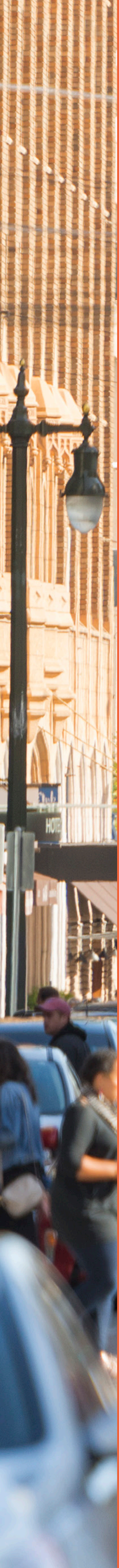

CALIFORNIA EMPLOYMENT BY INCOME

A Comparative Analysis

PRODUCED BY

Next 10

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NEXT 10 is an independent nonpartisan organization that educates, engages and empowers Californians to improve the state's future.

Next 10 is focused on innovation and the intersection between the economy, the environment, and quality of life issues for all Californians. We provide critical data to help inform the state's efforts to grow the economy and reduce greenhouse gas emissions. Next 10 was founded in 2003 by businessman and philanthropist F. Noel Perry.

A PROJECT OF

OVERVIEW

California's labor market had finally recovered all the jobs lost during the Great Recession by June 2014, a landmark achievement.

It was one of the states hardest hit in the wake of the housing collapse, and its recovery is a testament to the resilience of its economy.[1] California has accounted for a large share of total national nonfarm jobs[2] created in recent years; of total nonfarm jobs created in the U.S. over the last five years, roughly one in six were in California. To better understand how shifts in employment and income growth post-recession have impacted the state, Next 10 published a 2016 version of this brief analyzing trends to-date. The following brief is an update to that study, analyzing more recent data to determine whether or not there have been any marked shifts.

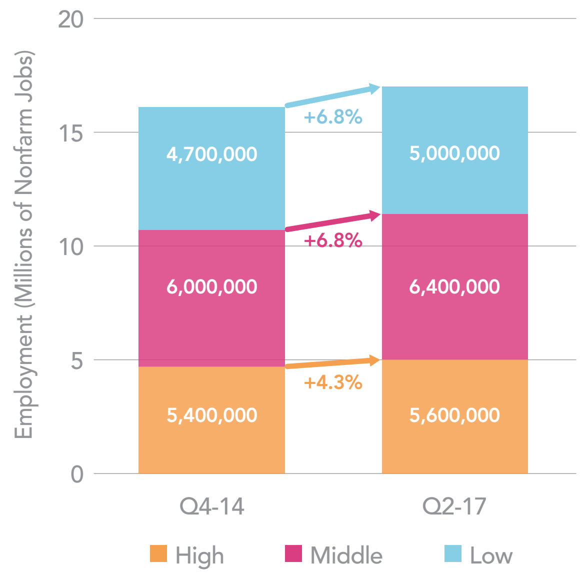
One of the main findings in the previous report[3] was that many of the jobs gained post-recession were in low-wage industry subsectors. Indeed, the post-recession period favored low-wage job growth over middle-wage and high-wage growth throughout the state by a wide margin. The same trend has continued since the previous study; California has since gained jobs in middle-wage and low-wage industry subsectors at a similar pace while employment increases in high-wage - subsectors trail.[4]

1 This was noted in the 2017 California Green Innovation Index, which can be accessed at: http://next10.org/2017-gii
2 Nonfarm jobs include employment statistics for goods, construction and manufacturing companies. This does not include farm workers, private household employees, or non-profit organization employees.
3 The previous report can be accessed at: http://next10.org/ca-employment
4 The Bureau of Labor Statistics' Quarterly Census of Employment and Wages provide data on wages, employment count, number of establishments, and other information on industries from the 2 to 6 digit NAICS levels. Using national level data, Beacon Economics derives the average annual wages for each industry subsector (at the 3 digit NAICS level) and rank them from the lowest to the highest based on average annual wages. Then a cumulative distribution is computed based on the employment count. The bottom 30 percentiles (by employment count) are assigned as low wage industry subsectors, the next 40 percentiles are assigned as middle wage, and the top 30 percentiles are assigned as high wage.

The main findings in this updated analysis include:

- Low-wage jobs in California are concentrated in a small number of high-level industries, such as Leisure and Hospitality, Retail, Health Care, and Agriculture. High-wage employment is represented by a larger variety of smaller industry subsectors.
- Over the years, the share of employment in low-wage industry subsectors has risen in California and in the nation overall.
- Low-wage job growth in California during the post-recession period ranked second-highest in the nation (but has dropped to the eighth-highest if examining only the period between the fourth quarter of 2014 and the second quarter of 2017). California is the largest state to be included in the top ten, followed by Washington. Florida and Texas, once included on the list, are no longer in the top ten.
- California is home to some of the leading high-wage industry subsectors in the nation, including the Professional and Technical Services industry. California fell from the 11th-highest job growth in this sector in 2014 to the 33rd in 2017. While growth in this sector may be slowing in California, the state is home to the largest base for the PTS industry in the country. Compensation in high-wage industry subsectors in California is growing more slowly than in the nation overall.
- California ranked 10th in terms of job growth in middle-wage industry subsectors from the fourth quarter of 2009 to the second quarter of 2017. California rises to sixth for job growth in this area if the time focus is narrowed to the latest period in the previous study: from the fourth quarter of 2014 to the second quarter of 2017.

Figure 1. California Employment by Wage, Q4 2014 vs. Q2 2017



Source: American Community Survey Public Use Microdata Samples; Tabulations by Beacon Economics

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Since the previous study (in which the last quarter examined was the fourth quarter of 2014), employment in middle-wage and low-wage industry subsectors has increased 6.8 percent as of the second quarter of 2017. Employment gains in high-wage industry subsectors, however, trailed with only a 4.3 percent increase. Employment gains by wage industry subsectors at the regional level reveal that California would have had even more tepid growth in the high-wage industry subsectors if not for the tech boom in the Bay Area.

High-, Middle-, and Low-Wage Industry Subsectors in California

This analysis is based primarily on the U.S. Bureau of Labor Statistics' Quarterly Census of Employment and Wages (QCEW) with supplemental datasets from the U.S. Census, California Department of Finance, and CBRE. Industries within the QCEW are organized according to the North American Industry Classification System (NAICS). The QCEW program publishes a quarterly count of employment and wages, as reported by employers, covering 98 percent of U.S. jobs by industry and provides the most comprehensive picture of industry job growth available.

At the time of writing, the most recent available data at the industry level was as of the second quarter of 2017 (Q2 2017). Throughout the report, therefore, the second quarter of 2017 is the latest point of analysis. When the previous study was written, the latest data available at the industry level were as of the fourth quarter of 2014 (Q4 2014). Throughout the report, therefore, comparisons will be made during these periods.

To characterize trends among industries and sectors, this report utilizes the NAICS six-digit coding system, which includes various classification levels to delve from sector-wide down to industry-specific data.[5] Consistent with the previous study, this brief examines industry trends at the three-digit NAICS level (i.e. the subsector level), which is carefully chosen to balance between loss of data for confidentiality reasons and the depth of analysis. At the more detailed levels of data in this system—which typically occurs at the four-, five-, and six-digit NAICS levels (i.e. industry-specific levels)—data is constrained by employer confidentiality concerns and therefore may not present as comprehensive a picture. Currently about 60 percent of the most detailed level data is suppressed for confidentiality reasons.[6] The subsector, three-digit NAICS data are therefore used primarily in this study to provide a comprehensive analysis of industry and sector performance. A list of three-digit NAICS industry subsectors by wage level (high, middle, or low) can be found in the Appendix.

In this analysis, low-wage industry subsectors are those in the bottom 30 percent of jobs ranked by wage at the national level during 2017. High-wage industry subsectors represent the top 30 percent of jobs by wage. Jobs between the 30th and 70th percentiles are considered middle-wage jobs.

Employment growth in high-wage subsectors has lagged behind growth in low-wage and middle-wage groups. On a seasonally-adjusted basis, between Q4 2014 and Q2 2017, employment in the high-, middle-, and low-wage subsectors has grown 4.3 percent, 6.8 percent, and 6.8 percent, respectively. Even when examining employment trends within the last year, high-wage employment gains lagged behind. On a year-over-year basis, high-, middle-, and low-wage subsectors grew 0.5 percent, 2.0 percent, and 2.9 percent, respectively.

