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SPECIAL REPORT:
OKLAHOMA MINING JOB QUARTERLY EARNINGS PERCENTILE CHANGES: 2005-2015

The U.S. Energy Information Administration (EIA) ranks Oklahoma 5th-highest of all states in energy production, mostly due to our oil and gas production. Therefore, an analysis of the percentile earnings changes in Oklahoma’s mining industry provides an important indicator of economic and business trends as well as job growth for the state. This special report highlights earnings percentile occurring in 1-year changes, 3-year changes and 10-year changes in the key years 2005 to 2015.

The 1-year analyses of mining job earnings dollar changes from 2011 to 2015 reveal an uneven percentile change from year to year. From 2011 to 2012, earnings decreased at all percentiles, with the exception of the 5th and 10th percentiles. From 2012 to 2013, earnings increased for all but the 5th percentile, with progressively larger dollar amount increases by percentile. From 2013 to 2014, earnings increased at all percentiles, with progressively larger dollar amount increases by percentile. From 2014 to 2015 earnings changes were mixed, with earnings decreases occurring at the bottom (5th) and middle (30th-50th) percentiles, while earnings increased at higher percentiles. Chart 1, below illustrates these changes.

![Chart 1. Mining Job Quarterly Earnings Percentile Dollar Change Per Year: 2011 to 2015](image)

Note1: Earnings are second quarter job totals, excluding Federal jobs.
Note2: Cases where earnings are less than $300 removed.
Note3: The unit of analysis is a job.
Mining job quarterly earnings percentile percent changes for each of the 1-year periods in the same five years were similar to the dollar amount change—with the exception of 2012 to 2013, during which the largest percent changes occurred in the 20th through the 90th percentiles. These changes are shown in Chart 2, below, job earnings slowed. Percentage earnings growth for most percentile levels was slower in the 2012 to 2015 period than it was in the preceding three years. This might be due to layoffs in the energy sector occurring in the first half of 2015.

Chart 2. Mining Job Quarterly Earnings Percentile Percent Change Per Year: 2011 to 2015

The 3-year analyses of mining job earnings percentile dollar amount changes from 2006 to 2009 indicated the higher percentiles had the largest dollar amount changes, while the lower percentiles had the largest percent changes. From 2009 to 2012, the middle percentiles levels had both the largest dollar amount changes and percent changes. In the most recent 3-year period—2012 to 2015—mining dollar amount earnings increased steadily by percentile. These 3-year dollar amount changes are shown in Chart 3, (on the next page).
The 3-year analyses of mining job earnings percentile percent changes were largest at the highest levels (90th and 95th percentiles) as well as some lower levels (20th and 25th percentiles). These are displayed in Chart 4, below.
One way of comparing quarterly job earnings and earnings changes is by placing quarterly earnings dollar amounts and percent changes for the four individual years of the 3-year intervals side-by-side in a table.

<table>
<thead>
<tr>
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<tbody>
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<td>91,840</td>
<td>19.7</td>
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<td><strong>Total Jobs</strong></td>
<td><strong>46,148</strong></td>
<td><strong>45,957</strong></td>
<td><strong>67,480</strong></td>
<td><strong>59,204</strong></td>
<td><strong>-0.4</strong></td>
<td><strong>46.8</strong></td>
<td><strong>-12.3</strong></td>
</tr>
</tbody>
</table>

Note1: Earnings are second quarter job totals, excluding Federal jobs.
Note2: Cases where earnings are less than $300 removed.
Note3: The unit of analysis is a job.

Table 8 shows quarterly earnings dollar amounts in for each of these years, alongside the percent change in earnings between these years. The higher percentile levels increased the most between each of these years, with earnings decreasing at the 99th percentile only in 2012.
Chart 6, (on the previous page), and Chart 7, below, display the mining job earnings percentile dollar amount and percent change 2005 to 2015.

An important finding in the examination of the 10-year period from 2005 to 2015 is that the dollar earnings amounts increased steadily as the percentile levels increased, with higher percentiles experiencing larger dollar amount increases in earnings. The largest difference in changes in dollar amount earnings between adjacent percentiles occurred between the 95th and 99th percentiles. Interestingly, the largest percent changes in earnings occurred at both lower and higher percentile levels: the largest and third-largest percent increases in earnings were at the 10th and 20th percentiles respectively, while the second- and fourth-largest percent increases in earnings were at the 90th and 95th percentiles.

More Information
A copy of the full Oklahoma Mining Job Quarterly Earnings Percentile report is available on the OESC website at:
Definition & Importance

Gross Domestic Product (GDP)—the output of goods and services produced by labor and property located in the United States—is the broadest measure of economic activity. It is also the measure that is most indicative of whether the economy is in recession. In the post-World War II period, there has been no recession in which GDP did not decrease in at least two quarters, (the exceptions being during the recessions of 1960-61 and 2001).

The Bureau of Economic Analysis (BEA), U.S. Department of Commerce releases GDP data on a quarterly basis, usually during the fourth week of the month. Data are for the prior quarter, so data released in April are for the 1st quarter. Each quarter's data are revised in each of the following two months after the initial release.

Background

There are four major components to GDP:

1. Personal consumption expenditures: Individuals purchase durable goods (such as furniture and cars), nondurable goods (such as clothing and food) and services (such as banking, education and transportation).

2. Investment: Private housing purchases are classified as residential investment. Businesses invest in nonresidential structures, durable equipment and computer software. Inventories at all stages of production are counted as investment. Only inventory changes, not levels, are added to GDP.

3. Net exports: Equal the sum of exports less imports. Exports are the purchases by foreigners of goods and services produced in the United States. Imports represent domestic purchases of foreign-produced goods and services and are deducted from the calculation of GDP.

