

# CONNECTICUT'S SHORT-TERM EMPLOYMENT OUTLOOK 2015-2017

*Connecticut  
Department of Labor*

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***Connecticut's  
Short-Term Employment Outlook:  
2015-2017***

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*Office of Research, CT Department of Labor*

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***Overview of US Labor Market: Pages 2-27***

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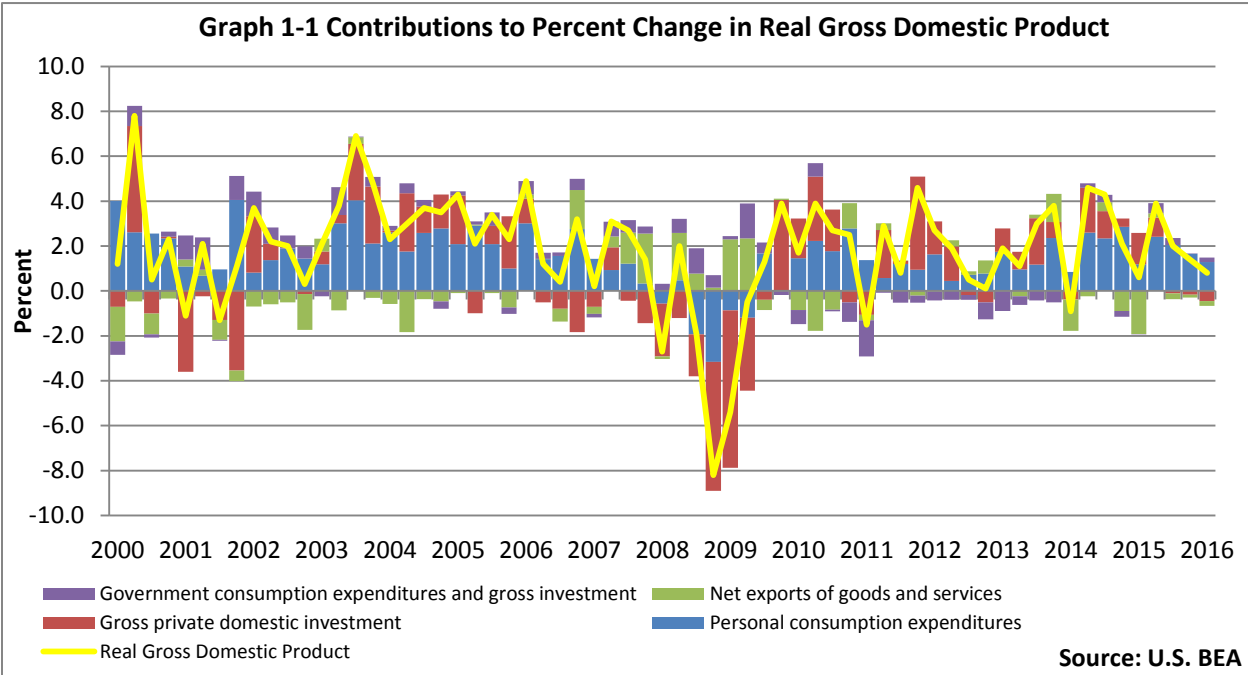
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# **United States Overview**

The US recession that lasted from December 2007 to June 2009 has had a significant impact on the labor market. Since the recession ended, jobs are up above their prerecession peak while the unemployment rate has fallen by almost fifty percent from peak levels. This brief overview of the US economy serves to contextualize the Connecticut outlook utilizing various measures of labor market performance to illustrate overarching US economic conditions. Some of the examined economic indicators include GDP, Resource Utilization, Business Conditions, Household Consumption, and various labor market measures. A roundup of various US-level GDP and employment forecasts concludes the section to illustrate what consensus expectations are for the US economy in the short term.

**GDP Component analysis C+I+G+NX**

Real Gross Domestic Product (GDP) is the value of US produced goods and services less the value of goods and services used up in production, adjusted for price changes.<sup>1</sup>



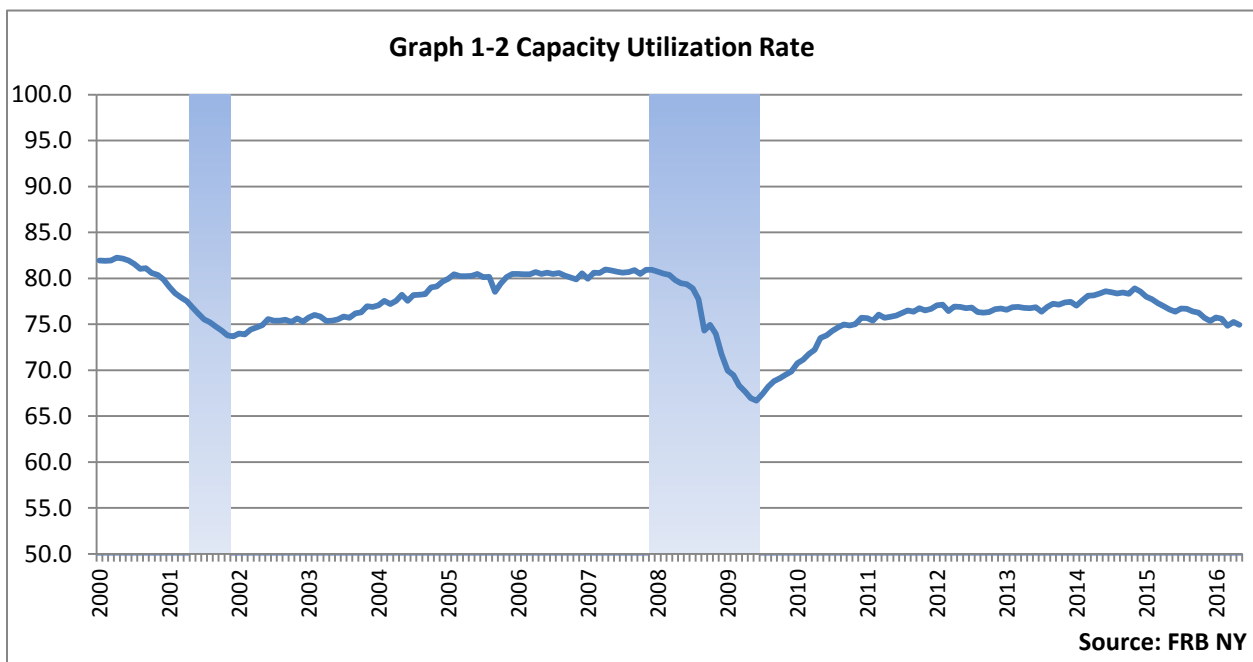
Graph 1-1 shows the varied contributions of the four components of GDP from 2000-2016. During the 2007-09 recession gross private domestic investment and personal consumption expenditures contributed the most to overall GDP declines. During the following years of recovery, government consumption, which had added to overall GDP during the recession, persisted as a drag on overall growth, excluding one-time temporary U.S. census hiring during the second quarter of 2010.

<sup>1</sup> U.S. Bureau of Economic Analysis. Gross Domestic Product: First Quarter 2016 (May 27, 2016).

In recent years, first quarter GDP numbers have typically been down over the prior quarter, and this trend continued into 2016. Net exports contributed less of a reduction to GDP in 2016 than it had in the beginning of 2015 or 2014. Another notable component shift in recent years is the slowdown in gross private domestic investment, which has been negative for the past three quarters of available data. Overall real GDP growth has trended downward since the second quarter of 2015, falling from 3.9 to 0.8 percent.

### **Resource Utilization**

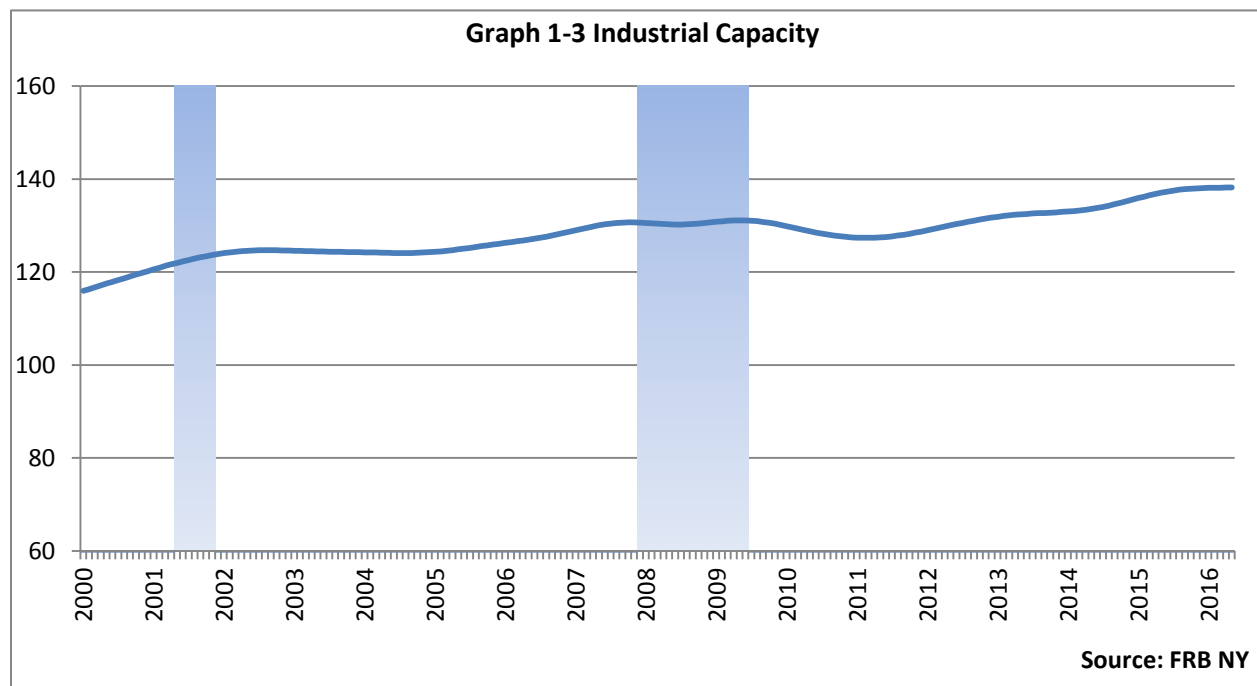
Capacity Utilization is a measure of the difference between actual output and potential output. Graph 1-2 shows the capacity utilization rate (CUR) from 2000-2016. During May 2009, CUR reached the lowest level of the entire post World War II era, when it was 68.56 percent.<sup>2</sup> From mid-2010 onward CUR held relatively flat, increasing slightly until a post-recession November 2014 peak of 78.89 percent. It has since slid downward for 15 out of 18 subsequent months of data and was 74.94 percent as of May 2016. A decrease in CUR indicates more slack in the productive capacity of the economy. This CUR decline coincides with a slowdown in Gross Private Domestic Investment, shown in graph 1-1 to have had negative quarter to quarter percent change from the second half of 2015 onward.



<sup>2</sup> Kennedy, Daniel. Current Conditions and Outlook for the U.S. and Connecticut Economies: 2009-2011. Connecticut Department of Labor. 2010.

## Industrial Capacity

Changes in capacity utilization can result from shifting rates of production or also expansions/contractions in overall industrial capacity. Graph 1-3 shows overall industrial capacity, therein the CUR decline during the recession occurred during relatively constant rates of industrial capacity, after the recession overall industrial capacity went down, during which the utilization rate went up. The post-November 2014 CUR decline in utilization coincides with an expansion in overall industrial capacity, and of the three major industry sectors that comprise capacity data (Manufacturing, Mining, and Utilities), Mining had the largest drop in CUR and also was the only sector to have overall capacity declines.<sup>3</sup> The Mining sector includes oil and gas extraction, which has been significantly impacted by the recent decrease in oil prices (see Graph 1-4), which has fallen by over 58% percent from a 2014 high of \$110.48 on 6/20/14 to \$46.24/barrel as of 6/20/16, exactly two years later<sup>4</sup>. Low oil prices do not necessarily spell out doom for domestic production, as the break-even point for various drilling operations varies significantly and in some cases is well below current market price.<sup>5</sup> Recent increases in oil prices indicate that industrial capacity derived from oil and gas extraction will increase in the short term.

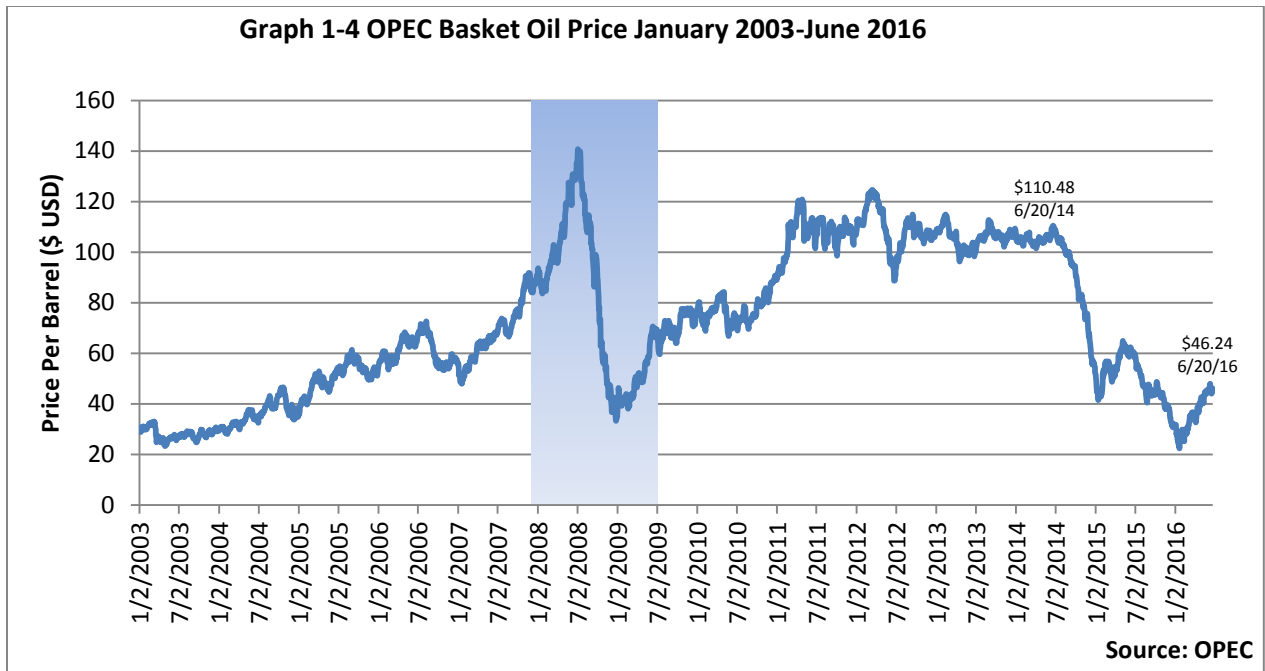


<sup>3</sup> FED. Industrial Production and Capacity Utilization – G.17.

<http://www.federalreserve.gov/Releases/g17/current/default.htm>

<sup>4</sup> OPEC. OPEC Daily Basket Price. June 21, 2016. [http://www.opec.org/opec\\_web/en/923.htm](http://www.opec.org/opec_web/en/923.htm)

<sup>5</sup> Bloomberg. Texas Isn't Scared of \$30 Oil. February 3, 2016.



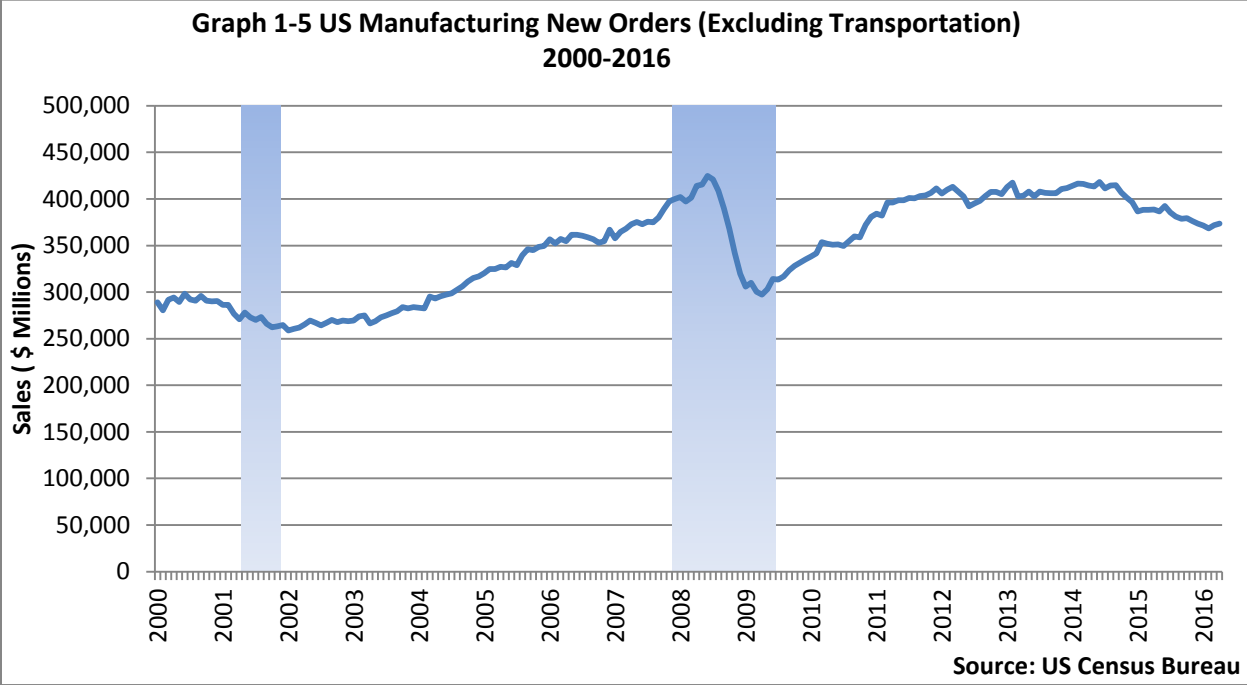
In addition to the aforementioned decline in domestic energy production, additional contributors to the decrease in industrial capacity are the strong US dollar and decreased export demand via weak overseas growth.<sup>6</sup> Despite these headwinds, a leading indicator of industrial production, the ISM manufacturing index has been above 50 pts since March 2016 and was at 53.2 pts in June, the highest level since early 2015. An index value above 50 indicates expansion.

### ***Business Conditions***

US Manufacturing New Orders (excluding transportation due to its volatility), shown in Graph 1-5, has slipped in recent years, beginning to fall in September 2014 from 414.75 billion to a low of 368.33 billion in February 2016. As of April (the most recent month of available data) it is up to 373.60 billion. The aforementioned ISM index indicates it will continue upward in coming months, with the June, 2016 new orders index at 57.0, up 1.3 percentage points from the prior month.<sup>7</sup>

<sup>6</sup> Wall Street Journal. ISM Manufacturing Index Climbed to Highest Level in 16 Months. June 15, 2016.

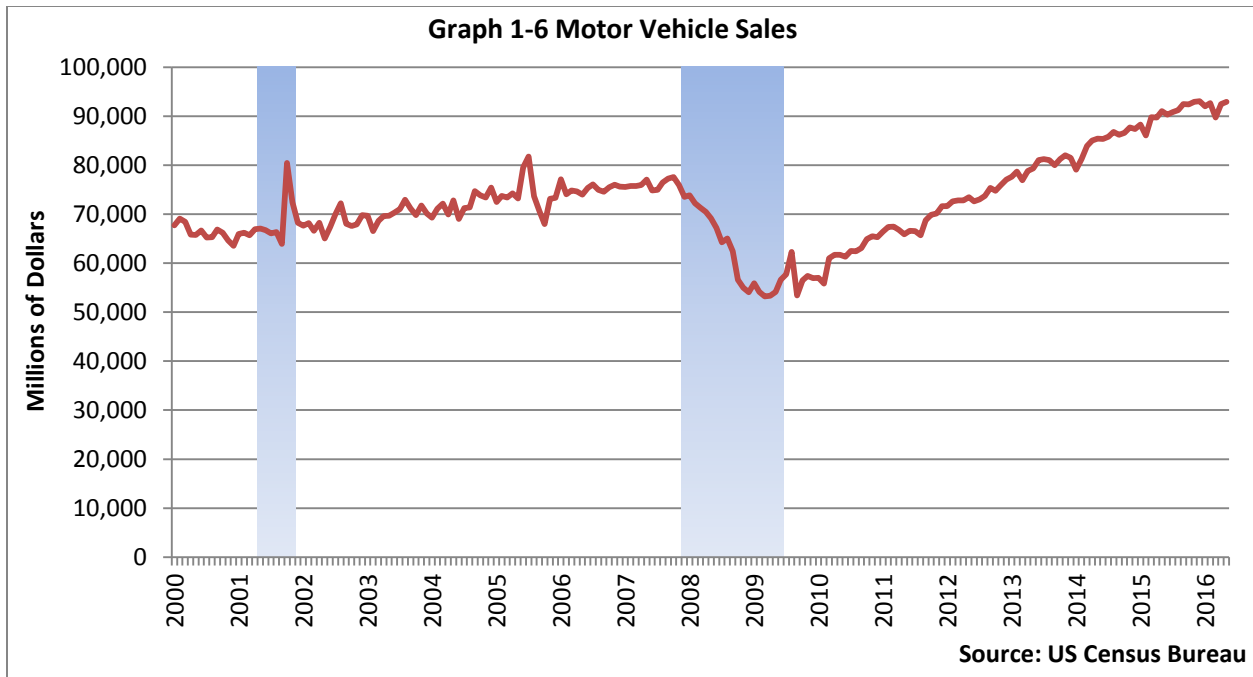
<sup>7</sup> Institute for Supply Management. June 2016 Manufacturing ISM Report on Business. July 1, 2016.



Motor vehicle sales are another important indicator of overall business conditions. Graph 1-6 shows total US motor vehicle sales from 2000 to 2016 and shows consistent growth in auto sales from the end of the recession through present day. The post-recession slope is steeper than the prior recovery and expansionary period from 2001-2007. This is due in part to increasing unit costs and also pent-up demand that occurred during the 2007-09 recession, when sales took a pronounced cyclical downturn. Interestingly, US DOT data available shows that the average age of light vehicles in the US hasn't exhibited corresponding cyclicity and has increased almost every year over year since 2001, increasing from 8.9 years old to 11.4 years old as of 2014. Average vehicle age started increasing at a faster rate from 2009 onward, with year over year change of between 0.2 and 0.3 points, whereas from 2003 to 2008 the year over year increase was between 0.0 and 0.1 points year over year.<sup>8</sup>

<sup>8</sup> US Department of Transportation. Table 1-26: Average Age of Automobiles and Trucks in Operation in the United States. Office of the Assistant Secretary for Research and Technology.





