



## Review of Current Conditions: The Economic Outlook and Its Impact on Workers Compensation

The exhibits below are updated to reflect the current economic outlook for factors that typically impact workers compensation. Each exhibit also provides some context for the outlook, relative to the historical data. Forecasts are derived from Moody's economy.com.

### Employment Growth

Growth in the US economy, as measured by gross domestic product (GDP), slowed in the third quarter to a 2.1% seasonally adjusted annual rate after strong second quarter growth of 3.9%. As reported in last quarter's newsletter, the slowdown was somewhat expected since a strong increase in inventories in the second quarter would likely reduce growth in the second half of the year as they dissipate. In fact, third quarter GDP growth would have been closer to 3% if not for the impact of the change in inventories. However, consumers, businesses, and governments all reduced spending in the third quarter and employers also slowed hiring.

Hiring has since rebounded with an increase in October of almost 300,000 jobs, the strongest pace this year, and another 211,000 in November. Increases were posted in construction, professional and business services, and health care. Manufacturing has shown little change, and trade was a neutral factor in 3rd quarter GDP. This may be easing some concerns about the strong dollar and weakness overseas hurting exports. That would be good news for workers

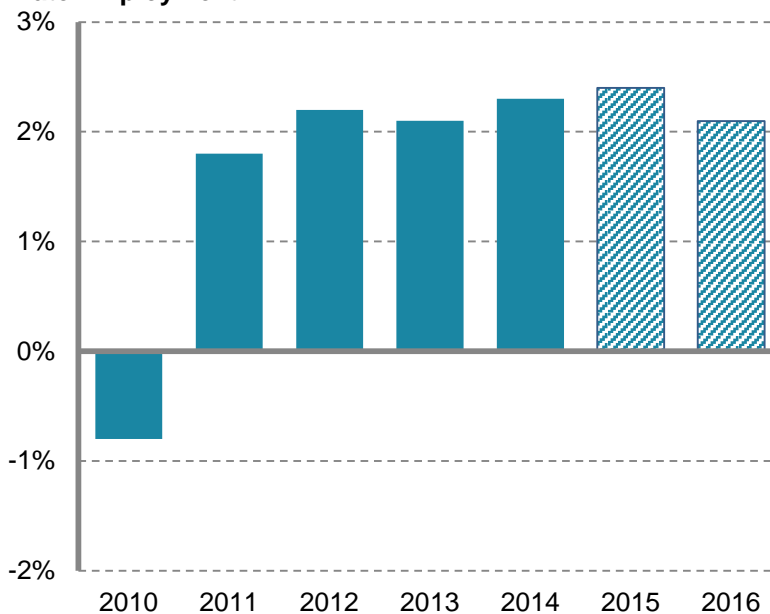
compensation since manufacturing accounts for 16% of premiums in NCCI states.

Moody's forecast for employment is for continued slow growth of 2.4% this year and 2.1% next year. That is the same forecast for 2015 as reported last quarter, but the forecast for 2016 has been revised downward slightly from 2.2%. The forecast growth rates are very similar to the increases posted for the last few years. See the discussion in Drilling Down for details on regional trends in post-recession employment growth. We find that while employment has increased at an average rate of 2% countrywide for the past several years, growth has varied considerably by state and region.

Increases in employment will likely lead to increases in exposure-based premium volume and create upward pressure on claim frequency.

### Employment: Forecast Is for Continued Growth Near 2%

Growth Rate:  
Private Employment



Sources: US Bureau of Labor Statistics, Moody's Analytics

## Wage Growth

The forecast for wages for this year has been reduced from that shown last quarter, with wages now expected to increase 2.2% this year, down from the 3.4% that was shown for last quarter. This is below the average 2.6% growth in wages posted since the end of the recession. Wages are still forecast to accelerate next year, but the forecast for 2016 has also been revised down from a forecasted increase of 5.6% last quarter to an increase of 3.9% this quarter. The downward adjustments are due to annual revisions in the data used in the forecasts.

Labor market slack has been contributing to the slow growth in wages, but that may be lessening with the unemployment rate now at 5.0%. However, the broader measure of unemployment that also includes discouraged workers and part-time workers who would prefer a full-time schedule rose slightly in November to 9.9%, still almost double the headline rate. In October, it was 9.8%, the lowest level since May 2008.

Even still, the growth in wages will put increased pressure on indemnity severity. In 2014, average weekly wages grew by 3.1%, while our estimates show that indemnity severity increased by 4%. Private-sector payrolls should also grow due to the combined impacts of higher employment and increases in the average weekly wage.