5 The first two digits of the code designate the sector (e.g. 44 Retail Trade), the third designates the subsector (e.g. 445 Food and Beverage Stores), the fourth designates the industry group (e.g. 4452 Specialty Food Stores), the fifth designates the NAICS industry (e.g. 44529 Other Specialty Food Stores), and the sixth designates the national industry (e.g. 445291 Baked Goods Stores).

6 For more information, please visit the Bureau of Labor Statistics webpage at: https://www.bls.gov/cew/cewfaq.htm

Table 1: California Top Ten High Wage Industry Subsectors by Employment, Q2-17

Industry Subsectors	Employment (Thousands)	Employment Change since Previous Study (Percentage)	Average Annual Wage	Wage Change since Previous Study (Percentage)
Professional and Technical Services	1,230	3.1%	$110,604	6.4%
Hospitals	564	7.0%	$78,863	6.1%
Merchant Wholesalers, Durable Goods	342	2.2%	$79,011	3.1%
Merchant Wholesalers, Nondurable Goods	285	4.8%	$63,905	3.9%
Justice, Public Order, and Safety Activities	280	-0.8%	$88,966	6.3%
Computer and Electronic Product Manufacturing	270	3.3%	$173,977	19.9%
Credit Intermediation and Related Activities	246	3.4%	$94,148	12.8%
Management of Companies and Enterprises	231	2.3%	$120,288	1.2%
Insurance Carriers and Related Activities	207	8.7%	$88,513	5.7%
Construction of Buildings	182	14.9%	$68,838	8.9%

Source: Quarterly Census of Employment and Wages

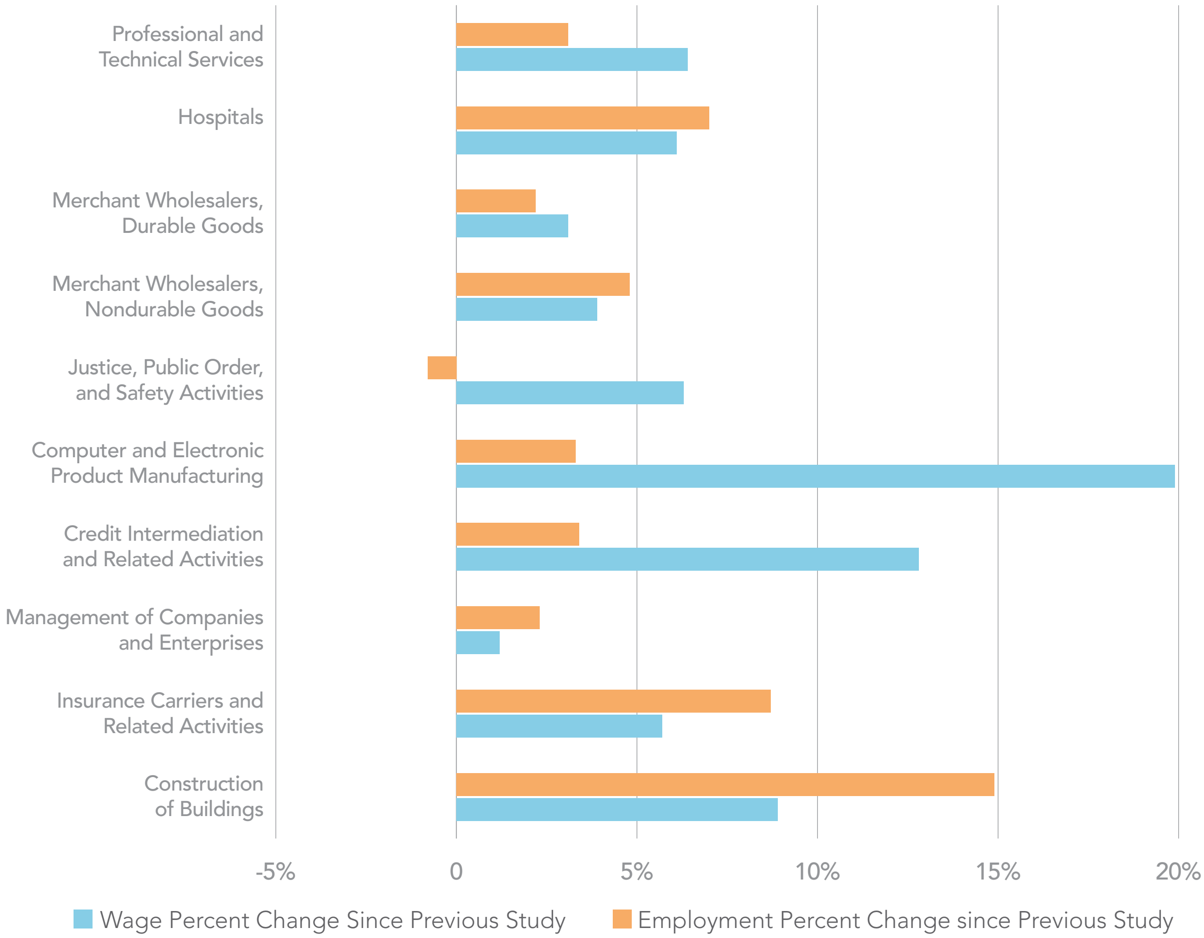
High-Wage Industry Subsectors

High-wage employment in California spans a wide range of diverse industry subsectors. The ten top-grossing high-wage industry subsectors at the three-digit NAICS level span eight distinct super sectors: Professional, Scientific, and Technical Services; Hospitals; Wholesale Trade; Government; Durable Goods Manufacturing; Finance and Insurance; Management of Companies and Enterprises; and Construction. Overall, this study estimates that there are roughly 5.6 million high-wage jobs in California, 33 percent of all nonfarm jobs. Although this means California has gained 0.2 million high-wage jobs since the last study (Q4 2014), the share has actually fallen from 34 percent to 33 percent.

According to the QCEW, California's Professional and Technical Services sector employed more than 1.2 million Californians as of Q2 2017, or 22.0 percent of the state's total high-wage employment. The Professional and Technical Services sector has shown modest growth com-

Figure 2. Employment and Wage Percentage Change

Top Ten Largest High-Wage Industry Subsectors by Employment Size, Q4 2014 vs. Q2 2017



Source: American Community Survey Public Use Microdata Samples; Tabulations by Beacon Economics

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pared to the rest of the top 10 high-wage industry subsectors since the last study; as of Q2 2017, the sector has grown 3.1 percent since Q4 2014. Note that this is slightly less than the employment growth rate for all industry subsectors in the high-wage segment (3.9%). Focusing on the four-digit NAICS level within the Professional and Technical Services industry presents a more detailed picture of the types of jobs that make up this sector. For instance, some of the top four-digit level industry groups in the Professional and Technical Services sector are computer systems design and related services; management and technical consulting services; and architectural and engineering services. Examples of jobs in these sectors include software engineers, managers, and architects, all of which are typically very highly compensated.

Hospitals are the second largest of the state's high-wage industry subsectors at the three-digit NAICS level. This sector represents 10 percent of high-wage employment in California with 564,300 employees, which is only a modest 3.0 percent growth since Q4 2014. At the four-digit NAICS level, this sector includes general medical and surgical hospitals, psychiatric and substance abuse hospitals, and other hospitals.

In terms of employment and wage percentage changes among the ten largest industry subsectors, the aforementioned two largest industry subsectors performed in the middle of the pack. Construction of Buildings and Insurance Carriers and Related Activities had the highest employment percentage gains at 14.9 percent and 8.7 percent, respectively. Computer and Electronic Product Manufacturing had the highest wage percentage growth (19.9%) since Q4 2014, followed by Credit Intermediation and Related Activities (12.8%).

Meanwhile, the three industry subsectors with the heaviest employment percentage decreases are fossil fuel-related: Oil and Gas Extraction (-51.2%), Pipeline Transportation (-34.5%), and Support Activities for Mining (-32.9%). This is mainly likely a result of two factors: 1.) These industries are relatively small compared to other high-wage industry subsectors, therefore employment percent changes tend to be more volatile, and 2.) California has taken a very firm stance in reducing greenhouse gas emissions with specific goals—reduction of GHG emissions to 1990 levels by 2020 (AB 32) and 40 percent below 1990 levels by 2030 (SB 32)—and the nature of these three industries is at odds with the state's environmental goals.