4. Government: Government purchases of goods and services are the compensation of government employees and purchases from businesses and abroad. Data show the portion attributed to consumption and investment. Government outlays for transfer payments or interest payments are not included in GDP.
The four major categories of GDP—personal consumption expenditures, investment, net exports and government—all reveal important information about the economy and should be monitored separately. This allows one to determine the strengths and weaknesses of the economy.

**Current Developments**

U.S. economic growth slowed less than previously estimated in the first three months of the year, boosted by strength in net exports and less drag from business investment spending. Real gross domestic product (GDP) increased at an annual rate of 1.1 percent in the 1st quarter of 2016, according to the "third" estimate released by the Bureau of Economic Analysis (BEA). In the 4th quarter, real GDP increased 1.4 percent.

Consumer spending, which accounts for more than two-thirds of U.S. economic activity, was revised down further to a 1.5 percent rate from the previous 1.9 percent estimate, its slowest pace in nearly three years. Spending on durable goods, such as automobiles, was revised down 0.4 percentage point to a -1.6 percent rate while spending on nondurable goods, such as clothing, was revised down 0.3 percentage point to a 1.0 pace Spending on services, such as transportation and recreation, was also revised downward 0.5 percentage point to 2.1 percent. With those revisions, personal consumption expenditures (PCE) added 1.02 percentage points to 1st quarter GDP growth, 0.27 percentage point less than previously thought.

Business investment spending was much less a drag on 1st quarter GDP growth than previously thought. Nonresidential fixed investment declined at a 4.5 percent rate, instead of the previously reported 6.2 percent decline. Business spending on software, research and development was revised to show it rising at a 4.4 percent rate instead of falling at a 0.1 percent rate. Nonresidential fixed investment subtracted -0.58 percentage point from 1st quarter GDP growth instead of the previously estimated -0.81 percentage point.

Businesses accumulated $68.3 billion worth of inventory, instead of the $69.6 billion estimated previously. The revised inventory build shaved -0.23 percentage point from 1st quarter GDP growth, instead of -0.20 percentage point previously reported.

Although it was revised down from the “second” estimate, investment in residential construction grew at its fastest pace in more than three years. Residential fixed investment, a measurement for building and remodeling, grew at a 15.6 percent pace, adding a revised 0.52 percentage point to 1st quarter growth.

Stronger export sales helped to turn trade from a drag on growth into positive growth in the 1st quarter. Exports advanced 0.3 percent instead of a 2.0 percent decline earlier reported. Trade added a revised 0.12 percentage point to 1st quarter GDP growth instead of subtracting 0.21 percentage point as previously thought.

Government purchases made a modest contribution to GDP growth in the 1st quarter. Federal government expenditures were down 1.6 percent from the preceding quarter, held back by a 3.7 percent decline in national defense spending. Federal non-defense spending stood at 1.6 percent. Meanwhile, state and local government spending was upwardly revised to 3.2 percent from a previous 2.9 percent estimate. Government consumption expenditures added 0.23 percentage points to 1st quarter GDP growth.
Definition & Importance

The U.S. Bureau of Economic Analysis (BEA) recently released prototype statistics of quarterly gross domestic product (GDP) by state for 2005–2013. These new statistics provide a more complete picture of economic growth across states that can be used with other regional data to gain a better understanding of regional economies as they evolve from quarter to quarter. The new data provide a fuller description of the accelerations, decelerations, and turning points in economic growth at the state level, including key information about changes in the distribution of industrial infrastructure across states.

Current Developments

Real gross domestic product (GDP) increased in 41 states and the District of Columbia in the 4th quarter of 2015, according to the Bureau of Economic Analysis (BEA). Real GDP by state growth, at an annual rate, ranged from 3.0 percent in Indiana to −3.4 percent in Wyoming. Information; construction; and professional, scientific, and technical services were the leading contributors to real U.S. economic growth in the 4th quarter.

Slumping commodity prices that caused Oklahoma’s real GDP to contract in the 2nd & 3rd quarters of 2015 continued to weigh on statewide GDP growth in the 4th quarter. Statewide real GDP was at a level of $176.8 billion (in constant 2009 dollars) in the 4th quarter, down $2.5 billion from 3rd quarter’s level of $179.3 billion. Oklahoma’s real GDP contracted at a -2.8 percent pace in the 4th quarter, ranking the state 48th among all other states and the District of Columbia.

It also appears that Oklahoma’s economy did not perform as well as previously thought. After revisions the state’s real GDP growth in 2nd quarter 2015 was slashed from -2.4 percent to -7.7 percent while 3rd quarter 2015 growth was revised downward from 0.1 percent to -0.6 percent.
The information industry group grew 10.6 percent in the 4th quarter of 2015 for the nation. This industry contributed 0.50 percentage point to U.S. real GDP growth and contributed to growth in 49 states and the District of Columbia including Oklahoma where it added 0.24 percentage point to the state’s real GDP growth.

Construction grew 7.6 percent in the 4th quarter for the nation. This industry contributed 0.30 percentage point to U.S. real GDP growth and contributed to growth in 46 states and the District of Columbia including Oklahoma where it contributed 0.17 percentage point to 4th quarter growth.

Nondurable goods manufacturing made a significant contribution to real GDP growth in the 4th quarter. This industry grew 4.5 percent for the nation, contributed 0.24 percentage point to U.S. real GDP growth and contributed to growth in 45 states and the District of Columbia including Oklahoma where it contributed 0.31 percentage point to 4th quarter GDP growth.

