



# OKLAHOMA Economic Indicators

December 2015

# OKLAHOMA ECONOMIC INDICATORS

Oklahoma Employment Security Commission  
Richard McPherson, Executive Director

Economic Research and Analysis Division  
Lynn Gray, Director & Chief Economist

*Prepared by*  
Monty Evans, Senior Economist

Will Rogers Memorial Office Building  
Labor Market Information Unit, 4th Floor N  
P.O. Box 52003  
Oklahoma City, OK 73152-2003  
Phone: (405) 557-5369  
Fax: (405) 525-0139  
Email: [lmi1@oesc.state.ok.us](mailto:lmi1@oesc.state.ok.us)

**December 2015**

Equal Opportunity Employer/Program  
Auxiliary aids and services are available upon request for individuals with disabilities

# TABLE OF CONTENTS

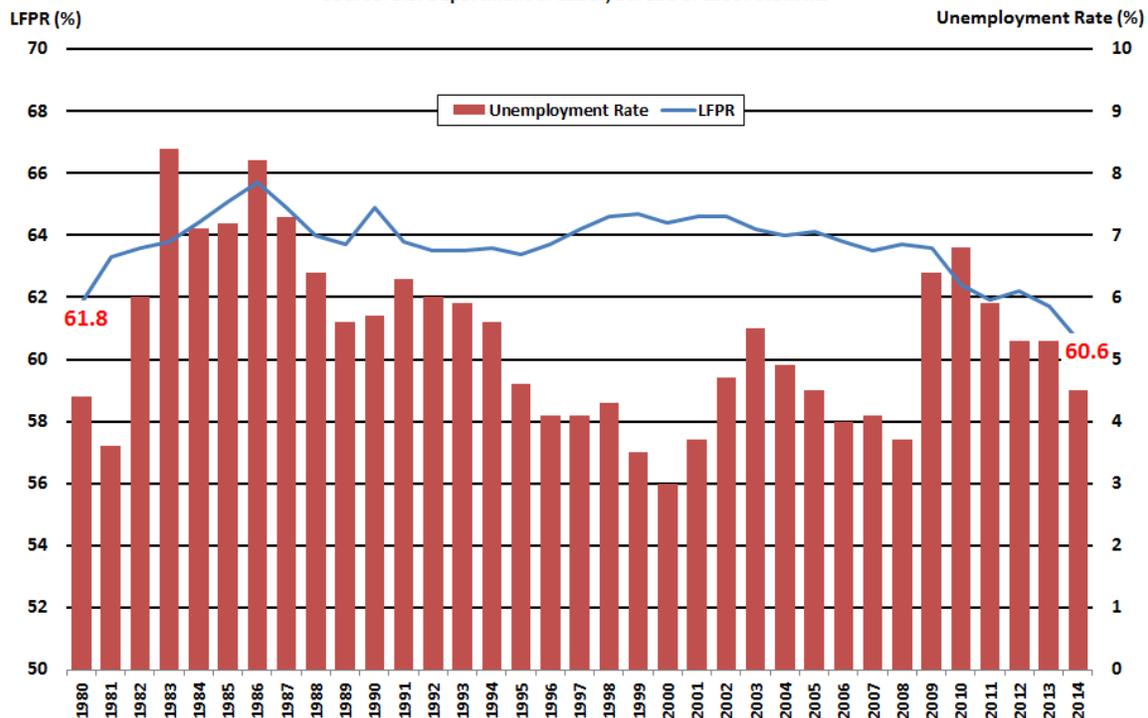
SPECIAL REPORT: Oklahoma Youth Work Force.....	2
U.S. Real Gross Domestic Product and Quarterly Change.....	5
Oklahoma’s Real Gross Domestic Product and Quarterly Change.....	7
Industry Share of Oklahoma’s Economy.....	8
Metropolitan Area Contribution to State Real GDP .....	9
Leading Index for Oklahoma.....	10
U.S. and Oklahoma Unemployment Rates .....	11
Oklahoma Initial Claims for Unemployment Insurance.....	12
U.S. and Oklahoma Nonfarm Payroll Employment .....	13
Oklahoma Employment Change by Industry.....	14
U.S. and Oklahoma Manufacturing Employment.....	15
Purchasing Managers’ Index (Manufacturing) .....	16
Oklahoma Active Rotary Rigs and Cushing, OK WTI Spot Price.....	18
Oklahoma Active Rotary Rigs and Henry Hub Natural Gas Spot Price.....	20
U.S. Total Residential Building Permits.....	22
Oklahoma Total Residential Building Permits.....	23
U.S. and Oklahoma Real Personal Income.....	24
Industry Contribution to Oklahoma Personal Income.....	25
U.S. Adjusted Retail Sales .....	26
Oklahoma Total Adjusted Retail Sales.....	27

## SPECIAL REPORT: Oklahoma Youth Work Force

The Research & Analysis Division of the Oklahoma Employment Security Commission recently completed a study of the characteristics of Oklahoma’s youth labor force. Using data from both the Bureau of Labor Statistics (BLS) and the U.S. Census Bureau’s Longitudinal Employer-Household Dynamics Quarterly Workforce Indicators, this report offers insight into long-term trends in youth labor force participation and unemployment rates as well as industry employment and earnings.