Middle-Wage Industry Subsectors

Beacon Economics estimates that there are roughly 6.4 million jobs in middle-wage industry subsectors in California—38 percent of all nonfarm jobs in Q2 2017. This represents 6.8 percent growth (seasonally-adjusted) since Q4 2014. Most middle-wage jobs are in Educational Services, including teachers, professors, and instructors, as well as education support staff. The QCEW data indicate that this industry includes roughly 1.5 million employees, making up 23 percent of the state's middle-wage employment. Other major middle-wage industry subsectors include Administrative and Support Services, Ambulatory Health Care Services, and Specialty Trade Contractors. All top-ten middle-wage industry subsectors increased in both employment and average wage since Q4 2014.

Among the ten largest middle-wage industry subsectors, employment in the Specialty Trade Contractors industry subsector has expanded by 19.4 percent, followed by Ambulatory Health Care Services (10.4%) and Motor Vehicle and Parts Dealers (9.1%) since Q4 2014. Compared to the high-wage top ten counterparts, the ten largest middle-wage industry subsectors have significantly larger wage gains, with five subsectors posting more than 10 percent wage increases since Q4 2014 compared to two top-ten high-wage industry subsectors.

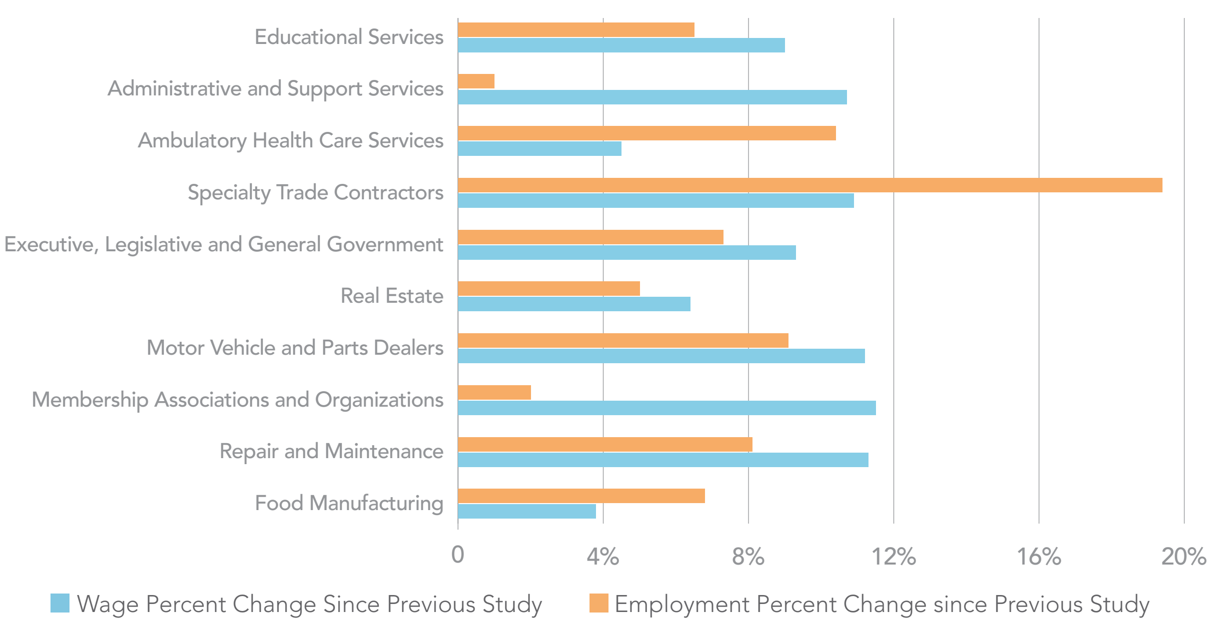
Table 2: California Top Ten Middle Wage Industries by Employment, Q2-17

Industry Subsectors	Employment (Thousands)	Employment Change since Previous Study (Percentage)	Average Annual Wage	Wage Change since Previous Study (Percentage)
Educational Services	1,485	6.5%	$56,209	9.0%
Administrative and Support Services	1,040	1.0%	$42,705	10.7%
Ambulatory Health Care Services	811	10.4%	$68,333	4.5%
Specialty Trade Contractors	534	19.4%	$60,574	10.9%
Executive, Legislative and General Government	222	7.3%	$69,958	9.3%
Real Estate	214	5.0%	$63,455	6.4%
Motor Vehicle and Parts Dealers	200	9.1%	$56,267	11.2%
Membership Associations and Organizations	165	2.0%	$45,457	11.5%
Repair and Maintenance	162	8.1%	$44,046	11.3%
Food Manufacturing	160	6.8%	$46,757	3.8%

Source: Quarterly Census of Employment and Wages

Figure 3. Employment and Wage Percent Change

Top-Ten Largest Middle-Wage Industry Subsectors by Employment Size, Q4 2014 vs. Q2 2017



Source: American Community Survey Public Use Microdata Samples; Tabulations by Beacon Economics

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Table 3: California Top Ten Low Wage Industries by Employment, Q2-17

Industry Subsectors	Employment (Thousands)	Employment Change since Previous Study (Percentage)	Average Annual Wage	Wage Change since Previous Study (Percentage)
Food Services and Drinking Places	1,421	11.6%	$21,966	16.9%
Social Assistance	770	16.0%	$20,023	13.2%
Food and Beverage Stores	360	0.4%	$29,260	4.5%
Nursing and Residential Care Facilities	297	6.5%	$34,548	10.9%
General Merchandise Stores	285	-15.7%	$26,169	8.6%
Amusements, Gambling, and Recreation	260	10.8%	$27,049	0.8%
Agriculture and Forestry Support Activities	252	32.0%	$29,706	15.9%
Accommodation	247	7.8%	$35,365	10.4%
Clothing and Clothing Accessories Stores	189	-1.4%	$24,277	4.7%
Crop Production	184	9.1%	$35,105	11.5%

Source: Quarterly Census of Employment and Wages

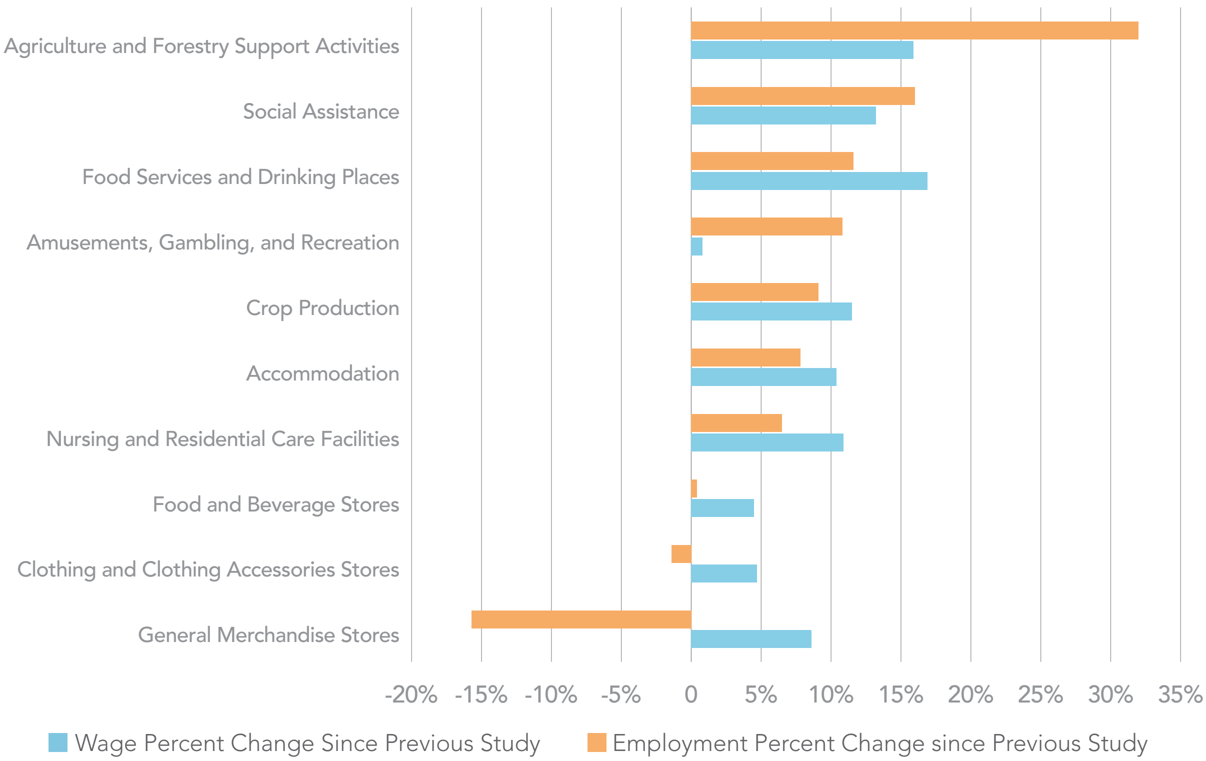
Low-Wage Industry Subsectors

Conversely, low-wage employment is less diverse, spanning 21 industry subsectors, compared to 43 high-wage industry subsectors and 36 middle-wage industry subsectors. Overall, this study estimates that there are roughly 5.0 million low-wage jobs in California—almost 30 percent of all nonfarm jobs and up 6.8 percent from Q4 2014. Of total low-wage employment, 62.2 percent can be found in five primary sectors: Leisure and Hospitality; Private Households; Health Care Services; Retail Trade; and Agriculture. This is similar to the middle-wage industry subsectors, in which the top five largest industry subsectors by employment made up 63.9 percent of total employment. It is worth noting that the Health Care Services sector contains three-digit NAICS industry subsectors in both the high- and low-wage categories,[7] underscoring the importance of examining more detailed data rather than looking at just the average[8] wages at the super sector level.