Other industries contributing to Oklahoma’s real GDP growth in the 4th quarter of 2015 were real estate and rental and leasing (0.32 percentage point); retail trade (0.31 percentage point); management of companies and enterprise (0.16 percentage point); accomodation and food services (0.14 percentage point); and professional, scientific, and technical services (0.12 percentage point).

Mining declined 10.7 percent for the nation in the 4th quarter. This industry subtracted more than 2.2 percentage points from real GDP growth in Alaska, North Dakota, Oklahoma, and Wyoming. In Oklahoma, mining cut 2.5 percentage points from overall GDP in the 4th quarter.

Other industries subtracting from Oklahoma’s real GDP growth in the 3rd quarter of 2015 were agriculture, forestry, fishing, and hunting (-0.98 percentage point); durable goods manufacturing (-0.53 percentage point); Wholesale trade (-0.24 percentage point); and transportation & warehousing (-0.21 percentage points).
Definition & Importance

Metropolitan Statistical Areas (MSAs) are county-based definitions developed by the Office of Management and Budget for federal statistical purposes. A metropolitan area is defined as a geographic area consisting of a large population nucleus together with adjacent communities having a high degree of economic and social integration with the nucleus.

Nationally, metropolitan statistical areas represent approximately 90 percent of total GDP. In Oklahoma, the three MSAs of Oklahoma City, Tulsa and Lawton accounted for roughly 75 percent of total state GDP in 2010.

Current Developments

Real GDP increased in 282 of the nation's 381 metropolitan areas in 2014, led by growth in several industry groups: professional and business services, wholesale and retail trade, and the group of finance, insurance, real estate, rental, and leasing, according to the U.S. Bureau of Economic Analysis (BEA). Natural resources and mining remained a strong contributor to growth in several metropolitan areas. Collectively, real GDP for U.S. metropolitan areas increased 2.3 percent in 2014 after increasing 1.9 percent in 2013.

Two of three Oklahoma metropolitan areas outpaced the U.S. metropolitan area real GDP growth in 2014. Tulsa MSA’s real GDP grew at a rate of 3.7 percent to $49.5 billion and ranked 51st (out of 381 metro areas). Oklahoma City MSA grew by 2.6 percent to $64.5 billion and ranked 99th. Lawton MSA contracted 1.5 percent to $4.4 billion in 2014 and ranked 344th among U.S. metro areas.
Definition & Importance
The Federal Reserve Bank of Philadelphia produces leading indexes for each of the 50 states. The indexes are calculated monthly and are usually released a week after the release of the coincident indexes. The Bank issues a release each month describing the current and future economic situation of the 50 states with special coverage of the Third District: Pennsylvania, New Jersey, and Delaware.

The leading index for each state predicts the six-month growth rate of the state's coincident index. In addition to the coincident index, the models include other variables that lead the economy: state-level residential housing permits (1 to 4 units), state initial unemployment insurance claims, delivery times from the Institute for Supply Management (ISM) manufacturing survey, and the interest rate spread between the 10-year Treasury bond and the 3-month Treasury bill.

Current Developments
Prolonged declining commodity prices continue to depress Oklahoma’s economy in the first quarter as oil prices sunk to 15-year lows. Oklahoma’s leading index began falling at the end of 2014 and saw six consecutive months of decline, slipping into negative territory in March, April and May of 2015.

During the first half of 2015, energy sector layoffs translated into elevated initial claims for unemployment insurance while home builders statewide pulled back on applications for residential construction. After rebounding mid-year, initial claims have begun to climb again and residential permitting activity is sluggish.

Although Oklahoma’s leading index has been in negative territory for six consecutive months since December 2015, it appears to be recovering. The Leading Index for Oklahoma climbed to -0.09 percent in May following back-to-back -0.26 percent readings in April and March and -0.54 in February, according to the latest figures from the Federal Reserve Bank of Philadelphia.
Definition & Importance

The Bureau of Labor Statistics Local Area Unemployment Statistics (LAUS) program produces monthly estimates of total employment and unemployment from a national survey of 60,000 households. The unemployment rate measures the percentage of people who are without work and is calculated by dividing the estimated number of unemployed people by the civilian labor force. The result expresses unemployment as a percentage of the labor force.

The unemployment rate is a lagging indicator of economic activity. During a recession many people leave the labor force entirely. As a result, the jobless rate may not increase as much as expected. This means that the jobless rate may continue to increase in the early stages of recovery because more people are returning to the labor force as they believe they will be able to find work. The civilian unemployment rate tends towards greater stability than payroll employment on a monthly basis and reveals the degree to which labor resources are utilized in the economy.

Current Developments

The U.S. unemployment rate rose in June as more Americans entered the labor force although many didn’t find a job. In June, the unemployment rate rose to 4.9 percent, according to the Bureau of Labor Statistics (BLS). The labor force participation rate—the share of working-age Americans who are employed or looking for work—climbed to 62.7 percent in June, up 0.1 percentage point from the previous month.

Oklahoma’s seasonally-adjusted unemployment rate rose for the fourth consecutive month in May to 4.7 percent, a gain of 0.2 percentage point from the previous month. Over the year, the state’s seasonally-adjusted unemployment rate was 0.3 percentage point more than 4.4 percent reported in May 2015.

In May, Stephens County posted Oklahoma’s highest county unemployment rate at 9.4 percent followed by Latimer County (9.2 percent) and McIntosh County (8.7 percent). Grant County claimed the lowest county unemployment rate of 2.7 percent.
Definition & Importance
Initial unemployment claims are compiled weekly by the U.S. Department of Labor, Employment and Training Administration and show the number of individuals who filed for unemployment insurance benefits for the first time. This particular variable is useful because it gives a timely assessment of the overall economy.

