually in the Sacramento Region. Adjusting for population growth as in the figure above, per capita ridership has dropped somewhat more steeply and across all regions. Data from 2017 to date indicates further declines.

Current state policies now emphasize investment in transit rather than road capacity. While there may be some unknown, future level of investment that would improve public transit access and convenience to the point that ridership would increase, at best this outcome is likely to take an extended period of time. In the interim, growing congestion remains a barrier to upward mobility, increasing both commuting costs directly while increasing related costs such as increased use of childcare and increasing reliance on prepared food—whose costs are increasing as discussed above.

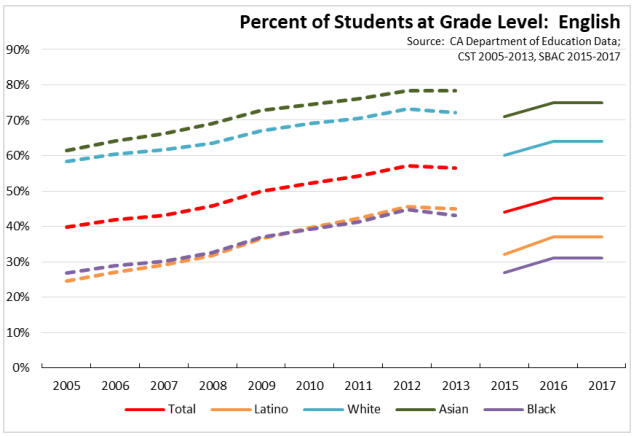
This point in particular applies to the lower income groups. A recent study of declining public transit ridership in Southern California (Manville, et al., January 2018) concluded that the overwhelming factor behind this drop was disproportionate growth of vehicle ownership ". . . among those groups, like the low-income and foreign-born, who are most likely to ride transit." This conclusion is illustrated by the substantial in the relative shares for commuters using public transit, which went from 2.4 in 2007 for persons in 1-99% of poverty to 1.6 in 2016, and from 1.7 to 1.4 for persons in 100-199% of poverty. These are among some of the strongest shifts shown in the tables.

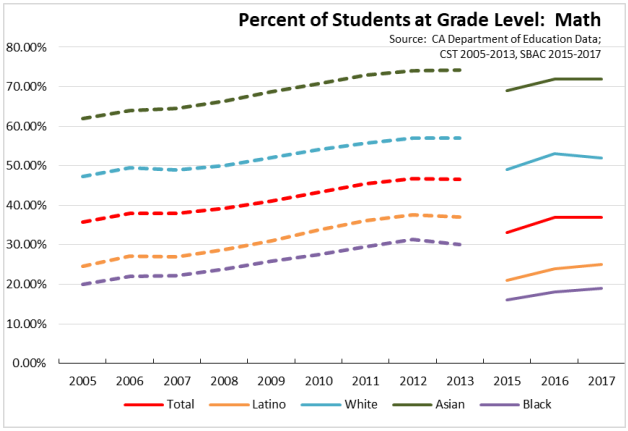


As indicated in Table 31, roughly a fifth to a quarter of each income group faced one-way commute times of 31 minutes or more in 2016. The proportion rises with income, with the highest incidence in the top income level. Differences, however, are relatively small, with the highest relative share for the 500%+ income group for 31-60 minutes and 60 minutes and higher commutes.

Education

Education availability at desired outcomes/quality continues to be a key factor in future employment options and wage potential. Achieving proficiency to the extent of college readiness has become a defining metric, especially in light of the present situation where the K-12 public schools have only begun to restore technical training and preparing students for certification programs that can enable them to pursue higher wage occupations not requiring a college degree. Cost barriers come into play when the quality of neighborhood schools is not at the level required for college/job preparation in the evolving economy, and opportunities must be sought instead through added commuting costs from intra-district transfers where available, change in housing often at a higher cost to be eligible for better performing schools, remedial training/education in post-secondary programs, or private options. While this range of corrective choices is generally accessible at higher income levels, they are more limited by cost for lower income households.

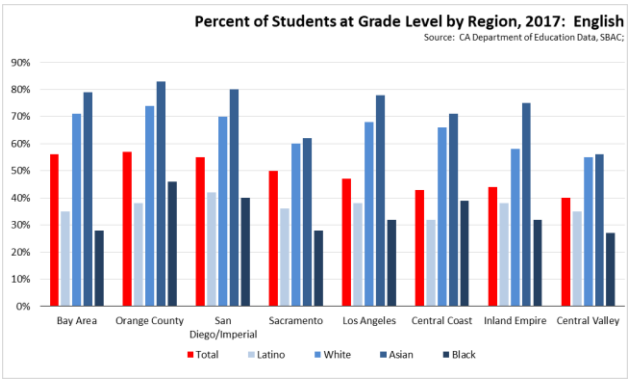


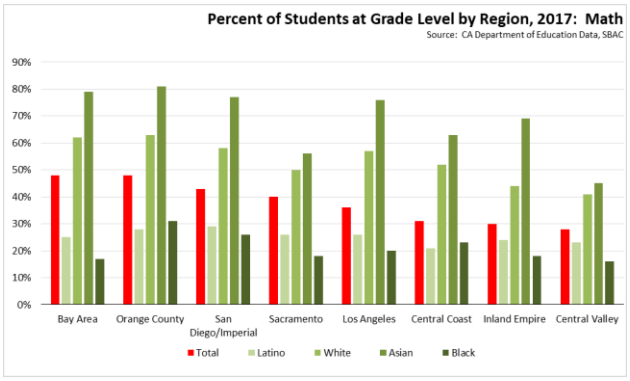


Despite a 30% increase in Prop. 98 funding from 2007-08 to 2017-18 and a redirection of significant resources to focus on disadvantaged students through the Local Control Funding Formula (LCFF), significant gaps remain in educational outcomes by demographic and region. As shown in the charts above, testing performance gradually improved from 2005-2011 as measured by the prior California Standards Test (CST), but a pronounced gap remained with Latino and Black students below 50% and White and Asian students near and above 70% for English. In the Math skills that are more critical for jobs within the current higher paying occupations—both those requiring a college education and not—overall performance for all groups except Asians was significantly lower.

More importantly, the prior CST results showed a leveling out in school performance gains after 2011. This trend along with continuation of the prior performance gaps has continued under the new Smarter Balanced Assessment System (SBAC) tests. Note that no testing occurred in 2014, and that results from the two test systems are not directly comparable. The relationships and overall trend lines, however, are the important conclusions that can be taken from a comparison from these two data sets.

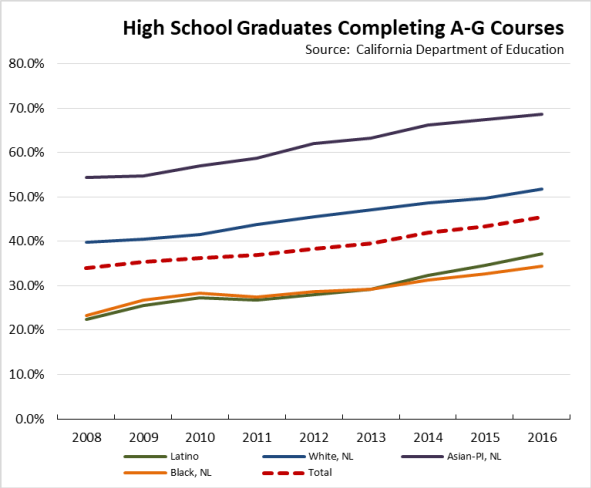
These differences in performance are even more pronounced when broken down by region, as illustrated in the last two charts below containing the results from the most recent 2017 SBAC.