7 Hospitals (NAICS 622) and Health and Personal Care Stores (NAICS 446), respectively.
8 Unless otherwise stated, average refers to mean throughout the report.

Figure 4. Employment and Wage Percentage Change

Top-Ten Largest Low-Wage Industry Subsectors by Employment Size, Q4 2014 vs. Q2 2017



Source: American Community Survey Public Use Microdata Samples; Tabulations by Beacon Economics

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Accounting for 28.2 percent of the state's low-wage employment, the Food Services and Drinking Places three-digit industry (NAICS 722) has expanded to include more than a quarter of low- wage employees. The industry, which includes such jobs as waiters and kitchen staff, now has slightly more than 1.4 million workers, up 11.6 percent from Q4 2014. This industry is made up of restaurants and bars, which provide some of the lowest annual wages in California, averaging $21,966 a year, though this is a 16.9 percent improvement over Q4 2014. Among the ten largest low-wage industry subsectors by jobs is the Social Assistance Services industry. With an average annual wage of $20,023, it is the lowest-wage industry in the state although this represents an increase of 13.2 percent over the $17,689 average reported for Q4 2014.

Among the ten largest low-wage industry subsectors, employment in the Agriculture and Forestry Support Activities industry subsector has increased 32.0 percent, followed by Social Assistance (16.0%) and Food Services and Drinking Places (11.6%) since Q4 2014. General Merchandise Stores had showed a 15.7 percent employment loss during the same period. Compared to the high-wage top-ten counterparts, the ten largest low-wage industry subsectors have significantly better wage percentage gains, with six subsectors posting more than 10 percent wage increases since Q4 2014 compared to two top ten high-wage industry subsectors.

Table 4: Top Ten States for Low Wage Growth
Q4 2014 vs. Q2 2017

	Q2-2017		Growth Since Q4-2014 (%)		
State	Employment	Average Annual Wage	Employment	Wages	Wage Growth Rank
Washington	929,832	27,705	3.5%	12.6%	1
Minnesota	779,018	24,481	4.6%	11.0%	2
Oregon	565,342	24,763	8.2%	9.4%	3
Maine	184,802	23,938	2.6%	9.4%	4
Hawaii	234,014	31,555	4.7%	8.9%	5
Massachusetts	957,038	28,030	4.3%	8.9%	6
California	4,996,866	26,951	6.8%	8.9%	7
Maryland	680,609	26,229	2.8%	8.9%	8
Idaho	199,389	23,191	8.2%	8.7%	9
Michigan	1,101,562	23,523	4.3%	8.6%	10

Source: Quarterly Census of Employment and Wages

Low-Wage Industry Growth in California Relative to the United States

From Q4 2014 to the second quarter of 2017, low-wage employment in California has expanded 6.8 percent on a seasonally adjusted basis, the eighth highest growth rate in the nation in this period. Oregon held the top ranking with a 9.4 percent increase over the same period.

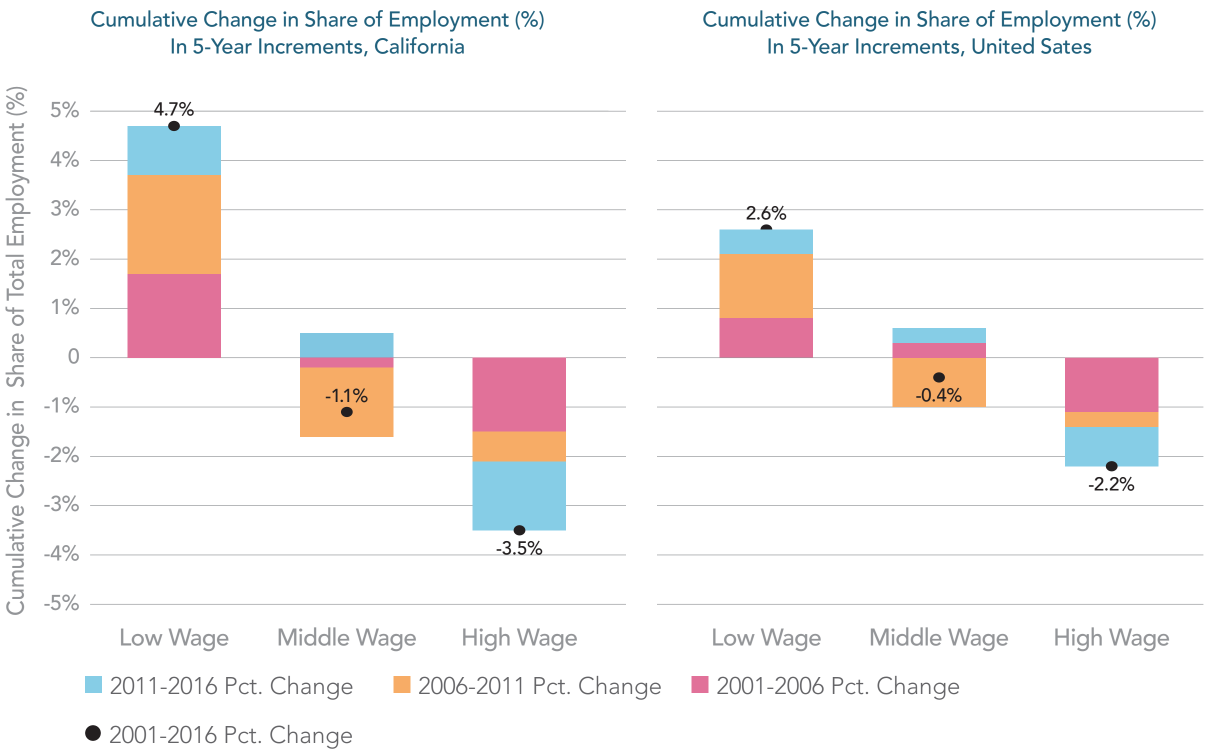
Not only does California rank high among the states for low-wage employment growth since the previous study, Florida and Texas, which previously showed high employment growth in the low-wage sectors, are no longer in the top ten as of this update.

One important consideration for low-wage job growth is the Tourism industry, which had been doing quite well across the nation until recently.[9,10] Food Services and Drinking Places (NAICS 722) and Accommodation (NAICS 721) employment are among the largest low-wage industry subsectors, and labor demand in these establishments stems

9 Data from the National Travel & Tourism Office indicates that as of August 2017 year-to-date, the number of international visitors dropped by 3.6% from August 2016. Canada was the only region that had an increase in international arrivals to the U.S. For more information, please visit the NTTO's I-94 Program at: https://travel.trade.gov/view/m-2017-I-001/index.asp

10 On the other hand, both domestic and international arrivals in California have bucked the national trend. Data from Visit California indicates that from January to November year-to-date, domestic arrivals and international arrivals have increased by 5.5% and 9.0%, respectively, compared to 2016 year-to-date. Relevant data can be accessed at: https://industry.visitcalifornia.com/en/Research/Report/California%20Airport%20Passenger%20Traffic%20November%202017

Figure 5. Cumulative Change in Share of Employment (Percent) in 5-Year Increments, California (Left) and United States (Right), by Wage Industry Subsectors, 2001 to 2016



Source: Quarterly Census of Employment and Wages; Tabulations by Beacon Economics