Initial claims are a leading indicator because they point to changes in labor market conditions. An increasing trend signals that layoffs are occurring. Conversely, a decreasing trend suggests an improving labor market. The four-week moving average of initial claims smooths out weekly volatility and gives a better perspective on the underlying trend.

Current Developments
Fewer Americans applied for jobless benefits in the last week of June, pushing claims close to a 43-year low. In the week ending July 2, the advance figure for seasonally adjusted initial claims was 254,000, a decrease of 16,000 from the previous week’s revised level, according to figures released by the U.S. Labor Department (DOL). The less volatile 4-week moving average was at a level of 264,750, a decrease of 2,500 from the previous week’s revised average of 267,250.

This marks 70 consecutive weeks of initial claims below 300,000, the longest streak since 1973.

Not as many Oklahomans filed initial claims for unemployment insurance benefits in June, a sign energy sector layoffs may be easing. For the file week ending June 25, initial claims for unemployment insurance benefits were at a level of 1,903, up 164 from the previous week. For the same file week ending, the less volatile four-week moving average decreased 77 to 1,921. For the same file week ending on May 21, continued claims declined 7 to a level of 24,639 while the continued claims four-week moving average rose 193 to 24,621.

Over the year, statewide initial jobless claims were 129 more than the June 27, 2015 level of 1,774 while continued claims were 799 more than 23,840 for the same file week ending.
Definition & Importance
Nonfarm payroll employment data is produced by the Current Employment Statistics (CES) program of the Bureau of Labor Statistics (BLS). The CES Survey is a monthly survey of approximately 140,000 nonfarm businesses and government agencies representing approximately 440,000 individual worksites. The CES program has provided estimates of employment, hours, and earnings data by industry for the nation as a whole, all States, and most major metropolitan areas since 1939. In order to account for the size disparity between of U.S. and Oklahoma employment levels, we have indexed the data with January 2001 as the start value.

Payroll employment is one of the most current and reliable indicators of economic conditions and recessionary trends. Increases in nonfarm payrolls translate into earnings that workers will spend on goods and services in the economy. The greater the increases in employment, the faster the total economic growth.

Current Developments
After two months of weak job growth U.S. employers hired at a robust pace in June for the largest employment gain in eight months. Total nonfarm payroll employment increased by 287,000 in June, according to the Bureau of Labor Statistics (BLS). Nonfarm payroll employment for May was revised lower to only 11,000, down from an initial estimate of 38,000. April job growth was upwardly revised to 144,000 from 123,000.

Oklahoma nonfarm payrolls edged down a seasonally-adjusted 700 jobs (0.0 percent) in May. April’s job losses were revised upwards to -1,200 from a previously reported -2,400. Four of Oklahoma’s 11 supersectors added jobs over the month as education & health services (+3,300 jobs) posted the largest monthly job gain in May. Professional & business services reported the largest over-the-month loss (-2,300 jobs) followed by manufacturing (-2,000 jobs).

Over the year, statewide total nonfarm employment lost 2,800 jobs (-0.2 percent) led by manufacturing (-12,000 jobs) and mining & logging (-10,400 jobs). Leisure & hospitality (+9,900 jobs) claimed the largest job gain over the year.
Definition & Importance
Employment growth by industry identifies the types of jobs being created in the state. Conversely, industries with a declining employment trend indicate those which are becoming less important in the state’s economy. There may also be industries which behave more cyclically, growing during expansion and decreasing in times of economic slowdown or contraction. These changes are crucial in that they help to recognize the types of jobs being lost by individuals. Anticipating what will happen in recovery helps identify whether those jobs will return or what types of new jobs will be created. Consequently, key information for planning re-employment, retraining, and other workforce and economic development programs is contained within these data. For this analysis, we are using CES non-seasonally adjusted annual averages to compare year-over-year employment changes.

Current Developments
Oklahoma annual average employment growth slowed further in 2015, as mounting energy sector layoffs weighed on overall job growth. Total nonfarm employment added a non-seasonally adjusted 12,100 jobs for a 0.7 percent growth rate, (compared to 2014, when 21,300 jobs were added at a 1.3 percent growth rate).

In 2015, eight out of Oklahoma’s 11 statewide supersectors recorded job growth. Leisure & hospitality led all other supersectors adding 5,600 jobs with the greater part of hiring occurring in food services and drinking places. The broad trade, transportation & utilities sector added 5,100 jobs with the largest part of growth coming from retail trade. Government added 3,500 employees with most of the growth in local government. Construction added 2,400 jobs with nearly all the job growth in specialty trade contractors.

The largest annual average over-the-year job losses were seen in mining & logging which dropped a non-seasonally adjusted 7,400 jobs (-12.0 percent). Manufacturing employment lost 2,700 jobs mostly in durable goods manufacturing. Information shed 300 jobs in 2015.
Definition & Importance

Manufacturing employment data is also produced by the Bureau of Labor Statistics’ Current Employment Statistics (CES) program. Manufacturing and production are still important parts of both the U.S. and Oklahoma economies. During the 2007-09 recession, employment in manufacturing declined sharply. Although manufacturing plunged in 2008 and early 2009 along with the rest of the economy, it is on the rebound today while other key economic sectors, such as construction, still suffer. In Oklahoma, manufacturing accounts for one of the largest shares of private output and employment in the state. In addition, many manufacturing jobs are among the highest paying jobs in the state. In order to account for the size disparity between the U.S. and Oklahoma employment levels, we have indexed the data with January 2001 as the starting value.

Current Developments

Factory employment increased in June, gaining back much of the job losses from the previous month. Manufacturing employment added 14,000 jobs in June, according to the Bureau of Labor Statistics (BLS). Employment in non-durable goods manufacturing led the job growth in June adding 11,000 jobs, supported by strong gains in food manufacturing. Durable goods manufacturing added 3,000 jobs in June.