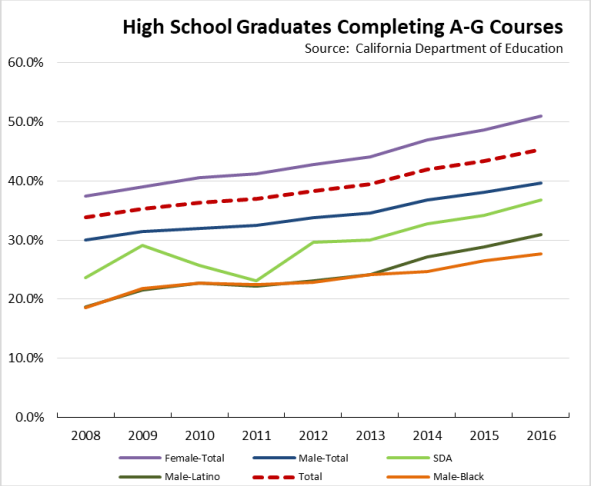




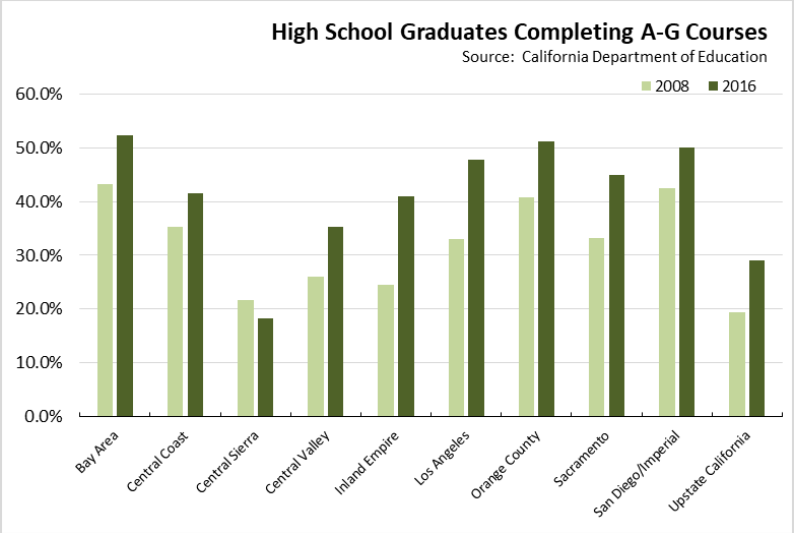
Another measurement of schools performance is the percentage of students graduating after completing the A-G coursework required for applications to University of California and California State University. This metric basically indicates the share of each graduating class that has been put and successfully completed the college track. These numbers, however, cover only graduating seniors and do not incorporate drop outs and students who go on to complete a GED or comparable certificate.

The data, while showing some progress overall, displays school performance gaps comparable to the testing data. As shown in the following charts, White and Asian-PI (all race designations for non-Latinos) students are prepared for college at levels significantly above Latino and Black students. Males, especially Latino and Black Males, show completion rates that are well below Female levels, with SDA (socioeconomically disadvantaged/low income) students as a group at only just over a third of SDA graduates in the latest, 2016 results.





Performance by this measure similarly varies widely by region, as shown in the following chart.



As noted in the most recent McKinsey report on automation (McKinsey, December 2017), the public schools previously played a key role in the transition to upward mobility during earlier significant shifts in the US economy. Following increased mechanization in agriculture that sent vast numbers of workers to the cities, the High School Movement from 1910 to 1940 promoted universal secondary education as means for broad diffusion of skills "for life" rather than just "for college" as the previous far more limited and more costly secondary system had done. The success of this movement enabled the US to develop the best trained and skilled workforce in the world, providing it with significant competitive advantages as industrialization took hold in the 20th Century. These advantages in turn secured higher incomes and lower living costs than in other industrializing countries, even as the previous jobs structure—focused on agriculture—transformed dramatically.

As indicated above, the present educational system in California is now performing the same function during the current structural transformation for only a portion of the population, and more broadly only for certain regions. As importantly, in a time of transition when required skill levels are likely to change substantially for most occupations—both the current mix and the yet-to-be-known evolving structure—California schools remain largely focused on college-track education. And in this respect, the results shown in the charts above suggest that the schools no longer are functioning as the primary asset for adjusting to technological change they played as a result of the High School Movement, but instead now come close to serving as a winnowing process that risks relegating another generation to the income levels in which they are now without the skills necessary for upward mobility in a changing state.

Table 29: Rent Cost Burden by Income to Poverty Ratio, All Persons Living in Rented Housing Units, California

Year	Cost Burden	1-99%	100-199%	200-299%	300-399%	400-499%	500%+	Total	1-99%	100-199%	200-299%	300-399%	400-499%	500%+	Total
2007	0-29%	14.3%	30.5%	56.9%	72.0%	83.0%	93.7%	48.9%	6.4%	17.5%	20.5%	16.8%	12.2%	26.6%	100.0%
2007	30-49%	19.2%	40.3%	34.9%	25.0%	15.4%	5.8%	26.4%	16.0%	42.6%	23.3%	10.8%	4.2%	3.1%	100.0%
2007	50%+	66.5%	29.2%	8.1%	3.0%	1.6%	0.4%	24.7%	59.1%	33.1%	5.8%	1.4%	0.5%	0.2%	100.0%
2007	Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	21.9%	28.0%	17.6%	11.4%	7.2%	13.9%	100.0%
2012	0-29%	12.5%	28.1%	55.0%	70.2%	81.2%	93.9%	44.1%	7.7%	17.4%	20.4%	15.7%	11.3%	27.5%	100.0%
2012	30-49%	18.2%	42.4%	35.6%	26.5%	17.6%	5.6%	26.9%	18.5%	43.3%	21.7%	9.8%	4.0%	2.7%	100.0%
2012	50%+	69.3%	29.5%	9.4%	3.3%	1.2%	0.4%	29.0%	65.2%	27.9%	5.3%	1.1%	0.2%	0.2%	100.0%
2012	Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	27.3%	27.4%	16.4%	9.9%	6.1%	12.9%	100.0%
2016	0-29%	13.7%	27.2%	53.7%	70.2%	77.6%	92.8%	47.7%	6.5%	14.7%	19.6%	15.7%	11.5%	32.0%	100.0%
2016	30-49%	19.0%	40.3%	35.4%	25.8%	20.2%	6.7%	26.1%	16.5%	39.7%	23.6%	10.5%	5.4%	4.2%	100.0%
2016	50%+	67.4%	32.5%	10.9%	4.1%	2.2%	0.4%	26.2%	58.4%	31.9%	7.2%	1.6%	0.6%	0.3%	100.0%
2016	Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	22.7%	25.7%	17.4%	10.7%	7.1%	16.4%	100.0%

Source: Analysis of ACS data, IPUMS-USA, University of Minnesota, www.ipums.org

Table 30: Commuting Means of Transportation by Income to Poverty Ratio, All Commuters, California

Year	Mode	1-99%	100-199%	200-299%	300-399%	400-499%	500%+	Total	1-99%	100-199%	200-299%	300-399%	400-499%	500%+	Total
2007	Drive Alone	55.7%	63.1%	70.9%	75.1%	78.4%	78.7%	73.5%	4.3%	12.2%	15.0%	13.9%	12.0%	42.6%	100.0%
2007	Carpool	16.2%	16.8%	15.0%	12.0%	10.2%	8.7%	11.9%	7.8%	20.1%	19.7%	13.7%	9.6%	29.2%	100.0%
2007	Public Transit	12.2%	8.4%	5.2%	4.5%	3.5%	3.5%	5.1%	13.7%	23.6%	16.1%	12.0%	7.7%	27.0%	100.0%
2007	Other	10.4%	7.7%	5.2%	4.5%	3.7%	3.3%	4.8%	12.2%	22.7%	16.7%	12.8%	8.6%	26.9%	100.0%
2007	Work at Home	5.5%	3.9%	3.6%	3.9%	4.2%	5.8%	4.7%	6.6%	11.8%	11.8%	11.1%	10.0%	48.7%	100.0%
2007	Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	5.7%	14.2%	15.6%	13.6%	11.2%	39.7%	100.0%
2012	Drive Alone	60.8%	66.9%	72.8%	76.5%	78.6%	77.8%	73.8%	6.4%	15.1%	15.9%	13.6%	11.0%	38.0%	100.0%
2012	Carpool	14.8%	14.1%	12.6%	11.1%	9.7%	8.7%	11.1%	10.3%	21.1%	18.2%	13.1%	9.1%	28.2%	100.0%
2012	Public Transit	9.0%	7.4%	5.4%	4.2%	3.4%	3.9%	5.1%	13.6%	24.0%	16.9%	10.7%	6.9%	27.8%	100.0%
2012	Other	10.3%	6.7%	5.2%	4.3%	3.7%	3.4%	4.9%	16.3%	22.7%	16.9%	11.5%	7.8%	24.7%	100.0%
2012	Work at Home	5.2%	4.9%	4.1%	4.0%	4.6%	6.2%	5.1%	7.9%	15.8%	12.8%	10.2%	9.3%	43.9%	100.0%
2012	Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	7.8%	16.6%	16.1%	13.1%	10.3%	36.0%	100.0%
2016	Drive Alone	63.3%	68.8%	73.4%	76.0%	77.6%	76.0%	73.9%	5.7%	13.6%	15.6%	13.2%	11.5%	40.3%	100.0%
2016	Carpool	12.9%	13.3%	12.4%	11.3%	9.9%	7.8%	10.3%	8.2%	18.9%	18.8%	14.1%	10.4%	29.6%	100.0%
2016	Public Transit	8.4%	6.2%	4.6%	3.9%	3.9%	5.0%	5.1%	10.9%	17.9%	14.3%	9.9%	8.4%	38.6%	100.0%
2016	Other	9.2%	6.8%	5.1%	3.9%	3.8%	3.9%	4.9%	12.6%	20.5%	16.5%	10.4%	8.5%	31.5%	100.0%
2016	Work at Home	6.2%	4.8%	4.5%	4.9%	4.9%	7.3%	5.8%	7.1%	12.0%	12.1%	10.8%	9.1%	48.9%	100.0%
2016	Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	6.6%	14.6%	15.7%	12.9%	10.9%	39.2%	100.0%