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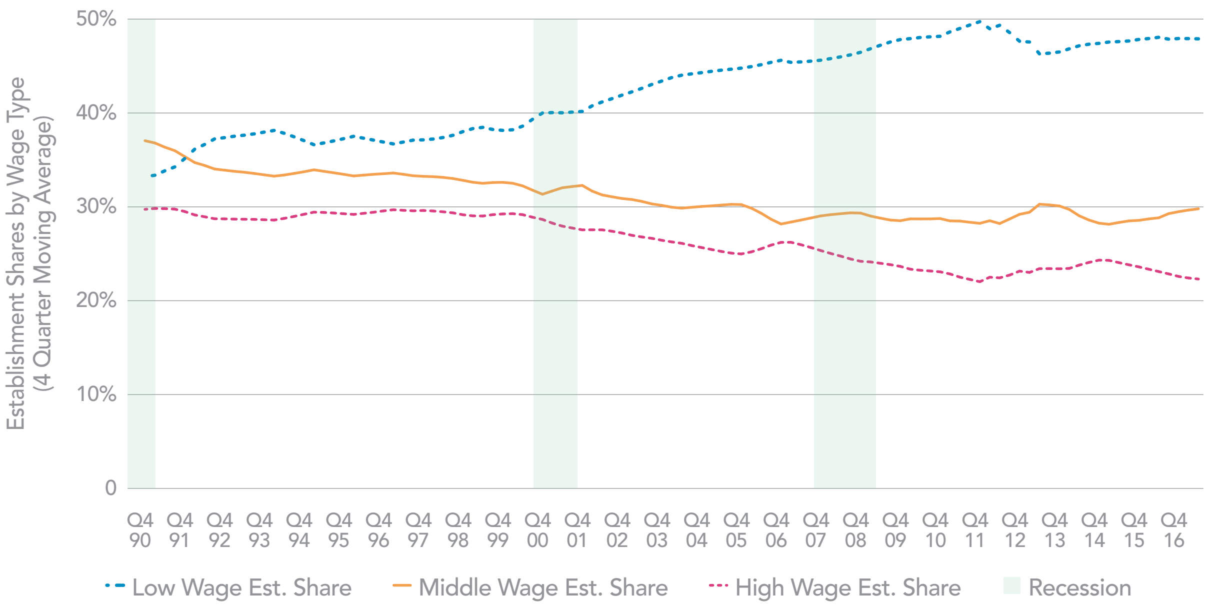
primarily from tourism and recreational activities. It is no surprise California has outperformed the United States in terms of employment gains in low-wage industry subsectors. Another important consideration is that demand for services provided by those employed in these subsectors also increases as the economy continues to expand. Although business travel will also support these industry subsectors, expansion of these jobs is an indication of a growing economy in which individuals and businesses can increase travel spending.

Perhaps a silver lining for those employed in the low-wage industry subsectors is that California had one of the highest wage growths compared to other states since Q4 2014 (the end of the previous study).

Low-Wage Share of Industry Subsectors in California

The share of employment in low-wage industry subsectors has gradually risen over the years in both California and the nation overall. In 2001, the share of employment in low-wage industry subsectors was 24.7 percent in California and the same in the nation overall. As of 2016, the shares have risen to 29.4 percent and 27.3 percent, respectively. On the other hand, the share of high-wage industry subsectors has continued to erode, especially in California, with the share down 1.5 percent from 2011.

Figure 6. California Establishment Shares by Wage Type
Q1 1991 to Q2 2017



Source: Quarterly Census of Employment and Wages

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From 2001 to 2016,[11] the share of employment in low-wage industry subsectors has risen in both California and the nation overall while the shares of employment in middle- and high-wage industry subsectors have shrunk. The overall situation, however, is worse in California comparatively, where the share of employment in low-wage industry subsectors has increased by 4.7 percent compared to 2.6 percent nationwide. On the other hand, the share of employment in high-wage industry subsectors has fallen 3.5 percent in California compared to 2.2 percent nationwide.

Low-wage jobs in California are concentrated in fewer industry subsectors than are high-wage jobs. Of the 100 industry subsectors at the three-digit NAICS level, 21 are classified as low-wage, 36 are classified as middle-wage, and 43 are considered high-wage.

Although low-wage jobs are found in a narrower spectrum of industry subsectors in California, the same cannot be said for the number of establishments in the state. As of Q2 2017, the number of business establishments in low-wage industry subsectors made up 48.2 percent of all establishments, an increase of 1.9 percent over Q4 2014. In addition, California continues to rank the highest in the nation in its share of establishments in low-wage industry subsectors, unchanged from the previous study. By comparison, the national average is 29.6 percent (down 0.2% compared to Q4 2014) while Arizona has the lowest share at 20.7 percent.

11 As the QCEW data go through the second quarter of 2017, 2016 is used here instead of 2017.

Figure 7. California Employment Shares by Wage Type
Q1 1991 to Q2 2017

Source: Quarterly Census of Employment and Wages

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Looking back, a worrying trend emerges: The share of establishments in low-wage industry subsectors has been increasing while the shares of establishments in middle- and high-wage industry subsectors have been decreasing. Low-wage establishments reached an all-time high of almost 50 percent of existing establishments in California in the fourth quarter of 2011, while the share of high-wage establishments dipped to a record low 22 percent in the same quarter. Although in the past there has been a higher share of middle-wage than low-wage establishments, this has been reversed since the first quarter of 1992 and, as of Q2 2017, the share of low-wage establishments stands at 48 percent, or 18 percent above the share of middle-wage establishments. The share of high-wage establishments stands at 22.3 percent, less than half of that of low-wage establishments. Compared to Q4 2014, the number of establishments has increased by 8.5 percent. However, the number of establishments in high-wage industry subsectors has fallen 0.5 percent. The numbers of middle-wage and low-wage establishments have increased 11.8 percent and 11.0 percent, respectively, during the same period.

Mirroring the trends of establishments by wage type, employment shares by wage type have seen an increasing share of employment in low-wage industry subsectors and a decreasing share of employment in high-wage -subsectors. Although total employment in the low-wage subsector is still less than the totals of the high-wage and middle-wage subsectors, the high-wage - subsectors' lead over the low-wage subsectors has narrowed from 8.7 percent in the second quarter of 2007 to 3.8 percent in Q2 2017.

Table 5: Top Ten States for Professional and Technical Services Industry Subsector Growth
Including California, Q4 2014 vs. Q2 2017, Seasonally Adjusted

State	Q2-2017 Employment	Percentage Growth Since Q4-2014	Jobs Added Since Q4-2014	Job Growth Rank
Missouri	160,413	14.7%	20,543	1
New Hampshire	37,941	14.2%	4,723	2
North Carolina	242,597	13.0%	27,821	3
Utah	95,517	11.7%	10,000	4
Tennessee	137,061	11.4%	14,068	5
South Carolina	97,300	10.6%	9,301	6
Minnesota	159,291	10.6%	15,203	7
Florida	547,033	9.9%	49,416	8
Idaho	35,937	9.7%	3,180	9
Montana	22,203	9.6%	1,943	10
California	1,233,472	4.2%	49,881	33

Source: Quarterly Census of Employment and Wages

Leading High-Wage Industry Subsectors in California

Since the previous study, high-wage job creation in California has continued to expand but at a slower rate. Since the post-recession period and up to Q2 2017, the average wage for high-wage industry subsectors has increased 8.8 percent, reaching $83,600.[12] The national growth has been greater, increasing 9.5 percent in the same period. However, the national average wage is $3,000 less than the California average for high-wage industry compensation.

As previously mentioned, leading the high-wage industry subsectors, by employment count, is California's Professional and Technical Services industry subsector (NAICS 541). The newest QCEW data suggest, however, that California's growth in this subsector has shrunk in the most recent quarters. Since Q4 2014, employment in this industry subsector has grown 4.2 percent on a seasonally adjusted basis, or 3.1 percent on a seasonally unadjusted basis, the thirty-third fastest growth rate in the nation over that period. Growth in this subsector in California lagged behind the national average seasonally adjusted growth of 6.1 percent. The state with the fastest growth for Professional and Technical Services employment was Missouri, with 14.7 percent growth over the same period. California also compares unfavorably to the top out-migration states: Texas (6.5%), Arizona (7.7%), Nevada (9.4%), Oregon (9.4%), and Washington (7.3%).

12 Although the Great Recession officially ended in the second quarter of 2009, for the purpose of this report post-recession period begins at the fourth quarter of 2009.

California has by far the largest Professional and Technical Services industry subsector in the nation. As of Q2 2017, it had 1.2 million employees, representing 13.2 percent of the national industry. Despite having a modest percentage growth rate, California ranks first by the absolute numbers of jobs added in the subsector, ahead of Florida (49,416) and Texas (45,210).