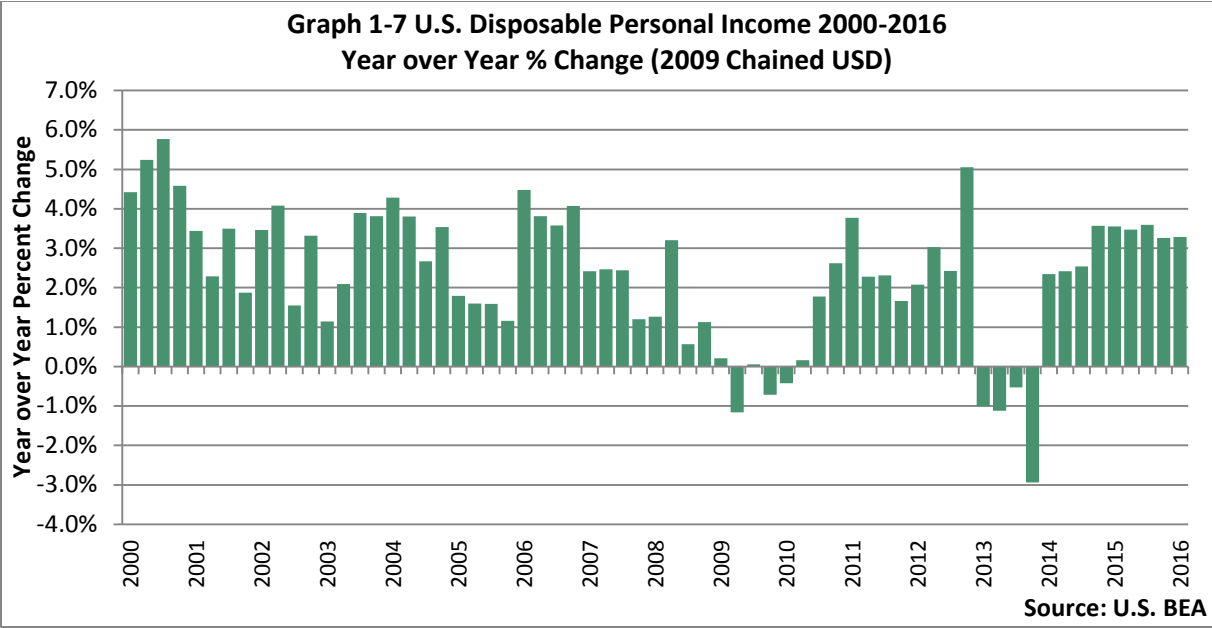
## ***Households***

### **Personal Income**

For the duration of the recession and into the early phase of recovery, quarter to quarter disposable personal income (DPI) saw inconsistent growth, oscillating from positive to negative change.<sup>9</sup> The pronounced 2012 Q4 uptick in DPI shown in Graph 1-7 (and Personal Savings on Graph 1-8) and corresponding drop in percent change in following quarters was due to various irregular payments in anticipation of changes to individual income tax rates in 2013.<sup>10</sup> After those one-time advanced irregular payments, quarterly gains have been consistently positive from 2014 through the first quarter of 2016.

<sup>9</sup> Kennedy, Daniel. Current Conditions and Outlook for the U.S. and CT Economies: 2009-11. CT DOL. 2010, p. 5.

<sup>10</sup> BEA. Personal Income and Outlays: December 2012. January 31, 2013.

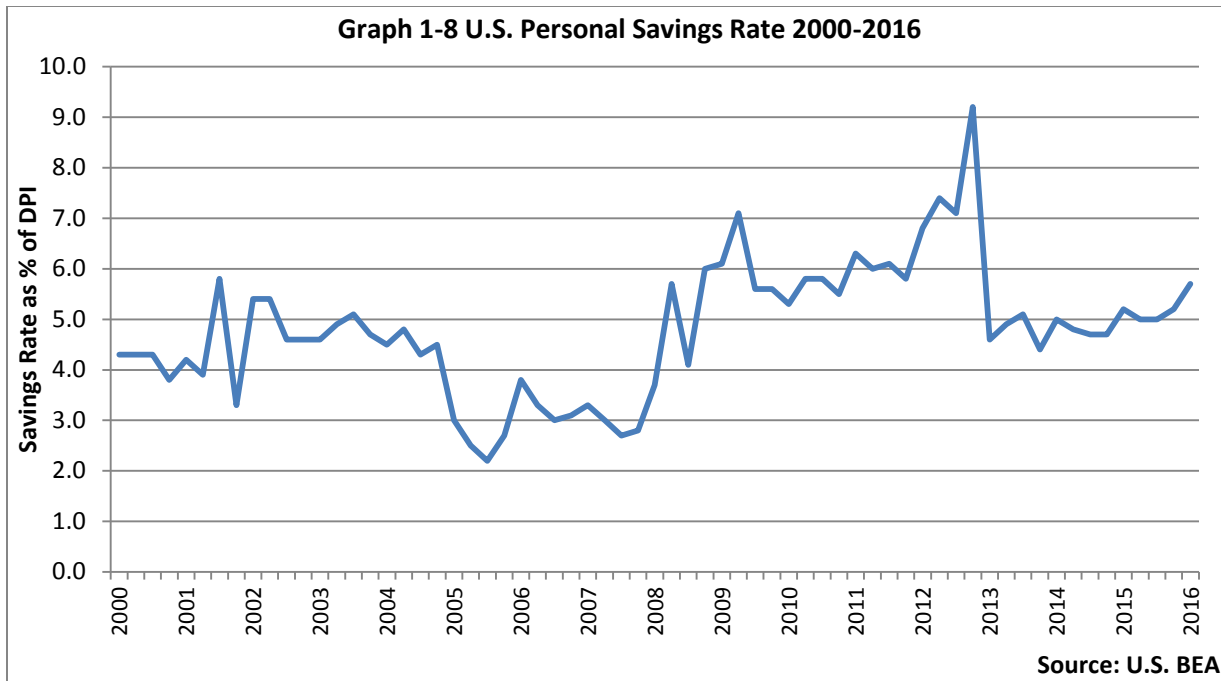


**Savings Rate as a Percentage of DPI**

A characteristic of the housing bubble and pre-recession period was a collapse in the savings rate as consumers tapped into home equity and took advantage of easy lending standards to increase consumption. A consequence of the collapse in home values and tightening of lending standards after the bursting of the housing bubble can be seen in Graph 1-8, which shows the personal savings rate as a percent of disposable personal income. The savings rate shot up during the first quarter of 2008 from below 3 percent to levels at times more than twice that. The pronounced uptick in the personal savings rate during the end of 2012 was due to aforementioned income tax rate changes. From 2013 onward, the savings rate as a share of DPI has steadily held around 5 percent and was 5.7 percent by the first quarter of 2016. This multi-year trend is in between lower 2005-2007 prerecession and 2008-2012 levels.

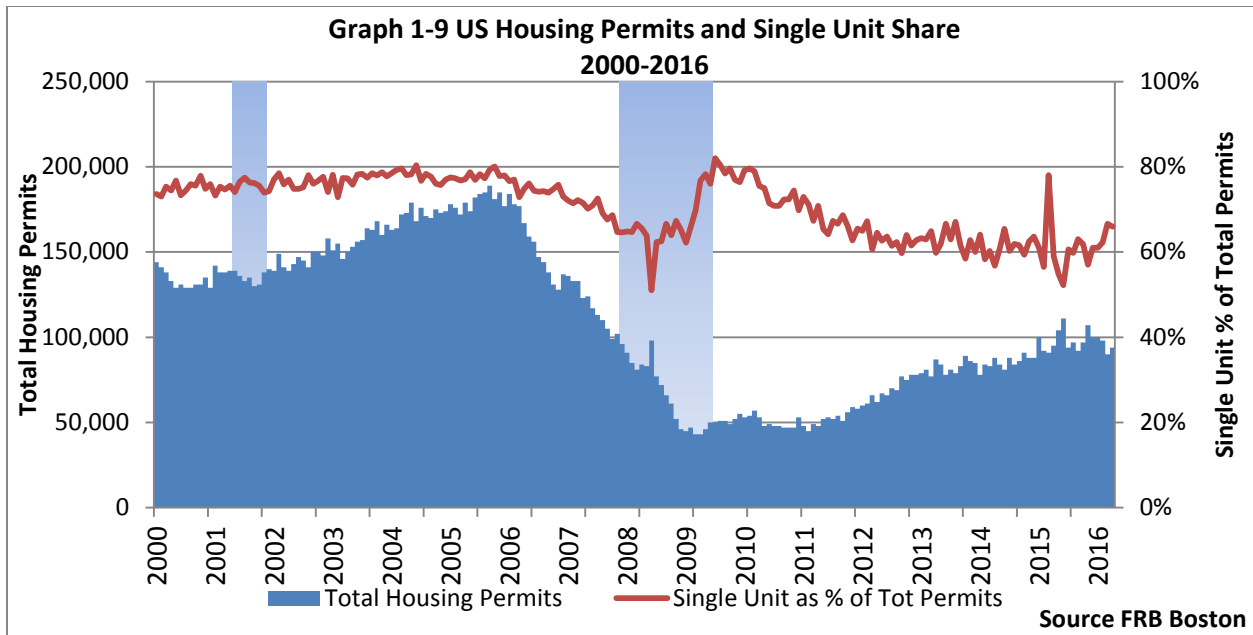
During the recession and recovery, changes to consumer behavior as they tightened their belts and deleveraged has clearly had an impact on household balance sheets. Recent accounts of consumer creditworthiness note that the share of subprime credit scores has fallen to the lowest level since 2005 and defaults are at levels not seen since 2004.<sup>11</sup> This credit score increase, coupled savings rates above prerecession levels and with other indicators shows that the deleveraging process has had a profound impact on consumers. The Household debt to GDP ratio is at its lowest since at least 2005, falling from a 2008Q1 peak of 99.03 to a 2015Q4 level of 79.95.<sup>12</sup>

<sup>11</sup> WSJ. Millions of U.S. Consumers are Escaping Subprime. June 22, 2016  
<sup>12</sup> St. Louis FED. Household Debt to GDP for the United States (HDTGPDUSQ163N). FRED Economic Data. June 2016



## **HOUSING**

Toward the end of the recession, single-unit permit share shot up, peaking at 80.4% of total permits in August 2009 (see Graph 1-9). This indicates that there was a significant slowdown in the construction for multi-unit housing during the end of the recession and early on in the recovery. The share of multi-unit housing permits has steadily increased since then, which corresponds with the rising popularity of urban and mixed-use development in recent years. This housing permit shift is indicated in Table 1-1, which shows the annual average single unit share of housing permits to gradually falls to 60.4% of total permits by 2015. During the recovery and expansion years of 2002 through 2007, single unit share ranged between 9.2% and 17.6% above 2015 levels.



The share of single unit housing construction is important to examine because it has a greater economic impact than multi-unit housing, requiring more construction workers per unit and also resulting in more consumer spending than corresponding multi-unit construction. Housing starts, another housing measure, indicates that multi-unit housing starts are at their highest level since 1989.<sup>13</sup>

**Table 1-1: Annual Average Single Unit Share of Total Housing Permits: 2000, 2005, 2010-2015**

2000	2005	2010	2011	2012	2013	2014	2015
75.1%	77.9%	74.2%	67.4%	63.0%	62.7%	61.2%	60.4%

Source: FRB Boston

The mild winter in early 2015 had significant impact on housing permits in the beginning of the year, when the single unit share shot up to 78 percent in March. Monthly data available through April 2016 indicates single unit permits are increasing, but it is too soon to call if it is a trend or due to other factors such as seasonality. In recent years low household formation rates for the Millennial-aged population has been identified as a contributing drag on housing demand.<sup>14</sup> As household formation increases, pent up millennial demand for housing will encourage growth in that sector.<sup>15</sup>

<sup>13</sup> FreddieMac. Multifamily Outlook 2016. February 2016.

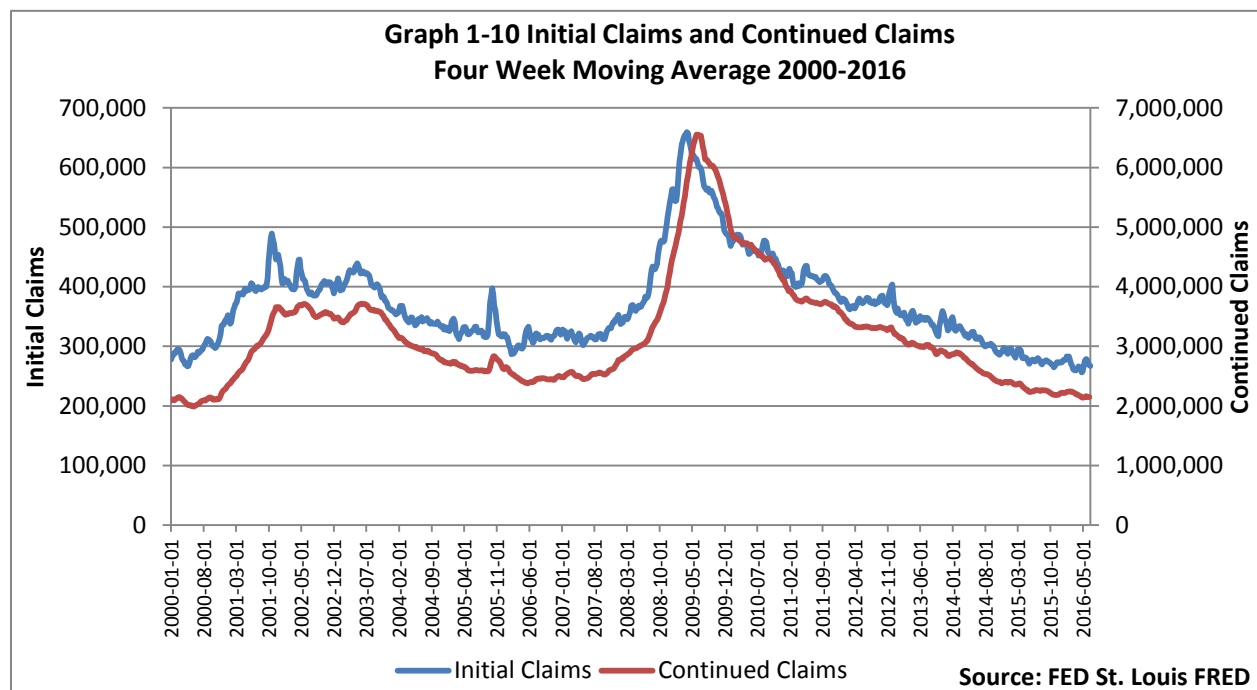
<sup>14</sup> Greiner, Bill. How A Lack of Income For Millennials Effects Household Formation. Forbes. February 25, 2015.

<sup>15</sup> Ned Davis Research Group. What's the Matter With Millennials? January 29, 2015.

## LABOR MARKET

### Initial Claims and Continued Claims

Initial Claims (IC) for Unemployment Insurance is reported weekly and is the most timely available indicator of labor-market conditions and most commonly assessed using a four-week moving average<sup>16</sup>. The most recent weekly initial claim figure of 259,000 for the week of June 18<sup>th</sup>, 2016 is at a historic low. Prior to a few other weeks earlier this year, claims had not been below that amount since December 1973, when the total labor force was a little more than half what it is now.



The relationship between initial and continued claims from 2000-2016 is shown in Graph 1-10, which shows 4-week moving averages to smooth out the series. Both Initial and Continued Claims peaked in mid-2009, just before the June 2009 end of the recession. A decrease in claims corresponding with the NBER declared end of a recession (an announcement with a few quarters of lag) is a pattern that has persisted for decades, making claims data a good early indicator that a recession is subsiding.

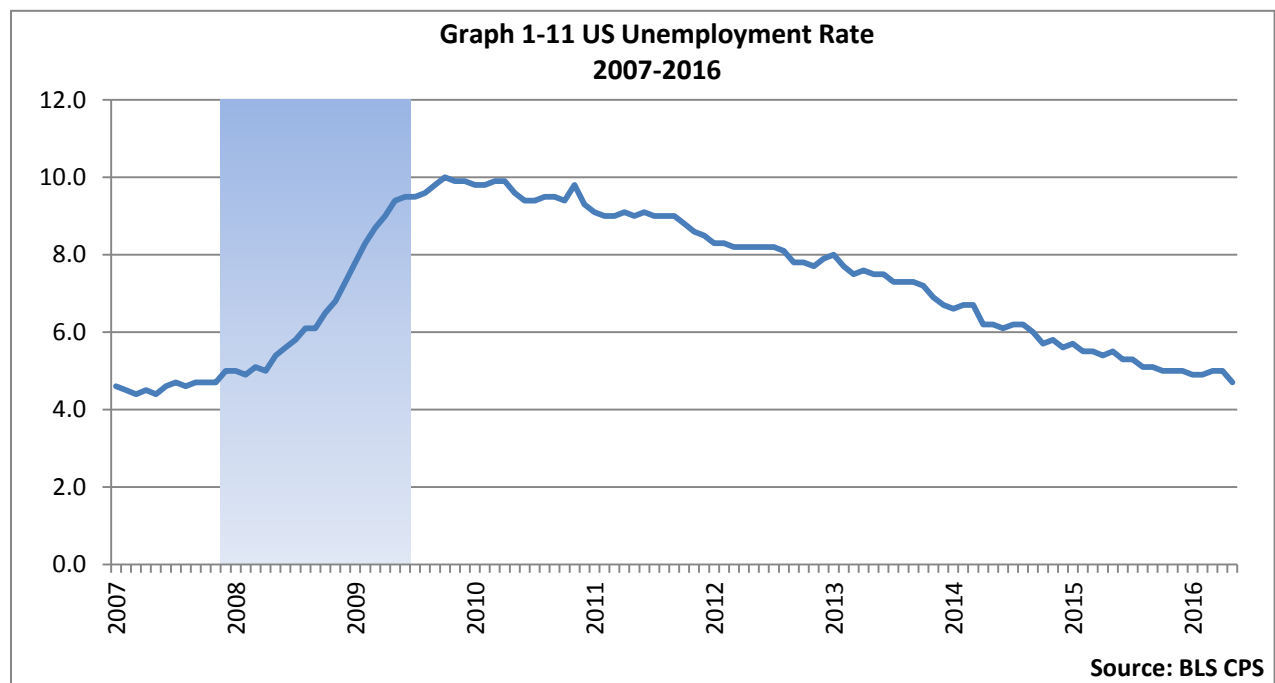
Another interesting interplay between initial and continued claims is the changing ratio between them throughout the series. Usually, the ratio of initial claims to continued claims was less than 1:10,

<sup>16</sup> Kennedy, Daniel. Current Conditions and Outlook for the U.S. and CT Economies: 2009-11. CT DOL. 2010, p.184.

meaning that less than ten times more continued claims existed at a given time than initial claims. The post peak period during the second half of 2009 was an exception to this relationship, the increase in long term unemployment during this period accounts for this shift.

### US Unemployment Rate

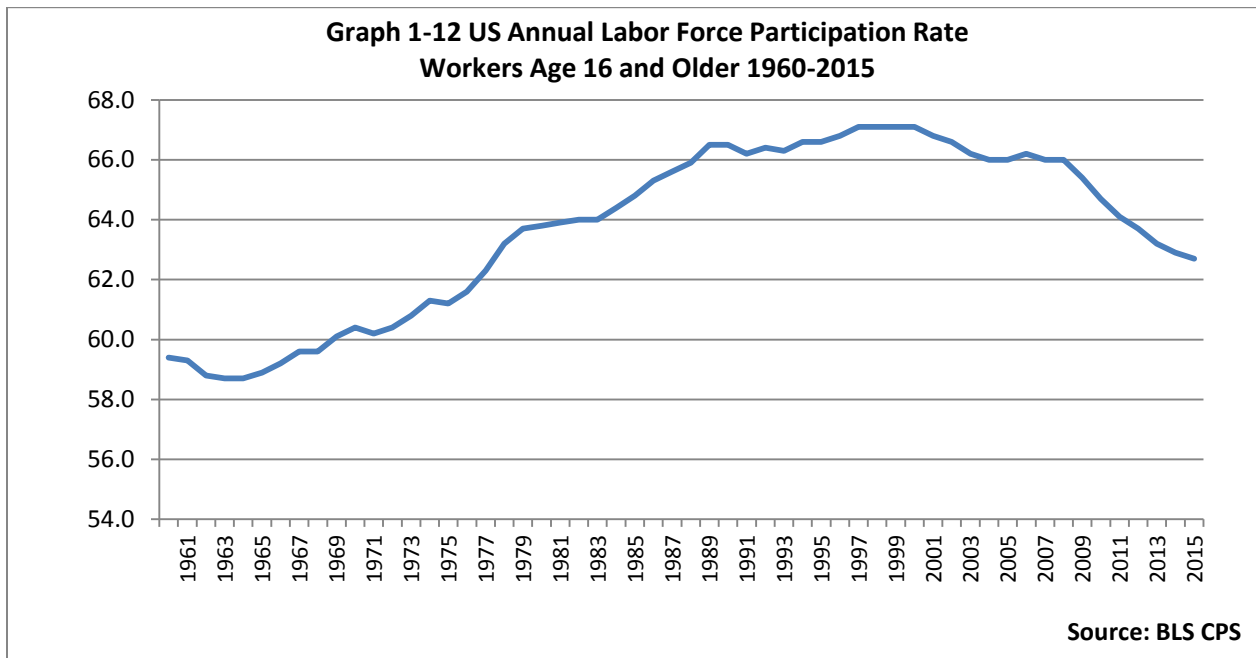
The unemployment rate is one of the most commonly reported measures of overall economic performance. The US unemployment rate climbed precipitously from levels below 5 percent in late 2007 to a peak of 10 percent in October 2009, the highest level since 1982, when it reached 10.8 percent. It has since fallen to 4.7 percent as of May 2016, equal to the rate had during the peak before the start of the recession during December 2007.



### Labor Force Participation

The decline in labor force participation rate (LFPR) has been an often discussed post-recession statistic. Explanations for its occurrence range from assertions that it is due to cyclical contractions in aggregate demand and that it is instead due to structural change in the economy after a particularly impacting recession and financial crisis. In reality, both causes and others such as demographic trends are contributing to declining LFPR. A 2014 Congressional Budget Office report found that of the 3 percentage point decline in US LFPR from 2007 to 2013, 1.5 points was the result of long-term trends (mostly population aging), about 1 point resulted from temporary weakness in employment, and about

0.5 point of the decline was due to the slow recovery, mostly discouraged workers dropping out of the labor force.<sup>17</sup> The cyclical contractions in aggregate demand the US experienced after a housing-asset bubble collapse has proven to be a significant drag on the economy. As for contributing structural causes, a longer view of LFPR shows that rate changes largely follow decades-long trends. The LFPR for the US population 16 and older (see Graph 1-12) started rising in the mid 1960s and largely leveled off by 1989, where it remained between 66 and just over 67 percent throughout the 1990s. After peaking at 67.1 annual percent from 1997-2000 it started to decline. From late 2003 through 2008 it remained at or just above 66 percent but has since resumed its downward trend and has fallen to 62.7 percent as of 2015. The BLS has identified this trend since at least 2000, projecting it to continue through upcoming decades and to level off to just below 59 percent by about 2050.<sup>18</sup> In recent years, the slope of LFPR decline can be seen to flatten and the most recent 12 month moving average LFPR was 62.66 percent in May 2016.