Source: Analysis of ACS data, IPUMS-USA, University of Minnesota, www.ipums.org

Table 31: Commuting Time to Work (One-Way) by Income to Poverty Ratio, All Commuters, California

Year	Minutes	1-99%	100-199%	200-299%	300-399%	400-499%	500%+	Total	1-99%	100-199%	200-299%	300-399%	400-499%	500%+	Total
2007	1-30	78.2%	78.1%	77.3%	76.7%	74.7%	71.9%	75.0%	5.9%	15.0%	16.2%	14.0%	11.2%	37.7%	100.0%
2007	31-60	17.5%	17.7%	18.4%	18.7%	20.2%	22.9%	20.3%	4.9%	12.5%	14.3%	12.7%	11.2%	44.3%	100.0%
2007	61+	4.4%	4.2%	4.2%	4.6%	5.1%	5.2%	4.8%	5.1%	12.7%	14.0%	13.2%	12.1%	42.8%	100.0%
2007	Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	5.6%	14.4%	15.7%	13.7%	11.3%	39.3%	100.0%
2012	1-30	79.0%	77.6%	77.0%	75.4%	74.3%	71.5%	74.8%	8.2%	17.3%	16.7%	13.4%	10.3%	34.0%	100.0%
2012	31-60	16.7%	18.3%	18.8%	20.5%	21.0%	23.2%	20.6%	6.3%	14.8%	14.9%	13.2%	10.6%	40.1%	100.0%
2012	61+	4.3%	4.1%	4.1%	4.1%	4.6%	5.4%	4.6%	7.2%	14.8%	14.5%	11.8%	10.4%	41.3%	100.0%
2012	Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	7.8%	16.7%	16.3%	13.3%	10.4%	35.6%	100.0%
2016	1-30	76.7%	76.0%	74.6%	73.0%	71.0%	67.2%	71.5%	7.1%	15.7%	16.6%	13.3%	11.0%	36.3%	100.0%
2016	31-60	18.0%	19.0%	20.2%	21.5%	23.0%	25.9%	22.6%	5.3%	12.5%	14.3%	12.4%	11.3%	44.3%	100.0%
2016	61+	5.3%	5.0%	5.2%	5.6%	5.9%	6.9%	6.0%	5.8%	12.3%	13.9%	12.1%	11.0%	44.9%	100.0%
2016	Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	6.6%	14.8%	15.9%	13.0%	11.1%	38.6%	100.0%

Source: Analysis of ACS data, IPUMS-USA, University of Minnesota, www.ipums.org

Attachment 1: Data Dictionary

Age. Age groups are shown for 0-15 (children), 16-19 (youth), 20-24 (young adults), 25-64 (adults), and 65 and over (seniors). Annual data is compiled from the ACS 1-year microdata through IPUMS-USA, University of Minnesota, www.ipums.org.

Average Home Sales Price. Average annual sales price by state and region, from Center for Jobs & the Economy analysis of DQNews housing data. The data is shown as an index, with the 2005 value equal to 100.

Average Hourly Wage. Average hourly wage for all wage and salary employees within the indicated industry. Data from US Bureau of Labor Statistics, Current Employment Survey. Data is available monthly and by annual average, beginning in 2007.

Average Weekly Hours Worked. Number of hours worked weekly by all wage and salary employees within the indicated industry. Data from US Bureau of Labor Statistics, Current Employment Survey. Data is available monthly and by annual average, beginning in 2007.

California Consumer Price Index (CPI). Consumer Price Index measures changes in prices paid by urban consumers for a representative basket of goods and services. Data is calculated by the California Department of Finance based on the published CPI-U (All Urban Consumers), not seasonally adjusted, current base for the San Francisco and Los Angeles CMSAs.

Class of Worker. Covers persons age 16 and over who have worked within the past 5 years but not new workers who are seeking work for the first time and have not yet secured their first job. For persons with multiple employment, covers the employment where they spent the most time. Data is grouped into Self-Employed (in an incorporated or not incorporated business; includes unpaid family workers), wage and salary workers in a private business (W/S Private), wage and salary workers in a non-profit enterprise (W/S Non-profit), and wage and salary workers in government (W/S Government). All distributions are based on the total of these categories, and do not include persons age 16 and over not working within the past 5 years. Data is compiled from the ACS 1-year microdata through IPUMS-USA, University of Minnesota, www.ipums.org.

Commute Mode. Reports the primary means of transportation to work that was used on the most days in the previous week. Data is grouped into Drive Alone, Carpool, Public Transportation (bus or trolley bus, streetcar or trolley car, subway or elevated, railroad, taxicab, ferryboat), Other (motorcycle, bicycle, walked alone, other), and Worked at Home. All distributions are based on the total of these categories for persons traveling to work. Data is compiled from the ACS 1-year microdata through IPUMS-USA, University of Minnesota, www.ipums.org.

Commute Time. Reports travel time to work as the amount of time (one-way) that it usually took to get from home to work in the prior week. Data is grouped into 0-30 minutes, 31-60 minutes, and 61 minutes and longer. All distributions are based on the total of these categories for persons

traveling to work. Data is compiled from the ACS 1-year microdata through IPUMS-USA, University of Minnesota, www.ipums.org.

Cost Burdened. Shows rent as a percentage of household income for persons living in rented housing units, as a calculated variable determined from monthly gross rent and total household income. Data is grouped into 0-29% (not cost burdened), 30-49% (moderately cost burdened), and 50% and more (severely cost burdened). Persons are determined to be within a groups depending on the cost ratio for their household. All distributions are based on the total of these categories for all persons living in rented housing units. Data is compiled from the ACS 1-year microdata through IPUMS-USA, University of Minnesota, www.ipums.org.

Educational Attainment. For persons 25 and older, indicates the highest level of educational achievement: less than high school graduation (less than HS), high school graduation or GED equivalent, some college but no degree, AA degree, Bachelor's degree, and Graduate or Professional degree (Grad Degree). Data is compiled from the ACS 1-year microdata through IPUMS-USA, University of Minnesota, www.ipums.org. Note that for the monthly labor force compiled from the Current Population Survey (CPS), these categories are consolidated into four.

Ethnicity/Race. Based on survey response, persons are shown as Latino or Non-Latino White, Asian-Pacific Islander (Asian-PI), Black, and Other (including Non-Latino American Indian or Alaska Native, other race, and multi-race). Data is compiled from the ACS 1-year microdata through IPUMS-USA, University of Minnesota, www.ipums.org.

Gender. Shown as Male or Female. Data is compiled from the ACS 1-year microdata through IPUMS-USA, University of Minnesota, www.ipums.org.

Hourly Percentile Wage. The wage level at which less than the given percentage of employees receive. For example, an $18.00 an hour wage at the 25th percentile indicates 25 percent of wage and salary employees within the industry earn less than this level, and 75 percent earn more. State data is developed as a research series by the US Bureau of Labor Statistics from the Occupational Employment Statistics (OES) survey as of May of each year. Wages are straight-time, gross pay, exclusive of premium pay. Base rate; cost-of-living allowances; guaranteed pay; hazardous-duty pay; incentive pay, including commissions and production bonuses; and tips are included. Wages do not include overtime pay, severance pay, shift differentials, nonproduction bonuses, employer cost for supplementary benefits, and tuition reimbursements.

Income to Poverty Ratio. Determined based on total family income (reported from the prior year) divided by the appropriate OPM threshold. All persons within that family are then assigned the resulting ratio. Unrelated individuals are treated based on their relevant threshold. Note that poverty calculations explicitly exclude people living in group housing—such as dorms, correctional facilities, or residential nursing homes—but do include college or graduate students who live in off-campus housing. All calculations are based on persons for whom poverty status has been determined (1 to 501% or more of poverty income). Depending on the year, this portion contains 98.0 to 99.8% of the total ACS population estimate for California. The ACS top codes at 501% in

all years. Data is compiled from the ACS 1-year microdata through IPUMS-USA, University of Minnesota, www.ipums.org.