### Oklahoma Unemployment Rate and Labor Force Participation Rate, 1980-2014 Not Seasonally Adjusted

Source: U.S. Department of Labor, Bureau of Labor Statistics



### Oklahoma Unemployment Rates and Labor Force Participation Rates (1980-2014)

The labor force participation rate is the percentage of working-age persons in the economy who are either employed or unemployed (but looking for a job). Typically a ‘working-age person’ is defined as those between the ages of 16 to 64.

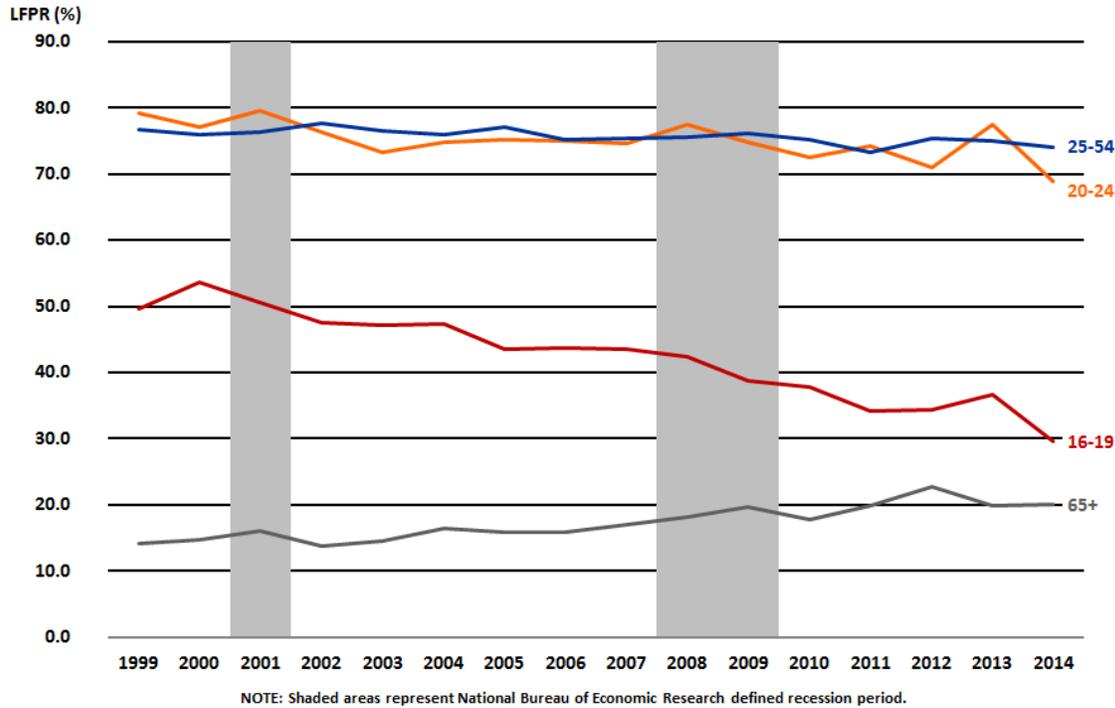
From 1980 to 2014, Oklahoma’s labor force participation rate has followed a downward trend similar to that of the United States. In 1980, Oklahoma’s labor force participation rate was 61.8 percent and climbed to its highest level in 1986 at 65.7 percent but then falling to 60.6 percent in 2014, (see chart above). Interestingly, between 2007 and 2014, Oklahoma’s labor force participation rate fell significantly from 63.5 percent to 60.6 percent—a 2.9 percentage point drop. This trend also coincided with the last recession (December 2007 to June 2009), with the steepest annual drop between 2009 and 2010 (-1.2 percentage points).

During the same timeframe, the state’s unemployment rate averaged 4.4 percent in 1980 then surged to a 35-year high of 8.4 percent in 1983 as a result of the collapse of commodity prices during that period. By 2014, the statewide unemployment rate was 4.5 percent. It should also

be noted that during the decade of the 1980s average annual statewide unemployment rates were 6.0 percent or higher for seven out ten years.