## Medical Inflation

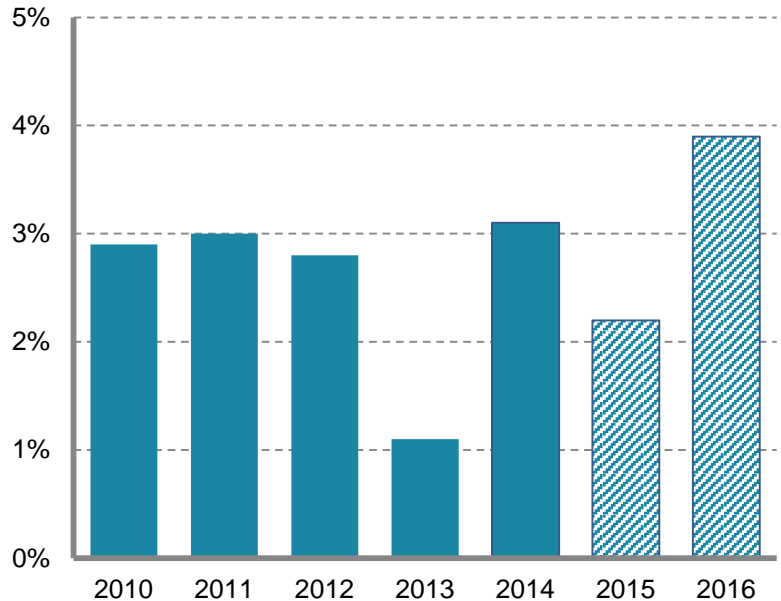
Changes in medical costs are made up of changes in both price and utilization. Medical care inflation is a measure of the price piece of that equation. In 2014, medical care inflation was a low 2.4%, while our estimates are that medical severity on lost-time claims increased by 4%.

As with wage inflation, the forecast for medical inflation has also been revised down from that shown last quarter. Moody's forecast is for medical care inflation to be 2.6% this year, (down from 2.8% forecasted last quarter) and 3.1% in 2016 (down slightly from 3.2% as reported last quarter).

The continued forecast for slow growth in medical care inflation suggests that we can expect some pressure on medical costs per claim. However, as seen above, medical severity increases could be higher due to changes in utilization. Medical inflation will continue to outpace general inflation in the economy in the foreseeable future. Moody's forecast for general inflation is 0.2% this year and 1.9% next year.

### Wages: Forecast to Slow This Year and Accelerate Next Year

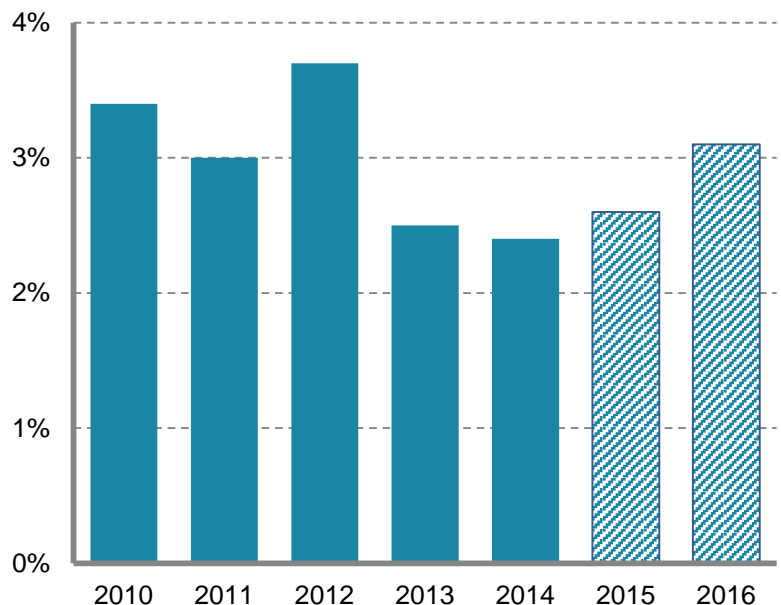
Growth Rate:  
Average Weekly Wage



Sources: US Bureau of Labor Statistics, Moody's Analytics, NCCI

### Medical Care Inflation: Growth Forecast Just Above 3% in 2016

Growth Rate:  
Medical CPI, Urban Consumers



Sources: US Bureau of Labor Statistics, Moody's Analytics

## Interest Rates

The current environment of low interest rates continues to restrain investment income in the property/casualty (P/C) industry.

Since December 2008, the Federal Open Market Committee (the Fed) has maintained the target range for the federal funds rate at 0%–0.25%.

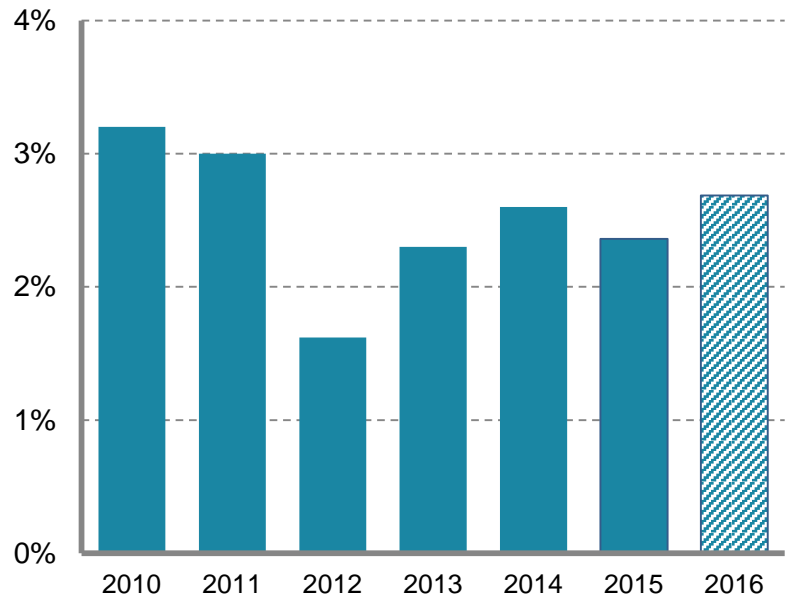
However, after the October meeting, the Fed removed mention of concern about international uncertainty and explicitly said they may raise the target rate at the next meeting. As expected, the Fed increased the target range for the federal funds rate by 25 basis points to 0.25%–0.50% in December. At this time, future increases are expected to be gradual.