Industry (Demographics). Shown as the primary industry in which the person worked. Covers persons who have worked within the previous 5 years, but not new workers who are seeking work for the first time but have not yet secured their first job. If a person works in more than one industry, they are listed for the industry in which they earn the most money or spend the most time working. The industry groupings generally follow the occupational designations, with Healthcare, Educational Services, Utilities, and others incorporating workers at government-operated facilities. All distributions are based on the total of all industries. Data is compiled from the ACS 1-year microdata through IPUMS-USA, University of Minnesota, www.ipums.org. Because of coding changes in the surveys, estimates were not made for 2001 and 2002.

Jobs by Industry (Jobs & Wages). Number of wage and salary jobs by NAICS industry classification. Two series are used. The Quarterly Census of Employment & Wages (QCEW) is a census count based on employment tax filings, and includes number of jobs, establishments, and wages paid (incorporating both average hours worked and average hourly wage). Data is issued quarterly. Current Employment Survey is based on a monthly survey of jobs covering number of jobs by NAICS industry and for selected industry classifications, average hourly wage and average weekly hours worked. Both series are available through US Bureau of Labor Statistics and California Employment Development Department (which does not include the CES wage and hour data).

Labor Force (Demographics). For persons age 16 and over, indicates whether they were Employed, Unemployed, or not in the labor force (NILF). The specific survey question determines their labor force status in the prior week. All distributions are based on the total of the categories. Data is compiled from the ACS 1-year microdata through IPUMS-USA, University of Minnesota, www.ipums.org.

Labor Force (Employment). For persons age 16 and over, indicates civilian population, number in labor force, and whether they were employed, unemployed, or not in the labor force (NILF). Unemployment rate is determined by dividing the number of unemployed by the labor force. Labor force participation rate is determined by dividing labor force by civilian population. Data is compiled from the CPS monthly microdata through the Census Bureau DataFerrett. To improve the level of significance, all data is shown as 12-month moving averages. All demographic breakdowns are similar to the definitions used in the ACS calculations.

Marital Status. Marital status for persons age 16 and over grouped by Married (spouse present and spouse absent), Single with no children (separated, divorced, widowed, or never married), Single Females with 1 or more child, and Single Males with 1 or more child. All distributions are based on the total of the categories. Data is compiled from the ACS 1-year microdata through IPUMS-USA, University of Minnesota, www.ipums.org.

Nativity. Indicates where a person was born from the citizenship status variable, grouped by US Born (born in US or born abroad of US citizen parents), Born Abroad-Citizen (naturalized), and

Born Abroad-Non Citizen (not a citizen). Data is compiled from the ACS 1-year microdata through IPUMS-USA, University of Minnesota, www.ipums.org.

Regional Price Parity (RPP). Measures the differences in price levels across states and metropolitan areas for a given year, expressed as a percentage of the overall national price level. The US level is set at 100 each year, with levels for states and MSAs measured against this standard. Data is from the US Bureau of Economic Analysis and is available annually beginning in 2008.

Students at Grade Level. Determined as the percentage of students testing at proficient or above in the indicated standardized tests (met or exceeded the standard). Data shown in the charts for 2013 and earlier is the percentage of students in 2-11 testing at the proficient level or above on the California Standards Test (CST). For 2015 and after, the data is for students in 3-11 on the Smarter Balanced Assessment System (SBAC). No comparable test was given in 2014. Results from the two tests are not directly comparable. Data was through an analysis of California Department of Education data.

Tenure. Based on the number of persons living within housing that is rented or owned. Data is grouped by Own (owned free and clear or owned with a mortgage or loan) or Rent (with cash rent or no cash rent). All distributions are based on the total of these categories, dropping a very small "n/a" component. Data is compiled from the ACS 1-year microdata through IPUMS-USA, University of Minnesota, www.ipums.org.

Total Compensation. Covers total remuneration to employees both monetary and in kind, consisting of wages and salaries, employer payments for government social insurance programs, and employer payments for pension and insurance funds. The amounts are shown on an accrual basis and cover compensation liabilities incurred during the period rather than cash payments. Data is from the US Bureau of Economic Analysis, Annual State Personal Income and Employment.

Unlinked Passenger Trips (UPT). The number of passengers boarding public transportation, including busses, rail, streetcars, ferries, and other modes. A passenger is counted with each boarding regardless of whether it is part of the same journey from origin to destination.

Usual Hours Worked. Reports the number of hours per week the person worked if they worked during the previous 12 months, including time spent for paid vacation, paid sick leave, and military service. Data is grouped by 1-29 hours (part time), 30-40 hours (full time equivalent), 41-60 hours, and 60 and more hours. The hours reported cover work in all jobs. Consequently, 40 hours could be the result of full time work in one job or part time work in two or more jobs. All distributions are based on the total of the categories. Data is compiled from the ACS 1-year microdata through IPUMS-USA, University of Minnesota, www.ipums.org.

Attachment 2: Relative Share Calculations

Table 32: Age Relative Shares (from Table 6)

Year	Age	1-99%	100-199%	200-299%	300-399%	400-499%	500%+	Total	1-99%	100-199%	200-299%	300-399%	400-499%	500%+
2007	0-15	17.9%	23.4%	17.3%	11.9%	8.4%	21.2%	100.0%	1.4	1.2	1.1	0.9	0.9	0.7
2007	16-19	16.3%	21.5%	17.2%	12.5%	8.8%	23.6%	100.0%	1.3	1.2	1.1	1.0	0.9	0.8
2007	20-24	17.2%	21.3%	19.3%	13.5%	8.6%	20.2%	100.0%	1.4	1.1	1.2	1.1	0.9	0.7
2007	25-54	10.3%	16.1%	15.5%	13.1%	10.6%	34.4%	100.0%	0.8	0.9	1.0	1.0	1.1	1.1
2008	55-64	8.2%	12.5%	13.1%	11.1%	9.9%	45.3%	100.0%	0.7	0.7	0.8	0.9	1.0	1.5
2007	65+	8.0%	21.4%	17.0%	12.8%	10.2%	30.6%	100.0%	0.6	1.1	1.0	1.0	1.1	1.0
2007	Total	12.4%	18.7%	16.2%	12.6%	9.7%	30.3%	100.0%	1.0	1.0	1.0	1.0	1.0	1.0
2012	0-15	24.4%	23.7%	15.6%	10.4%	7.3%	18.6%	100.0%	1.4	1.2	1.0	0.9	0.8	0.7
2012	16-19	23.3%	24.1%	16.2%	10.7%	7.7%	17.9%	100.0%	1.4	1.2	1.0	0.9	0.9	0.7
2012	20-24	23.4%	24.4%	17.8%	11.5%	7.2%	15.7%	100.0%	1.4	1.2	1.1	1.0	0.8	0.6
2012	25-54	14.4%	18.6%	15.8%	12.2%	9.4%	29.6%	100.0%	0.9	0.9	1.0	1.0	1.1	1.1
2012	55-64	11.4%	15.0%	13.3%	11.7%	9.6%	39.0%	100.0%	0.7	0.7	0.8	1.0	1.1	1.5
2012	65+	10.1%	20.8%	16.6%	12.9%	9.8%	29.9%	100.0%	0.6	1.0	1.1	1.1	1.1	1.1
2012	Total	16.9%	20.3%	15.8%	11.7%	8.8%	26.7%	100.0%	1.0	1.0	1.0	1.0	1.0	1.0
2016	0-15	20.5%	22.9%	15.9%	10.7%	7.6%	22.4%	100.0%	1.4	1.2	1.0	0.9	0.8	0.7
2016	16-19	19.1%	22.6%	17.0%	11.2%	8.2%	21.9%	100.0%	1.3	1.2	1.1	0.9	0.9	0.7
2016	20-24	19.7%	21.8%	19.1%	12.1%	8.4%	18.9%	100.0%	1.4	1.2	1.2	1.0	0.9	0.6
2016	25-54	12.1%	16.3%	15.7%	12.3%	10.2%	33.4%	100.0%	0.8	0.9	1.0	1.0	1.1	1.1
2016	55-64	11.3%	13.7%	12.8%	11.4%	9.6%	41.1%	100.0%	0.8	0.7	0.8	1.0	1.0	1.3
2016	65+	10.4%	18.2%	15.6%	12.1%	9.8%	33.9%	100.0%	0.7	1.0	1.0	1.0	1.1	1.1
2016	Total	14.4%	18.3%	15.7%	11.8%	9.3%	30.5%	100.0%	1.0	1.0	1.0	1.0	1.0	1.0