Oklahoma factory employment declined for a fourth consecutive month in May dropping a seasonally-adjusted 2,000 jobs (-1.6 percent). The vast majority of May’s manufacturing job losses occurred in durable goods led by fabricated metal products and machinery manufacturing.

Over the year, statewide manufacturing employment dropped a seasonally-adjusted 12,000 jobs (-8.7 percent) with nearly all of the job losses coming from durable goods manufacturing. Machinery manufacturing lost a non-seasonally adjusted 4,700 jobs over the year while fabricated metal product manufacturing fell by 4,400 jobs. Non-durable goods manufacturing employment lost a seasonally-adjusted 800 jobs (-2.0 percent) over the year.
Definition & Importance
Economists consider the Institute for Supply Management’s Purchasing Managers’ Index (PMI™) a key economic indicator. The Institute for Supply Management (ISM) surveys more than 300 manufacturing firms on employment, production, new orders, supplier deliveries, and inventories. The ISM manufacturing index is constructed so that any level at 50 or above signifies growth in the manufacturing sector. A level above 43 or so, but below 50, indicates that the U.S. economy is still growing even though the manufacturing sector is contracting. Any level below 43 indicates that the economy is in recession.

For the region, since 1994, the Creighton Economic Forecasting Group at Creighton University has conducted a monthly survey of supply managers in nine states (including Arkansas, Iowa, Kansas, Minnesota, Missouri, Nebraska, North Dakota, Oklahoma and South Dakota), to produce leading economic indicators for the Mid-America economy using the same methodology as the national survey by the ISM.

Current Developments
A gauge of U.S. factory activity expanded for the fourth straight month in June, reaching its highest reading in 16 months. The June PMI® registered 53.2 percent, an increase of 1.9 percentage points from the May reading of 51.3 percent, according to the latest Manufacturing ISM Report On Business®. Manufacturing registered growth in June for the fourth consecutive month as 12 of 18 industries reported an increase in new orders (down from 14 in May), and 12 of 18 industries reported an increase in production (same as in May).

The New Orders Index was particularly solid in June, at 57.0 for a 1.3 point gain and the best reading since March. A measure of export orders was 1.0 point higher at 53.5 for the 4th straight 50+ showing. Production was active, improving 2.1 percentage points to 54.7. Inventories also appear to be climbing, rising 3.5 percentage points to 48.5. The Employment Index returned to expansion in June, growing 1.2 percentage points to a 50.4 reading.
The Creighton University Mid-America Business Conditions Index, a leading economic indicator for a nine-state region stretching from North Dakota to Arkansas, declined in June. The Business Conditions Index, which ranges between 0 and 100, fell to 50.1 from May’s 52.1 reading, according to the Creighton Economic Forecasting Group. Over the past several months, the regional index, much like the national reading, has indicated the manufacturing sector is experiencing anemic, but stabilizing, business conditions.

“The region’s manufacturing sector is expanding, but at a slow pace as gains for nondurable goods producers more than offset continuing losses for regional durable goods manufacturers,” said Ernie Goss, Ph.D., director of Creighton University’s Economic Forecasting Group.

The report also noted that most participants completed the June survey before British citizens voted to exit the European Union. In 2015, the mid-America region exported almost $2.0 billion in goods to Great Britain and imported approximately $1.9 billion for a relatively small regional trade surplus of almost $100 million.

“Thus, a British recession or weak British currency will not have a significant impact on the Mid-America economy. The larger impact on the regional economy would be a substantial strengthening of the dollar against a broad range of currencies,” noted Goss.

After moving above growth neutral in May for the first time in 12 months, Oklahoma’s Business Conditions Index once again slipped below the threshold in June. The index from a monthly survey of supply managers slumped to 48.1 from 51.4 in May. Components of the June survey of supply managers were new orders at 46.8, production or sales at 46.4, delivery lead time at 51.3, inventories at 50.9, and employment at 45.0.

“In 2015, Oklahoma exported $113 million in goods to Great Britain representing approximately 0.06 percent of the state’s gross domestic product. Thus, significant increases in the value of the dollar versus the pound sterling, or a British recession will have only a small negative impact on the Oklahoma economy,” reported Goss.
Definition & Importance
Crude oil is an important commodity in the global market. Prices fluctuate depending on supply and demand conditions in the world. Since oil is such an important part of the economy, it can also help determine the direction of inflation. In the U.S. consumer prices have moderated whenever oil prices have fallen, but have accelerated when oil prices have risen. The U.S. Energy Information Administration (EIA) provides weekly information on petroleum inventories in the U.S., whether produced here or abroad.

The Baker Hughes rig count is an important indicator for the energy industry and Oklahoma. When drilling rigs are active they consume products and services produced by the oil service industry. The active rig count acts as a leading indicator of demand for products used in drilling, completing, producing and processing hydrocarbons.

West Texas Intermediate (WTI-Cushing) is a light crude oil produced in Texas and southern Oklahoma which serves as a reference or "marker" for pricing a number of other crude streams and which is traded in the domestic spot market at Cushing, Oklahoma.

Background
Oklahoma produces a substantial amount of oil, with annual production typically accounting for more than 3 percent of total U.S. production in recent years. Crude oil wells and gathering pipeline systems are concentrated in central Oklahoma. Two of the 100 largest oil fields in the United States are found in Oklahoma.