The chart shows interest rates for 10-year Treasury notes as of June of each year. The rate declined this year to 2.4% from 2.6% in June 2014. Moody's expects interest rates on 10-year Treasury notes to increase to 2.7% in the second quarter of next year, down slightly from the expectation last quarter, which was 2.9%.

Low investment yields mean that P/C insurers must continue to focus on underwriting profitability, but the P/C industry's investment performance should be positively affected as long-term interest rates begin to rise next year.

### Interest Rates: Small Forecasted Increase for Next Year

Interest Rate as of June:  
10-Year Constant Maturity Securities



Sources: Federal Reserve Board, Moody's Analytics

# Drilling Down: Private Employment Growth After the Great Recession

In this section, we evaluate trends in post-recession private employment growth from 2010 to 2014 across regions and states. Countrywide employment in the United States grew by 8.6% over this period, but on a state-by-state basis, employment growth ranged from a very slow 2.2% in West Virginia up to 14.6% in Texas.

We will start by considering post-recession employment growth at the regional level, and then drill down to the state level for states other than North Dakota and the District of Columbia. North Dakota is exceptional among all states in that it experienced an employment boom driven almost entirely by development of the Bakken oil field located in several northwestern counties. The Bakken oil boom began even before the Great Recession, and from 2010 to 2014 private employment grew 28.6% in North Dakota, almost twice as fast as in Texas, the next highest state. The District of Columbia is excluded because it depends on federal government employment, which is outside the scope of our analysis.

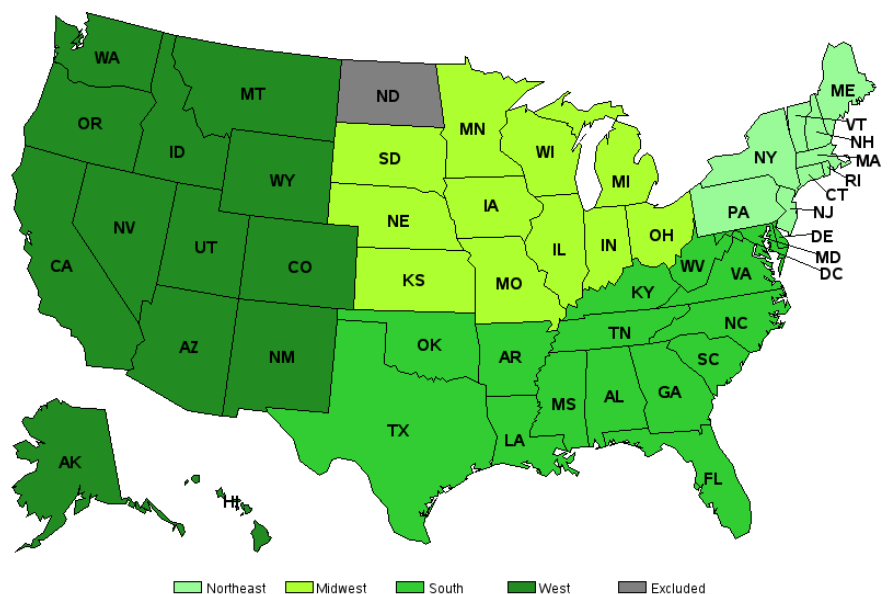
For both the regions and the states, we will first look at the actual changes in employment by economic sector. However, to understand the impact on overall employment growth, we also need to consider the size of the sector. The second table in each section combines the impact of the actual growth rates with the sector size to show the share-weighted contributions to overall employment growth from different economic sectors. The sum of the share-weighted employment changes by sector within a region or state equals the total cumulative employment change for that region or state. Within each table, the cells are shaded from green for strong positive growth rates to red for sectors with declines.

## Employment Growth by Region

The two tables below show cumulative growth in private employment from 2010 to 2014 for four geographic regions as defined in the map at the right: Northeast, South, Midwest, and West. Employment growth during the post-recession period was highest in the West at 11.6%, followed by the South at 9.5%, the Midwest with 7.1%, and the Northeast at 6.2%.

During the post-recession years 2010–2014, every region experienced positive employment growth in almost every sector. Natural resources and mining posted the largest gains for all four regions, but since it is a very small sector, the contribution to overall employment growth is minor as shown below. Information and manufacturing each posted some small declines, but the impacts to overall growth were minimal as shown in the next table.

United States Regions



### Actual Changes in Employment, 2010 to 2014

Color assignment across both regions and economic sectors

Region	Total Private	Natural Resources & Mining	Construction	Manufacturing	Trade, Transport., & Utilities	Information	Financial Activities	Prof. & Business Services	Education & Health Services	Leisure & Hospitality	Other Services
West	11.6%	24.8%	17.4%	6.0%	8.9%	5.4%	5.9%	15.8%	13.8%	14.3%	8.4%
South	9.5%	27.5%	7.8%	6.0%	8.2%	0.1%	7.0%	14.9%	7.8%	13.8%	5.7%
Midwest	7.1%	18.1%	10.4%	9.2%	4.7%	-3.0%	3.2%	14.3%	5.8%	7.8%	1.8%
Northeast	6.2%	27.5%	10.4%	-1.0%	4.2%	-0.3%	1.0%	10.8%	6.8%	11.9%	6.3%