Source: Analysis of ACS data, IPUMS-USA, University of Minnesota, www.ipums.org

Table 33: Gender Relative Shares (from Table 7)

Year	Gender	1-99%	100-199%	200-299%	300-399%	400-499%	500%+	Total	1-99%	100-199%	200-299%	300-399%	400-499%	500%+
2007	female	13.5%	19.1%	16.1%	12.5%	9.4%	29.4%	100.0%	1.1	1.0	1.0	1.0	1.0	1.0
2007	male	11.4%	18.3%	16.3%	12.7%	10.0%	31.3%	100.0%	0.9	1.0	1.0	1.0	1.0	1.0
2007	Total	12.4%	18.7%	16.2%	12.6%	9.7%	30.3%	100.0%	1.0	1.0	1.0	1.0	1.0	1.0
2012	female	17.8%	20.5%	15.7%	11.6%	8.6%	25.8%	100.0%	1.1	1.0	1.0	1.0	1.0	1.0
2012	male	15.9%	20.0%	15.8%	11.8%	8.9%	27.5%	100.0%	0.9	1.0	1.0	1.0	1.0	1.0
2012	Total	16.9%	20.3%	15.8%	11.7%	8.8%	26.7%	100.0%	1.0	1.0	1.0	1.0	1.0	1.0
2016	female	15.4%	18.7%	15.6%	11.6%	9.1%	29.6%	100.0%	1.1	1.0	1.0	1.0	1.0	1.0
2016	male	13.3%	18.0%	15.8%	11.9%	9.5%	31.5%	100.0%	0.9	1.0	1.0	1.0	1.0	1.0
2016	Total	14.4%	18.3%	15.7%	11.8%	9.3%	30.5%	100.0%	1.0	1.0	1.0	1.0	1.0	1.0

Source: Analysis of ACS data, IPUMS-USA, University of Minnesota, www.ipums.org

Table 34: Ethnicity/Race Relative Shares (from Table 8)

Year	Ethnicity /Race	1-99%	100-199%	200-299%	300-399%	400-499%	500%+	Total	1-99%	100-199%	200-299%	300-399%	400-499%	500%+
2007	Latino	17.8%	28.9%	21.2%	12.7%	7.2%	12.2%	100.0%	1.4	1.5	1.3	1.0	0.7	0.4
2007	White	7.6%	11.3%	12.5%	12.3%	11.5%	44.7%	100.0%	0.6	0.6	0.8	1.0	1.2	1.5
2007	Asian-PI	9.7%	14.0%	14.8%	12.8%	11.3%	37.3%	100.0%	0.8	0.7	0.9	1.0	1.2	1.2
2007	Black	20.3%	20.7%	15.6%	12.8%	8.5%	22.2%	100.0%	1.6	1.1	1.0	1.0	0.9	0.7
2007	Other	12.1%	15.2%	15.7%	13.5%	10.6%	32.9%	100.0%	1.0	0.8	1.0	1.1	1.1	1.1
2007	Total	12.4%	18.7%	16.2%	12.6%	9.7%	30.3%	100.0%	1.0	1.0	1.0	1.0	1.0	1.0
2012	Latino	24.0%	29.4%	19.0%	11.0%	6.2%	10.4%	100.0%	1.4	1.5	1.2	0.9	0.7	0.4
2012	White	10.3%	13.3%	13.2%	12.2%	10.6%	40.3%	100.0%	0.6	0.7	0.8	1.0	1.2	1.5
2012	Asian-PI	12.3%	15.7%	14.3%	11.9%	10.6%	35.2%	100.0%	0.7	0.8	0.9	1.0	1.2	1.3
2012	Black	25.5%	20.0%	15.2%	11.9%	8.3%	19.1%	100.0%	1.5	1.0	1.0	1.0	0.9	0.7
2012	Other	16.5%	16.1%	14.1%	12.6%	10.3%	30.5%	100.0%	1.0	0.8	0.9	1.1	1.2	1.1
2012	Total	16.9%	20.3%	15.8%	11.7%	8.8%	26.7%	100.0%	1.0	1.0	1.0	1.0	1.0	1.0
2016	Latino	19.0%	27.3%	20.4%	12.3%	7.7%	13.3%	100.0%	1.3	1.5	1.3	1.0	0.8	0.4
2016	White	9.6%	11.5%	12.1%	11.3%	10.7%	44.8%	100.0%	0.7	0.6	0.8	1.0	1.1	1.5
2016	Asian-PI	11.3%	12.9%	13.5%	11.5%	10.2%	40.7%	100.0%	0.8	0.7	0.9	1.0	1.1	1.3
2016	Black	22.3%	18.9%	15.2%	11.4%	8.7%	23.4%	100.0%	1.6	1.0	1.0	1.0	0.9	0.8
2016	Other	14.0%	13.5%	12.7%	12.0%	9.9%	38.0%	100.0%	1.0	0.7	0.8	1.0	1.1	1.2
2016	Total	14.4%	18.3%	15.7%	11.8%	9.3%	30.5%	100.0%	1.0	1.0	1.0	1.0	1.0	1.0

Source: Analysis of ACS data, IPUMS-USA, University of Minnesota, www.ipums.org

Table 35: Educational Attainment Relative Shares (from Table 9)

Year	Highest Education Level	1-99%	100-199%	200-299%	300-399%	400-499%	500%+	Total	1-99%	100-199%	200-299%	300-399%	400-499%	500%+
2007	Less Than HS	20.0%	33.3%	21.2%	11.2%	5.8%	8.4%	100.0%	2.1	2.0	1.4	0.9	0.6	0.2
2007	High School/GED	11.3%	20.0%	19.9%	15.5%	10.8%	22.6%	100.0%	1.2	1.2	1.3	1.2	1.0	0.6
2007	Some College	7.6%	13.5%	16.2%	15.1%	12.7%	34.8%	100.0%	0.8	0.8	1.1	1.2	1.2	1.0
2007	AA	5.8%	11.8%	13.8%	14.3%	12.9%	41.5%	100.0%	0.6	0.7	0.9	1.1	1.2	1.2
2007	Bachelor's	4.3%	6.8%	9.2%	11.0%	11.9%	56.9%	100.0%	0.4	0.4	0.6	0.9	1.1	1.6
2007	Grad Degree	3.1%	4.3%	6.0%	7.2%	9.2%	70.3%	100.0%	0.3	0.3	0.4	0.6	0.9	2.0
2007	Total	9.6%	16.5%	15.4%	12.7%	10.4%	35.4%	100.0%	1.0	1.0	1.0	1.0	1.0	1.0
2012	Less Than HS	26.4%	34.4%	19.2%	9.3%	4.4%	6.3%	100.0%	2.0	1.9	1.2	0.8	0.5	0.2
2012	High School/GED	15.8%	23.6%	19.7%	14.1%	9.4%	17.4%	100.0%	1.2	1.3	1.3	1.2	1.0	0.6
2012	Some College	11.6%	17.0%	17.6%	14.9%	11.6%	27.3%	100.0%	0.9	0.9	1.1	1.2	1.2	0.9
2012	AA	9.6%	14.4%	15.8%	14.1%	11.7%	34.5%	100.0%	0.7	0.8	1.0	1.1	1.2	1.1
2012	Bachelor's	6.0%	8.5%	10.8%	11.8%	11.3%	51.6%	100.0%	0.5	0.5	0.7	1.0	1.2	1.6
2012	Grad Degree	4.3%	5.6%	6.4%	7.9%	9.2%	66.6%	100.0%	0.3	0.3	0.4	0.6	1.0	2.1
2012	Total	13.1%	18.3%	15.5%	12.2%	9.5%	31.3%	100.0%	1.0	1.0	1.0	1.0	1.0	1.0
2016	Less Than HS	22.9%	31.1%	20.6%	10.9%	6.1%	8.4%	100.0%	2.0	1.9	1.4	0.9	0.6	0.2
2016	High School/GED	14.7%	21.1%	19.8%	14.3%	9.9%	20.2%	100.0%	1.3	1.3	1.3	1.2	1.0	0.6
2016	Some College	10.7%	15.8%	16.8%	14.5%	11.8%	30.5%	100.0%	0.9	1.0	1.1	1.2	1.2	0.9
2016	AA	8.6%	13.0%	15.0%	14.0%	12.4%	37.0%	100.0%	0.7	0.8	1.0	1.2	1.2	1.1
2016	Bachelor's	5.7%	7.5%	9.9%	10.7%	11.1%	55.0%	100.0%	0.5	0.5	0.7	0.9	1.1	1.6
2016	Grad Degree	4.3%	4.9%	6.2%	7.1%	9.1%	68.4%	100.0%	0.4	0.3	0.4	0.6	0.9	2.0
2016	Total	11.6%	16.2%	15.2%	12.1%	10.0%	34.9%	100.0%	1.0	1.0	1.0	1.0	1.0	1.0