The city of Cushing, in central Oklahoma, is a major crude oil trading hub connecting Gulf Coast producers to Midwest refining markets. In addition to Oklahoma crude oil, the Cushing hub receives supply from several major pipelines that originate in Texas. Traditionally, the Cushing Hub has pushed Gulf Coast and Mid-Continent crude oil supply north to Midwest refining markets. However, production from those regions is in decline, and an underused crude oil pipeline system has been reversed to deliver rapidly expanding heavy crude oil supply produced in Alberta, Canada to Cushing, where it can access Gulf Coast refining markets. For this reason,
Cushing is the designated delivery point for the New York Mercantile Exchange (NYMEX) crude oil futures contracts. Crude oil supplies from Cushing that are not delivered to the Midwest are fed to Oklahoma’s five refineries, which have a combined distillation capacity of over 500 thousand barrels per day—roughly 3 percent of the total U.S. refining capacity.

**Current Developments**

In the June 2016 *Short-Term Energy Outlook*, the U.S. Energy Information Administration (EIA) noted that North Sea Brent crude oil prices averaged $47/barrel (b) in May, a $5/b increase from April and the fourth consecutive monthly increase since reaching a 12-year low of $31/b in January. Growing global oil supply disruptions, rising oil demand, and falling U.S. crude oil production contributed to the price increase.

The EIA also forecast Brent crude oil prices are forecast to average $43/b in 2016 and $52/b in 2017, $3/b and $1/b higher than forecast in last month’s *Short-Term Energy Outlook*, respectively. West Texas Intermediate (WTI) crude oil prices are forecast to be slightly lower than Brent in 2016 and to be the same as Brent in 2017. However, the current values of futures and options contracts suggest high uncertainty in the price outlook.

The EIA reported that U.S. crude oil production averaged 9.4 million barrels per day (b/d) in 2015. Production is forecast to average 8.6 million b/d in 2016 and 8.2 million b/d in 2017, both unchanged from last month’s *Short-Term Energy Outlook*. EIA estimates that crude oil production for May 2016 averaged 8.7 million b/d, which is more than 0.2 million b/d below the April 2016 level, and approximately 1 million b/d below the 9.7 million b/d level reached in April 2015.

Monthly statewide crude oil production levels have been gradually declining over the past year but still remain at historically high levels. Oklahoma’s crude production in April was at a level of 12,810,000 barrels, or 771,000 barrels (5.7 percent) more than March’s production level of 13,581,000 barrels. Oklahoma’s crude production for the first four months of 2016 was 51,929,000 barrels or 5.9 percent less than the 55,158,000 barrels produced during the same period in 2015.

After falling as low as $26.19/barrel in February, West Texas Intermediate (WTI-Cushing) spot prices have climbed, closing at $48.71/barrel for the week ending June 24. Over the year, WTI-Cushing domestic crude prices were down -$11.30/barrel, (-18.8 percent) from $60.01/b for the week ending June 26, 2015.

The U.S. rig count totaled 421 in the week ended June 24, down by three from the week before, according to oil field services company Baker Hughes. The current nationwide rig count is less than half the level of 859 reported in the week ended June 26, 2015. The U.S. rig count peaked at 4,530 in 1981 and reached an all-time low of 404 in May.

Oklahoma drillers continued to lay down more rigs in June as prolonged low commodity prices continue to weigh on the industry. Baker Hughes reported 54 active rigs in Oklahoma for the week ending June 24, pushing statewide drilling activity to the lowest level since August 6, 1999. Oil-directed rigs accounted for approximately 96 percent of total rig activity (52 active rigs). Over the year, Oklahoma’s rig count was down 51 from the 105 rigs operating June 26, 2015.
Definition & Importance
The U.S. Energy Information Administration (EIA) provides weekly information on natural gas stocks in underground storage for the U.S., and three regions of the country. The level of inventories helps determine prices for natural gas products. Natural gas product prices are determined by supply and demand—like any other good or service. During periods of strong economic growth, one would expect demand to be robust. If inventories are low, this will lead to increases in natural gas prices. If inventories are high and rising in a period of strong demand, prices may not need to increase at all, or as much. However, during a period of sluggish economic activity, demand for natural gas may not be as strong. If inventories are rising, this may push down oil prices.

The Henry Hub in Erath, Louisiana is a key benchmark location for natural gas pricing throughout the United States. The Henry Hub is the largest centralized point for natural gas spot and futures trading in the United States. The New York Mercantile Exchange (NYMEX) uses the Henry Hub as the point of delivery for its natural gas futures contract. Henry Hub “spot gas” represents natural gas sales contracted for next day delivery and title transfer at the Henry Hub. The settlement prices at the Henry Hub are used as benchmarks for the entire North American natural gas market. Approximately 49 percent of U.S. wellhead production either occurs near the Henry Hub or passes close to the Henry Hub as it moves to downstream consumption markets.

Background
Oklahoma is one of the top natural gas producers in the United States with production typically accounting for almost one-tenth of the U.S. total. More than a dozen of the 100 largest natural gas fields in the country are found in Oklahoma and proven reserves of conventional natural gas have been increasing in recent years.

Most natural gas in Oklahoma is consumed by the electricity generation and industrial sectors. About three-fifths of Oklahoma households use natural gas as their primary energy source for home heating. Nevertheless, only about one-third of Oklahoma’s natural gas output is
consumed within the state. The remaining supply is sent via pipeline to neighboring states, the majority to Kansas, including the natural gas trading hubs in Texas and Kansas.