Sources: US Bureau of Labor Statistics, Moody's Analytics

The table below combines the impacts of the actual growth by sector and the size of the sector to show the share-weighted changes in employment. These share-weighted changes can be interpreted as the contribution of each sector to total private employment growth by region. The cells are shaded from green for positive sector drivers to red for negative sector drivers. Four economic sectors posted the strongest contributions to employment growth across all regions: professional and business services; education and health services; leisure and hospitality; and trade, transportation, and utilities. Share-weighted changes across these sectors were generally larger in the West and South, but smaller in the Midwest and Northeast. Manufacturing was a strong driver in the Midwest but not elsewhere, and declined in the Northeast. Interestingly, construction was not a major driver in any region, but appears rather to reflect aggregate employment growth across other sectors. This is not surprising, as the major component of construction is new residential construction. Minor drivers across all regions were financial activities and other services. The natural resources and information sectors had slight employment impacts everywhere.

### Share-Weighted Changes in Employment, 2010 to 2014

Color assignment across both regions and economic sectors

Region	Total Private	Natural Resources & Mining	Construction	Manufacturing	Trade, Transport., & Utilities	Information	Financial Activities	Prof. & Business Services	Education & Health Services	Leisure & Hospitality	Other Services
West	11.6%	0.2%	1.0%	0.6%	2.0%	0.2%	0.4%	2.6%	2.4%	2.0%	0.4%
South	9.5%	0.3%	0.5%	0.6%	2.0%	0.0%	0.5%	2.3%	1.3%	1.7%	0.3%
Midwest	7.1%	0.0%	0.5%	1.3%	1.1%	-0.1%	0.2%	2.0%	1.1%	0.9%	0.1%
Northeast	6.2%	0.1%	0.4%	-0.1%	0.9%	0.0%	0.1%	1.7%	1.6%	1.3%	0.3%

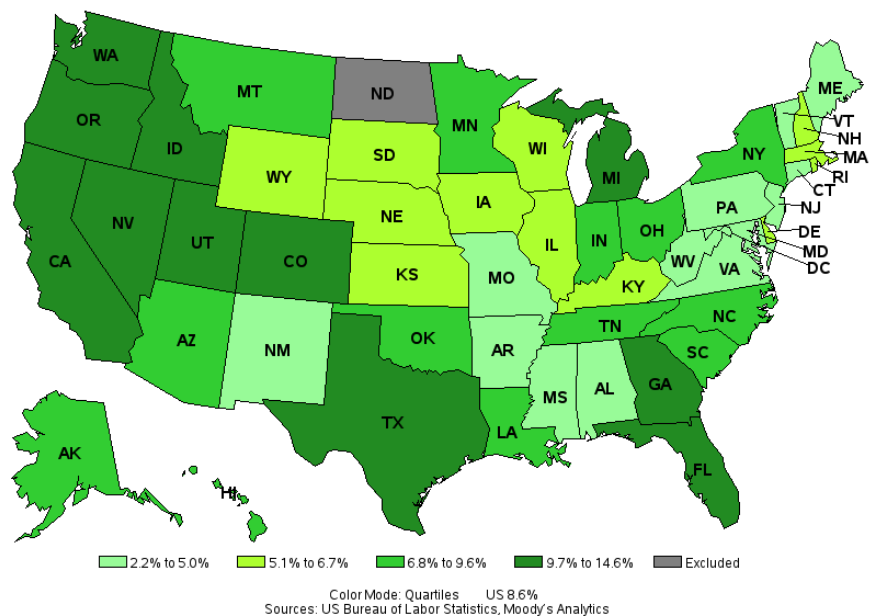
Sources: US Bureau of Labor Statistics, Moody's Analytics

### Employment Growth by State

Our regional overview gives a useful picture of post-recession employment growth, but masks some important state differences. Colors in the map at the right are assigned by quartiles according to each state's cumulative private employment growth from 2010 to 2014. While the West region had the strongest employment growth overall, some states in the South and Midwest also placed in the top quartile: Texas, Florida, Michigan, and Georgia.

As with the regional section, the next table shows the actual changes in employment by state and economic sector. States as well as regions experienced positive post-recession employment growth in almost every economic sector. There are relatively fewer state-sector pairs with negative employment growth (red cells), and they are primarily concentrated in the information sector. Across all economic sectors, natural resources and mining posted both the largest positive and largest negative employment change (51.6% in Texas and -25.6% in Kentucky).

2010-2014 Cumulative Percent Change in Private Employment



For most sectors, stronger growth is generally posted in states in the top quartiles, and slower or negative growth is posted in states in the lower quartiles. Relatively strong growth was posted in most states in the professional and business services sector with the largest increase of 22.5% in Tennessee. New Mexico was the only state with a decline in this sector. Positive growth was posted for all states in both education and health services (ranging from 17.4% in California to 2.6% in Wyoming) and leisure and hospitality (ranging from 18.3% in New York to 2.4% in West Virginia). Trade, transportation, and utilities posted positives for all states except Vermont where employment in this sector fell slightly, by 0.3%. The state with the largest gain in trade, transportation, and utilities was Texas with 12.9%.



Growth in manufacturing and construction was mixed. For construction, growth rates of greater than 20% were posted in Utah, California, Colorado, Minnesota, and Iowa, but declines in excess of -5% were posted in Alabama and Arkansas. There was also widespread growth in manufacturing across states. Michigan grew fastest with manufacturing job growth of 21.5%, but Maryland and New Jersey posted declines of -9.5% and -5.8%, respectively.