Source: Analysis of ACS data, IPUMS-USA, University of Minnesota, www.ipums.org

Table 36: Nativity Relative Shares (from Table 10)

Year	Nativity	1-99%	100-199%	200-299%	300-399%	400-499%	500%+	Total	1-99%	100-199%	200-299%	300-399%	400-499%	500%+
2007	US Born	11.7%	16.2%	15.2%	12.7%	10.4%	33.9%	100.0%	0.9	0.9	0.9	1.0	1.1	1.1
2007	Born Abroad-Citizen	8.1%	18.1%	17.3%	14.0%	10.5%	31.9%	100.0%	0.7	1.0	1.1	1.1	1.1	1.1
2007	Born Abroad-Non Citizen	19.2%	30.6%	20.2%	11.1%	6.1%	12.8%	100.0%	1.5	1.6	1.2	0.9	0.6	0.4
2007	Total	12.4%	18.7%	16.2%	12.6%	9.7%	30.3%	100.0%	1.0	1.0	1.0	1.0	1.0	1.0
2012	US Born	16.2%	18.2%	15.2%	12.0%	9.4%	29.1%	100.0%	1.0	0.9	1.0	1.0	1.1	1.1
2012	Born Abroad-Citizen	11.0%	20.0%	17.0%	13.2%	9.7%	29.1%	100.0%	0.7	1.0	1.1	1.1	1.1	1.1
2012	Born Abroad-Non Citizen	25.8%	30.9%	17.6%	9.0%	4.6%	12.1%	100.0%	1.5	1.5	1.1	0.8	0.5	0.5
2012	Total	16.9%	20.3%	15.8%	11.7%	8.8%	26.7%	100.0%	1.0	1.0	1.0	1.0	1.0	1.0
2016	US Born	13.9%	16.7%	15.0%	11.8%	9.7%	32.9%	100.0%	1.0	0.9	1.0	1.0	1.0	1.1
2016	Born Abroad-Citizen	10.4%	17.4%	16.3%	13.2%	9.8%	32.9%	100.0%	0.7	0.9	1.0	1.1	1.1	1.1
2016	Born Abroad-Non Citizen	21.3%	28.0%	19.1%	9.9%	6.4%	15.4%	100.0%	1.5	1.5	1.2	0.8	0.7	0.5
2016	Total	14.4%	18.3%	15.7%	11.8%	9.3%	30.5%	100.0%	1.0	1.0	1.0	1.0	1.0	1.0

Source: Analysis of ACS data, IPUMS-USA, University of Minnesota, www.ipums.org
Note: US Born includes born abroad of US citizens

Table 37: Marital Status by Income to Poverty Ratio, Persons Age 15 & Over, California (from Table 11)

Year	Status	1-99%	100-199%	200-299%	300-399%	400-499%	500%+	Total	1-99%	100-199%	200-299%	300-399%	400-499%	500%+
2007	Married	6.1%	14.5%	14.9%	12.6%	10.6%	41.3%	100.0%	0.5	0.8	0.9	1.0	1.1	1.4
2007	Single, no child	15.9%	21.0%	16.9%	12.5%	9.3%	24.4%	100.0%	1.3	1.1	1.0	1.0	1.0	0.8
2007	Single, Female, 1 or more child	21.8%	23.3%	18.1%	12.0%	8.5%	16.3%	100.0%	1.8	1.2	1.1	1.0	0.9	0.5
2007	Single, Male, 1 or more child	14.5%	23.0%	19.2%	13.9%	9.0%	20.5%	100.0%	1.2	1.2	1.2	1.1	0.9	0.7
2007	Total	12.4%	18.7%	16.2%	12.6%	9.7%	30.3%	100.0%	1.0	1.0	1.0	1.0	1.0	1.0
2012	Married	8.4%	16.3%	14.8%	12.5%	10.2%	37.8%	100.0%	0.5	0.8	0.9	1.1	1.2	1.4
2012	Single, no child	21.3%	22.2%	16.1%	11.3%	8.1%	21.1%	100.0%	1.3	1.1	1.0	1.0	0.9	0.8
2012	Single, Female, 1 or more child	27.2%	24.5%	17.4%	11.0%	6.8%	13.1%	100.0%	1.6	1.2	1.1	0.9	0.8	0.5
2012	Single, Male, 1 or more child	21.2%	27.0%	18.3%	11.3%	7.1%	15.1%	100.0%	1.3	1.3	1.2	1.0	0.8	0.6
2012	Total	16.9%	20.3%	15.8%	11.7%	8.8%	26.7%	100.0%	1.0	1.0	1.0	1.0	1.0	1.0
2016	Married	7.0%	14.3%	14.2%	12.0%	10.1%	42.3%	100.0%	0.5	0.8	0.9	1.0	1.1	1.4
2016	Single, no child	18.5%	20.4%	16.3%	11.5%	8.9%	24.4%	100.0%	1.3	1.1	1.0	1.0	1.0	0.8
2016	Single, Female, 1 or more child	23.0%	23.6%	17.6%	12.1%	7.9%	15.8%	100.0%	1.6	1.3	1.1	1.0	0.8	0.5
2016	Single, Male, 1 or more child	16.7%	22.4%	20.0%	12.4%	9.5%	19.0%	100.0%	1.2	1.2	1.3	1.1	1.0	0.6
2016	Total	14.4%	18.3%	15.7%	11.8%	9.3%	30.5%	100.0%	1.0	1.0	1.0	1.0	1.0	1.0

Source: Analysis of ACS data, IPUMS-USA, University of Minnesota, www.ipums.org

Table 38: Labor Force Status Relative Shares (from Table 12)

Year	Status	1-99%	100-199%	200-299%	300-399%	400-499%	500%+	Total	1-99%	100-199%	200-299%	300-399%	400-499%	500%+
2007	Employed	5.7%	14.2%	15.5%	13.6%	11.2%	39.7%	100.0%	0.5	0.8	1.0	1.1	1.1	1.2
2007	Unemployed	23.2%	22.5%	17.6%	11.6%	7.7%	17.4%	100.0%	2.1	1.3	1.1	0.9	0.8	0.5
2007	NILF	18.3%	22.1%	16.4%	11.4%	8.5%	23.3%	100.0%	1.7	1.3	1.0	0.9	0.8	0.7
2007	Total	10.8%	17.3%	15.9%	12.8%	10.1%	33.1%	100.0%	1.0	1.0	1.0	1.0	1.0	1.0
2012	Employed	7.9%	16.7%	16.1%	13.1%	10.3%	36.0%	100.0%	0.5	0.9	1.0	1.1	1.1	1.2
2012	Unemployed	31.1%	24.2%	15.4%	9.7%	6.3%	13.3%	100.0%	2.1	1.3	1.0	0.8	0.7	0.5
2012	NILF	22.7%	22.7%	15.5%	10.8%	7.8%	20.6%	100.0%	1.5	1.2	1.0	0.9	0.9	0.7
2012	Total	14.8%	19.3%	15.8%	12.1%	9.2%	28.9%	100.0%	1.0	1.0	1.0	1.0	1.0	1.0
2016	Employed	6.7%	14.6%	15.7%	12.9%	11.0%	39.2%	100.0%	0.5	0.9	1.0	1.1	1.1	1.2
2016	Unemployed	27.9%	22.1%	15.8%	10.4%	6.8%	17.1%	100.0%	2.2	1.3	1.0	0.9	0.7	0.5
2016	NILF	21.3%	20.8%	15.5%	10.8%	8.0%	23.6%	100.0%	1.7	1.2	1.0	0.9	0.8	0.7
2016	Total	12.8%	17.1%	15.6%	12.0%	9.7%	32.7%	100.0%	1.0	1.0	1.0	1.0	1.0	1.0

Source: Analysis of ACS data, IPUMS-USA, University of Minnesota, www.ipums.org
Note: NILF – not in labor force

Table 39: Class of Worker Relative Shares (from Table 13)