California's third largest high-wage industry, Merchant Wholesalers of Durable Goods (NAICS 423), has also seen large increases in employment throughout the nation. Between the post-recession period and Q2 2017, employment nationally has gone up 8.3 percent. California recently has gone up a few ranks, finishing at 13th place. Total growth between the post-recession period and Q2 2017 was 12.6 percent, which outpaces the national average of 8.3 percent. North Dakota remains number one with 28.4 percent growth over the same period.

Focusing on just the period since Q4 2014, California performed relatively well. From Q4 2014 to Q2 2017, the subsector grew 2.2 percent in California, considerably ahead of the U.S. average growth rate of 0.7 percent, finishing at 19th place. Idaho, Maine, and Colorado reported the highest growth rates at 8.5 percent, 8.2 percent, and 7.7 percent, respectively. As in the Professional and Technical Services subsector, the higher-ranked states had smaller bases to begin with and are seeing faster growth. California already had a sizeable employment base in these subsectors.

The Management of Companies industry (NAICS 551), which became the eighth largest high-wage industry in California, has expanded 19.2 percent between the post-recession period and Q2 2017. However, the industry trails behind the national growth of 24.1 percent in the same period. California's subsector was ranked 30th for growth between the fourth quarter of 2009 and Q2 2017. Among large states, Texas dominated the growth with a 71.6 percent increase in employment between the fourth quarter of 2009 and Q2 2017. If narrowing the period to the period from Q4 2014 to Q2 2017, California's ranking slips to 33rd place with a 2.3 percent growth rate. By comparison, the industry grew by 14.4 percent in Texas during the same period. Employment of the Management of Companies subsector grew by 5.1 percent nationwide during the same period.

The Hospital industry (NAICS 622) is a powerhouse for high-wage employment, ranking second in California for high-wage employment. However, growth has been slow compared to the national level. In 2014, the industry contracted as national numbers grew. As of Q2 2017, however, growth appeared to have improved slightly. Employment between the fourth quarter of 2009 and Q2 2017 for the Hospital industry went up 2.4 percent. This still lags far behind the national level, which grew 7.3 percent within the same period. Much of the growth in this subsector occurred after 2014 in California. From Q4 2014 to Q2 2017, employment in the Hospital subsector grew 7.0 percent in California, outpacing Texas' 6.1 percent and the 4.9 percent average nationwide.

A few California's other large high-wage industry subsectors have grown more slowly than counterparts in other states during the post-recession period. In particular, employment growth in the Credit Intermediation (NAICS 522) and the Insurance Carrier industry (NA-

ICS 524) subsectors has trailed the national average. Between the fourth quarter of 2009 and Q2 2017, Credit Intermediation and Insurance Carrier industry subsectors grew by 2.5 percent and 3.2 percent in California, respectively. In contrast, the national average in the same period was 3.34 percent for Credit Intermediation and 10.8 percent for Insurance Carriers.

Middle-Wage Industry Subsectors in California

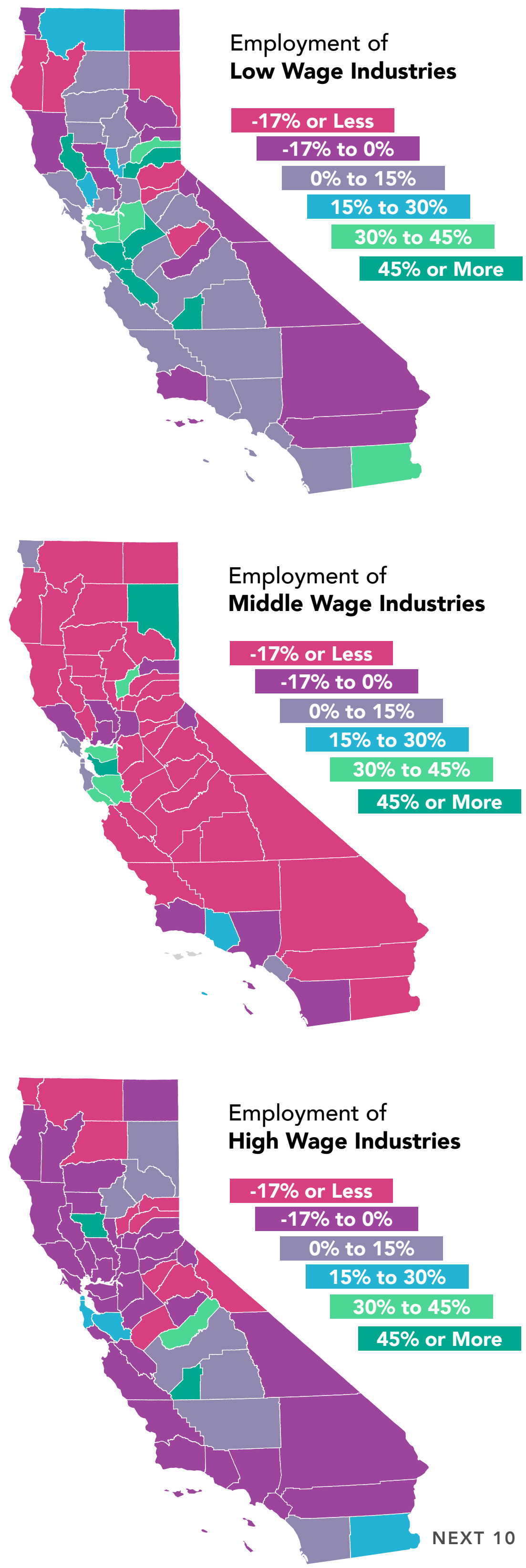
As have its high-wage industry subsectors, California's middle-wage industry subsectors have experienced rising employment counts than the nation overall, along with faster compensation growth. Between the fourth quarter of 2009 and Q2 2017, employment count increased 18.9 percent, far higher than the nationwide growth of 12.7 percent during the same period. Overall, California was the 10th fastest growing state in terms of employment growth in middle-wage industry subsectors, ahead of Texas, which placed 11th at 18.5 percent.

Average annual pay in the middle-wage industry subsectors has also increased faster in California than nationwide. Between the fourth quarter of 2009 and Q2 2017, average annual wages in California for middle-wage industry subsectors went up 12.3 percent, while the national middle wage average increased by 9.2 percent. California's middle-wage average remains $6,000 higher than the national average, at $55,500.

Regional Analysis

At the state level, employment gains among high-wage industry subsectors have lagged behind those among middle-

Map 1. Employment Percentage Change
(10 Years) Q2-2007 vs. Q2 2017 by Low-, Middle-, and High-Wage Industry Subsectors.