### Participation Rates by Age Cohorts

Breaking down the overall labor force participation rate into three component age cohorts helps pinpoint contributing demographic trends. These three groups exhibit differing degrees of

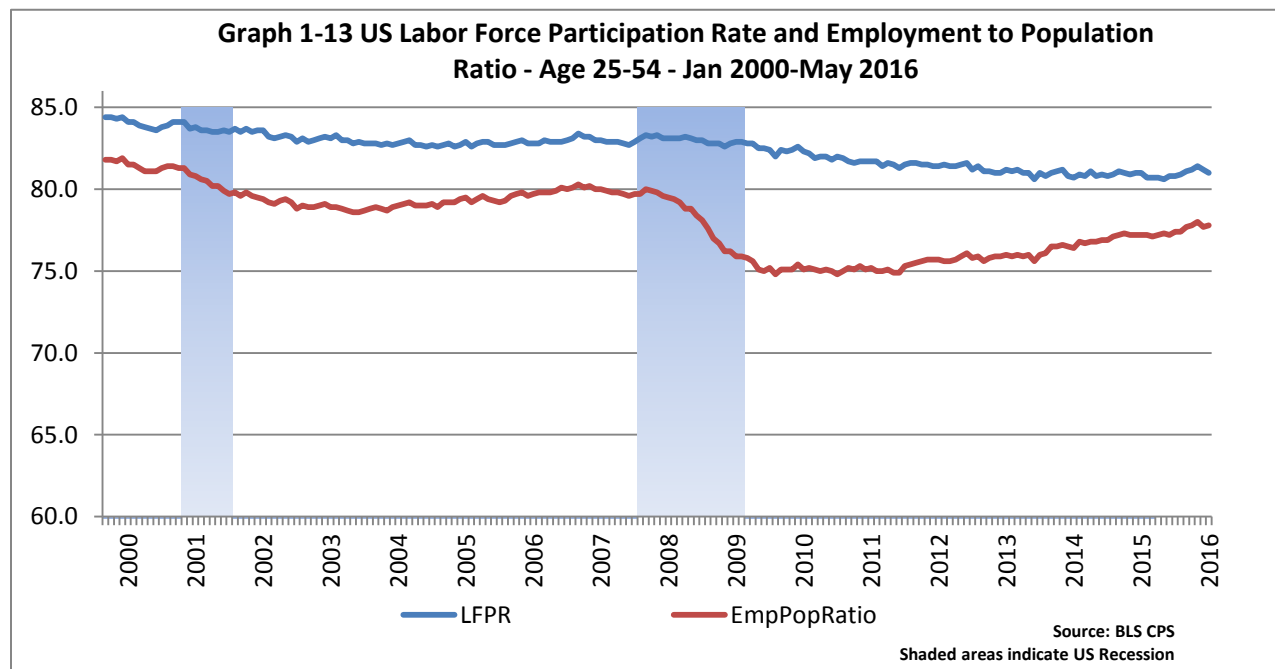
<sup>17</sup>Congressional Budget Office. *The Slow Recovery of the Labor Market* (February 2014), <https://www.cbo.gov/publication/45011>

<sup>18</sup>Canon, Maria et al. "A Closer Look at the Decline in the Labor Force Participation Rate." *The Regional Economist*. St. Louis Federal Reserve Bank (October, 2013)

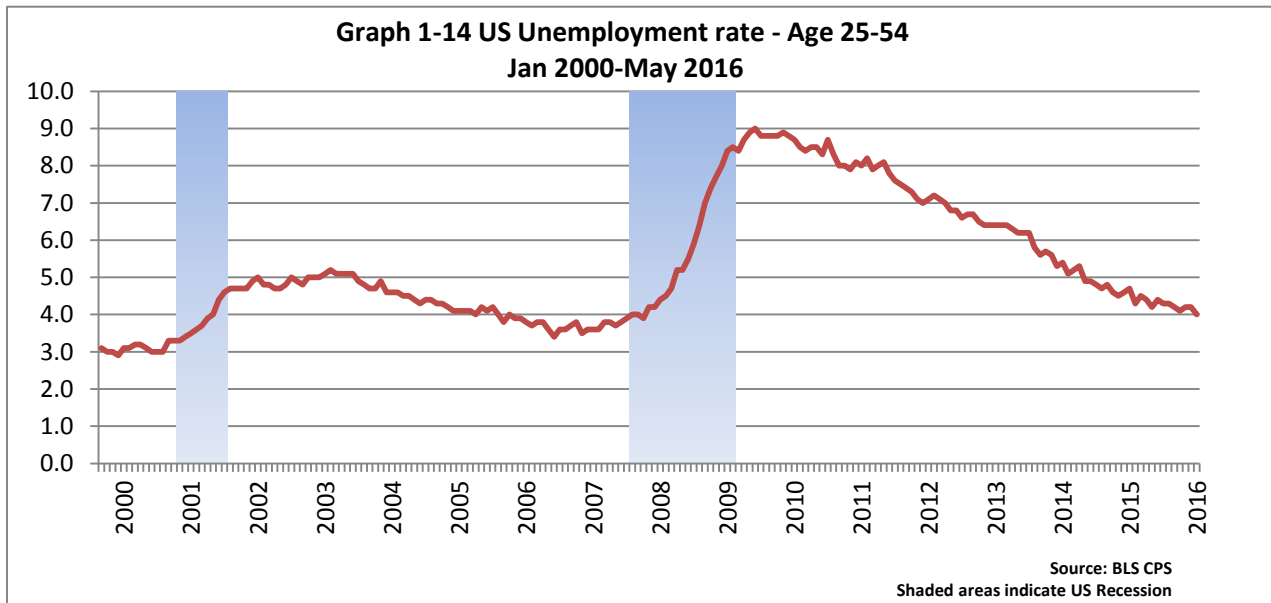
attachment to the labor force, those under 25 are more likely to be in school, those age 25 to 54 (also known as prime age workers) are most likely to be in the labor force, and those over 54 are more likely to leave the labor force and enter retirement.

Graph 1-13 shows the monthly LFPR and employment to population ratio (EPR) for US prime age workers from 2000 through May 2016. Therein the downward LFPR trend experienced by the overall population over age 16 is shown to a more slightly tempered degree for the prime age workforce, falling from 84.4 percent in 2000 to 81 percent in May 2016.

Also shown in Graph 1-13 is the employment to population ratio (EPR), which exhibits more cyclicity than the LFPR. The spread between the two ratios represents the amount of unemployment in the labor market. The EPR declined from 2007-2009 at a much steeper slope than it did in the early 2000s and since late-2011 it has steadily risen as the economy gained jobs, increasing from 74.9 percent in November of that year up to 77.8 percent as of May 2016. The US unemployment rate (UR) for workers age 25 to 54 is shown in Graph 1-14. Therein the pronounced increase during the recession is illustrated, as is the steady decline thereafter. As of May 2016, the US UR for prime-age workers was 4.0 percent, a low not seen since January 2008 and the lowest May prime-age unemployment rate since 2007.





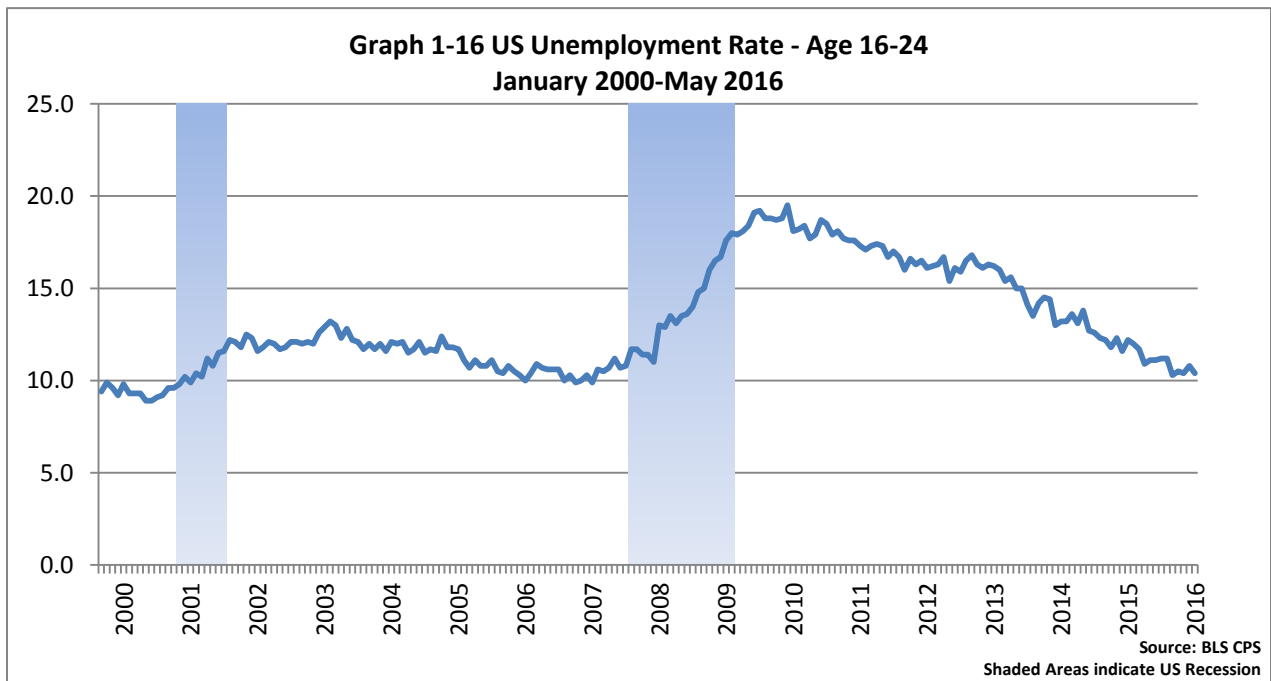
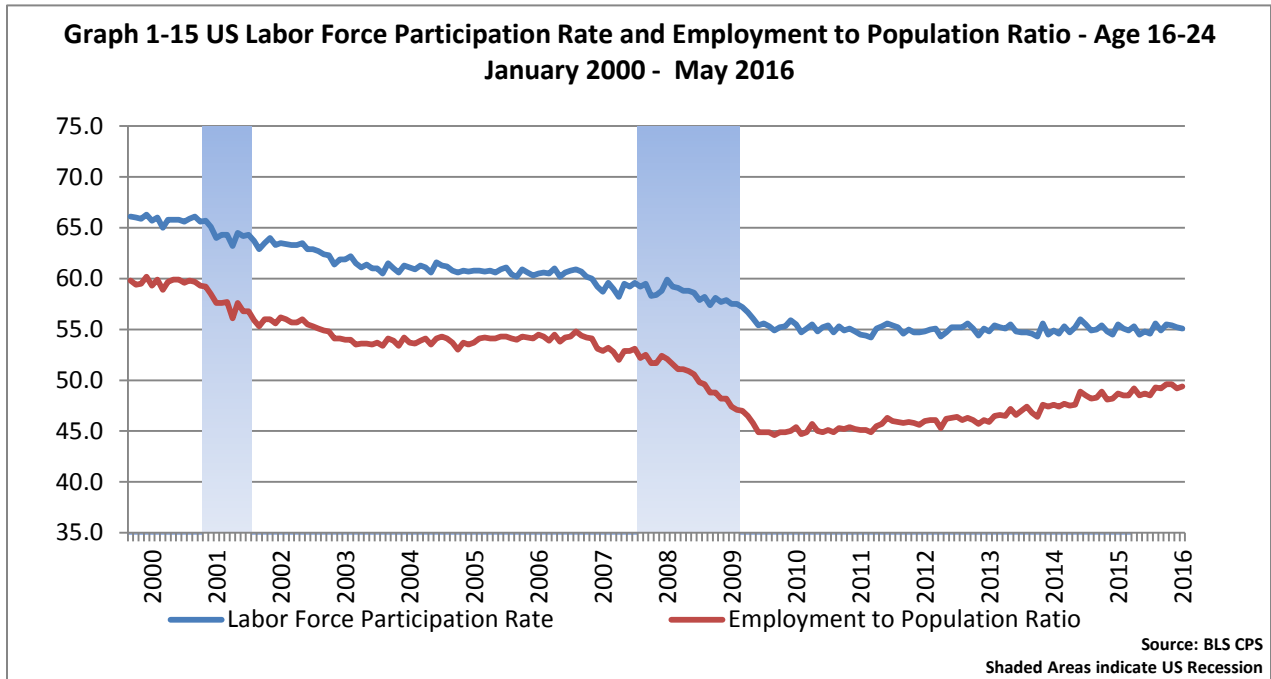


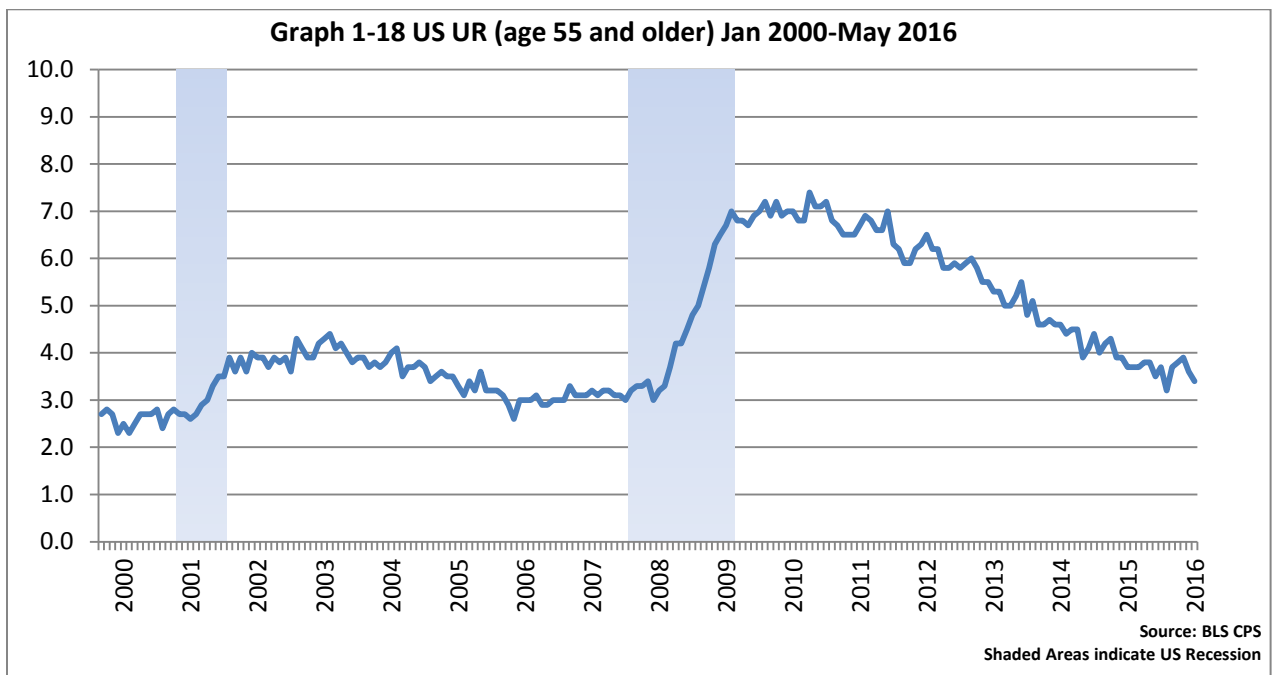
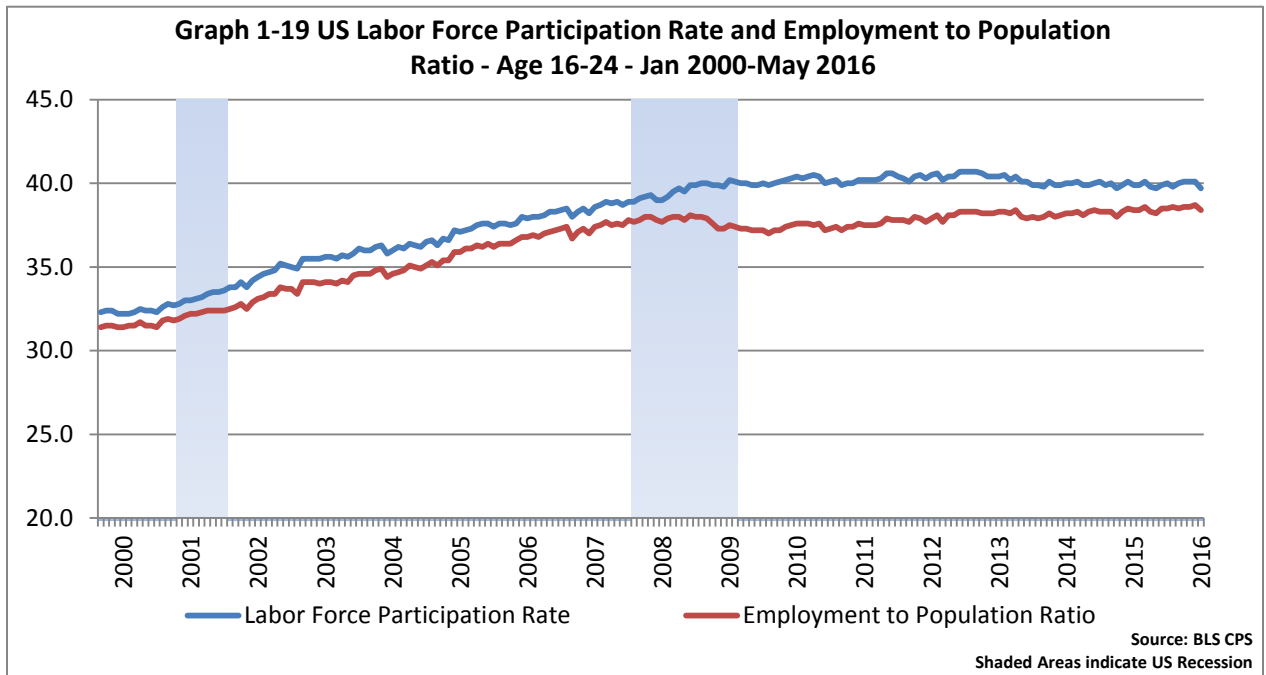
Key takeaways between prime aged workers shown above in Graph 1-13 and 1-14 and the preceding Graphs 1-15 through 1-18 are the differences in the relationship between LFPR and EPR for prime aged workers versus those below 25 and those over 54 years of age. During the recession a widening spread occurred between the prime aged LFPR and EPR, which indicates that as unemployment rose more unemployed prime aged workers remained in the labor force. The preceding Graphs for the youth and over 54 cohorts show a different relationship, where LFPR and EPR more closely track one another, indicating those cohorts are less likely to remain in the labor force once unemployed.

Additional attributes the two cohorts include the downward slope for the under 25 cohort and an upward one for the over 54 cohort. For the under 25 cohort, labor force participation fell roughly 5 percentage points from 65 percent in 2000 to about 60 percent prior to the 2007 recession. During the recession it fell approximately an additional 5 points and was 55 percent by mid-2010, participation rates last seen in the early 1960s.

The over 54 cohort has experienced a substantial long-term rise in labor force participation after reaching a trough in the mid 1990s and since 2009 has remained at slightly above 40 percent, levels also not seen since the early 1960s. This rise in the over 54 cohort is primarily due to a significant population increase in workers aged 55-65, which have had a LFPR between 64 and 65 percent since 2008, whereas older component groups have rates less than half that. Since 2000, the population age 55-64 increased 64 percent, this “young-old” population growth has buoyed overall LFPR for the over 54

cohort.





Those younger and older cohorts also exhibit different unemployment rates throughout the 16 years of exemplified data. Youth unemployment rates shown in Graph 1-16 are shown to be typically around twice what the overall unemployment rate is, while the unemployment rate for workers over 54

years of age shown in Graph 1-18 is consistently about 25 percent below the overall Unemployment rate, due in large part to lower LFPR.

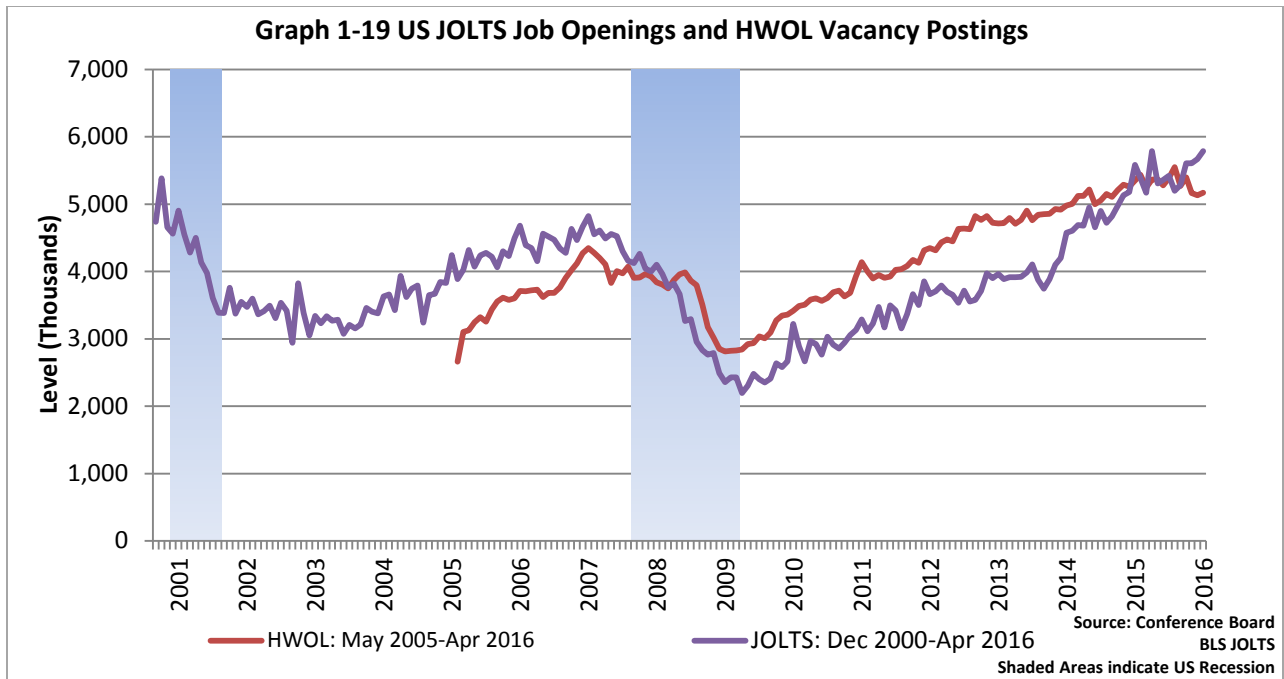
The LFPRs shown in Graphs 1-15 and 1-17 help illustrate employment trends for the youngest and oldest members of our labor force and how they help explain the downward overall LFPR trend for the overall labor force. Population growth of those cohorts further impact the overall LFPR, as large population growth in low LFPR cohorts bends overall rates downward. From 2000-2014, the declining youth LFPR has occurred as the population of that cohort increased 12.7 percent, below the rates of the overall population growth and as the over 54 cohort population grew significantly, up from 16.6 to 35.4 million, an increase 76.4 percent.