Year	Class	1-99%	100-199%	200-299%	300-399%	400-499%	500%+	Total	1-99%	100-199%	200-299%	300-399%	400-499%	500%+
2007	Self-Employed	8.7%	13.9%	13.2%	10.7%	9.4%	44.1%	100.0%	1.0	0.9	0.8	0.8	0.9	1.2
2007	W/S Private	9.1%	16.9%	17.0%	13.6%	10.4%	33.0%	100.0%	1.1	1.1	1.1	1.0	1.0	0.9
2007	W/S Non-profit	6.9%	11.9%	14.1%	13.1%	11.8%	42.2%	100.0%	0.8	0.8	0.9	1.0	1.1	1.1
2007	W/S Government	4.8%	8.6%	11.7%	13.4%	12.8%	48.7%	100.0%	0.6	0.6	0.7	1.0	1.2	1.3
2007	Total	8.3%	15.1%	15.6%	13.2%	10.7%	37.1%	100.0%	1.0	1.0	1.0	1.0	1.0	1.0
2012	Self-Employed	13.7%	17.3%	14.3%	11.1%	8.7%	34.9%	100.0%	1.2	1.0	0.9	0.9	0.9	1.1
2012	W/S Private	12.1%	19.4%	16.9%	12.7%	9.3%	29.7%	100.0%	1.1	1.1	1.1	1.0	0.9	0.9
2012	W/S Non-profit	9.1%	13.1%	14.3%	12.6%	11.2%	39.7%	100.0%	0.8	0.7	0.9	1.0	1.1	1.2
2012	W/S Government	7.1%	10.7%	12.7%	13.1%	12.6%	43.7%	100.0%	0.6	0.6	0.8	1.0	1.3	1.3
2012	Total	11.4%	17.5%	15.8%	12.5%	9.8%	33.0%	100.0%	1.0	1.0	1.0	1.0	1.0	1.0
2016	Self-Employed	11.4%	15.7%	13.7%	10.8%	9.0%	39.4%	100.0%	1.2	1.0	0.9	0.9	0.9	1.1
2016	W/S Private	9.6%	16.6%	16.7%	12.8%	10.3%	34.0%	100.0%	1.0	1.1	1.1	1.0	1.0	0.9
2016	W/S Non-profit	7.2%	11.6%	13.5%	12.9%	10.6%	44.2%	100.0%	0.8	0.8	0.9	1.0	1.0	1.2
2016	W/S Government	5.9%	9.5%	12.6%	12.8%	12.6%	46.7%	100.0%	0.6	0.6	0.8	1.0	1.2	1.3
2016	Total	9.2%	15.2%	15.6%	12.6%	10.5%	37.0%	100.0%	1.0	1.0	1.0	1.0	1.0	1.0

Source: Analysis of ACS data, IPUMS-USA, University of Minnesota, www.ipums.org

Table 40: Industry of Employment Relative Shares (from Table 14)

Year	Industry	1-99%	100-199%	200-299%	300-399%	400-499%	500%+	Total	1-99%	100-199%	200-299%	300-399%	400-499%	500%+
2007	Lower Wage	13.3%	21.2%	18.9%	13.7%	9.5%	23.4%	100.0%	1.6	1.4	1.2	1.0	0.9	0.6
2007	Blue Collar Middle Class	8.1%	17.6%	17.4%	13.9%	10.6%	32.4%	100.0%	1.0	1.2	1.1	1.1	1.0	0.9
2007	Healthcare	7.6%	13.5%	15.5%	13.1%	11.0%	39.2%	100.0%	0.9	0.9	1.0	1.0	1.0	1.1
2007	White Collar Middle Class	5.8%	8.8%	12.1%	12.8%	12.4%	48.0%	100.0%	0.7	0.6	0.8	1.0	1.2	1.3
2007	Higher Wage	4.0%	7.7%	10.3%	11.7%	11.1%	55.2%	100.0%	0.5	0.5	0.7	0.9	1.0	1.5
2007	Active Duty Military	2.2%	13.9%	18.0%	18.2%	14.3%	33.5%	100.0%	0.3	0.9	1.2	1.4	1.3	0.9
2007	Total	8.5%	15.2%	15.6%	13.2%	10.7%	36.9%	100.0%	1.0	1.0	1.0	1.0	1.0	1.0
2012	Lower Wage	16.9%	25.1%	18.5%	12.5%	8.1%	18.9%	100.0%	1.4	1.4	1.2	1.0	0.8	0.6
2012	Blue Collar Middle Class	11.9%	19.4%	17.4%	12.8%	9.5%	29.0%	100.0%	1.0	1.1	1.1	1.0	1.0	0.9
2012	Healthcare	9.6%	15.6%	15.5%	13.0%	10.4%	36.0%	100.0%	0.8	0.9	1.0	1.0	1.1	1.1
2012	White Collar Middle Class	8.1%	11.0%	13.2%	12.9%	11.8%	43.0%	100.0%	0.7	0.6	0.8	1.0	1.2	1.3
2012	Higher Wage	5.9%	9.3%	11.3%	11.4%	10.6%	51.4%	100.0%	0.5	0.5	0.7	0.9	1.1	1.6
2012	Active Duty Military	3.1%	16.0%	19.2%	21.7%	12.1%	27.9%	100.0%	0.3	0.9	1.2	1.7	1.3	0.9
2012	Total	11.9%	17.6%	15.8%	12.5%	9.7%	32.5%	100.0%	1.0	1.0	1.0	1.0	1.0	1.0
2016	Lower Wage	13.7%	22.1%	19.5%	13.1%	9.7%	21.9%	100.0%	1.4	1.4	1.3	1.0	0.9	0.6
2016	Blue Collar Middle Class	9.1%	17.2%	17.2%	13.3%	10.4%	32.7%	100.0%	1.0	1.1	1.1	1.1	1.0	0.9
2016	Healthcare	7.7%	12.9%	14.8%	13.4%	10.8%	40.3%	100.0%	0.8	0.8	1.0	1.1	1.0	1.1
2016	White Collar Middle Class	7.2%	10.1%	13.0%	12.2%	12.2%	45.4%	100.0%	0.8	0.7	0.8	1.0	1.2	1.2
2016	Higher Wage	5.0%	7.2%	9.6%	10.1%	10.1%	58.0%	100.0%	0.5	0.5	0.6	0.8	1.0	1.6
2016	Active Duty Military	6.0%	15.2%	19.7%	16.2%	14.1%	28.9%	100.0%	0.6	1.0	1.3	1.3	1.4	0.8
2016	Total	9.5%	15.3%	15.6%	12.5%	10.4%	36.7%	100.0%	1.0	1.0	1.0	1.0	1.0	1.0

Source: Analysis of ACS data, IPUMS-USA, University of Minnesota, www.ipums.org

Table 41: Usual Weekly Hours Worked Relative Shares (from Table 15)

Year	Weekly Hours	1-99%	100-199%	200-299%	300-399%	400-499%	500%+	Total	1-99%	100-199%	200-299%	300-399%	400-499%	500%+
2007	1-29	15.6%	17.4%	14.6%	11.8%	9.6%	31.1%	100.0%	2.2	1.2	0.9	0.9	0.9	0.8
2007	30-40	6.3%	16.3%	17.3%	14.6%	11.1%	34.3%	100.0%	0.9	1.1	1.1	1.1	1.0	0.9
2007	41-60	2.8%	8.6%	11.8%	11.6%	11.4%	53.8%	100.0%	0.4	0.6	0.8	0.9	1.0	1.4
2007	61+	3.8%	9.9%	12.3%	12.2%	10.9%	50.9%	100.0%	0.5	0.7	0.8	0.9	1.0	1.3
2007	Total	7.0%	14.7%	15.6%	13.5%	10.9%	38.3%	100.0%	1.0	1.0	1.0	1.0	1.0	1.0
2012	1-29	20.6%	21.5%	15.1%	11.0%	8.2%	23.5%	100.0%	2.2	1.3	0.9	0.9	0.8	0.7
2012	30-40	7.5%	18.0%	17.6%	14.0%	10.6%	32.4%	100.0%	0.8	1.1	1.1	1.1	1.0	0.9
2012	41-60	3.5%	10.1%	12.0%	11.5%	10.5%	52.3%	100.0%	0.4	0.6	0.8	0.9	1.0	1.5
2012	61+	4.6%	13.5%	14.0%	11.6%	9.5%	46.8%	100.0%	0.5	0.8	0.9	0.9	0.9	1.3
2012	Total	9.2%	17.1%	16.0%	12.9%	10.1%	34.8%	100.0%	1.0	1.0	1.0	1.0	1.0	1.0
2016	1-29	17.6%	19.4%	15.8%	11.2%	8.7%	27.2%	100.0%	2.3	1.3	1.0	0.9	0.8	0.7
2016	30-40	6.3%	15.8%	17.2%	13.8%	11.3%	35.7%	100.0%	0.8	1.1	1.1	1.1	1.0	0.9
2016	41-60	3.0%	8.8%	11.3%	10.9%	11.0%	55.1%	100.0%	0.4	0.6	0.7	0.9	1.0	1.4
2016	61+	3.9%	9.8%	12.6%	11.6%	10.7%	51.4%	100.0%	0.5	0.7	0.8	0.9	1.0	1.3
2016	Total	7.6%	14.9%	15.7%	12.8%	10.8%	38.3%	100.0%	1.0	1.0	1.0	1.0	1.0	1.0