**Current Developments**

Natural gas working inventories were 2,907 billion cubic feet (Bcf) on May 27 according to the June 2016 *Short-Term Energy Outlook*, from the U.S. Energy Information Administration (EIA). This level is 32 percent higher than a year earlier, and 35 percent higher than the previous five-year (2011-15) average for that week. The natural gas storage injection season typically runs from April through October. The EIA projects that natural gas inventories will be 4,161 Bcf at the end of October 2016, which would be the highest end-of-October level on record. Henry Hub spot prices are forecast to average $2.22/million British thermal units (MMBtu) in 2016 and $2.96/MMBtu in 2017, compared with an average of $2.63/MMBtu in 2015.

Natural gas production in Oklahoma doesn’t seem to be significantly slowing any time soon. Oklahoma natural gas gross production in April was at a level of 205,546 MMcf, a decline of 8,440 MMcf (-3.9 percent) from the March production level of 213,986 MMcf. For the first four months of 2016, Oklahoma natural gas gross withdrawals were at a level of 834,790 MMcf, 15,182 MMcf (1.9 percent) more than the 819,608 MMcf produced during the same period last year.

Natural gas spot prices continued to climb in June. The Henry Hub spot price rose to $2.79/MMBtu at month’s end, for a gain of 54¢ per MMBtu from $2.25/MMBtu at the beginning of the month.

In the U.S. there were 90 active natural gas-directed rigs as of June 24, 2016, according to oil services company Baker Hughes Inc. This represents an increase of three units from the previous week but a loss of 138 rigs over the year.

Oklahoma’s natural gas-directed drilling rig count finished the month at a level of two active rigs, down from three active rigs in the previous month. Over the year, the number of rotary rigs searching for natural gas was down four rigs from six reported for the week ended June 26, 2015.
Definition & Importance
The U.S. Census Bureau and the Department of Housing and Urban Development jointly provide monthly national and regional data on the number of new housing units authorized by building permits; authorized, but not started; started; under construction; and completed. The data are for new, privately-owned housing units (single and multifamily), excluding "HUD-code" manufactured homes. Because permits precede construction, they are considered a leading indicator for the residential construction industry and the overall economy. Most of the construction begins the same month the permit is issued. The remainder usually begins construction during the following three months; therefore we also use a three-month moving average.

While home construction represents a small portion of the housing market, it has an outsize impact on the economy. Each home built creates an average of three jobs for a year and about $90,000 in taxes, according to the National Association of Home Builders. Overall, homebuilding fell to its lowest levels in 50 years in 2009, when builders began work on just 554,000 homes.

Current Developments
The pace of new residential construction slipped in May but gains in building permits suggest a rebound in future home building activity. Privately-owned housing units authorized by building permits in May were at a seasonally adjusted annual rate of 1,138,000, 0.7 percent above the revised April rate of 1,130,000 but 10.1 percent below the May 2015 estimate of 1,266,000, according to the U.S. Census Bureau and the Department of Housing and Urban Development.

Permits for the construction of single-family homes fell 2.0 percent in May to a 726,000-unit rate while multi-family building permits increased 5.9 percent to a 412,000-unit pace. Total permits in the West region spiked 15.3 percent, putting the over-the-year gain at 20.2 percent. Over-the-year permit trends in the Midwest and South were flat while the trend was sharply lower for the Northeast region at -67.1 percent.
Definition & Importance
The data services of the Federal Reserve Bank of St. Louis produces series that are seasonally adjusted including monthly state level data on the number of new housing units authorized by building permits. These adjustments are made using the X-12 Procedure of SAS to remove the seasonal component of the series so that non-seasonal trends can be analyzed. This procedure is based on the U.S. Bureau of the Census X-12-ARIMA Seasonal Adjustment Program.

Current Developments
Statewide applications for new residential construction slipped in May. Total residential building permitting for May was at a seasonally adjusted level of 1,060, that is -59 or -5.3 percent less than April’s downwardly revised level of 1,119 but 370 (53.6 percent) above the April 2015 estimate of 690 units, according to figures from the Federal Reserve Bank of St. Louis.

Single-family permitting accounted for approximately 71.7 percent of total residential permitting activity in May while multi-family permitting accounted for 25.7 percent. Applications for single-family homes were at a non-seasonally adjusted level of 833, down 1.1 percent from April’s level of 842 permits. The more volatile multi-family permitting was at a level of 299 in May, up 40 (21.3 percent) from April.

Year to date, statewide residential permitting was a seasonally adjusted 730 permits or 16.1 percent above the first five months of 2015. Single-family permits showed virtually no change from the first five months of 2015 at a non-seasonally adjusted level of 4,082 permits, down two from the 2015 level of 4,084. Multi-family permitting was at a level of 1,129 or 685 permits more than last year’s non-seasonally adjusted level of 444 permits.
Definition & Importance

Personal income is a broad measure of economic activity and one for which relatively current data are available. Personal income includes earnings, property income such as dividends, interest, and rent and transfer payments, such as retirement, unemployment insurance, and various other benefit payments. It is a measure of income that is available for spending and is seen as an indicator of the economic well-being of the residents of a state. Earnings and wages make up the largest portion of personal income.

To show the vastly different levels of total personal income for the U.S. and Oklahoma on the same chart, these data have been converted to index numbers. This chart shows a comparison of Oklahoma and U.S. growth in real personal income with 1st quarter 2000 as the base year.

Current Developments

American consumers continued to shop in May although at a slower pace than April and personal income notched a third straight month of growth. Personal income increased $37.1 billion, or 0.2 percent, and disposable personal income (DPI) increased $33.9 billion, or 0.2 percent, in May, according to the Bureau of Economic Analysis. Personal consumption expenditures (PCE) increased $53.5 billion, or 0.4 percent. In April, personal income increased $75.4 billion, or 0.5 percent, DPI increased $68.6 billion, or 0.5 percent, and PCE increased $141.2 billion, or 1.1 percent, based on revised estimates.