### **Job Openings**

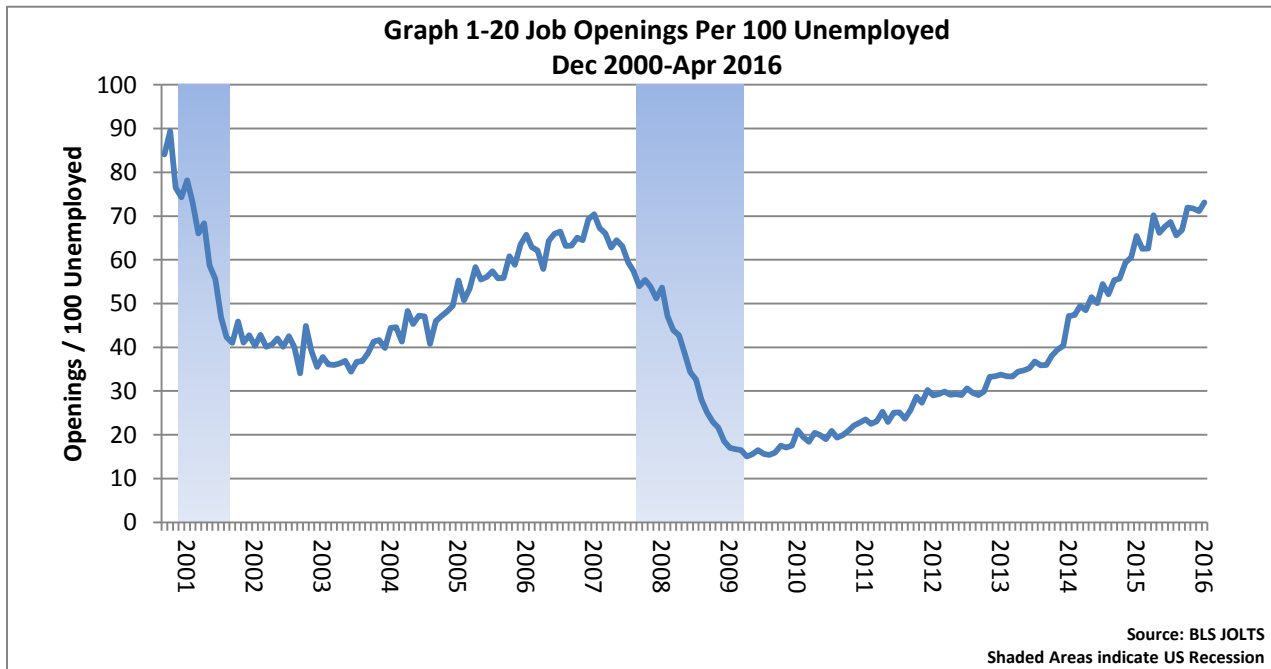
The Bureau of Labor Statistics' Job Opening and Labor Turnover Survey (JOLTS) produces data on job openings, hires, and separations to serve as demand side indicators of labor shortage at the national level.<sup>19</sup> In terms of absolute values, job openings have been above prerecession levels since June 2014 and are shown in Graph 1-19. Also shown in graph 1-19 is the Conference Board's Help Wanted Online (HWOL) dataset, which also measures labor market demand and is available in more detail than JOLTS, which isn't available at state or sub-state levels. Available from mid-2005 onward, HWOL can be seen to have tracked above JOLTS during the duration of the recovery; they began converging in recent years. The relationship between the two series shifted again during the second half of 2015, when they diverged, JOLTS increasing while HWOL started to fall. Though unusual, it isn't unprecedented for two data series that have differing methodologies to diverge.

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<sup>19</sup> Bureau of Labor Statistics, <http://www.bls.gov/jlt/jltover.htm#purpose>

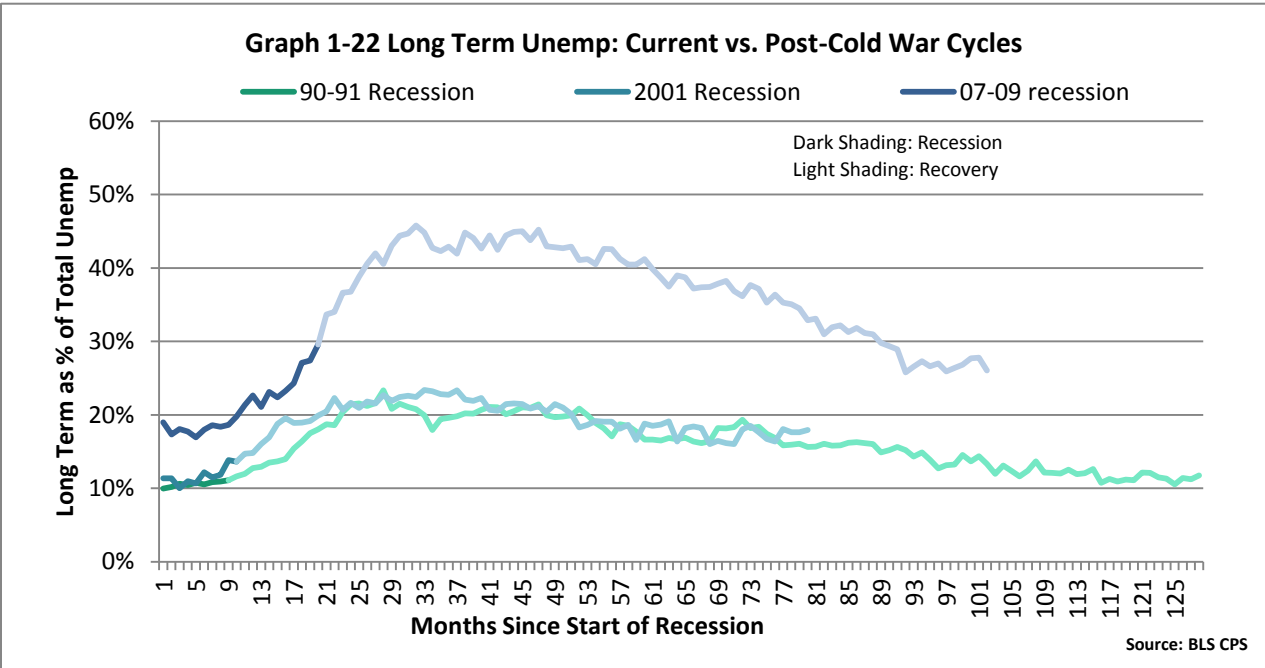
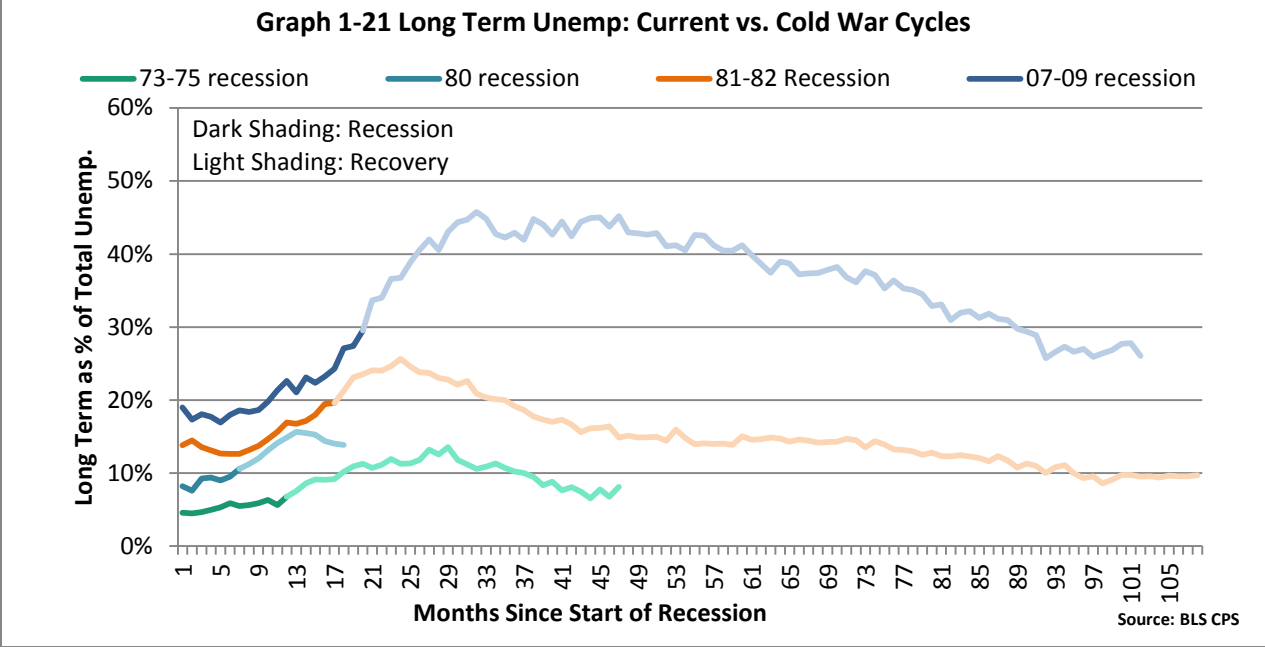


Due to growth of the labor market over time, indexing openings to the number of unemployed helps provide a clearer picture of labor market demand. Graph 1-20 displays BLS JOLTS openings per 100 unemployed. From 2000, the earliest year of available data, nearly 90 jobs openings existed for every 100 unemployed workers prior to the 2001 recession. Jolts per 100 unemployed reached its next peak in March 2007, at 69.2 openings per 100 unemployed. It troughed in correspondence with the end of the recession in June 2009 at 16.2 openings per 100 unemployed. During the recovery the ratio of openings per 100 unemployed steadily increased, since mid-2014 the slope has gotten steeper and was 73.1.2 openings per 100 as of April 2016, up 11 percent year over year.



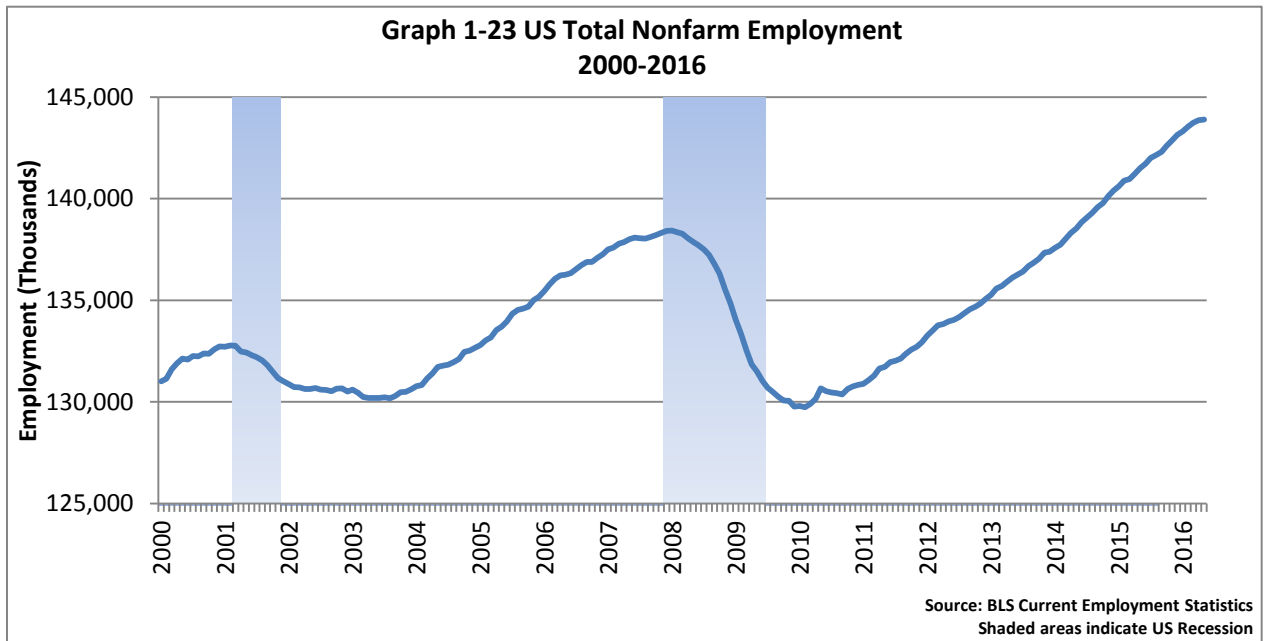
### Long Term Unemployment

A key attribute of the 2007-09 recessions and its recovery has been the rise of long-term unemployment. Graphs 1-21 and 1-22 show unemployment over 27 weeks (the determined threshold for long-term unemployment) for every recession since 1973 as a percentage of total unemployment. The darker portion of each line represents the recessionary period and the lighter section indicates the long term unemployment during the recovery period. Comparing the 2007 recession to others from the past in the past 40 years highlights its severity. Long-term unemployment as a percentage of total unemployment peaked in June 2010 at 46%, well above levels reached in any of the other recessions shown. It stayed above 40% until late 2012 and was 26% as of April 2016, improving but still at historic levels.

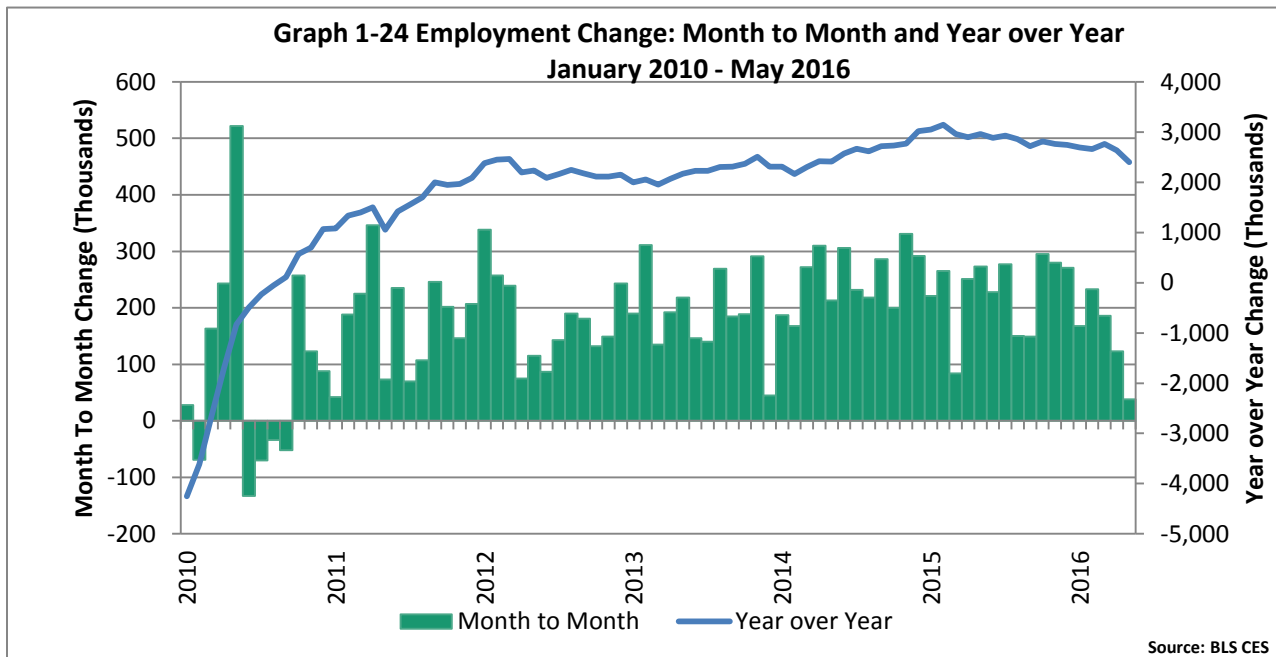


**Employment**

Total US nonfarm employment has steadily increased since reaching a post-recession trough of 129.7 million in February 2010, shown in Graph 1-23. By mid-2014 it exceeded prior-peak employment of 138.4 million and has since added 5.5 million jobs since entering the expansionary phase of the business cycle. As of May 2016, total US nonfarm employment was 1.44 million.



Graph 1-24 shows month to month and year-over-year change in total U.S. nonfarm employment from January 2010 through mid-2015. Barring the pronounced Decennial Census related hiring blip starting in March 2010, month over month employment gains didn't really take off until late 2010-onward. As of May 2016, the month to month increase was 38 thousand; monthly growth has been trending downward since October of last year.





## Industry Employment

Table 1-2 shows US industry sector annual employment during peak and trough years as well as employment change during then and the most recent year. Total annual average employment fell by 5.5 percent from 2007 peak to the 2010 trough. The largest share of that contraction occurred in construction, manufacturing, and trade, transportation and utilities. Those sectors saw employment decrease respectively by 27.7, 16.8 and 7.5 percent and comprised a combined 84.5 percent of overall industry employment declines. During that contractionary phase all sectors except for education and health services and government experienced employment declines, which respectively grew by 7.0 and 1.2 percent. Government employment gains from 2007 to 2010 were impacted by decennial census employment, from 2010 onward government employment has fallen by 2.1 percent.<sup>20</sup>

Starting in 2014, annual average US nonfarm employment has entered expansion and as of 2015 was up 3.9 million jobs over peak 2007 levels. Industries that have gained the most are Education and health services and leisure and hospitality, which respectively are at employment levels 18.1 and 12.7 percent above 2007 levels.

Other industries have yet to exceed peak 2007 annual average employment, the largest percent deficit industries being Construction, down 15.5 percent and Manufacturing, down 11.2 percent over that 8 year period. Others include Information, down 9.3 percent and Financial Activities, down 2.7 percent. Though still lagging behind overall economic growth, these four sectors all posted employment gains from 2014 to 2015. Government employment, down 0.9 percent from 2007 levels was the only sub-peak sector that also contracted year over year.

Table 1-2 US Annual Average Nonfarm Employment Through the Current Cycle (Thousands)

	Peak Year 2007	Trough Year 2010	Recent Year 2015	Employment Change		
				2007-10	2010-15	2007-15
<b>Total Nonfarm</b>	<b>137,999</b>	<b>130,361</b>	<b>141,865</b>	<b>-7,638</b>	<b>11,504</b>	<b>3,866</b>
<b>Total private</b>	115,781	107,871	119,859	-7,910	11,988	4,078
<b>Goods-Producing</b>	22,233	17,751	19,584	-4,482	1,833	-2,649
Mining and Logging	724	705	820	-19	115	96
Construction	7,630	5,518	6,446	-2,112	928	-1,184
Manufacturing	13,879	11,528	12,318	-2,351	790	-1,561
<b>Service-Providing</b>	115,767	112,610	122,282	-3,157	9,672	6,515
Trade, Transportation, and Utilities	26,630	24,636	26,920	-1,994	2,284	290
Information	3,032	2,707	2,750	-325	43	-282
Financial Activities	8,348	7,695	8,124	-653	429	-224
Professional and Business Services	17,942	16,728	19,672	-1,214	2,944	1,730
Education and Health Services	18,676	19,975	22,055	1,299	2,080	3,379
Leisure and Hospitality	13,427	13,049	15,128	-378	2,079	1,701
Other Services	5,494	5,331	5,625	-163	294	131
<b>Government</b>	<b>22,218</b>	<b>22,490</b>	<b>22,007</b>	<b>272</b>	<b>-483</b>	<b>-211</b>

Source: BLS Current Employment Statistics

<sup>20</sup> Emily Richards, "The 2010 Census: The impact of counting the Nation," *Monthly Labor Review* March 2011.

Table 1-3 US Annual Average Nonfarm Employment Through the Current Cycle (Percentages)

	Peak Year	Trough Year	Recent Year	Employment Share Change		
	2007	2010	2015	2007-10	2010-15	2007-15
<b>Total Nonfarm</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>			
<b>Total private</b>	83.9%	82.7%	84.5%	-1.2%	1.7%	0.6%
<b>Goods-Producing</b>	16.1%	13.6%	13.8%	-2.5%	0.2%	-2.3%
<b>Mining and Logging</b>	0.5%	0.5%	0.6%	0.0%	0.0%	0.1%
<b>Construction</b>	5.5%	4.2%	4.5%	-1.3%	0.3%	-1.0%
<b>Manufacturing</b>	10.1%	8.8%	8.7%	-1.2%	-0.2%	-1.4%
<b>Service-Providing</b>	83.9%	86.4%	86.2%	2.5%	-0.2%	2.3%
<b>Trade, Transportation, and Utilities</b>	19.3%	18.9%	19.0%	-0.4%	0.1%	-0.3%
<b>Information</b>	2.2%	2.1%	1.9%	-0.1%	-0.1%	-0.3%
<b>Financial Activities</b>	6.0%	5.9%	5.7%	-0.1%	-0.2%	-0.3%
<b>Professional and Business Services</b>	13.0%	12.8%	13.9%	-0.2%	1.0%	0.9%
<b>Education and Health Services</b>	13.5%	15.3%	15.5%	1.8%	0.2%	2.0%
<b>Leisure and Hospitality</b>	9.7%	10.0%	10.7%	0.3%	0.7%	0.9%
<b>Other Services</b>	4.0%	4.1%	4.0%	0.1%	-0.1%	0.0%
<b>Government</b>	16.1%	17.3%	15.5%	1.2%	-1.7%	-0.6%

Source: BLS Current Employment Statistics

Table 1-2 shows industry employment as a percentage of overall employment and share change over the recession and recovery. Overall employment had a share shift of 2.3 percentage points from Goods Producing to Service Providing industries from 2007 to 2015, (Service-Providing having equivalent corresponding gains), with most of that share increase occurring in the Education and Health Services industry sector.

## GDP and Unemployment Rate Forecast Review

**Table 1-4 U.S. GDP Forecasts for 2016 and 2017**

	Real GDP			YoY % change	
	2015	2016	2017	2015-16	2016-17
<b>CBO</b>	16,345.0	16,753.6	17,189.2	2.50	2.60
<b>FED FOMC</b>	16,345.0	16,737.3	17,105.5	2.40	2.20
<b>IHS</b>	16,345.0	16,687.2	17,157.7	2.09	2.82
<b>IMF</b>	16,345.0	16,741.5	17,160.3	2.43	2.50
<b>OECD</b>	16,345.0	16,671.9	17,038.7	2.00	2.20
<b>UMich</b>	16,345.0	16,724.7	17,187.4	2.32	2.77
<b>UN</b>	16,345.0	16,770.0	17,239.5	2.60	2.80
<b>Average</b>		16,726.6	17,154.0	2.33	2.56

Seven short term US GDP forecasts are shown in table 1-4.<sup>21</sup> The mean GDP growth for those seven forecasts is 2.33 percent through 2016 and 2.56 percent through 2017. The mean annual forecasts show a slight slowdown in 2016 growth with stronger 2017 growth and overall levels expected to be 4.9 percent above 2015 levels. These forecasts were published between December 2015 and May 2016, before forecast risks such as the Brexit were apparent. Other scenarios that could impact the forecast include FED interest rate policy relative to negative ECB rates, the slowdown of the Chinese economy, and also domestic political uncertainty during a presidential election year. A similar aggregation of three available world GDP forecasts yielded 2016 and 2017 expected GDP growth respectively of 3.0 and 3.3 percent.<sup>22</sup>

<sup>21</sup> Seven US GDP and UR forecast sources:

CBO. The Budget and Economic Outlook: 2016 to 2026. January 2016.  
 FED FOMC. Summary of Economic Projections. December 2015.  
 IHS. U.S. Economy Forecast: Civilian UR and Real GDP. May 2016.  
 IMF. World Economic Outlook. January 2016.  
 OECD. Economic Outlook Number 99. June 2016.  
 University of Michigan. The U.S. Economic Outlook for 2016-2017. March 2016.  
 UN. World Economic Situation and Prospects 2016. November 2015.