## Actual Changes in Employment, 2010 to 2014

Color assignment across both states and economic sectors

State	Total Private	Natural Resources & Mining	Construction	Manufacturing	Trade, Transport., & Utilities	Information	Financial Activities	Prof. & Business Services	Education & Health Services	Leisure & Hospitality	Other Services
North Dakota	28.6%	179.5%	62.2%	15.2%	31.7%	-6.0%	17.0%	27.5%	7.9%	18.9%	9.9%
Texas	14.6%	51.6%	15.4%	8.3%	12.9%	3.7%	12.0%	20.5%	10.5%	17.9%	13.6%
Utah	13.9%	16.6%	20.7%	8.5%	10.5%	14.2%	10.2%	21.4%	12.6%	16.1%	11.7%
California	12.5%	16.7%	20.6%	2.1%	9.2%	6.8%	3.2%	17.3%	17.4%	17.0%	11.4%
Colorado	12.3%	39.0%	23.8%	9.9%	8.7%	-2.9%	6.3%	16.7%	12.9%	14.3%	8.6%
District of Columbia	11.5%	0.0%	34.4%	-8.4%	12.5%	-8.1%	12.7%	6.9%	18.2%	16.5%	7.4%
Florida	11.4%	5.4%	13.3%	6.9%	10.2%	-0.7%	9.4%	15.9%	8.3%	16.6%	9.1%
Michigan	11.0%	16.8%	16.1%	21.5%	6.6%	3.9%	8.9%	19.8%	5.3%	7.5%	2.7%
Idaho	10.6%	8.9%	14.7%	12.8%	8.6%	-3.6%	13.2%	7.6%	12.1%	14.3%	7.5%
Washington	10.3%	5.2%	13.5%	12.0%	10.3%	6.3%	8.7%	14.1%	6.8%	11.4%	8.5%
Nevada	10.2%	17.5%	5.9%	9.6%	9.4%	9.3%	8.3%	14.7%	14.4%	8.9%	5.6%
Georgia	9.8%	-2.4%	4.3%	6.6%	7.6%	7.2%	6.6%	17.7%	10.0%	15.0%	0.6%
Oregon	9.7%	14.2%	18.2%	9.5%	7.7%	1.5%	-0.7%	16.7%	8.7%	12.4%	4.6%
Arizona	9.6%	19.7%	12.3%	5.4%	5.4%	18.2%	12.9%	12.3%	10.7%	12.9%	0.0%
Tennessee	9.6%	1.7%	5.7%	8.8%	6.7%	-2.4%	3.2%	22.5%	7.7%	13.0%	4.6%
South Carolina	9.3%	-3.1%	3.4%	11.1%	7.9%	2.4%	4.8%	18.1%	7.3%	10.0%	4.5%
North Carolina	8.8%	-1.5%	1.3%	3.9%	8.8%	6.1%	5.8%	17.8%	5.8%	13.1%	8.0%
Louisiana	8.8%	3.9%	14.9%	7.0%	6.2%	5.6%	0.4%	10.0%	10.3%	13.6%	7.8%
New York	8.7%	-1.1%	11.0%	-1.0%	6.5%	4.5%	3.3%	11.8%	9.2%	18.3%	8.4%
Montana	8.5%	22.9%	10.1%	14.3%	8.4%	-11.2%	17.8%	0.8%	9.7%	8.4%	5.9%
Indiana	8.2%	8.7%	6.0%	13.5%	6.0%	0.0%	-1.8%	16.6%	4.5%	7.3%	9.5%
Hawaii	8.2%	9.1%	9.1%	5.5%	6.6%	-13.3%	1.8%	15.1%	5.0%	12.8%	2.3%
Oklahoma	8.2%	40.2%	12.9%	12.4%	8.6%	-10.7%	1.8%	7.7%	3.0%	11.5%	-2.3%
Minnesota	7.7%	19.9%	22.5%	6.7%	5.6%	-2.3%	4.6%	12.2%	8.8%	8.3%	-0.7%
Ohio	7.7%	31.1%	15.3%	8.5%	4.9%	-6.4%	4.2%	13.4%	5.9%	11.5%	1.5%
Alaska	7.1%	15.4%	8.0%	13.1%	3.5%	-4.5%	-0.1%	6.5%	10.9%	8.6%	4.4%
Massachusetts	6.7%	-10.2%	19.0%	-1.3%	3.3%	1.0%	0.1%	11.5%	7.1%	11.2%	12.1%
Delaware	6.6%	5.2%	5.2%	-1.0%	6.9%	-17.6%	5.6%	8.7%	12.0%	7.5%	0.8%
Kansas	6.6%	26.4%	10.8%	2.8%	4.7%	-8.8%	10.8%	16.2%	5.3%	8.5%	-4.7%
South Dakota	6.5%	0.3%	5.8%	14.5%	6.3%	-7.1%	2.7%	9.7%	6.2%	5.5%	1.3%
Kentucky	6.5%	-25.6%	6.8%	12.4%	4.4%	-0.2%	4.8%	17.6%	2.7%	9.2%	-7.3%
Iowa	6.3%	4.3%	20.8%	8.1%	4.5%	-10.7%	2.9%	11.8%	4.3%	6.2%	3.8%
Nebraska	6.1%	24.1%	10.0%	6.0%	4.2%	0.1%	5.2%	11.7%	5.4%	7.8%	0.2%
Illinois	5.9%	9.5%	1.5%	3.2%	4.3%	-3.1%	1.5%	14.1%	6.3%	7.8%	1.3%
Wisconsin	5.6%	38.5%	9.7%	7.9%	3.2%	2.4%	-1.0%	11.9%	5.6%	4.9%	1.1%
Rhode Island	5.4%	8.7%	2.9%	1.5%	3.1%	-11.5%	5.9%	13.3%	3.7%	11.3%	4.0%
New Hampshire	5.4%	7.4%	8.5%	1.3%	2.8%	5.6%	1.9%	14.5%	3.4%	7.2%	13.5%
Wyoming	5.2%	8.0%	5.8%	12.4%	5.9%	-3.2%	3.9%	7.6%	2.6%	8.3%	-13.7%
Maryland	5.0%	-14.1%	4.6%	-9.5%	3.9%	-13.9%	0.3%	9.3%	7.4%	13.2%	-2.2%
Connecticut	4.7%	-2.8%	11.0%	-3.2%	4.0%	0.3%	-4.9%	11.0%	5.9%	13.1%	3.9%
Pennsylvania	4.6%	41.1%	6.9%	1.3%	2.9%	-8.5%	1.3%	10.0%	4.7%	7.6%	1.6%
Vermont	4.5%	2.2%	8.6%	2.1%	-0.3%	-10.6%	-0.5%	14.0%	5.6%	9.0%	3.2%
Virginia	4.4%	-7.7%	-2.7%	0.5%	3.8%	-6.2%	8.0%	4.2%	7.1%	8.8%	5.9%
New Jersey	4.2%	5.5%	9.5%	-5.8%	3.6%	-5.3%	-1.8%	8.5%	6.1%	7.1%	5.1%
Alabama	4.2%	-2.2%	-8.5%	6.9%	3.4%	-8.4%	2.9%	6.8%	4.6%	10.0%	0.3%
New Mexico	4.1%	50.3%	-2.0%	-3.4%	3.9%	-13.7%	1.2%	-1.1%	6.6%	8.4%	0.3%
Missouri	4.1%	-4.5%	3.4%	4.1%	1.9%	-5.1%	1.3%	11.2%	4.6%	5.0%	0.2%
Mississippi	3.7%	5.2%	-1.1%	2.5%	3.1%	6.4%	-2.1%	9.5%	3.5%	6.3%	1.2%
Arkansas	3.2%	-16.7%	-6.1%	-3.5%	4.4%	-10.6%	1.7%	12.8%	3.8%	9.3%	1.6%
Maine	3.2%	-3.6%	6.1%	-1.0%	1.9%	-14.1%	-0.7%	11.0%	3.0%	4.9%	6.6%
West Virginia	2.2%	0.8%	1.7%	-2.7%	0.2%	-6.9%	1.3%	9.1%	4.9%	2.4%	0.9%