Spending on durable goods such as autos and appliances grew 0.3 percent, after jumping 2.6 percent in April. Spending on nondurable goods, where price effects of gasoline are inflating the totals, grew 0.6 percent. Spending on services grew at a healthy 0.4 percent pace.

With spending outpacing income, the personal saving rate fell slightly to 5.3 percent in May from April’s 5.4 percent rate. The personal savings rate hit a four-year high in March at 6.0 percent.
Definition & Importance
Quarterly estimates of state personal income are seasonally adjusted at annual rates by the Bureau of Economic Analysis (BEA). Quarterly personal income estimates are revised on a regular schedule to reflect more complete information than the data that were available when the estimates were initially prepared and to incorporate updated seasonal factors.

Current Developments
State personal income grew 1.0 percent on average in the 1st quarter of 2016, the same pace as in the 4th quarter of 2015, according to estimates by the U.S. Bureau of Economic Analysis (BEA). Personal income grew in every state except Wyoming and North Dakota with 1st quarter personal income growth rates ranging from -1.3 percent in North Dakota to 1.5 percent in Washington.

Oklahoma’s personal income grew at a 0.6 percent rate, to a level of $174.6 billion, ranking the state 43rd among all states and the District of Columbia in the 1st quarter of 2016.

Overall, net earnings increased 1.1 percent in the 1st quarter of 2016 and was the leading contributor to growth in personal income in most states including Oklahoma where net earnings grew 0.6 percent and contributed 0.4 percentage point to personal income growth.

In Oklahoma, growth in farm earnings was the leading contributor to earnings growth in the 1st quarter of 2016, adding 0.22 percentage point to personal income growth. Growth in construction earnings contributed 0.17 percentage point to personal income growth while health care and social assistance added 0.11 percentage point in the 1st quarter of 2016.

Mining earnings declined 4.4 percent in the 1st quarter of 2016, the fifth consecutive quarterly decline, and was a major contributor to declining incomes in Wyoming and North Dakota. In Oklahoma, mining earnings declined 3.6 percent and shaved 0.32 percentage point from 1st quarter income growth. Since peaking in the 4th quarter of 2014, mining earnings have declined 15.8 percent nationally and 12.4 percent in Oklahoma.
Definition & Importance
Retail sales measure the total receipts at stores that sell merchandise and related services to final consumers. Sales are by retail and food services stores. Data are collected from the Monthly Retail Trade Survey conducted by the U.S. Bureau of the Census. Essentially, retail sales cover the durables and nondurables portions of consumer spending. Consumer spending accounts for roughly two-thirds of the U.S. GDP and is therefore essential to Oklahoma’s economy. Retail sales account for around one-half of consumer spending and economic recovery calls for consumption growth.

Current Developments
U.S. retail sales rose at a very solid pace in May as Americans bought automobiles and a range of other goods. Advance estimates of U.S. retail and food services sales for May, adjusted for seasonal variation and holiday and trading-day differences, but not for price changes, were $455.6 billion, an increase of 0.5 percent from the previous month, and 2.5 percent above May 2015, according to the U.S. Census Bureau. Total sales for the March 2016 through May 2016 period were up 2.4 percent from the same period a year ago. The March 2016 to April 2016 percent change was unrevised at up 1.3 percent.

Automobile sales rose 0.5 percent in May after jumping 3.1 percent in April. Gasoline, reflecting higher pump prices, once again gave an outsized boost to sales at 2.1 percent. Excluding automobiles and gasoline, retail sales rose 0.3 percent over the month and 4.1 percent over the year.

The less volatile "core" sales, which strip out automobiles, gasoline, building materials and food services rose a healthy 0.4 percent in May after an upwardly revised 1.0 percent increase in April.

Sales at clothing stores increased 0.8 percent, the largest gain since November. Online retail sales soared 1.3 percent. Sporting goods and hobby stores sales jumped 1.3 percent while restaurant and bars sales climbed 0.8 percent.
Definition & Importance
The Center for Economic and Management Research (CEMR) Price College of Business, at the University of Oklahoma produces the Oklahoma Monthly Retail Sales Series containing monthly estimates of retail sales for Oklahoma, the Oklahoma City, Tulsa and Lawton Metropolitan Statistical Areas and 48 selected cities in Oklahoma. The series is based on sales tax collection data provided by the Business Tax Division, Oklahoma Tax Commission (OTC). In order to take out monthly volatility, we have used a six-month moving average.

Current Developments
Oklahoma consumers upped their spending in March as rising pump prices helped to spike estimated gasoline sales. Total adjusted retail sales for March were at a level of $3.29 billion, a 1.7 percent gain from the February level of $3.24 billion.

Total durable goods sales slumped -0.9 percent in March led by declining sales at lumber & hardware stores (-4.0 percent) and furniture store sales (-2.5 percent) likely reflecting the slowdown in statewide home building activity. Auto accessories & repair receipts were also down in March at -2.9 percent. Durable goods categories with over-the-month gains included electronics & music stores (1.9 percent); miscellaneous durable goods (3.5 percent); and used merchandise (0.7 percent).

Oklahomans spent more on gasoline in March as statewide prices climbed from $1.47 per gallon to 1.83 per gallon from February 24 to March 30 (as reported by GasBuddy.com)—a nearly 25 percent increase. Nondurable goods spending increased 2.7 percent in March led by a big jump in estimated gasoline sales (20.3 percent). Other advancing non-durable goods categories were general merchandise stores (1.5 percent); apparel (2.7 percent); drugstore store sales (2.4 percent); liquor (1.4 percent). Declining categories in March were eating & drinking (-1.4 percent); food (-0.8 percent) and miscellaneous non-durables (-0.1 percent).