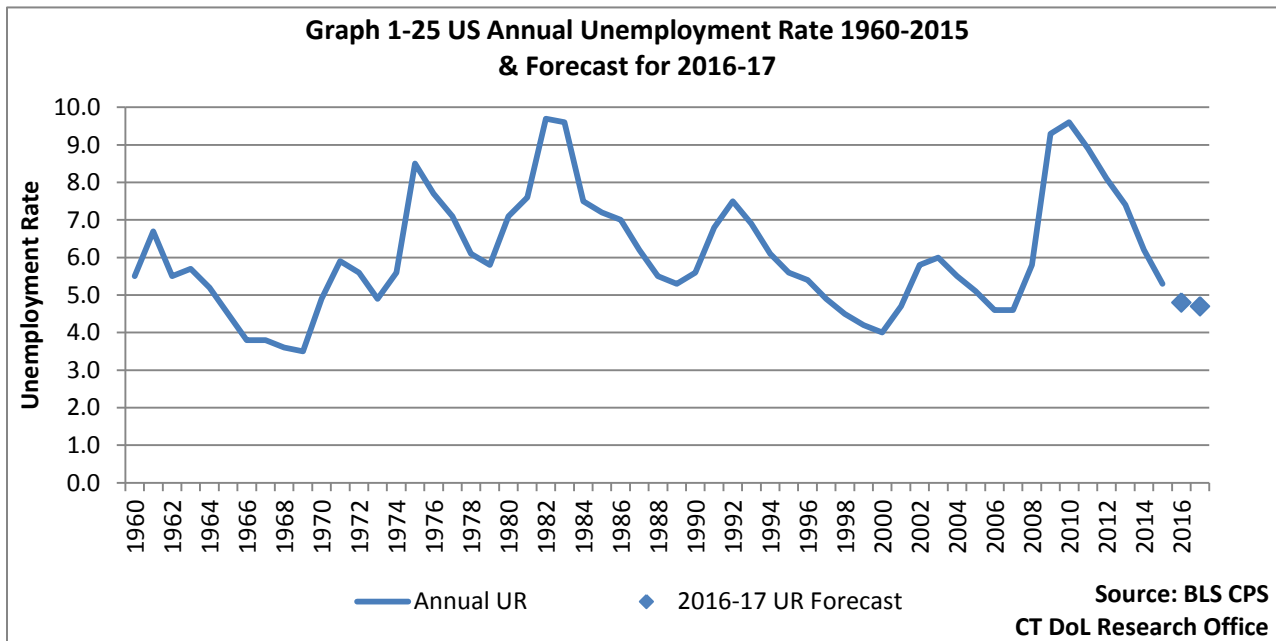
<sup>22</sup> Three world GDP growth forecast sources:

IMF. World Economic Outlook. January 2016.  
 OECD. Economic Outlook Number 99. June 2016.  
 UN. World Economic Situation and Prospects 2016. November 2015.

**Table 1-5 U.S. Unemployment Rate Forecasts for 2016 and 2017**

	Unemployment Rates			%Pt. Diff	
	2015	2016	2017	2015-16	2016-17
<b>CBO</b>	5.3	4.5	4.5	-0.8	0.0
<b>FED FOMC</b>	5.3	4.7	4.7	-0.6	0.0
<b>IHS</b>	5.3	4.8	4.7	-0.4	-0.2
<b>IMF</b>	5.3	4.9	4.8	-0.4	0.0
<b>OECD</b>	5.3	5.0	4.7	-0.3	-0.3
<b>UMich</b>	5.3	4.7	4.5	-0.6	-0.2
<b>UN ILO</b>	5.3	4.9	4.7	-0.4	-0.2
<b>Average</b>		4.8	4.7	-0.5	-0.1

Table 1-5 shows seven US unemployment rate forecasts through 2017, the mean forecast rate for 2016 is 4.8 percent and 4.7 percent for 2017. Graph 1-25 shows the US annual average unemployment rate from 1960-2015 and also the forecast rates through 2017. The expected unemployment rate is historically low and near pre-recession levels.



# Connecticut Overview

## Connecticut's Recovering Labor Market

Connecticut is now into its sixth year of recovery from the recession that took its toll on the state from 2008 to 2010. Over the recession, Connecticut lost over 5% of its nonfarm employment, roughly 91,100 jobs based on annual averages. The annual average nonfarm employment reached its peak in 2008 at 1,699,100 jobs. By the time it reached the trough in 2010, the state's employment had fallen to 1,608,000 jobs. The largest losses came from the construction, manufacturing, trade, transportation and utilities, and the professional and business services sectors. Those four sectors alone accounted for 80% of the lost jobs. The lone sector that was able to create jobs during the recession was education and health services, expanding by about 10,000 jobs from the peak to trough years.

As of 2015, Connecticut has yet to regain all of the nonfarm employment it lost in the recession. Since the trough year of 2010, 66,000 jobs have been added. The 2015 employment level was still 25,100 jobs below the peak year of 2008. All industry supersectors except for manufacturing, financial activities and government have been aiding in the recovery. As of 2015, manufacturing has dropped 5,800 jobs since 2010, bringing the total loss to 27,700 jobs since the recession hit. The financial activities sector has lost 5,200 jobs since the trough year, making a total loss of 13,400 jobs since the peak. Similarly, government has lost 7,400 jobs since the trough, creating a drop of 15,800 jobs since the peak.

Table 2-1 shows the annual averages of Connecticut nonfarm employment throughout the current cycle. The table compares the employment levels from the peak, trough and most recent complete year of data. It also shows the change in jobs from the peak to trough, trough to recent year, and peak to recent year. Table 2-2 highlights the major industry sectors and shows how the job share of each has shifted throughout the cycle.

Only four supersectors have been able to reach its 2008 employment level or higher. The professional and business services sector lost 15,100 jobs during the recession, but has since gained 24,200 jobs to bring it 9,100 jobs higher than in 2008. Leisure and hospitality took a small dip of 3,800 jobs from 2008 to 2010, but is now 14,100 jobs greater than it was pre-recession. The other services sector has made a slight rebound of 900 jobs from its recessionary drop of 2,600 jobs. The sector that has grown the most in recent years is not surprisingly the one that didn't lose jobs during the recession- education and health services. Education and health services grew 10,200 jobs when the rest of the economy was in a downfall, and has grown by another 19,700 since 2010.

Table 2-1

## Nonfarm Employment through the Current Cycle (Annual Averages)

	Peak Year 2008	Trough Year 2010	Recent Year 2015	Change in Jobs		
				2008-10	2010-15	2008-15
<b>TOTAL NONFARM EMPLOYMENT</b>	<b>1,699,100</b>	<b>1,608,000</b>	<b>1,674,000</b>	<b>-91,100</b>	<b>66,000</b>	<b>-25,100</b>
<b>TOTAL PRIVATE</b>	<b>1,444,200</b>	<b>1,361,400</b>	<b>1,434,900</b>	<b>-82,800</b>	<b>73,500</b>	<b>-9,300</b>
<b>GOODS PRODUCING INDUSTRIES</b>	<b>252,700</b>	<b>215,400</b>	<b>217,000</b>	<b>-37,300</b>	<b>1,600</b>	<b>-35,700</b>
<b>CONSTRUCTION, NAT. RES. &amp; MINING</b>	<b>66,100</b>	<b>50,500</b>	<b>58,000</b>	<b>-15,600</b>	<b>7,500</b>	<b>-8,100</b>
<b>MANUFACTURING</b>	<b>186,700</b>	<b>164,800</b>	<b>159,000</b>	<b>-21,900</b>	<b>-5,800</b>	<b>-27,700</b>
<b>Durable Goods</b>	<b>143,500</b>	<b>127,300</b>	<b>123,600</b>	<b>-16,200</b>	<b>-3,700</b>	<b>-19,900</b>
Fabricated Metal	33,100	28,100	29,200	-5,000	1,100	-3,900
Machinery	17,700	15,000	14,100	-2,700	-900	-3,600
Computer and Electronic Product	14,200	13,300	12,300	-900	-1,000	-1,900
Transportation Equipment	44,300	42,200	40,800	-2,100	-1,400	-3,500
Aerospace Product and Parts	32,400	30,500	27,500	-1,900	-3,000	-4,900
<b>Non-Durable Goods</b>	<b>43,200</b>	<b>37,500</b>	<b>35,400</b>	<b>-5,700</b>	<b>-2,100</b>	<b>-7,800</b>
Chemical	13,800	11,800	9,800	-2,000	-2,000	-4,000
<b>SERVICE PROVIDING INDUSTRIES</b>	<b>1,446,400</b>	<b>1,392,600</b>	<b>1,457,100</b>	<b>-53,800</b>	<b>64,500</b>	<b>10,700</b>
<b>TRADE, TRANSPORTATION, UTILITIES</b>	<b>305,700</b>	<b>285,800</b>	<b>296,900</b>	<b>-19,900</b>	<b>11,100</b>	<b>-8,800</b>
Wholesale Trade	69,200	62,700	62,600	-6,500	-100	-6,600
Retail Trade	188,100	178,200	184,300	-9,900	6,100	-3,800
Motor Vehicle and Parts Dealers	21,200	19,200	21,100	-2,000	1,900	-100
Building Material	15,600	14,100	15,000	-1,500	900	-600
Food and Beverage Stores	41,700	42,100	44,600	400	2,500	2,900
General Merchandise Stores	27,100	27,500	29,000	400	1,500	1,900
Transportation, Warehousing, & Utilities	48,400	45,000	49,900	-3,400	4,900	1,500
Utilities	6,800	6,300	5,600	-500	-700	-1,200
Transportation and Warehousing	41,700	38,700	44,300	-3,000	5,600	2,600
<b>INFORMATION</b>	<b>37,800</b>	<b>31,700</b>	<b>32,500</b>	<b>-6,100</b>	<b>800</b>	<b>-5,300</b>
Telecommunications	13,000	10,200	9,200	-2,800	-1,000	-3,800
<b>FINANCIAL ACTIVITIES</b>	<b>143,400</b>	<b>135,200</b>	<b>130,000</b>	<b>-8,200</b>	<b>-5,200</b>	<b>-13,400</b>
Finance and Insurance	122,900	116,300	110,100	-6,600	-6,200	-12,800
Credit Intermediation	29,700	27,000	25,800	-2,700	-1,200	-3,900
Securities and Commodity Contracts	26,500	26,300	25,500	-200	-800	-1,000
Insurance Carriers & Related Activities	65,500	61,700	58,900	-3,800	-2,800	-6,600
Real Estate and Rental and Leasing	20,500	18,900	19,900	-1,600	1,000	-600
<b>PROFESSIONAL &amp; BUSINESS SERVICES</b>	<b>207,400</b>	<b>192,300</b>	<b>216,500</b>	<b>-15,100</b>	<b>24,200</b>	<b>9,100</b>
Professional, Scientific	93,200	86,700	95,600	-6,500	8,900	2,400
Legal Services	14,000	13,100	12,800	-900	-300	-1,200
Computer Systems Design	22,000	21,100	26,700	-900	5,600	4,700
Management of Companies	28,600	27,900	33,000	-700	5,100	4,400
Administrative and Support	85,600	77,700	87,900	-7,900	10,200	2,300
Employment Services	28,800	24,700	29,400	-4,100	4,700	600
<b>EDUCATION AND HEALTH SERVICES</b>	<b>296,700</b>	<b>306,900</b>	<b>326,600</b>	<b>10,200</b>	<b>19,700</b>	<b>29,900</b>
Educational Services	57,200	59,200	63,600	2,000	4,400	6,400
Health Care and Social Assistance	239,600	247,700	262,900	8,100	15,200	23,300
Hospitals	60,000	61,000	58,600	1,000	-2,400	-1,400
Nursing & Residential Care Facilities	60,000	61,300	62,700	1,300	1,400	2,700
Social Assistance	43,000	45,600	54,300	2,600	8,700	11,300
<b>LEISURE AND HOSPITALITY</b>	<b>137,400</b>	<b>133,600</b>	<b>151,500</b>	<b>-3,800</b>	<b>17,900</b>	<b>14,100</b>
Arts, Entertainment, and Recreation	24,200	23,600	26,900	-600	3,300	2,700
Accommodation and Food Services	113,200	110,000	124,400	-3,200	14,400	11,200
Food Serv., Restaurants, Drinking Places	100,900	99,200	112,900	-1,700	13,700	12,000
<b>OTHER SERVICES</b>	<b>63,100</b>	<b>60,500</b>	<b>64,000</b>	<b>-2,600</b>	<b>3,500</b>	<b>900</b>
<b>GOVERNMENT</b>	<b>254,900</b>	<b>246,500</b>	<b>239,100</b>	<b>-8,400</b>	<b>-7,400</b>	<b>-15,800</b>
Federal Government	19,500	19,700	17,700	200	-2,000	-1,800
State Government	72,600	69,800	69,500	-2,800	-300	-3,100
Local Government**	162,800	157,100	151,900	-5,700	-5,200	-10,900

\*\*Includes Indian tribal government employment

Source: B.L.S. Current Employment Statistics

**Table 2-2****Nonfarm Employment through the Current Cycle by Major Sector (as percentages)**

	Peak Year 2008	Trough Year 2010	Recent Year 2015	Change in Job Share		
				2008-10	2010-15	2008-15
<b>Total Nonfarm</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>			
Construction	3.9	3.1	3.5	-0.7	0.3	-0.4
Manufacturing	11.0	10.2	9.5	-0.7	-0.8	-1.5
Trade, Transportation, and Utilities	18.0	17.8	17.7	-0.2	0.0	-0.3
Information	2.2	2.0	1.9	-0.2	0.0	-0.3
Financial Activities	8.4	8.4	7.8	0.0	-0.6	-0.7
Professional and Business Services	12.2	12.0	12.9	-0.2	1.0	0.7
Education	3.4	3.7	3.8	0.3	0.1	0.4
Health Services	14.1	15.4	15.7	1.3	0.3	1.6
Leisure and Hospitality	8.1	8.3	9.1	0.2	0.7	1.0
Other Services	3.7	3.8	3.8	0.1	0.1	0.1
Government	15.0	15.3	14.3	0.3	-1.0	-0.7

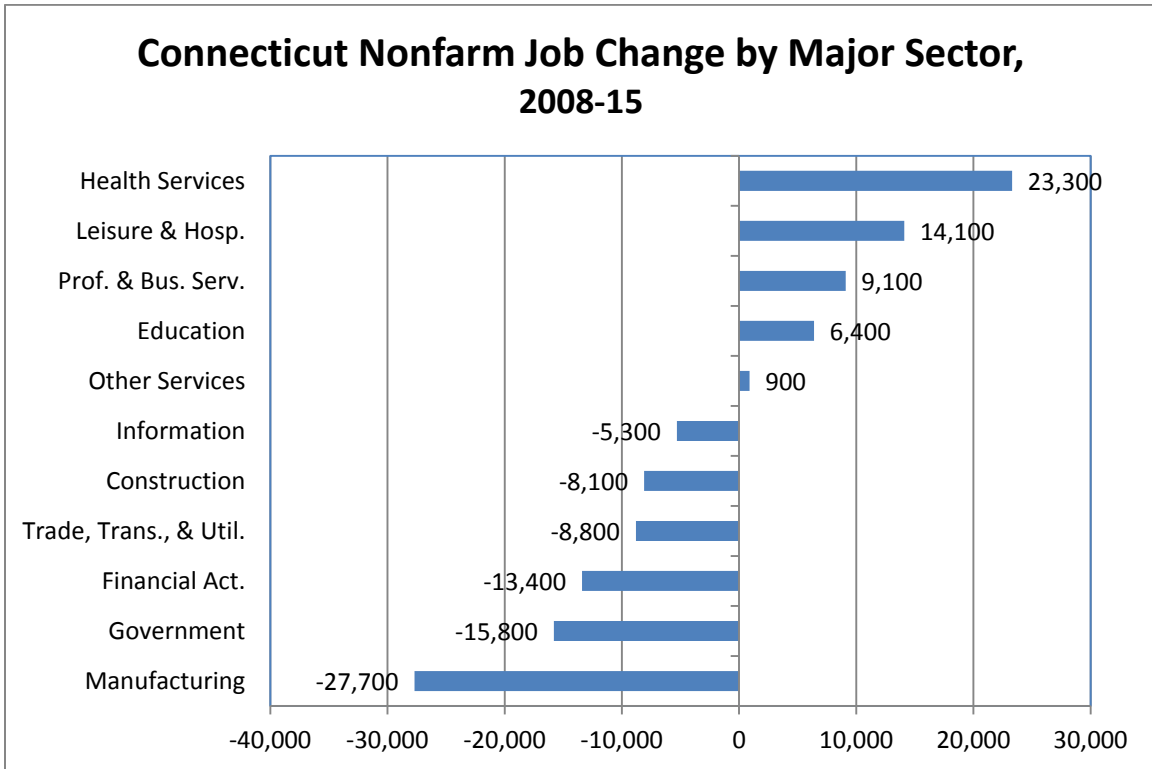
**The Shift in Employment Share**

The steady growth of the education and health services sector has shifted its position in the state economy to the top employing sector. It now accounts for 19.5% of the state's employment. That top spot had recently belonged to the trade, transportation, and utilities sector in 2008. The largest drop in job share came in the goods producing sector, dropping from a 14.9% share in 2008 to a 13.0% share in 2015.

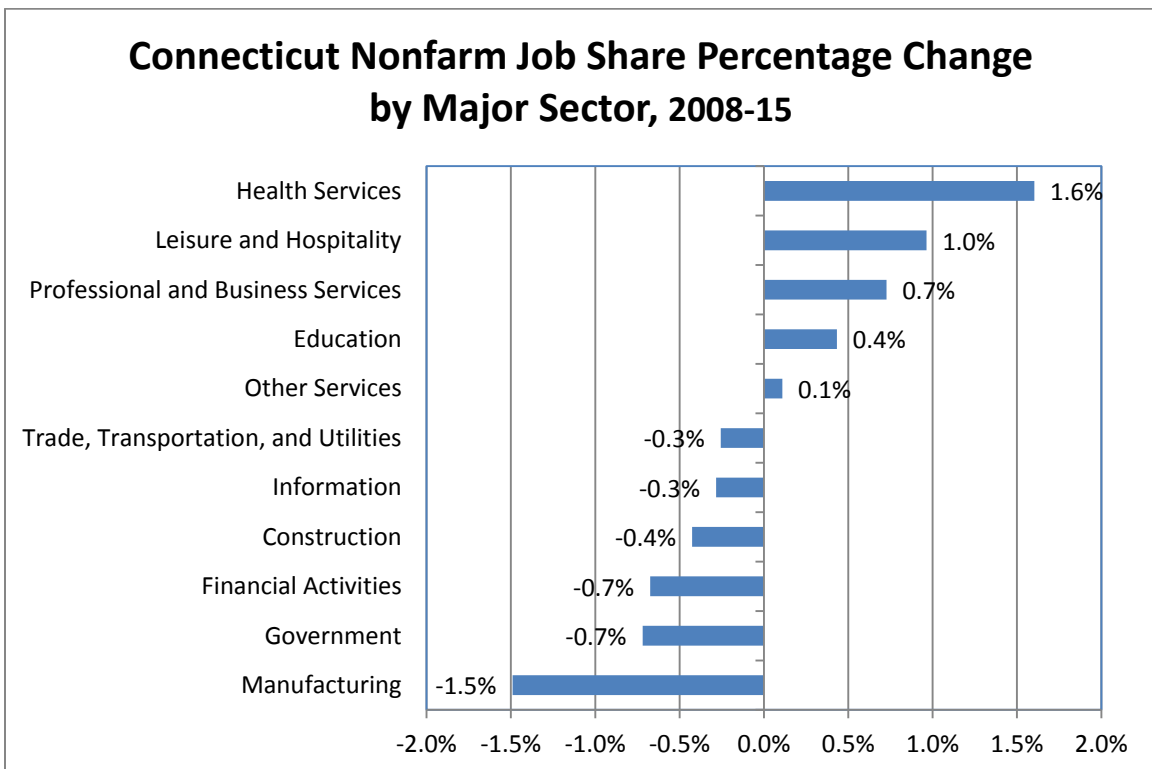
Graphs 2-1 and 2-2 present the major sector data from tables 2-1 and 2-2. They depict how the levels of nonfarm employment by major sector have changed since the annual average levels of 2008. The information in the graphs and tables can give us a better sense of how the recession affected the state's economy.



**Graph 2-1**



**Graph 2-2**



## **Putting Connecticut's Recession into Perspective**

To gain insight on Connecticut's recession, Table 2-3 compares data on the recent cycle to that of neighboring states and the United States. The table shows the jobs lost, recovered, and the intensity of those losses and recoveries.

The average number of months in decline of the areas listed was 24.8. Connecticut came in just under the average with its twenty-three month decline in employment that lasted from March 2008 to February 2010. The United States began its descent in employment just two months prior to Connecticut. New Jersey experienced the highest number of months in decline at 32 and Rhode Island was just behind that at 31. Massachusetts and New York had the shortest amounts of time in recession, both at 18 months. Rhode Island lost the largest percentage of employment at 8%, and Connecticut was next with a 7% decline.

As of January 2016, six of the 10 areas listed have exceeded the employment level it had at the peak of the recession. Connecticut does not have far to go to reach this. In January 2016, the state was at 98.1% of its previous employment peak.

Job recovery is widely varied amongst the highlighted areas. Connecticut has regained 72.8% of the jobs it lost in the recession. The state is on par with Maine (76.2%) and Rhode Island (78.9%), but still has a way to go to reach the levels of New York (249.2%) and Massachusetts (228.3%).

## **A More Detailed Look at Connecticut's Recovery**

Connecticut's economic recovery has been progressing slower than the nation and its neighboring states. The trough date of Connecticut's recession was February 2010, and as of January 2016, it has been 71 months into recovery. Table 2-4 shows a year-by-year breakdown of growth in nonfarm employment since the trough. This gives us a better idea of how each industry has shaped the state's current situation. Graph 2-3 provides a visual representation of the growth of each industry during each year of the recovery.

The first year of recovery started out strong with an increase of 15,900 jobs. The momentum slowly tapered off each year thereafter into recovery until this previous year. From This past year, 2015, is the first time since the recovery started that the number of jobs added increased from the previous year. Connecticut added 12,500 nonfarm jobs, bringing the level up to 1,674,000. As of January 2016, the state has about 32,000 jobs to recover to reach its pre-recession level.