Source: Analysis of ACS data, IPUMS-USA, University of Minnesota, www.ipums.org

Table 42: Rent Cost Burden by Income to Poverty Ratio, All Persons Living in Rented Housing Units, California (from Table 16)

Year	Cost Burden	1-99%	100-199%	200-299%	300-399%	400-499%	500%+	Total	1-99%	100-199%	200-299%	300-399%	400-499%	500%+
2007	0-29%	6.4%	17.5%	20.5%	16.8%	12.2%	26.6%	100.0%	0.3	0.6	1.2	1.5	1.7	1.9
2007	30-49%	16.0%	42.6%	23.3%	10.8%	4.2%	3.1%	100.0%	0.7	1.5	1.3	0.9	0.6	0.2
2007	50%+	59.1%	33.1%	5.8%	1.4%	0.5%	0.2%	100.0%	2.7	1.2	0.3	0.1	0.1	0.0
2007	Total	21.9%	28.0%	17.6%	11.4%	7.2%	13.9%	100.0%	1.0	1.0	1.0	1.0	1.0	1.0
2012	0-29%	7.7%	17.4%	20.4%	15.7%	11.3%	27.5%	100.0%	0.3	0.6	1.2	1.6	1.8	2.1
2012	30-49%	18.5%	43.3%	21.7%	9.8%	4.0%	2.7%	100.0%	0.7	1.6	1.3	1.0	0.7	0.2
2012	50%+	65.2%	27.9%	5.3%	1.1%	0.2%	0.2%	100.0%	2.4	1.0	0.3	0.1	0.0	0.0
2012	Total	27.3%	27.4%	16.4%	9.9%	6.1%	12.9%	100.0%	1.0	1.0	1.0	1.0	1.0	1.0
2016	0-29%	6.5%	14.7%	19.6%	15.7%	11.5%	32.0%	100.0%	0.3	0.6	1.1	1.5	1.6	1.9
2016	30-49%	16.5%	39.7%	23.6%	10.5%	5.4%	4.2%	100.0%	0.7	1.5	1.4	1.0	0.8	0.3
2016	50%+	58.4%	31.9%	7.2%	1.6%	0.6%	0.3%	100.0%	2.6	1.2	0.4	0.2	0.1	0.0
2016	Total	22.7%	25.7%	17.4%	10.7%	7.1%	16.4%	100.0%	1.0	1.0	1.0	1.0	1.0	1.0

Source: Analysis of ACS data, IPUMS-USA, University of Minnesota, www.ipums.org

Table 43: Commuting Means of Transportation by Income to Poverty Ratio, All Commuters, California (from Table 17)

Year	Mode	1-99%	100-199%	200-299%	300-399%	400-499%	500%+	Total	1-99%	100-199%	200-299%	300-399%	400-499%	500%+
2007	Drive Alone	4.3%	12.2%	15.0%	13.9%	12.0%	42.6%	100.0%	0.8	0.9	1.0	1.0	1.1	1.1
2007	Carpool	7.8%	20.1%	19.7%	13.7%	9.6%	29.2%	100.0%	1.4	1.4	1.3	1.0	0.9	0.7
2007	Public Transit	13.7%	23.6%	16.1%	12.0%	7.7%	27.0%	100.0%	2.4	1.7	1.0	0.9	0.7	0.7
2007	Other	12.2%	22.7%	16.7%	12.8%	8.6%	26.9%	100.0%	2.2	1.6	1.1	0.9	0.8	0.7
2007	Work at Home	6.6%	11.8%	11.8%	11.1%	10.0%	48.7%	100.0%	1.2	0.8	0.8	0.8	0.9	1.2
2007	Total	5.7%	14.2%	15.6%	13.6%	11.2%	39.7%	100.0%	1.0	1.0	1.0	1.0	1.0	1.0
2012	Drive Alone	6.4%	15.1%	15.9%	13.6%	11.0%	38.0%	100.0%	0.8	0.9	1.0	1.0	1.1	1.1
2012	Carpool	10.3%	21.1%	18.2%	13.1%	9.1%	28.2%	100.0%	1.3	1.3	1.1	1.0	0.9	0.8
2012	Public Transit	13.6%	24.0%	16.9%	10.7%	6.9%	27.8%	100.0%	1.8	1.4	1.1	0.8	0.7	0.8
2012	Other	16.3%	22.7%	16.9%	11.5%	7.8%	24.7%	100.0%	2.1	1.4	1.1	0.9	0.8	0.7
2012	Work at Home	7.9%	15.8%	12.8%	10.2%	9.3%	43.9%	100.0%	1.0	1.0	0.8	0.8	0.9	1.2
2012	Total	7.8%	16.6%	16.1%	13.1%	10.3%	36.0%	100.0%	1.0	1.0	1.0	1.0	1.0	1.0
2016	Drive Alone	5.7%	13.6%	15.6%	13.2%	11.5%	40.3%	100.0%	0.9	0.9	1.0	1.0	1.1	1.0
2016	Carpool	8.2%	18.9%	18.8%	14.1%	10.4%	29.6%	100.0%	1.2	1.3	1.2	1.1	1.0	0.8
2016	Public Transit	10.9%	17.9%	14.3%	9.9%	8.4%	38.6%	100.0%	1.6	1.2	0.9	0.8	0.8	1.0
2016	Other	12.6%	20.5%	16.5%	10.4%	8.5%	31.5%	100.0%	1.9	1.4	1.1	0.8	0.8	0.8
2016	Work at Home	7.1%	12.0%	12.1%	10.8%	9.1%	48.9%	100.0%	1.1	0.8	0.8	0.8	0.8	1.2
2016	Total	6.6%	14.6%	15.7%	12.9%	10.9%	39.2%	100.0%	1.0	1.0	1.0	1.0	1.0	1.0

Source: Analysis of ACS data, IPUMS-USA, University of Minnesota, www.ipums.org

Table 44: Commuting Time to Work (One-Way) by Income to Poverty Ratio, All Commuters, California (from Table 18)

Year	Minutes	1-99%	100-199%	200-299%	300-399%	400-499%	500%+	Total	1-99%	100-199%	200-299%	300-399%	400-499%	500%+
2007	1-30	5.9%	15.0%	16.2%	14.0%	11.2%	37.7%	100.0%	1.0	1.0	1.0	1.0	1.0	1.0
2007	31-60	4.9%	12.5%	14.3%	12.7%	11.2%	44.3%	100.0%	0.9	0.9	0.9	0.9	1.0	1.1
2007	61+	5.1%	12.7%	14.0%	13.2%	12.1%	42.8%	100.0%	0.9	0.9	0.9	1.0	1.1	1.1
2007	Total	5.6%	14.4%	15.7%	13.7%	11.3%	39.3%	100.0%	1.0	1.0	1.0	1.0	1.0	1.0
2012	1-30	8.2%	17.3%	16.7%	13.4%	10.3%	34.0%	100.0%	1.1	1.0	1.0	1.0	1.0	1.0
2012	31-60	6.3%	14.8%	14.9%	13.2%	10.6%	40.1%	100.0%	0.8	0.9	0.9	1.0	1.0	1.1
2012	61+	7.2%	14.8%	14.5%	11.8%	10.4%	41.3%	100.0%	0.9	0.9	0.9	0.9	1.0	1.2
2012	Total	7.8%	16.7%	16.3%	13.3%	10.4%	35.6%	100.0%	1.0	1.0	1.0	1.0	1.0	1.0
2016	1-30	7.1%	15.7%	16.6%	13.3%	11.0%	36.3%	100.0%	1.1	1.1	1.0	1.0	1.0	0.9
2016	31-60	5.3%	12.5%	14.3%	12.4%	11.3%	44.3%	100.0%	0.8	0.8	0.9	1.0	1.0	1.1
2016	61+	5.8%	12.3%	13.9%	12.1%	11.0%	44.9%	100.0%	0.9	0.8	0.9	0.9	1.0	1.2
2016	Total	6.6%	14.8%	15.9%	13.0%	11.1%	38.6%	100.0%	1.0	1.0	1.0	1.0	1.0	1.0

Source: Analysis of ACS data, IPUMS-USA, University of Minnesota, www.ipums.org

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