NEXT 10

Figure 8. Employment by Wage Type and Major Metro Areas
Q2-2007 to Q2 2017

Figure 8a. High Wage Industries

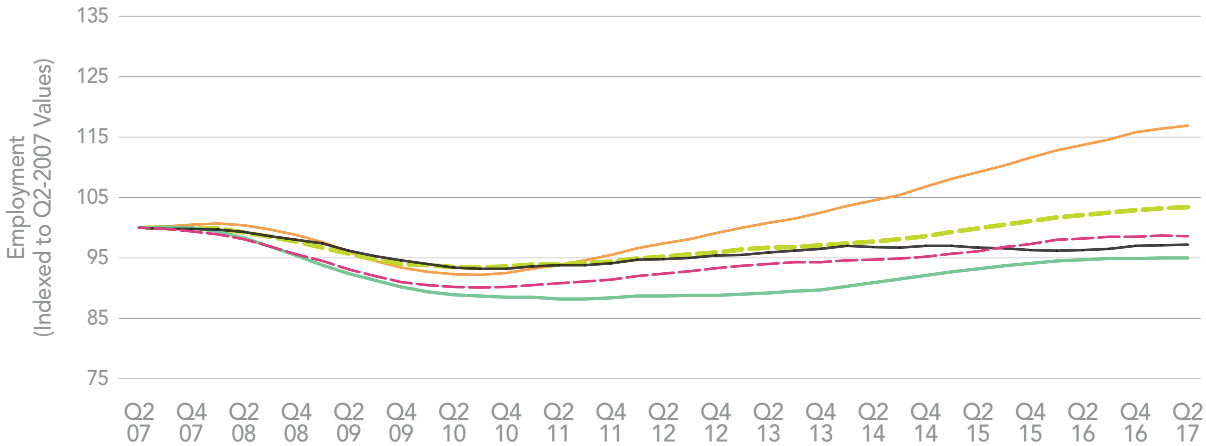


Figure 8b. Middle Wage Industries

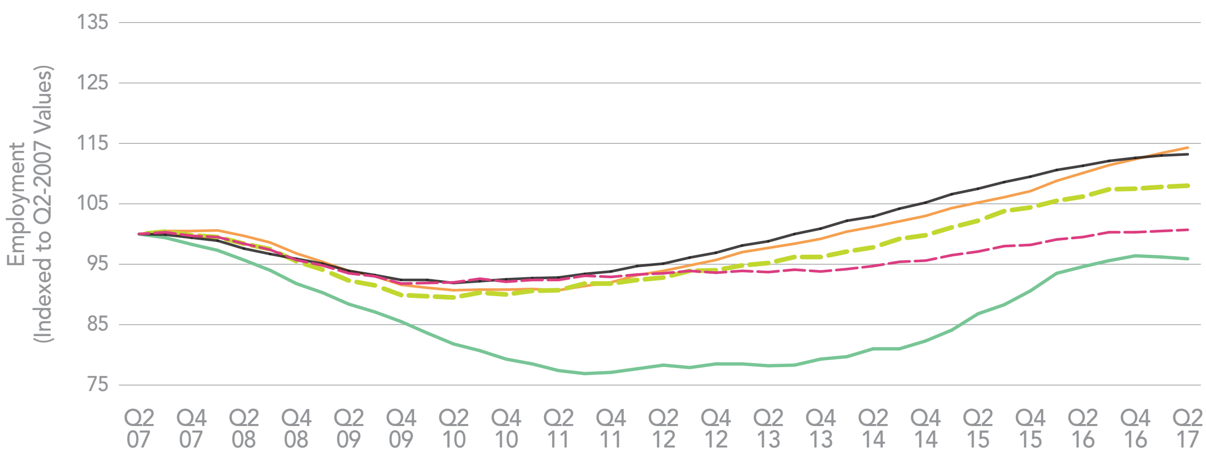
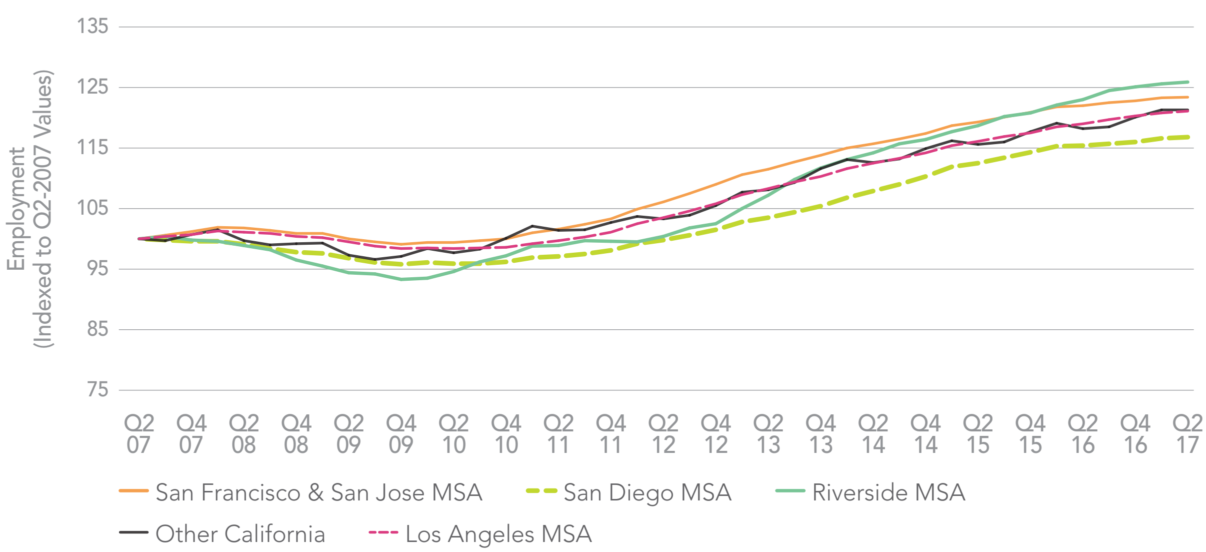


Figure 8c. Low Wage Industries



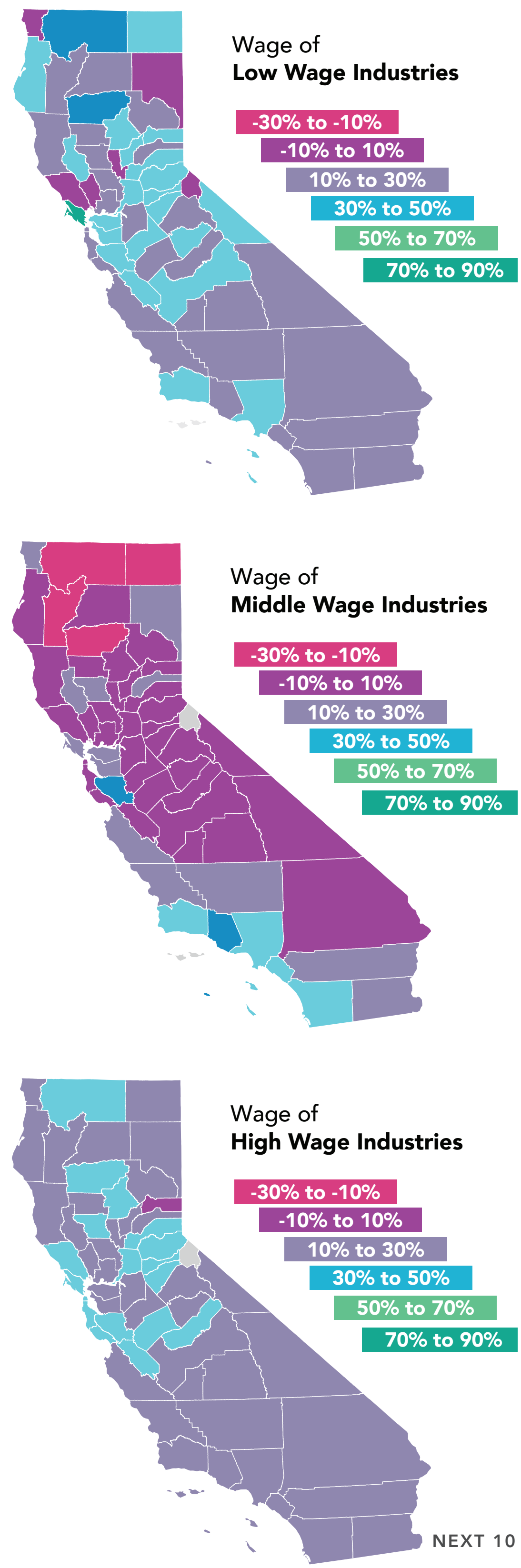
Source: Quarterly Census of Employment and Wages wage and low-wage -subsectors. At the county level, however, there exist great disparities in employment percentage change compared to ten years ago.

For example, at the heart of the Bay Area, both San Francisco County and San Mateo County have substantially above average employment increases in all low-, middle-, and high-wage industry sectors. Furthermore, the employment increases in the high-wage industry subsectors for both counties (39.9% and 34.0%, respectively) are higher than those in the middle-wage industry subsectors (29.0% and 25.9%, respectively), which are in turn higher than those in the low-wage industry subsectors (24.5% and 13.7%, respectively). In addition, Santa Clara County also has higher than average employment increases in high-wage (21.3%) and middle-wage industry subsectors (51.8%). As a result, the Bay Area has a much higher percentage of high-wage employment increases than other major metro areas and the rest of California.[13]

Compared to ten years ago (Q2 2007 to Q2 2017), employment increased by 16.9 percent in the Bay Area, whereas San Diego-Carlsbad MSA registered only a 3.4 percent increase during the same period. On the other hand, Los Angeles-Long Beach-Anaheim MSA (-1.4%), Riverside-San Bernardino-Ontario MSA (-5.0%), and other parts of California (-2.8%) had fewer jobs in high-wage industry subsector in

Map 2. Wage Percentage Change (10 Years)

Q2-2007 vs. Q2 2017 by Low, Middle, and High Wage Industry Subsectors



13 For the purposes of this report, the Bay Area is defined as Alameda, Contra Costa, Marin, San Francisco, San Mateo, and Santa Clara counties. Although San Benito County is part of San Jose-Sunnyvale-Santa Clara MSA, the employment profile in San Benito County is fundamentally very different from that of the other Bay Area counties.

Q2 2017 than in Q2 2007. As Figure 8B indicates, these metro areas also lagged behind the Bay Area in term of middle wage industries subsector job growth.