**Table 2-3**

**Jobs Lost and Recovered Over the Current Business Cycle in U.S., Connecticut, and Neighboring States**

	<b>Emp. Level Peak</b>	<b>Emp. Level Trough</b>	<b>Peak Date</b>	<b>Trough Date</b>	<b># of Months in Decline</b>	<b># of Months in Recovery</b>	<b>As of January 2016</b>	<b>% Decline</b>	<b>% Recovery</b>	<b>% of Previous Peak</b>	<b>Recovery Rate (as of Jan. 2016)</b>
<b>Connecticut</b>	1,713,300	1,594,200	Mar. 2008	Feb. 2010	23	71	1,680,900	-7.0%	5.4%	98.1%	72.8%
<b>Maine</b>	620,900	590,200	Feb. 2008	Aug. 2010	30	65	613,600	-4.9%	4.0%	98.8%	76.2%
<b>Massachusetts</b>	3,331,500	3,190,100	Apr. 2008	Oct. 2009	18	75	3,512,900	-4.2%	10.1%	105.4%	228.3%
<b>New Hampshire</b>	652,600	622,000	Jan. 2008	Jan. 2010	24	72	660,700	-4.7%	6.2%	101.2%	126.5%
<b>New Jersey</b>	4,092,600	3,833,200	Jan. 2008	Sep. 2010	32	64	4,058,700	-6.3%	5.9%	99.2%	86.9%
<b>New York</b>	8,810,600	8,481,400	Apr. 2008	Oct. 2009	18	75	9,301,700	-3.7%	9.7%	105.6%	249.2%
<b>Pennsylvania</b>	5,822,000	5,564,400	Apr. 2008	Feb. 2010	22	71	5,852,000	-4.4%	5.2%	100.5%	111.6%
<b>Rhode Island</b>	495,700	455,900	Dec. 2006	Jul. 2009	31	78	487,300	-8.0%	6.9%	98.3%	78.9%
<b>Vermont</b>	309,600	294,900	Jun. 2007	Jul. 2009	25	78	316,200	-4.7%	7.2%	102.1%	144.9%
<b>United States</b>	138,432,000	129,733,000	Jan. 2008	Feb. 2010	25	71	143,318,000	-6.3%	10.5%	103.5%	156.2%

Table 2-4

## Growth in Recovery of Annual Connecticut Nonfarm Employment (in thousands)

	Trough	Recovery					Change					Change				
	2010	2011	2012	2013	2014	2015	2010-11	2011-12	2012-13	2013-14	2014-15	2010-11	2011-12	2012-13	2013-14	2014-15
<b>Total Nonfarm</b>	<b>1,608.0</b>	<b>1,623.9</b>	<b>1,637.5</b>	<b>1,650.1</b>	<b>1,661.5</b>	<b>1,674.0</b>	<b>15.9</b>	<b>13.6</b>	<b>12.6</b>	<b>11.4</b>	<b>12.5</b>	<b>1.0%</b>	<b>0.8%</b>	<b>0.8%</b>	<b>0.7%</b>	<b>0.8%</b>
<b>Goods Producing</b>	<b>215.4</b>	<b>217.4</b>	<b>215.9</b>	<b>216.4</b>	<b>215.5</b>	<b>217.0</b>	<b>2.0</b>	<b>-1.5</b>	<b>0.5</b>	<b>-0.9</b>	<b>1.5</b>	<b>0.9%</b>	<b>-0.7%</b>	<b>0.2%</b>	<b>-0.4%</b>	<b>0.7%</b>
<b>Construction, Nat. Res., &amp; Mining</b>	<b>50.5</b>	<b>52.0</b>	<b>51.9</b>	<b>54.0</b>	<b>56.1</b>	<b>58.0</b>	<b>1.5</b>	<b>-0.1</b>	<b>2.1</b>	<b>2.1</b>	<b>1.9</b>	<b>3.0%</b>	<b>-0.2%</b>	<b>4.0%</b>	<b>3.9%</b>	<b>3.4%</b>
<b>Manufacturing</b>	<b>164.8</b>	<b>165.4</b>	<b>164.0</b>	<b>162.4</b>	<b>159.4</b>	<b>159.0</b>	<b>0.6</b>	<b>-1.4</b>	<b>-1.6</b>	<b>-3.0</b>	<b>-0.4</b>	<b>0.4%</b>	<b>-0.8%</b>	<b>-1.0%</b>	<b>-1.8%</b>	<b>-0.3%</b>
Durable Goods	127.3	128.5	128.4	127.1	124.1	123.6	1.2	-0.1	-1.3	-3.0	-0.5	0.9%	-0.1%	-1.0%	-2.4%	-0.4%
Nondurable Goods	37.5	36.9	35.6	35.3	35.4	35.4	-0.6	-1.3	-0.3	0.1	0.0	-1.6%	-3.5%	-0.8%	0.3%	0.0%
<b>Service Providing</b>	<b>1,392.6</b>	<b>1,406.5</b>	<b>1,421.6</b>	<b>1,433.7</b>	<b>1,446.0</b>	<b>1,457.1</b>	<b>13.9</b>	<b>15.1</b>	<b>12.1</b>	<b>12.3</b>	<b>11.1</b>	<b>1.0%</b>	<b>1.1%</b>	<b>0.9%</b>	<b>0.9%</b>	<b>0.8%</b>
<b>Trade, Transportation, &amp; Utilities</b>	<b>285.8</b>	<b>288.7</b>	<b>291.3</b>	<b>293.9</b>	<b>295.8</b>	<b>296.9</b>	<b>2.9</b>	<b>2.6</b>	<b>2.6</b>	<b>1.9</b>	<b>1.1</b>	<b>1.0%</b>	<b>0.9%</b>	<b>0.9%</b>	<b>0.6%</b>	<b>0.4%</b>
Wholesale Trade	62.7	63.0	63.0	62.9	62.7	62.6	0.3	0.0	-0.1	-0.2	-0.1	0.5%	0.0%	-0.2%	-0.3%	-0.2%
Retail Trade	178.2	180.0	181.7	183.1	184.3	184.3	1.8	1.7	1.4	1.2	0.0	1.0%	0.9%	0.8%	0.7%	0.0%
Transportation & Warehousing	38.7	39.6	40.6	41.9	42.9	44.3	0.9	1.0	1.3	1.0	1.4	2.3%	2.5%	3.2%	2.4%	3.3%
Utilities	6.8	6.2	6.0	6.1	5.9	5.6	-0.6	-0.2	0.1	-0.2	-0.3	-8.8%	-3.2%	1.7%	-3.3%	-5.1%
<b>Information</b>	<b>31.7</b>	<b>31.3</b>	<b>31.3</b>	<b>32.0</b>	<b>32.0</b>	<b>32.5</b>	<b>-0.4</b>	<b>0.0</b>	<b>0.7</b>	<b>0.0</b>	<b>0.5</b>	<b>-1.4%</b>	<b>-0.1%</b>	<b>2.3%</b>	<b>0.0%</b>	<b>1.6%</b>
<b>Financial Activities</b>	<b>135.2</b>	<b>135.0</b>	<b>133.1</b>	<b>130.5</b>	<b>128.7</b>	<b>130.0</b>	<b>-0.2</b>	<b>-1.9</b>	<b>-2.6</b>	<b>-1.8</b>	<b>1.3</b>	<b>-0.1%</b>	<b>-1.4%</b>	<b>-2.0%</b>	<b>-1.4%</b>	<b>1.0%</b>
Finance and Insurance	116.3	116.3	114.3	111.6	109.5	110.1	0.0	-2.0	-2.7	-2.1	0.6	0.0%	-1.7%	-2.4%	-1.9%	0.5%
Real Estate & Rental & Leasing	18.9	18.7	18.8	18.9	19.2	19.9	-0.2	0.1	0.1	0.3	0.7	-1.1%	0.5%	0.5%	1.6%	3.6%
<b>Professional and Business Services</b>	<b>192.3</b>	<b>198.4</b>	<b>204.3</b>	<b>207.5</b>	<b>212.2</b>	<b>216.5</b>	<b>6.1</b>	<b>5.9</b>	<b>3.2</b>	<b>4.7</b>	<b>4.3</b>	<b>3.2%</b>	<b>3.0%</b>	<b>1.6%</b>	<b>2.3%</b>	<b>2.0%</b>
Prof., Sci., & Tech. Serv.	86.7	88.6	89.9	91.6	94.7	95.6	1.9	1.3	1.7	3.1	0.9	2.2%	1.5%	1.9%	3.4%	1.0%
Management of Comp. & Ent.	27.9	29.0	30.7	31.0	32.2	33.0	1.1	1.7	0.3	1.2	0.8	3.9%	5.9%	1.0%	3.9%	2.5%
Admin. & Waste Serv.	77.7	80.8	83.7	84.8	85.4	87.9	3.1	2.9	1.1	0.6	2.5	4.0%	3.6%	1.3%	0.7%	2.9%
<b>Education and Health Services</b>	<b>306.9</b>	<b>313.0</b>	<b>317.1</b>	<b>320.4</b>	<b>324.1</b>	<b>326.6</b>	<b>6.1</b>	<b>4.1</b>	<b>3.3</b>	<b>3.7</b>	<b>2.5</b>	<b>2.0%</b>	<b>1.3%</b>	<b>1.0%</b>	<b>1.2%</b>	<b>0.8%</b>
Educational Services	59.2	60.9	61.5	62.1	63.3	63.6	1.7	0.6	0.6	1.2	0.3	2.9%	1.0%	1.0%	1.9%	0.5%
Health Care & Social Assistance	247.7	252.2	255.5	258.3	260.8	262.9	4.5	3.3	2.8	2.5	2.1	1.8%	1.3%	1.1%	1.0%	0.8%
Social Assistance	45.6	47.5	49.1	50.8	52.6	54.3	1.9	1.6	1.7	1.8	1.7	4.2%	3.4%	3.5%	3.5%	3.2%
<b>Leisure and Hospitality</b>	<b>133.6</b>	<b>137.1</b>	<b>142.2</b>	<b>146.8</b>	<b>149.9</b>	<b>151.5</b>	<b>3.5</b>	<b>5.1</b>	<b>4.6</b>	<b>3.1</b>	<b>1.6</b>	<b>2.6%</b>	<b>3.7%</b>	<b>3.2%</b>	<b>2.1%</b>	<b>1.1%</b>
Arts, Entertainment, & Rec.	23.6	24.0	24.9	25.8	26.4	26.9	0.4	0.9	0.9	0.6	0.5	1.7%	3.7%	3.6%	2.3%	1.9%
Accommodation & Food Serv.	110.0	113.1	117.3	121.0	123.5	124.6	3.1	4.2	3.7	2.5	1.1	2.8%	3.7%	3.2%	2.1%	0.9%
<b>Other Services</b>	<b>60.5</b>	<b>60.3</b>	<b>61.5</b>	<b>61.9</b>	<b>62.9</b>	<b>64.0</b>	<b>-0.2</b>	<b>1.2</b>	<b>0.4</b>	<b>1.0</b>	<b>1.1</b>	<b>-0.4%</b>	<b>2.0%</b>	<b>0.7%</b>	<b>1.6%</b>	<b>1.7%</b>
<b>Government</b>	<b>246.5</b>	<b>242.6</b>	<b>240.9</b>	<b>240.6</b>	<b>240.2</b>	<b>239.1</b>	<b>-3.9</b>	<b>-1.7</b>	<b>-0.3</b>	<b>-0.4</b>	<b>-1.1</b>	<b>-1.6%</b>	<b>-0.7%</b>	<b>-0.1%</b>	<b>-0.2%</b>	<b>-0.5%</b>
Federal	19.7	18.0	17.6	17.3	17.4	17.7	-1.7	-0.4	-0.3	0.1	0.3	-8.6%	-2.2%	-1.7%	0.6%	1.7%
State	69.8	69.5	69.2	69.3	69.4	69.5	-0.3	-0.3	0.1	0.1	0.1	-0.4%	-0.4%	0.1%	0.1%	0.1%
Local*	157.1	155.1	154.1	154.0	153.4	151.9	-2.0	-1.0	-0.1	-0.6	-1.5	-1.3%	-0.6%	-0.1%	-0.4%	-1.0%

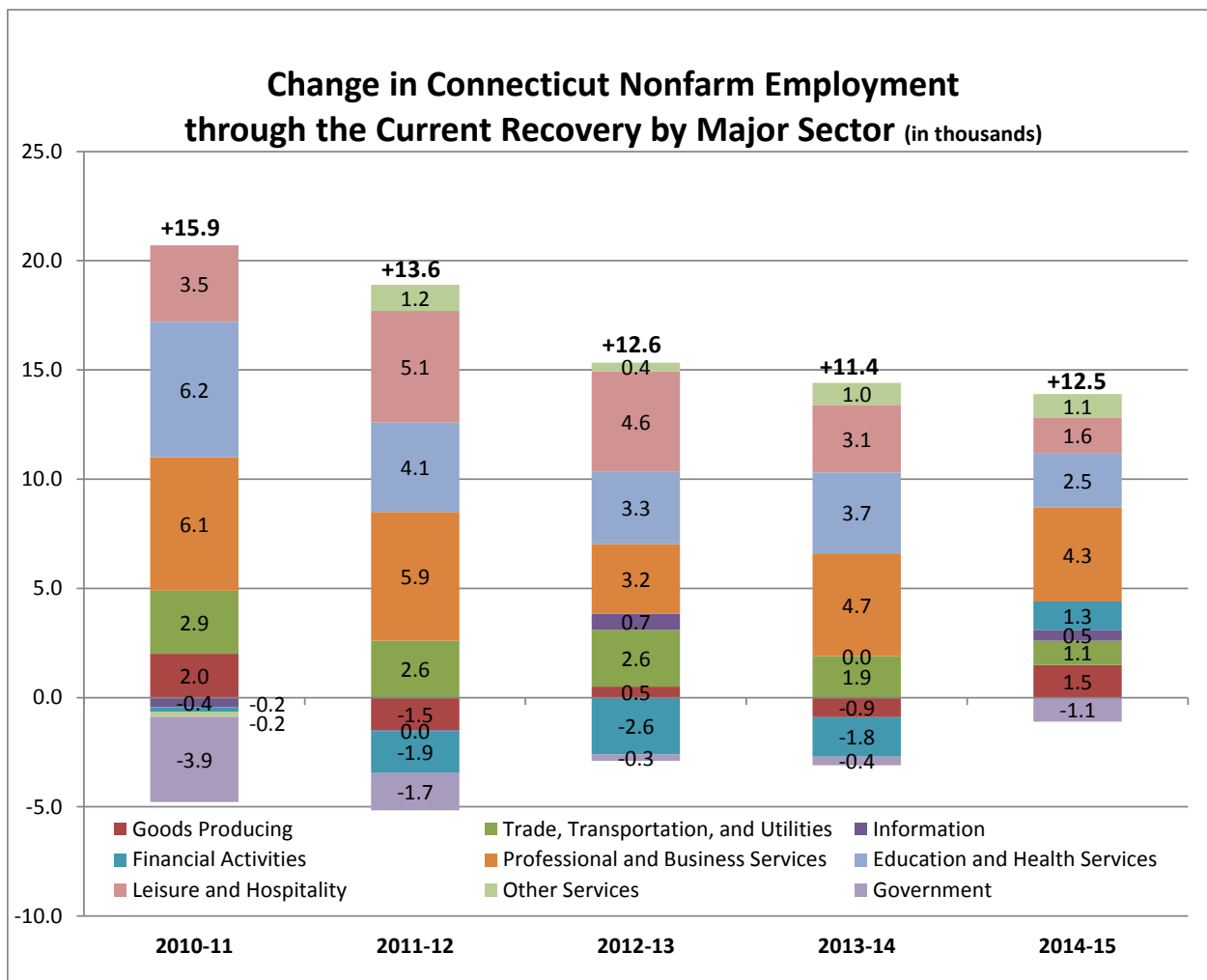
\*Includes Indian tribal government employment

Source: B.L.S. Current Employment Statistics

Four of the major industries have provided steady growth year-over-year throughout the recovery. Leisure and hospitality has had the largest yearly average percentage increase at 2.6%, while professional and business services has had the largest average of jobs added each year at 4,800. The education and health services industry has experienced an average of 3,900 added each year of the recovery. Trade, transportation, and utilities is the other sector that has shown consistent growth year-over-year.

The largest drag on the current recovery has been in the government sector. The sector has lost an average of 1,500 jobs each year of the recovery. The local government subsector, which includes Indian tribal employment, has been leading this decline. Financial activities has shown a promising turnaround. After four years of negative growth, this previous year saw a gain of 1,300 jobs.

**Graph 2-3**

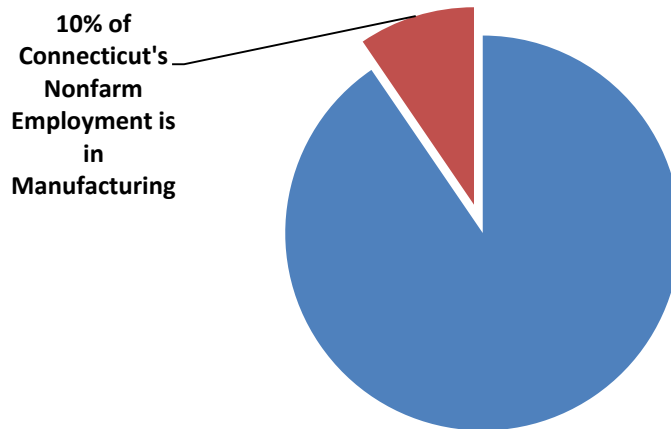


## Sector Strategies

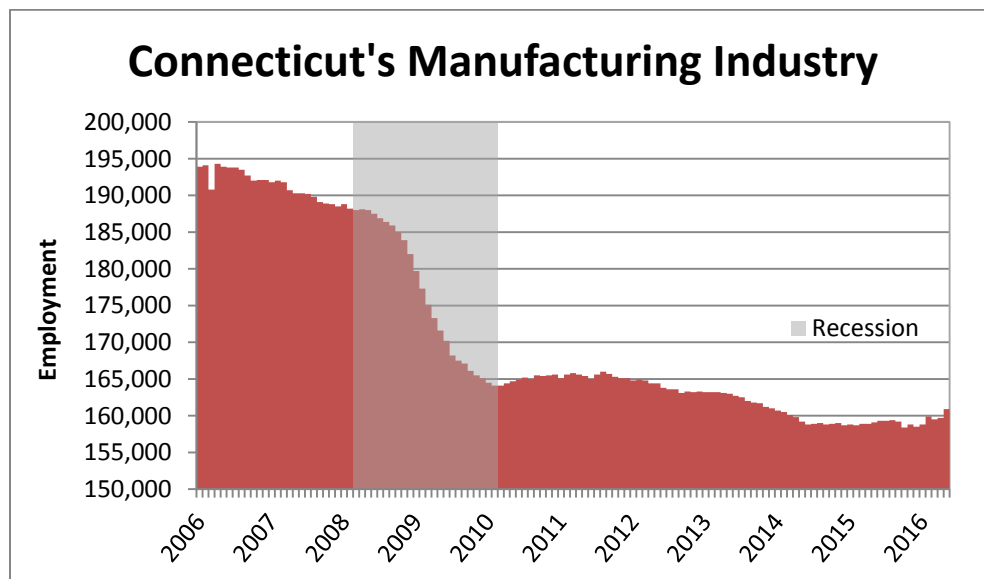
The following section highlights key sectors of Connecticut's labor market.

### *Manufacturing*

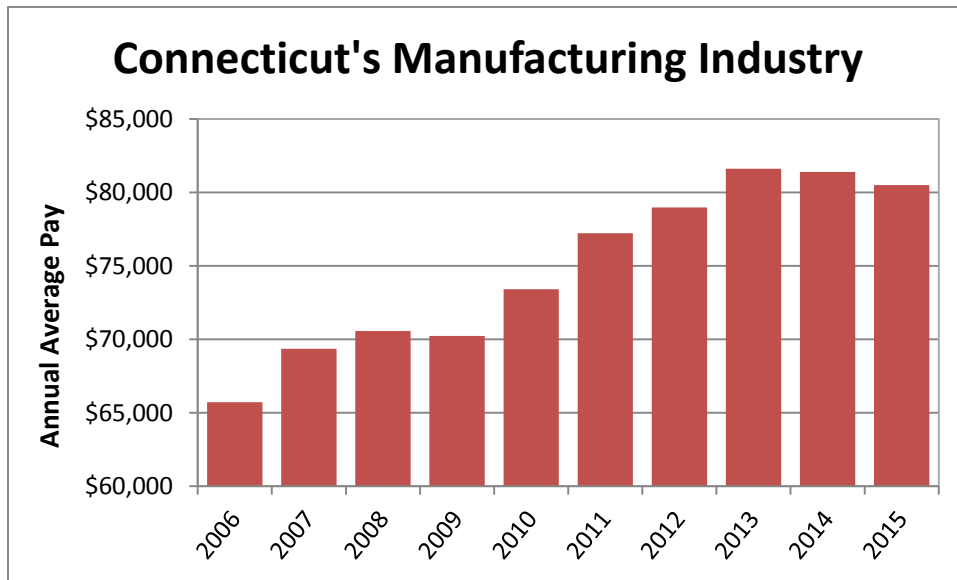
- Although the Manufacturing industry has been shrinking, it still accounts for 10% of Connecticut's nonfarm employment.



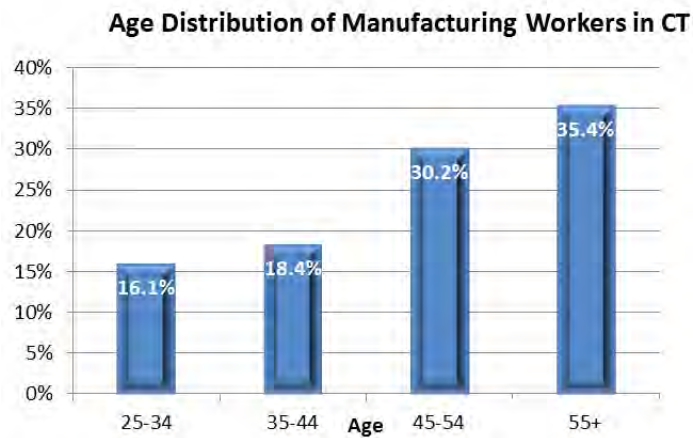
- The employment level for the Manufacturing industry is 160,900 as of May 2016.



- Wages have grown 22% in the industry over the past ten years.



- Due to the high percentage of older workers, training workers to replace experienced retirees will be the industry's main focus.