Sources: US Bureau of Labor Statistics, Moody's Analytics

Again, these actual changes do not give the full picture in terms of contributions to overall employment growth. As we did before at the regional level, the next table contains share-weighted changes in employment, allowing us to identify sector drivers of employment growth on a state-by-state basis. As mentioned above, in addition to there being fewer instances of state-sector pairs with negative employment growth (red cells), their magnitude is typically on the order of -0.1% to -0.5%, as compared with employment contributions of 1% or more in state-sector pairs that had positive growth (green cells).

### Share-Weighted Changes in Employment, 2010 to 2014

Color assignment across both states and economic sectors

State	Total Private	Natural Resources & Mining	Construction	Manufacturing	Trade, Transport., & Utilities	Information	Financial Activities	Prof. & Business Services	Education & Health Services	Leisure & Hospitality	Other Services
North Dakota	28.6%	6.5%	4.5%	1.2%	8.6%	-0.1%	1.2%	2.6%	1.5%	2.2%	0.5%
Texas	14.6%	1.2%	1.0%	0.8%	3.1%	0.1%	0.9%	3.1%	1.7%	2.1%	0.6%
Utah	13.9%	0.2%	1.4%	1.0%	2.5%	0.4%	0.7%	3.4%	2.0%	1.8%	0.4%
California	12.5%	0.0%	1.0%	0.2%	2.1%	0.2%	0.2%	3.0%	3.0%	2.2%	0.5%
Colorado	12.3%	0.5%	1.5%	0.7%	1.9%	-0.1%	0.5%	3.0%	1.9%	2.1%	0.4%
District of Columbia	11.5%	0.0%	0.8%	0.0%	0.7%	-0.3%	0.7%	2.2%	4.2%	2.1%	1.0%
Florida	11.4%	0.0%	0.8%	0.4%	2.5%	0.0%	0.7%	2.6%	1.5%	2.6%	0.4%
Michigan	11.0%	0.0%	0.6%	3.2%	1.4%	0.1%	0.5%	3.2%	1.0%	0.9%	0.1%
Idaho	10.6%	0.1%	0.9%	1.4%	2.2%	-0.1%	0.8%	1.2%	2.1%	1.7%	0.3%
Washington	10.3%	0.0%	0.8%	1.4%	2.3%	0.3%	0.5%	2.0%	1.3%	1.3%	0.4%
Nevada	10.2%	0.2%	0.4%	0.4%	2.1%	0.1%	0.5%	2.1%	1.5%	2.8%	0.2%
Georgia	9.8%	0.0%	0.2%	0.7%	2.0%	0.2%	0.5%	3.0%	1.5%	1.8%	0.0%
Oregon	9.7%	0.1%	0.9%	1.2%	1.8%	0.0%	0.0%	2.4%	1.5%	1.5%	0.2%
Arizona	9.6%	0.1%	0.7%	0.4%	1.3%	0.3%	1.1%	2.1%	1.9%	1.7%	0.0%
Tennessee	9.6%	0.0%	0.3%	1.2%	1.7%	0.0%	0.2%	3.1%	1.3%	1.6%	0.2%
South Carolina	9.3%	0.0%	0.2%	1.6%	1.9%	0.0%	0.3%	2.7%	1.1%	1.4%	0.2%
North Carolina	8.8%	0.0%	0.1%	0.5%	2.0%	0.1%	0.4%	2.7%	1.0%	1.6%	0.4%
Louisiana	8.8%	0.1%	1.2%	0.6%	1.5%	0.1%	0.0%	1.3%	1.8%	1.7%	0.3%