As for wages, no county reported a decrease in average wages in Q2 2017 compared to the second quarter of 2007 in either high-wage or low-wage subsectors. For high-wage subsectors, thanks to the recent tech boom, San Francisco, San Mateo, and Santa Clara counties saw 45.6 percent, 88.1 percent, and 64.3 percent increases, respectively, during the ten-year period. Alameda (37.4%), Contra Costa (27.8%), and Marin (26.2%) counties, also had gains in wages in the high-wage subsectors during the same period. Growth in high-wage employment in Los Angeles, Orange, Riverside, San Bernardino, and San Diego Counties was slower but more evenly distributed, ranging from an increase of 25.4 percent in Riverside County to 31.6 percent in Los Angeles County.

In contrast, percentages of wage change in middle-wage subsectors have diverged from the general trends in high-wage and low-wage subsectors. Counties with at least a 10 percent decrease in middle-wages are in far north and rural counties (Modoc, Siskiyou, Tehama, and Trinity). Counties with slightly negative average wage changes are mostly in the San Joaquin Valley and rural coastal northern region.[14] Finally, counties with modest middle-wages from the second quarter of 2007 to Q2 2017 are all in rural or Central and Northern California.[15]

Summary

This report examined low-, middle-, and high-wage industry growth in California and illustrated how that growth compares to the rest of the nation. Although California ranks high in low-wage job creation post-recession, it is also home to numerous subsectors that are leading the country in high-wage job creation. Additionally, compensation in high-wage and middle-wage industry subsectors in California is growing faster than in the nation overall.

Over the time period analyzed, California continued to dominate low-wage employment growth, while Texas and Florida, which used to appear in the top 10 lists for low-wage employment growth, no longer do.

In California, and throughout the United States, large numbers of low-wage jobs were created during the post-recession period. Although this has not helped to raise household incomes over the last few years, it is not necessarily a sign of a weak economy. Several of the low-wage industry subsectors experiencing major employment increases are part of the broader tourism and travel industry. Recreation and business travel have increased as the overall economy has recovered from the recession. Demand for these services is ultimately a sign of strength. From an economy-wide perspective, it is perhaps more important, that the state and nation overall

14 This includes Glenn, Humboldt, Kings, Mendocino, Merced, Napa, Plumas, San Benito, Solano, Stanislaus, Tulare, and Yolo Counties.

15 This includes Amador, Butte, Calaveras, El Dorado, Fresno, Inyo, Madera, Mariposa, Mono, Placer, Sacramento, San Bernardino, San Joaquin, Shasta, Sonoma, Sutter, Tuolumne, and Yuba Counties.

are also creating high-wage jobs for skilled workers. However, the lagging wage growth in the low-wage industries of California underscores the challenges facing many low-income families who have had to migrate to more affordable places to live.[16]

Ultimately, wages are a function of skills and the demand for those skills. Given California's role as a leader in both tourism and technology, the state should expect to continue creating a mix of high-, middle- and low-wage jobs as businesses invest, construction picks up, consumers increase spending, and tourists continue to travel. California needs to maintain its focus on growing the most skilled and educated workforce in the nation in order to unlock high wage opportunities for more of its residents and enable the high-tech sectors that have become synonymous with the state to flourish. However, California also needs to provide jobs and parallel wage growth for those who are employed in lower-skill or lower-wage industries. With jobs growing across the spectrum of wage categories and general economic conditions continuing to improve, there is breathing room available to begin working toward wage growth across all income segments in order to ensure low and middle income Californians are able to continue supporting and contributing to a robust economy while affording the increasing cost of living.

16 For more on migration patterns in California, see XXXX brief

APPENDIX

Figure A1: Industry Subsector by NAICS Code and Wage Group

State	Q2-2017 Employment	Job Growth Rank
111	Crop Production	Low
112	Animal Production and Aquaculture	Low
113	Forestry and Logging	Middle
114	Fishing, Hunting and Trapping	High
115	Support Activities for Agriculture and Forestry	Low
211	Oil and Gas Extraction	High
212	Mining (except Oil and Gas)	High
213	Support Activities for Mining	High
221	Utilities	High
236	Construction of Buildings	High
237	Heavy and Civil Engineering Construction	High
238	Specialty Trade Contractors	Middle
311	Food Manufacturing	Middle
312	Beverage and Tobacco Product Manufacturing	Middle
313	Textile Mills	Middle
314	Textile Product Mills	Middle
315	Apparel Manufacturing	Middle
316	Leather and Allied Product Manufacturing	Middle
321	Wood Product Manufacturing	Middle
322	Paper Manufacturing	High
323	Printing and Related Support Activities	Middle
324	Petroleum and Coal Products Manufacturing	High
325	Chemical Manufacturing	High
326	Plastics and Rubber Products Manufacturing	Middle
327	Nonmetallic Mineral Product Manufacturing	Middle

Figure A1: Industry Subsector by NAICS Code and Wage Group

State	Q2-2017 Employment	Job Growth Rank
331	Primary Metal Manufacturing	High
332	Fabricated Metal Product Manufacturing	Middle
333	Machinery Manufacturing	High
334	Computer and Electronic Product Manufacturing	High
335	Electrical Equipment, Appliance, and Component Manufacturing	High
336	Transportation Equipment Manufacturing	High
337	Furniture and Related Product Manufacturing	Middle
339	Miscellaneous Manufacturing	High
423	Merchant Wholesalers, Durable Goods	High
424	Merchant Wholesalers, Nondurable Goods	High
425	Wholesale Electronic Markets and Agents and Brokers	High
441	Motor Vehicle and Parts Dealers	Middle
442	Furniture and Home Furnishings Stores	Low
443	Electronics and Appliance Stores	Middle
444	Building Material and Garden Equipment and Supplies Dealers	Low
445	Food and Beverage Stores	Low
446	Health and Personal Care Stores	Low
447	Gasoline Stations	Low
448	Clothing and Clothing Accessories Stores	Low
451	Sporting Goods, Hobby, Musical Instrument, and Book Stores	Low
452	General Merchandise Stores	Low
453	Miscellaneous Store Retailers	Low
454	Nonstore Retailers	Middle
481	Air Transportation	High
482	Rail Transportation	Middle

Figure A1: Industry Subsector by NAICS Code and Wage Group

State	Q2-2017 Employment	Job Growth Rank
483	Water Transportation	High
484	Truck Transportation	Middle
485	Transit and Ground Passenger Transportation	Middle
486	Pipeline Transportation	High
487	Scenic and Sightseeing Transportation	Low
488	Support Activities for Transportation	Middle
491	Postal Service	Middle
492	Couriers and Messengers	Middle
493	Warehousing and Storage	Middle
511	Publishing Industries (except Internet)	High
512	Motion Picture and Sound Recording Industries	High
515	Broadcasting (except Internet)	High
517	Telecommunications	High
518	Data Processing, Hosting, and Related Services	High
519	Other Information Services	High
521	Monetary Authorities-Central Bank	High
522	Credit Intermediation and Related Activities	High
523	Securities, Commodity Contracts, and Other Financial Investments and Related Activities	High
524	Insurance Carriers and Related Activities	High
525	Funds, Trusts, and Other Financial Vehicles	High
531	Real Estate	Middle
532	Rental and Leasing Services	Middle
533	Lessors of Nonfinancial Intangible Assets (except Copyrighted Works)	High
541	Professional, Scientific, and Technical Services	High
551	Management of Companies and Enterprises	High
561	Administrative and Support Services	Middle

Figure A1: Industry Subsector by NAICS Code and Wage Group

State	Q2-2017 Employment	Job Growth Rank
562	Waste Management and Remediation Services	Middle
611	Educational Services	Middle
621	Ambulatory Health Care Services	Middle
622	Hospitals	High
623	Nursing and Residential Care Facilities	Low
624	Social Assistance	Low
711	Performing Arts, Spectator Sports, and Related Industries	High
712	Museums, Historical Sites, and Similar Institutions	Low
713	Amusement, Gambling, and Recreation Industries	Low
721	Accommodation	Low
722	Food Services and Drinking Places	Low
811	Repair and Maintenance	Middle
812	Personal and Laundry Services	Low
813	Religious, Grant-making, Civic, Professional, and Similar Organizations	Middle
814	Private Households	Low
921	Executive, Legislative, and Other General Government Support	Middle
922	Justice, Public Order, and Safety Activities	High
923	Administration of Human Resource Programs	High
924	Administration of Environmental Quality Programs	Middle
925	Administration of Housing Programs, Urban Planning, and Community Development	Middle
926	Administration of Economic Programs	High
927	Space Research and Technology	High
928	National Security and International Affairs	High
999	Unclassified	Middle