Top Manufacturing Occupations	2012	2022	% Change
Machinists	8,201	8,922	9
Team Assemblers	8,032	7,804	-3
First-Line Supervisors of Production and Operating Workers	6,541	6,443	-2
Inspectors, Testers, Sorters, Samplers, and Weighers	6,271	6,740	7
Mechanical Engineers	5,297	5,535	4
General and Operations Managers	4,472	4,479	0
Industrial Engineers	3,159	3,273	4
Shipping, Receiving, and Traffic Clerks	2,667	2,613	-2
Industrial Production Managers	2,588	2,546	-2
Computer-Controlled Machine Tool Operators, Metal and Plastic	2,523	2,937	16

#### Supply and Demand for Occupations in Sector

The table below shows the “supply” of new entrants completing education and training programs relative to the estimated long-term “demand” for openings in these occupations. Each occupation is designated in a workforce alignment category of “in balance” (BAL) if completers and estimated annual openings are within 20% of each other, “undersupplied” (UND) if the number of program completers is far less than the apparent need or “oversupplied” (OVR) if completers far exceed the apparent annual openings. A “?” appears next to the indication in cases where out of state markets may be able to absorb trained candidates. Note that for a skills gap to exist at this level a workforce alignment designation of UND is indicated.

SOC Code	Occupational Title	Est. Hourly Wage	Minimum Education	Est. Annual Openings (1)	Program Completers	Workforce Alignment
51-4041/ 4011/ 4012	Machinists / CNC Operators	21.08 – 22.70	HS	446	486	BAL
51-9061	Inspectors, Testers, Sorters, Samplers, and Weighers	20.54	HS	243	3	UND
51-2011	Aircraft Structure, Surfaces, Rigging, and Systems Assemblers	30.31	HS	65	31	UND
51-4121	Welders, Cutters, Solderers, and Brazers	19.51	HS	62	158	OVR
51-8031	Water and Wastewater Treatment Plant and System Operators	27.47	HS	46	18	UND

Note: Occupations for which there have traditionally been no training programs available are not listed.

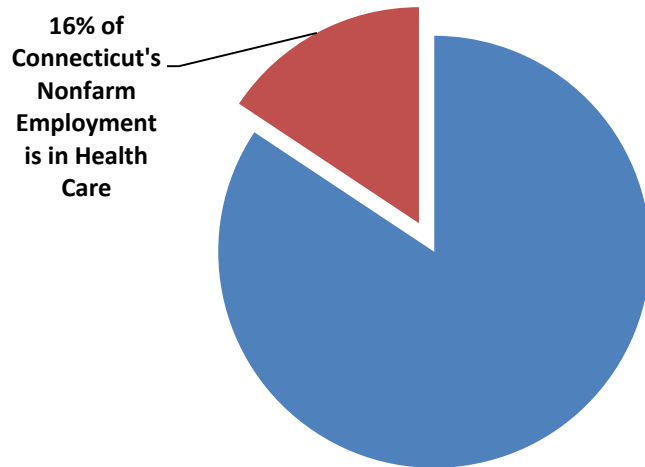
(1) From CTDOL Long Term Occupational Projections 2012 – 2022

(2) From HWOL Unique Job Ad Counts (Note: Job Ad Counts may not convert directly to job openings)

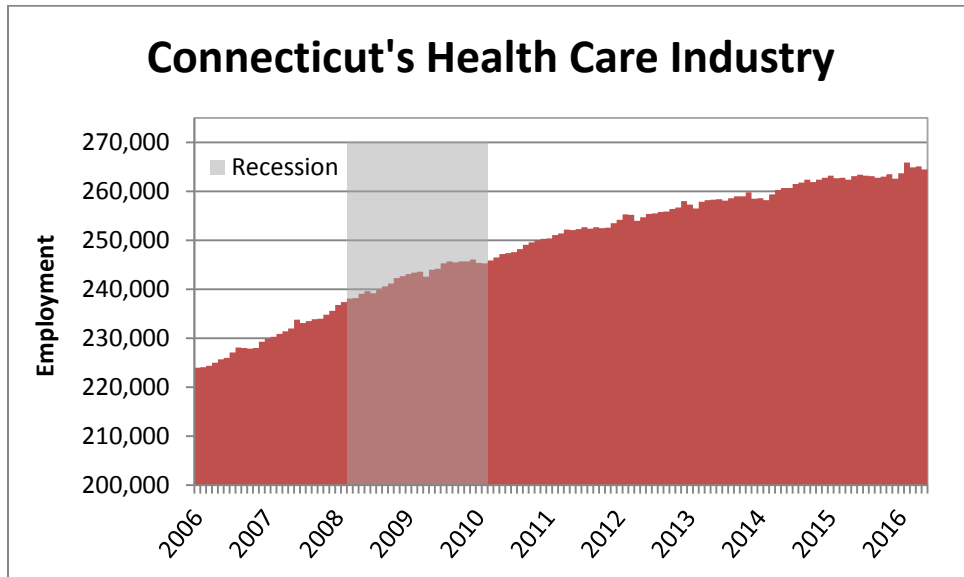


### Health Care

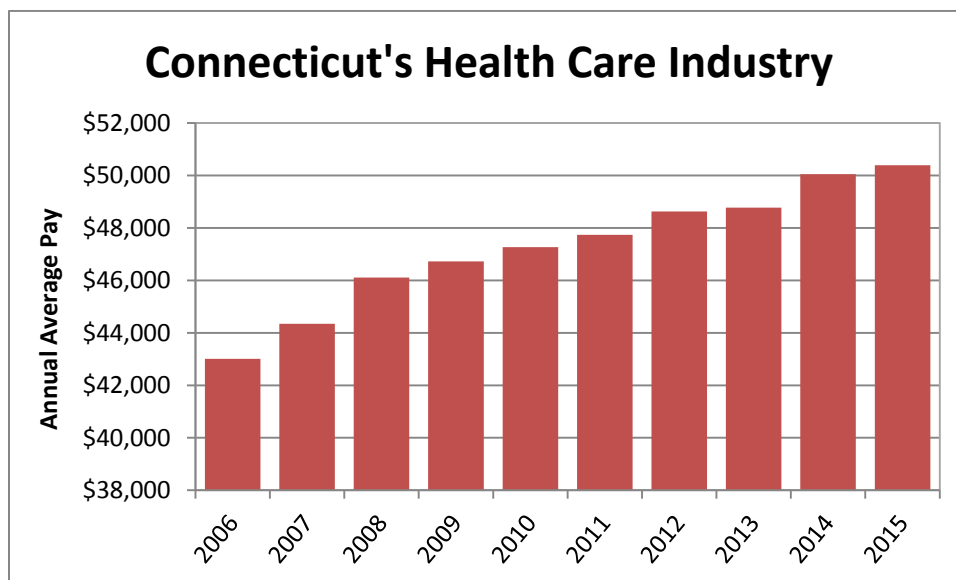
- The Health Care industry has been steadily growing and comprises 16% of Connecticut's nonfarm employment.



- The employment level for the Health Care industry is 264,500 as of May 2016.



- Wages have grown 17% in the industry over the past ten years.



The following table displays the top employing occupations in the Health Care and Social Assistance industry. All of the twenty occupations listed are projected to grow steadily.

Top Employing Occupations	2012	2022	% Change
Registered Nurses	30,835	35,864	16
Nursing Assistants	21,743	22,552	4
Personal Care Aides	19,731	27,316	38
Home Health Aides	7,956	11,019	39
Licensed Practical and Licensed Vocational Nurses	7,799	9,334	20
Childcare Workers	7,361	8,540	16
Medical Assistants	6,978	8,933	28
Receptionists and Information Clerks	6,663	8,100	22
Social and Human Service Assistants	6,400	7,946	24
First-Line Supervisors of Office and Administrative Support Workers	5,922	7,214	22
Secretaries and Administrative Assistants, Except Legal, Medical, and Executive	5,633	6,499	15
Preschool Teachers, Except Special Education	5,370	6,189	15
Office Clerks, General	5,287	5,606	6
Maids and Housekeeping Cleaners	4,302	4,907	14
Medical Secretaries	4,104	5,399	32
Dental Assistants	4,085	4,425	8
Medical and Health Services Managers	3,933	4,770	21
Dental Hygienists	3,620	4,168	15
Physical Therapists	3,567	4,669	31
Physicians and Surgeons, All Other	2,943	3,546	20

### Supply and Demand for Occupations in Sector

The table below shows the “supply” of new entrants completing education and training programs relative to the estimated long-term “demand” for openings in these occupations. Each occupation is designated in a workforce alignment category of “in balance” (BAL) if completers and estimated annual openings are within 20% of each other, “undersupplied” (UND) if the number of program completers is far less than the apparent need or “oversupplied” (OVR) if completers far exceed the apparent annual openings. A “?” appears next to the indication in cases where out of state markets may be able to absorb trained candidates. Note that for a skills gap to exist at this level a workforce alignment designation of UND is indicated.

## Diagnosing and Treating Occupations

SOC Code	Occupational Title	Est. Hourly Wage	Minimum Education	Est. Annual Openings (1)	Program Completers	Workforce Alignment
29-1141	Registered Nurses	36.50	Associate's degree	1,223	2,505	OVR ?
29-1123	Physical Therapists	40.18	Doctoral or professional degree	214	188	BAL
29-1171	Nurse Practitioners	45.45	Master's degree	129	118	BAL
29-1071	Physician Assistants	50.22	Master's degree	86	109	BAL
29-1122	Occupational Therapists	39.34	Master's degree	62	98	OVR
29-1127	Speech-Language Pathologists	39.79	Master's degree	53	98	OVR
29-1062	Respiratory Therapists	32.32	Associate's degree	36	89	OVR
29-1126	Dietitians and Nutritionists	31.35	Bachelor's degree	24	275	OVR
29-1125	Recreational Therapists	22.56	Bachelor's degree	10	36	OVR
29-1151	Nurse Anesthetists	81.99	Master's degree	17	38	OVR ?
29-1125	Radiation Therapists	46.25	Associate's degree	12	100	OVR
29-1011	Chiropractors	34.20	Doctoral or professional degree	9	37	OVR ?
29-1181	Audiologists	36.72	Doctoral or professional degree	7	104	OVR ?
29-1128	Exercise Physiologists	25.25	Bachelor's degree	3	66	OVR

Note: Diagnostic and Treatment professional occupations (e.g. MD's, Pharmacists, Dentists, etc. are not included as the supply and demand for these occupations is national/ international.

(1) From CTDOL Long Term Occupational Projections 2012 – 2022

(2) From HWOL Unique Job Ad Counts (Note: Job Ad Counts may not convert directly to job openings)

## Health Technology Occupations

SOC Code	Occupational Title	Est. Hourly Wage	Minimum Education	Est. Annual Openings (1)	Program Completers	Workforce Alignment
<b>29-2061</b>	Licensed Practical and Licensed Vocational Nurses	26.64	Postsecondary non-degree award	374	789	OVR
<b>29-2021</b>	Dental Hygienists	40.14	Associate's degree	157	231	OVR
<b>29-2034</b>	Radiologic Technologists	30.61	Associate's degree	78	125	OVR
<b>29-2011</b>	Medical and Clinical Laboratory Technologists	34.12	Bachelor's degree	76	20	UND
<b>29-2012</b>	Medical and Clinical Laboratory Technicians	23.44	Associate's degree	73	26	UND
<b>29-2071</b>	Medical Records and Health Information Technicians	19.77	Postsecondary non-degree award	62	314	OVR
<b>29-2055</b>	Surgical Technologists	26.27	Postsecondary non-degree award	41	77	OVR
<b>29-2032</b>	Diagnostic Medical Sonographers	37.91	Associate's degree	52	60	BAL
<b>29-2053</b>	Psychiatric Technicians	23.28	Postsecondary non-degree award	17	246	OVR
<b>29-2033</b>	Nuclear Medicine Technologists	40.89	Associate's degree	11	7	BAL
<b>29-2051</b>	Dietetic Technicians	15.61	Associate's degree	5	194	OVR
<b>29-2091</b>	Orthotists and Prosthetists	41.79	Master's degree	4	19	OVR?
<b>29-2054</b>	Respiratory Therapy Technicians	31.66	Associate's degree	2	89	OVR

(1) From CTDOL Long Term Occupational Projections 2012 – 2022

(2) From HWOL Unique Job Ad Counts (Note: Job Ad Counts may not convert directly to job openings)

## Healthcare Support Occupations

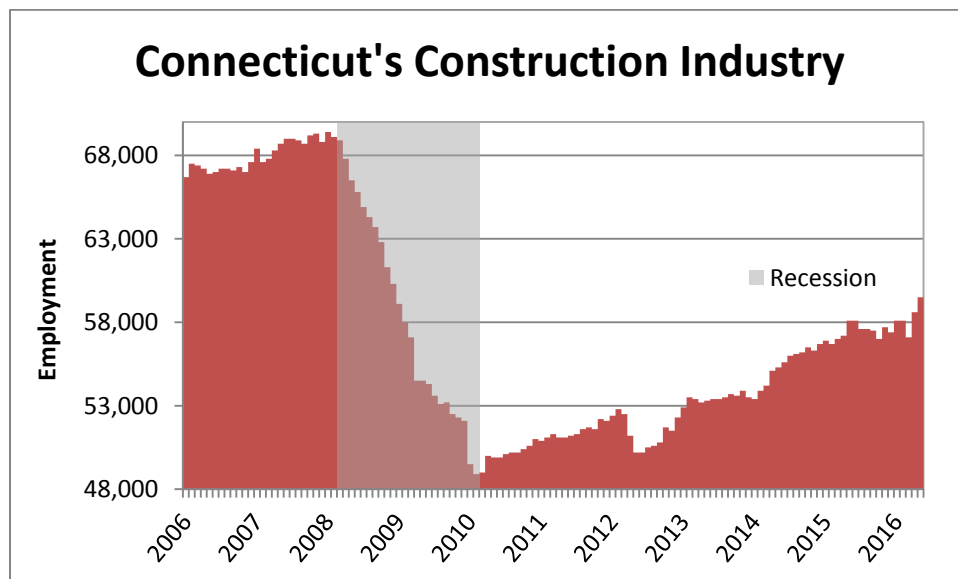
SOC Code	Occupational Title	Est. Hourly Wage	Minimum Education	Est. Annual Openings (1)	Program Completers	Workforce Alignment
31-1013	Psychiatric Aides	16.02	High school diploma or equivalent	28	246	OVR
31-1014	Nursing Assistants	15.03	Postsecondary non-degree award	547	294	UND
31-2011	Occupational Therapy Assistants	28.47	Associate's degree	29	81	OVR
31-2021	Physical Therapist Assistants	26.59	Associate's degree	32	42	BAL
31-9091	Dental Assistants	19.79	Postsecondary non-degree award	122	406	OVR
31-9092	Medical Assistants	16.09	Postsecondary non-degree award	340	1980	OVR
31-9097	Phlebotomists	17.40	Postsecondary non-degree award	53	53	BAL

(1) From CTDOL Long Term Occupational Projections 2012 – 2022

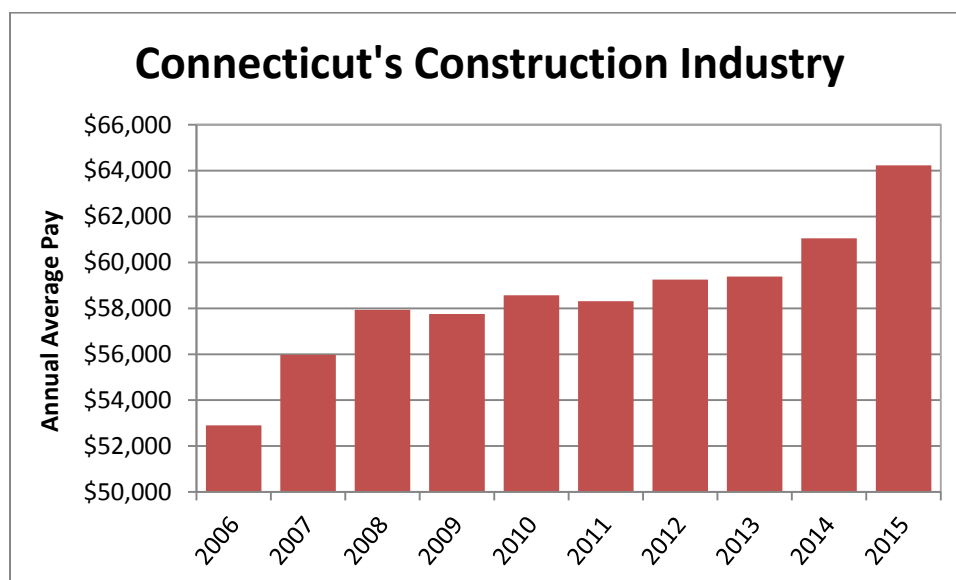
(2) From HWOL Unique Job Ad Counts (Note: Job Ad Counts may not convert directly to job openings)

### Construction

- The Construction industry peaked in 2008, and has been slow to recover from the recession. The employment level is at 59,500 as of May 2016.



- Wages have grown 21% in the industry over the past ten years.



Top Construction Occupations	2012	2022	% Change
Construction Laborers	4,972	6,084	22
Carpenters	4,530	5,468	21
Electricians	4,055	5,223	29
First-Line Supervisors of Construction Trades and Extraction Workers	2,991	3,743	25
Plumbers, Pipefitters, and Steamfitters	2,587	3,388	31
Operating Engineers and Other Construction Equipment Operators	1,831	2,227	22
General and Operations Managers	1,749	2,124	21
Construction Managers	1,678	2,102	25
Heating, Air Conditioning, and Refrigeration Mechanics and Installers	1,443	1,884	31
Bookkeeping, Accounting, and Auditing Clerks	1,420	1,740	23
Painters, Construction and Maintenance	1,271	1,370	8
Cost Estimators	1,148	1,459	27
Heavy and Tractor-Trailer Truck Drivers	1,036	1,234	19

#### *Supply and Demand for Occupations in Sector*

The following table shows the “supply” of new entrants completing education and training programs relative to the estimated long-term “demand” for openings in these occupations. Each occupation is designated in a workforce alignment category of “in balance” (BAL) if completers and estimated annual openings are within 20% of each other, “undersupplied” (UND) if the number of program completers is far less than the apparent need or “oversupplied” (OVR) if completers far exceed the apparent annual openings. A “?” appears next to the indication in cases where out of state markets may be able to

absorb trained candidates. Note that for a skills gap to exist at this level a workforce alignment designation of UND is indicated.

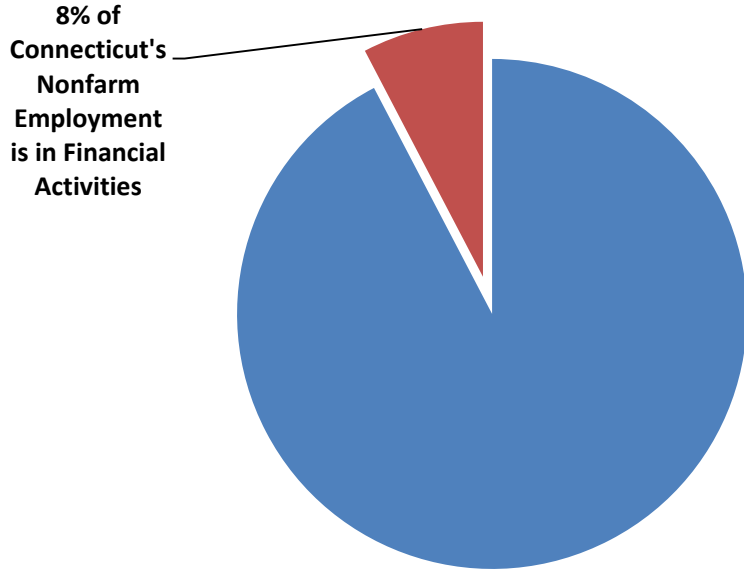
SOC Code	Occupational Title	Est. Hourly Wage	Minimum Education	Est. Annual openings (1)	Program Completers	Workforce Alignment
47-1011	First-Line Supervisors of Construction Trades and Extraction Workers	33.10	High school diploma or equivalent	153	751	OVR?
47-2021	Brickmasons and Blockmasons	28.35	High school diploma or equivalent	22	10	UND
47-2022	Stonemasons	24.12	High school diploma or equivalent	6	10	BAL
47-2031	Carpenters	23.60	High school diploma or equivalent	268	81	UND
47-2044	Tile and Marble Setters	25.09	Less than high school	3	10	OVR
47-2111	Electricians	27.20	High school diploma or equivalent	241	545	OVR
47-2152	Plumbers, Pipefitters, and Steamfitters	28.39	High school diploma or equivalent	150	115	BAL
11-9021	Construction Managers	49.16	Bachelor's degree	146	60	UND
11-9041	Architectural and Engineering Managers	59.48	Bachelor's degree	117	116	BAL
17-3011	Architectural and Civil Drafters	27.68	Associate's degree	10	114	OVR
17-3022	Civil Engineering Technicians	30.01	Associate's degree	9	6	BAL
17-3024	Electro-Mechanical Technicians	24.40	Associate's degree	4	12	BAL
17-3025	Environmental Engineering Technicians	27.39	Associate's degree	5	25	OVR
17-3026	Industrial Engineering Technicians	30.45	Associate's degree	19	66	OVR
17-3027	Mechanical Engineering Technicians	26.73	Associate's degree	27	44	OVR

(1) From CTDOL Long Term Occupational Projections 2012 – 2022

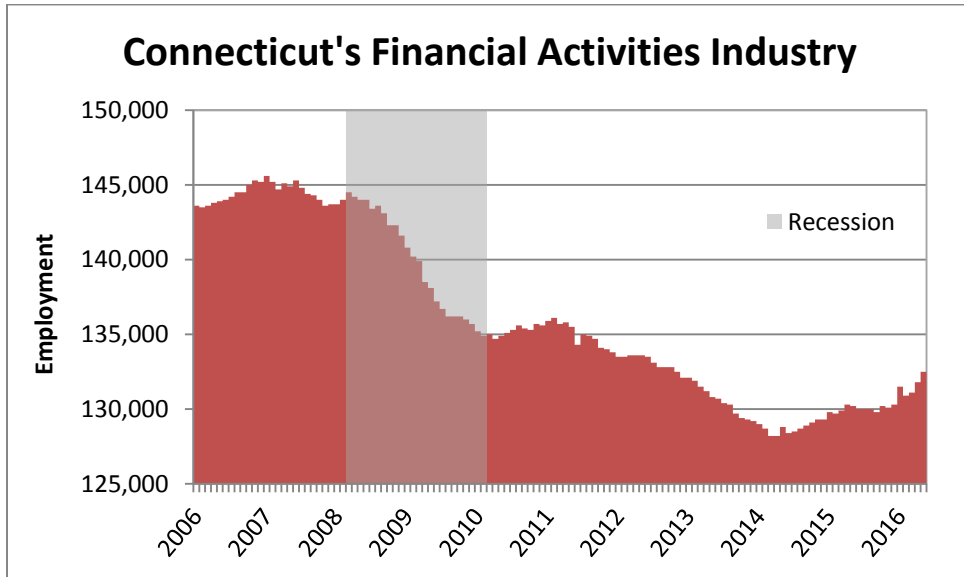
(2) From HWOL Unique Job Ad Counts (Note: Job Ad Counts may not convert directly to job openings)

**Finance and Insurance**

- Although the Financial Activities industry has been shrinking, it still makes up 8% of Connecticut's nonfarm employment.