New York	8.7%	0.0%	0.5%	-0.1%	1.3%	0.2%	0.3%	1.8%	2.2%	1.9%	0.4%
Montana	8.5%	0.5%	0.7%	0.7%	2.1%	-0.2%	1.1%	0.1%	1.8%	1.4%	0.3%
Indiana	8.2%	0.0%	0.3%	2.6%	1.4%	0.0%	-0.1%	1.9%	0.8%	0.8%	0.5%
Hawaii	8.2%	0.0%	0.6%	0.2%	1.6%	-0.3%	0.1%	2.3%	0.8%	2.8%	0.1%
Oklahoma	8.2%	1.5%	0.7%	1.3%	2.0%	-0.2%	0.1%	1.1%	0.5%	1.3%	-0.1%
Minnesota	7.7%	0.1%	0.9%	0.9%	1.2%	-0.1%	0.4%	1.7%	1.8%	0.9%	0.0%
Ohio	7.7%	0.1%	0.6%	1.2%	1.1%	-0.1%	0.3%	2.0%	1.2%	1.3%	0.1%
Alaska	7.1%	1.0%	0.5%	0.7%	0.9%	-0.1%	0.0%	0.8%	1.9%	1.1%	0.2%
Massachusetts	6.7%	0.0%	0.7%	-0.1%	0.7%	0.0%	0.0%	1.9%	1.8%	1.2%	0.5%
Delaware	6.6%	0.0%	0.3%	-0.1%	1.5%	-0.3%	0.7%	1.4%	2.2%	0.9%	0.0%
Kansas	6.6%	0.2%	0.5%	0.4%	1.1%	-0.3%	0.7%	2.2%	0.9%	0.9%	-0.2%
South Dakota	6.5%	0.0%	0.4%	1.7%	1.6%	-0.1%	0.2%	0.8%	1.2%	0.7%	0.1%
Kentucky	6.5%	-0.4%	0.3%	1.8%	1.1%	0.0%	0.3%	2.2%	0.5%	1.1%	-0.3%
Iowa	6.3%	0.0%	1.1%	1.3%	1.1%	-0.3%	0.2%	1.2%	0.8%	0.7%	0.2%
Nebraska	6.1%	0.0%	0.5%	0.7%	1.1%	0.0%	0.5%	1.5%	1.0%	0.8%	0.0%
Illinois	5.9%	0.0%	0.1%	0.4%	1.0%	-0.1%	0.1%	2.4%	1.1%	0.8%	0.1%
Wisconsin	5.6%	0.0%	0.4%	1.5%	0.7%	0.0%	-0.1%	1.4%	1.0%	0.5%	0.1%
Rhode Island	5.4%	0.0%	0.1%	0.2%	0.6%	-0.3%	0.5%	1.8%	0.9%	1.4%	0.2%
New Hampshire	5.4%	0.0%	0.3%	0.2%	0.7%	0.1%	0.1%	1.8%	0.7%	0.9%	0.6%
Wyoming	5.2%	1.0%	0.6%	0.5%	1.5%	-0.1%	0.2%	0.6%	0.3%	1.3%	-0.7%
Maryland	5.0%	0.0%	0.3%	-0.5%	0.8%	-0.3%	0.0%	1.8%	1.5%	1.5%	-0.1%
Connecticut	4.7%	0.0%	0.4%	-0.4%	0.8%	0.0%	-0.5%	1.5%	1.3%	1.3%	0.2%
Pennsylvania	4.6%	0.2%	0.3%	0.1%	0.6%	-0.2%	0.1%	1.4%	1.1%	0.8%	0.1%
Vermont	4.5%	0.0%	0.5%	0.3%	-0.1%	-0.2%	0.0%	1.3%	1.4%	1.2%	0.1%
Virginia	4.4%	0.0%	-0.2%	0.0%	0.8%	-0.2%	0.5%	0.9%	1.1%	1.0%	0.4%
New Jersey	4.2%	0.0%	0.4%	-0.5%	0.9%	-0.1%	-0.1%	1.5%	1.1%	0.7%	0.3%
Alabama	4.2%	0.0%	-0.5%	1.1%	0.8%	-0.1%	0.2%	1.0%	0.7%	1.1%	0.0%
New Mexico	4.1%	1.5%	-0.1%	-0.2%	0.9%	-0.3%	0.1%	-0.2%	1.3%	1.2%	0.0%
Missouri	4.1%	0.0%	0.2%	0.5%	0.5%	-0.1%	0.1%	1.6%	0.9%	0.6%	0.0%
Mississippi	3.7%	0.1%	-0.1%	0.4%	0.8%	0.1%	-0.1%	1.0%	0.5%	0.9%	0.1%
Arkansas	3.2%	-0.2%	-0.3%	-0.6%	1.1%	-0.2%	0.1%	1.6%	0.7%	1.0%	0.1%
Maine	3.2%	0.0%	0.3%	-0.1%	0.5%	-0.3%	0.0%	1.3%	0.7%	0.6%	0.3%
West Virginia	2.2%	0.0%	0.1%	-0.2%	0.0%	-0.1%	0.1%	0.9%	1.0%	0.3%	0.1%