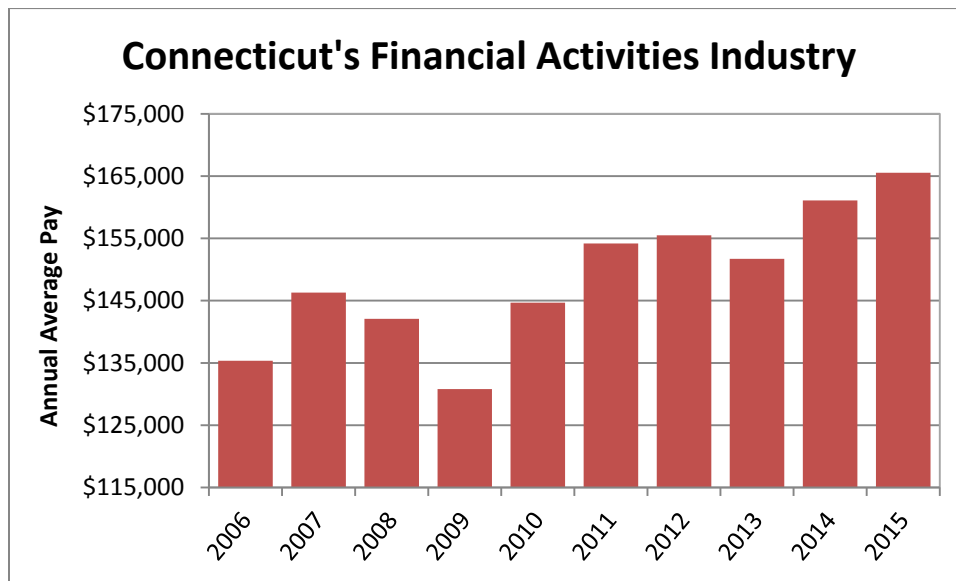


- The employment level for the Financial Activities industry is 132,500 as of May 2016.





- Wages have grown 22% in the industry over the past ten years, and continue to be the highest in the state.



#### *Supply and Demand for Occupations in Sector*

The following table shows the “supply” of new entrants completing education and training programs relative to the estimated long-term “demand” for openings in these occupations. Each occupation is designated in a workforce alignment category of “in balance” (BAL) if completers and estimated annual openings are within 20% of each other, “undersupplied” (UND) if the number of program completers is far less than the apparent need or “oversupplied” (OVR) if completers far exceed the apparent annual openings. A “?” appears next to the indication in cases where out of state markets may be able to absorb trained candidates. Note that for a skills gap to exist at this level a workforce alignment designation of UND is indicated.

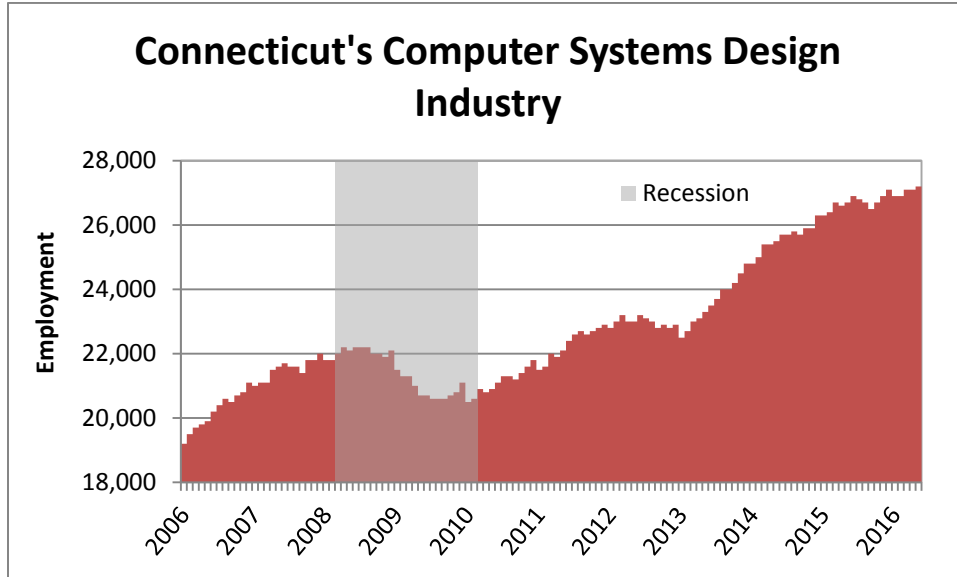
SOC Code	Occupational Title	Est. Hourly Wage	Minimum Education	Est. Annual Openings (1)	Program Completers	Workforce Alignment
13-2011	Accountants and Auditors	37.55	Bachelor's degree	663	1,015	OVR ?
12-2021	Appraisers and Assessors of Real Estate	40.81	Bachelor's degree	7	8	BAL
13-2031	Budget Analysts	38.28	Bachelor's degree	48	1,514	OVR
13-1031	Claims Adjusters, Examiners, and Investigators	35.31	High school diploma or equivalent	108	14	UND
13-1051	Cost Estimators	36.36	Bachelor's degree	110	4,135	OVR
13-2041	Credit Analysts	46.46	Bachelor's degree	42	1,514	OVR
13-2071	Credit Counselors	23.88	Bachelor's degree	3	13	BAL
13-2051	Financial Analysts	48.64	Bachelor's degree	267	552	OVR
13-2061	Financial Examiners	42.50	Bachelor's degree	10	1,015	OVR
13-2099	Financial Specialists, All Other	32.53	Bachelor's degree	20	552	OVR
13-1032	Insurance Appraisers, Auto Damage	30.49	Postsecondary non-degree award	4	108	OVR
13-2053	Insurance Underwriters	44.24	Bachelor's degree	114	66	UND
13-2072	Loan Officers	37.78	Bachelor's degree	40	509	OVR
13-1081	Logisticians	35.52	Bachelor's degree	36	32	BAL
13-2052	Personal Financial Advisors	65.60	Bachelor's degree	212	521	OVR
13-2081	Tax Examiners and Collectors, and Revenue Agents	38.03	Bachelor's degree	32	1,015	OVR
13-2082	Tax Preparers	24.50	High school diploma or equivalent	27	321	OVR

(1) From CTDOL Long Term Occupational Projections 2012 – 2022

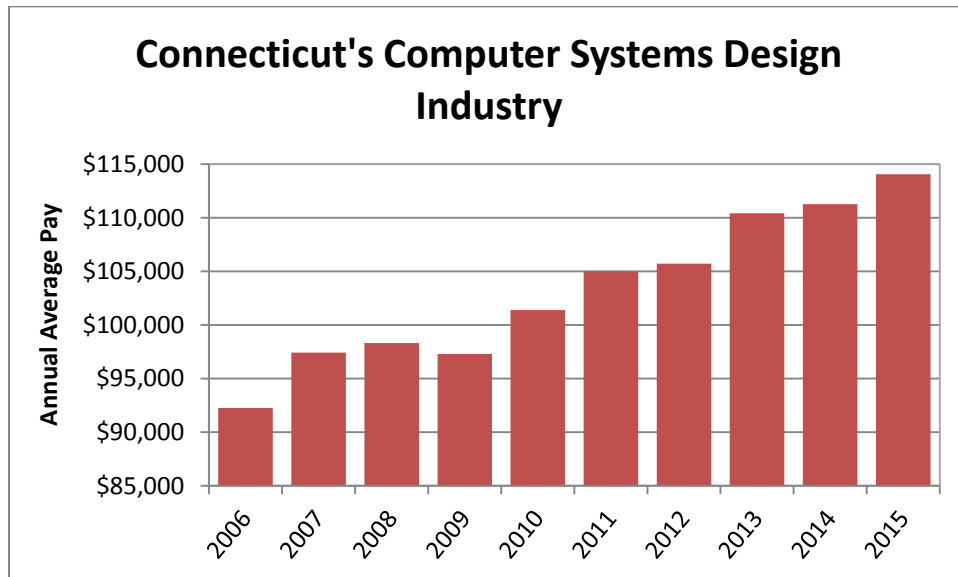
(2) From HWOL Unique Job Ad Counts (Note: Job Ad Counts may not convert directly to job openings)

**Information Technology**

- The employment level for the Computer Systems Design and Related Services industry is 27,200 as of May 2016.



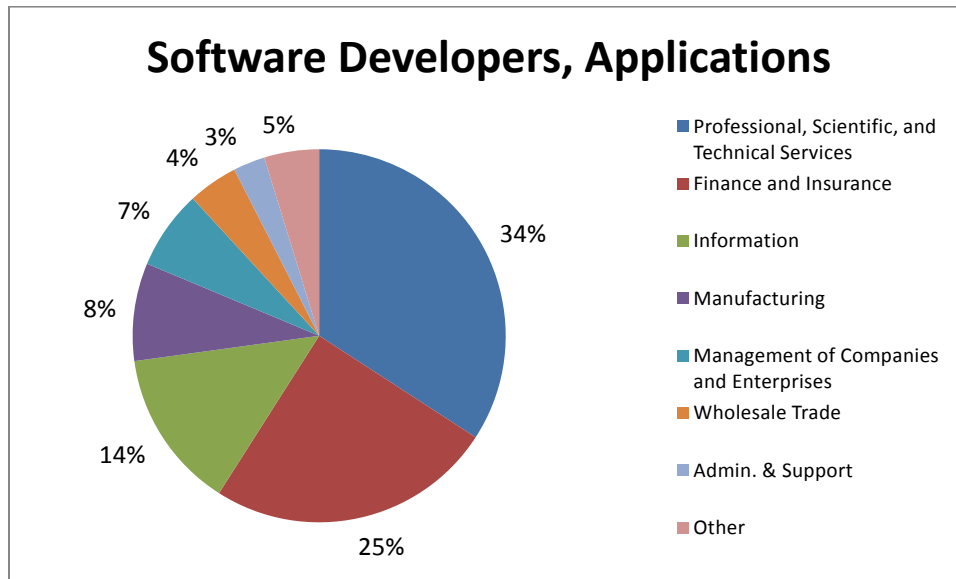
- The Computer Systems Design industry is one of the top-paying in the state.

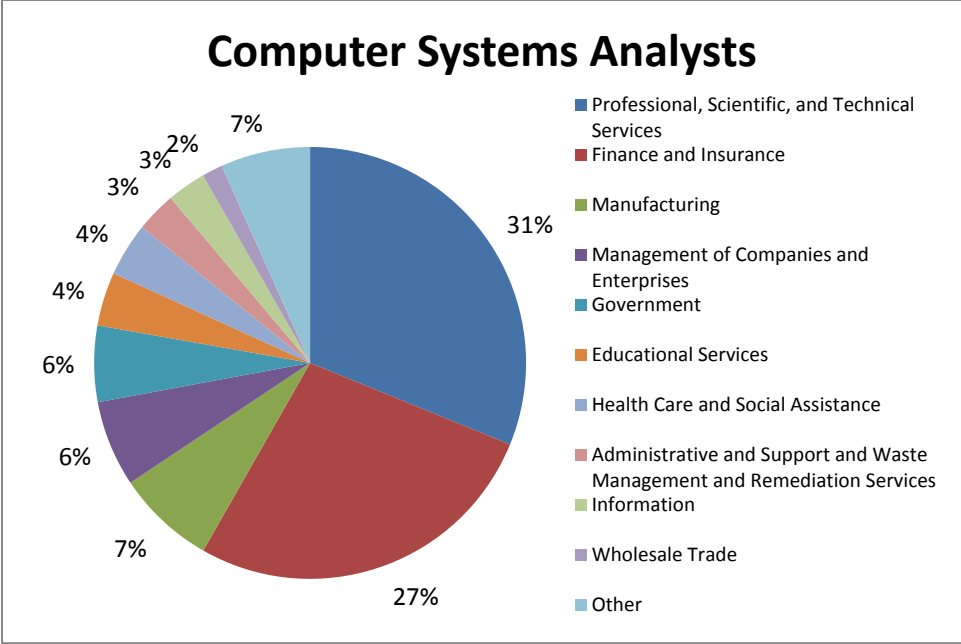


The top employing occupations in the Computer Systems Design industry are:

Occupation	2012	2022	% Change
Software Developers, Applications	2,413	3,388	40
Computer Systems Analysts	2,381	3,106	30
Customer Service Representatives	1,799	2,348	31
Software Developers, Systems Software	1,593	2,237	40
Computer User Support Specialists	1,578	2,355	49
Computer Programmers	1,516	1,780	17
Bookkeeping, Accounting, and Auditing Clerks	1,327	1,731	30
Computer and Information Systems Managers	1,194	1,565	31
General and Operations Managers	828	1,080	30
Management Analysts	749	977	30

The following charts show how widespread the information technology occupations are throughout industries, using the top two occupations.





*Supply and Demand for Occupations in Sector*

The following table shows the “supply” of new entrants completing education and training programs relative to the estimated long-term “demand” for openings in these occupations. Each occupation is designated in a workforce alignment category of “in balance” (BAL) if completers and estimated annual openings are within 20% of each other, “undersupplied” (UND) if the number of program completers is far less than the apparent need or “oversupplied” (OVR) if completers far exceed the apparent annual openings. A “?” appears next to the indication in cases where out of state markets may be able to absorb trained candidates. Note that for a skills gap to exist at this level a workforce alignment designation of UND is indicated.

SOC Code	Occupational Title	Est. Hourly Wage	Minimum Education	Est. Annual Openings (1)	Program Completers	Workforce Alignment
15-2011	Actuaries	56.49	Bachelor's degree	65	177	OVR ?
15-1111	Computer and Information Research Scientists	55.98	PhD	7	563	OVR ?
11-3021	Computer and Information Systems Managers	67.1	Bachelor's degree	214	791	OVR
15-1143	Computer Network Architects	51.71	Bachelor's degree	24	510	OVR
15-1152	Computer Network Support Specialists	38.55	Associate's degree	27	254	OVR
15-1131	Computer Programmers	42.15	Bachelor's degree	131	377	OVR
15-1121	Computer Systems Analysts	45.82	Bachelor's degree	337	384	BAL
15-1151	Computer User Support Specialists	28.24	Some College	283	8	UND
15-1141	Database Administrators	42.99	Bachelor's degree	44	275	OVR
15-1122	Information Security Analysts	44.81	Bachelor's degree	26	284	OVR
15-1142	Network and Computer Systems Administrators	42.04	Bachelor's degree	91	277	OVR
15-2031	Operations Research Analysts	46.36	Bachelor's degree	44	87	OVR
15-1132	Software Developers, Applications	46.98	Bachelor's degree	255	361	BAL
15-1132	Software Developers, Systems Software	46.39	Bachelor's degree	159	441	OVR
15-2041	Statisticians	NA	Master's degree	26	476	OVR
15-1134	Web Developers	33.49	Associate's degree	62	222	OVR

(1) From CTDOL Long Term Occupational Projections 2012 – 2022

(2) From HWOL Unique Job Ad Counts (Note: Job Ad Counts may not convert directly to job openings)

# Connecticut Forecast

The following is an outlook on where Connecticut is headed over the next two years. The Connecticut Department of Labor's Office of Research produces a yearly short-term forecast to provide insight on labor market activity. The industry and occupational forecasts are derived using data obtained from the Quarterly Census of Employment and Wages (QCEW) and the Occupational Employment Statistics (OES) programs. The current analysis covers the first quarter of 2015 to the first quarter of 2017.

### **Industry Employment Forecast**

Connecticut is expected to continue on its rebound from the recent recession over the forecast period. The average annual growth rate is expected to be .3%. This will potentially bring the employment level to 1,783,010 by the first quarter of 2017 from its base of 1,771,120.

The goods producing industries are expected to contract at an annual average rate of .1%. The largest contributor to this is the manufacturing industry. Over the two year period, it is expected to drop by 1,850 jobs. Construction has a brighter outlook, as it is projected to grow on average 1.3% annually.

The much larger service providing industries are forecasted to grow .4% on an annual average basis. Graph 3-1 is presented to show the extent to which service providing industries make up Connecticut's employment. The projected growth is largely aided by education and health services. The industry is expected to grow .9% annually, keeping on trend with how it has performed over recent years. Other significant contributions to the anticipated employment growth are the trade, transportation, and utilities, leisure and hospitality, financial activities, professional and business services sectors. Government and information are both likely to shrink over the next two years.



Graph 3-1

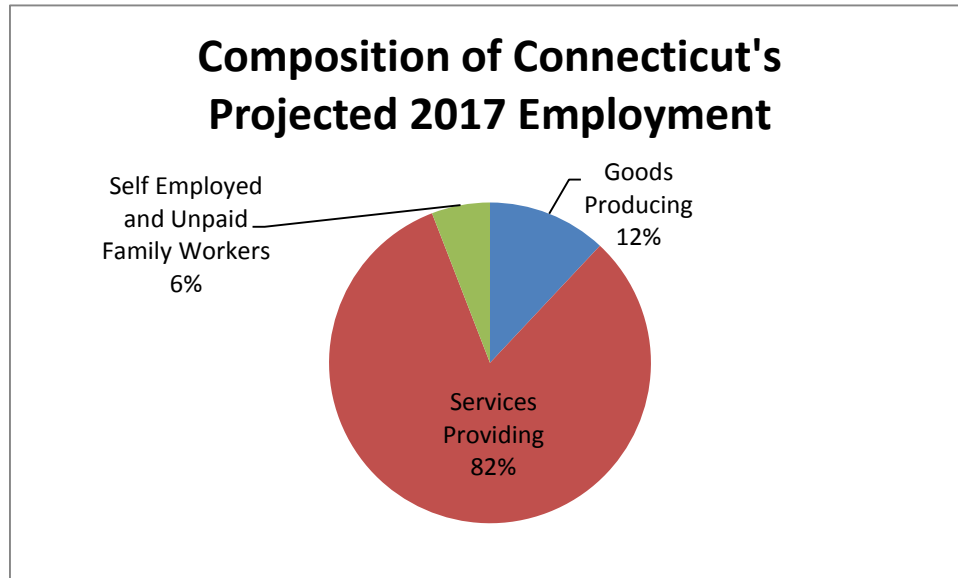


Table 3-1

Industry	2015 Employment	2017 Projected Employment	Avg. Annual Growth Rate
<b>Total All Industries</b>	<b>1,771,120</b>	<b>1,783,010</b>	<b>0.3%</b>
Goods Producing	213,970	213,390	-0.1%
Natural Resources and Mining	4,140	4,050	-1.1%
Construction	51,560	52,930	1.3%
Manufacturing	158,270	156,420	-0.6%
Services Providing	1,453,310	1,464,860	0.4%
Trade, Transportation, and Utilities	295,210	297,850	0.4%
Information	32,180	31,330	-1.3%
Financial Activities	128,960	129,950	0.4%
Professional and Business Services	211,470	211,930	0.1%
Education and Health Services	471,450	480,290	0.9%
Leisure and Hospitality	154,750	155,820	0.3%
Other Services (except Government)	74,570	74,890	0.2%
Government	84,710	82,800	-1.1%

## Occupational Employment Forecast

Connecticut's occupational employment is expected to grow by 11,890 jobs over the 2015-2017 projections period. The major categories with the largest employment change are personal care and service, healthcare practitioners and technical, and building and grounds cleaning and maintenance occupations. Table 3-3 and 3-4 list the fastest growing and shrinking occupations based on the minor occupation group.

**Table 3-2**

Occupational Group	2015 Employment	2017 Projected Employment	Emp. Change	% Change
<b>Total</b>	<b>1,771,120</b>	<b>1,783,010</b>	<b>11,890</b>	<b>0.7</b>
Management	132,460	133,100	640	0.5
Business and Financial Operations	98,900	99,320	420	0.4
Computer and Mathematical	48,270	48,930	660	1.4
Architecture and Engineering	33,410	33,490	90	0.3
Life, Physical, and Social Science	13,130	13,190	60	0.5
Community and Social Service	40,450	41,090	650	1.6
Legal	16,230	16,140	-100	-0.6
Education, Training, and Library	136,770	137,790	1,010	0.7
Arts, Design, Entertainment, Sports, and Media	34,770	34,460	-310	-0.9
Healthcare Practitioners and Technical	106,760	108,740	1,980	1.9
Healthcare Support	53,350	54,830	1,480	2.8
Protective Service	33,370	33,150	-220	-0.7
Food Preparation and Serving Related	130,310	131,740	1,420	1.1
Building and Grounds Cleaning and Maintenance	67,860	69,630	1,780	2.6
Personal Care and Service	87,030	89,120	2,100	2.4
Sales and Related	170,910	170,970	70	0.0
Office and Administrative Support	266,110	264,670	-1,440	-0.5
Farming, Fishing, and Forestry	3,040	2,970	-70	-2.2
Construction and Extraction	53,390	54,430	1,040	2.0
Installation, Maintenance, and Repair	54,170	54,390	220	0.4
Production	97,160	95,880	-1,280	-1.3
Transportation and Material Moving	93,270	94,970	1,690	1.8

**Table 3-3**

Fastest Growing Occupations	2015	2017	Emp. Change	% Change
Personal Care Aides	27,360	28,810	1,450	5.3
Maids and Housekeeping Cleaners	15,730	16,400	660	4.2
Registered Nurses	33,390	34,020	630	1.9
Nursing Assistants	22,610	23,190	580	2.6
Childcare Workers	16,890	17,470	580	3.4
Combined Food Preparation and Serving Workers, Including Fast Food	27,700	28,260	560	2.0
Janitors and Cleaners, Except Maids and Housekeeping Cleaners	30,100	30,620	520	1.7
Home Health Aides	8,700	9,130	430	5.0
Landscaping and Groundskeeping Workers	15,490	15,920	430	2.8
Bus Drivers, School or Special Client	10,070	10,470	400	3.9

**Table 3-4**

Fastest Shrinking Occupations	2015	2017	Emp. Change	% Change
Bookkeeping, Accounting, and Auditing Clerks	19,840	19,330	-510	-2.6
Tellers	5,160	4,910	-260	-5.0
Secretaries and Administrative Assistants, Except Legal, Medical, and Executive	32,710	32,460	-250	-0.8
Executive Secretaries and Executive Administrative Assistants	8,890	8,690	-200	-2.3
Cooks, Fast Food	6,670	6,470	-200	-3.0
Computer Programmers	5,360	5,180	-180	-3.3
Editors	1,250	1,090	-160	-12.7
Team Assemblers	9,410	9,250	-160	-1.7
Printing Press Operators	2,160	2,020	-130	-6.1
Correctional Officers and Jailers	3,030	2,910	-130	-4.1

**Data Limitations**

The forecasts presented in this report have been carefully prepared to ensure accuracy, but by nature are subject to error. Therefore, the information is best used as an indicator of employment trends, rather than an exact count of employment. The projections are made by assuming a full-employment economy and cannot predict unforeseen events or actions.

Additional information on labor market information is available on the Office of Research website:  
<http://www1.ctdol.state.ct.us/lmi/index.asp>. For more detail on the short-term industry and occupational projections, visit: <https://www.projectionscentral.com/Projections/ShortTerm>.