Sources: US Bureau of Labor Statistics, Moody's Analytics

As at the regional level, the same four economic sectors—professional and business services; educational and health services; leisure and hospitality; and trade, transportation, and utilities—were dominant drivers for employment growth in virtually every state. And employment growth patterns look fairly similar across states. What distinguishes faster growing states from slower growing states is generally higher rates of share-weighted growth across all sectors, and especially the four key sectors noted here, not the presence of different dominant sectors in different states.

In seven of the fastest growing states—Texas, Utah, California, Colorado, Michigan, Georgia, and Tennessee—professional and business services contributed 3.0% or more to total employment growth. Within this sector, all seven states experienced strong gains in administrative and support services that include support activities such as office administration, personnel functions, and security (see the Supplement to this Briefing for a breakdown of job categories in each of the economic sectors). In addition, all except Tennessee had strong growth in professional and technical services, which includes professions with a high degree of training such as lawyers, accountants, engineers, consultants, and computer specialists.

Education and health services is one of two economic sectors that made a positive growth contribution across all states. This is due primarily to strong growth in health care. Note that public school employees are not included in this classification (which is limited to private employment), but that private school employees are included. Leisure and hospitality is the other sector with a positive growth contribution in every state. Not surprisingly, leisure and hospitality contributed most strongly to employment growth in Florida, Nevada, and Hawaii.

Manufacturing was an important driver in several states. Michigan, South Carolina, Indiana, South Dakota, Kentucky, and Wisconsin each had an employment contribution of 1.5% or higher from manufacturing. In Indiana, Kentucky Michigan, and South Carolina, this was driven by strong gains in the automobile industry. For South Dakota and Wisconsin, employment growth was from machinery manufacturing—particularly machinery for use in farming, construction, and resource extraction. Manufacturing declined in several states: Arkansas, Connecticut, Maryland, and New Jersey saw employment declines from manufacturing in the range from –0.4% to –0.6%. These reflected contractions in the manufacture of computer and electronic products, chemicals, and food products.

Construction was not a major employment driver in any state. As we noted before, employment growth from construction appears to correlate with overall employment growth across other economic sectors in the state. It is also worth noting that household formation slowed sharply during the recession and has been slow to recover since then, with many millennials living with their parents. Slow growth in new household formation has probably contributed to slower growth in construction-related employment than would have occurred with more normal rates of household formation, though it is difficult to speculate to what degree. This effect may be more impactful in some states than others.

Natural resources and mining was important to employment growth in oil and gas states: Texas, Oklahoma, Alaska, Wyoming, and New Mexico. Each of these states experienced employment gains of 1% or more from this sector. By comparison, natural resource extraction alone contributed fully 6.5% to employment growth in our excluded state, North Dakota.


The remaining economic sectors in our classification—information; financial activities; and other services—were responsible for minor contributions to employment growth in all states.

## What Employment Growth Can We Expect in the Future?

Going forward, there will likely be some changes to the employment growth patterns that we have observed during the period from 2010 through 2014.

As we discussed in the March issue of the *Quarterly Economics Briefing (QEB)*, prices of oil and natural gas have fallen sharply beginning in mid-2014. For almost all of the post-recession period examined in the previous section, oil exploration was on the rise, but now the oil patch has gone into reverse. With most US drilling activity shut down, oil and natural gas states that benefited before are now experiencing declines in employment related to energy exploration. Employment has also declined in energy-related manufacturing during the past year.





The March issue of the *QEB* also discussed the strong US dollar. The dollar's appreciation against foreign currencies makes American products more expensive overseas, and has negatively impacted export-oriented manufacturing. Some particular examples are manufacturers of farming, earth-moving, and mining equipment. Affected manufacturers are located in the Midwest especially, for example, South Dakota and Wisconsin. In contrast, auto manufacturing in the United States is not export-driven. Consequently, states with a strong automotive presence—e.g., Indiana, Kentucky, Michigan, Ohio, and South Carolina—have not been adversely affected by the strong dollar and their manufacturing employment growth may continue to be strong. Finally, the manufacturing of electronics of commercial aerospace equipment concentrated in western states, such as California and Washington, may not be strongly impacted by the adverse dollar exchange rate since international demand for these products is relatively inelastic with respect to price.

Construction may become a stronger contributor to growth going forward. As mentioned previously, the national rate of new household formation has slowed in the aftermath of the recession. But that trend may be starting to reverse. As the rate of new household formation increases, housing demand should also increase, which could lead to faster employment growth in construction than we have seen in the past several years.