### Oklahoma Labor Force Participation Rate by Selected Age Group, 1999-2014 Not Seasonally Adjusted

Source: U.S. Department of Labor, Bureau of Labor Statistics



### Oklahoma Labor Force Participation Rate by Selected Age Groups

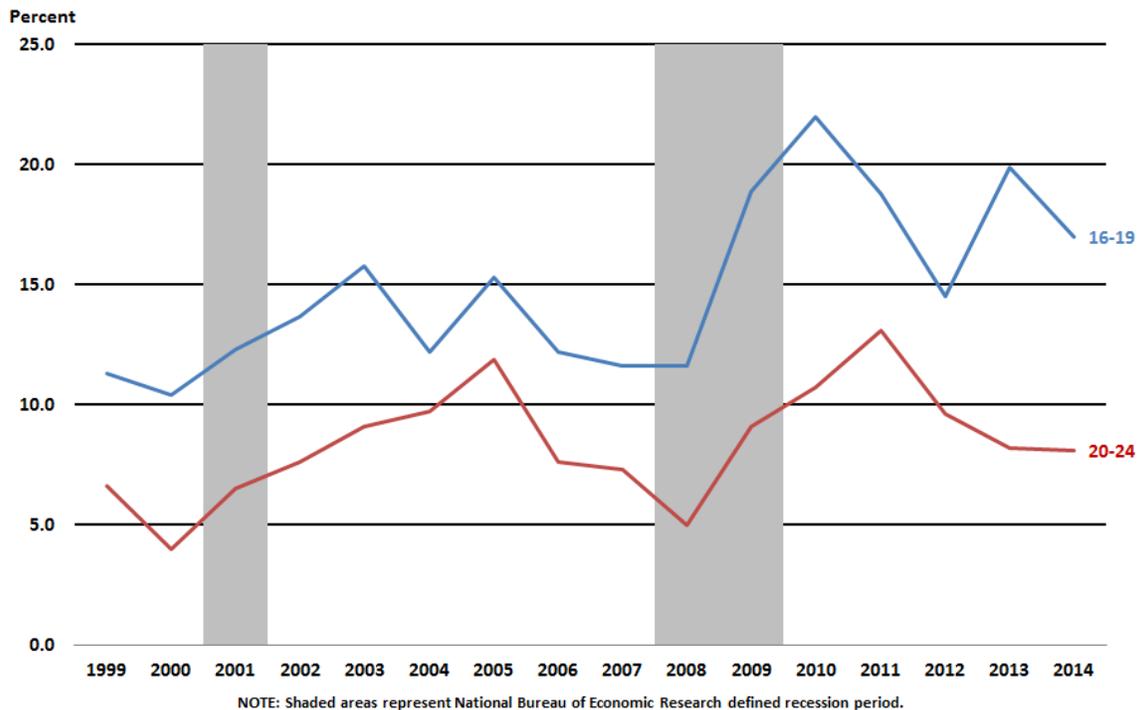
Following the statewide trend, youth labor force participation rates have also been generally declining since 1999. In 2014, the 16-19 age group’s labor force participation rate was 29.6 percent—a 20.0 percentage point decline from 49.6 percent in 1999. The 20-24 age group’s labor force participation rate was 68.8 percent in 2014, down 10.4 percentage points from 79.2 percent in 1999, (see chart above).

It also appears that the most recent recession had some effect on youth labor force participation rates. For the 16-19 age group, the labor force participation rate dropped from 42.3 in 2008 to 37.9 in 2010, declining 4.4 percentage points. The 20-24 age group’s LFPR fell from 77.4 percent in 2008 to 72.6 percent in 2010.

Remarkably, the 65+ age group saw labor force participation rates climbed during the recession and continued to grow after the recession’s end. In 2007, the 65+ age group’s labor force participation rate was 17.1 percent but by 2014 that rate had increased to 20.0 percent.

## Oklahoma Youth Unemployment Rates, 1999-2014 Not Seasonally Adjusted

Source: U.S. Department of Labor, Bureau of Labor Statistics



### Oklahoma Youth Unemployment Rates (1999-2014)

It appears that the last two recessions have had some effect on youth unemployment rates. Prior to the 2001 recession (March 2001 to November 2001), the 16 to 19 age group's unemployment rate was 10.4 percent. However, that jobless rate increased to 12.3 percent in 2001 and continued to climb to 13.7 percent in 2002 and 15.8 percent in 2003 until finally stabilizing at 11.6 percent in 2007. The 'Great Recession' (December 2007 to June 2009) had a far more profound effect on the 16 to 19 age group as unemployment rates jumped to 18.9 percent in 2009 and then rose to 22.0 percent the following year. The 20 to 24 age group unemployment rate was also affected by the past two recessions but not to the extent seen by the 16 to 19 group, (see chart above).

### Oklahoma Youth Employment by Industry

In Oklahoma, youth employment comprises 11.8 percent of total employment: 1.9 percent for the 14 to 18 age group, 4.1 percent for the 19 to 21 age group, and 5.7 percent for the 22 to 24 group. Accommodation and Food Services and Retail Trade had the highest level of employed youth. Accommodation and Food Services accounted for 48 percent of employment for the age group of 14-18, while Retail Trade accounted for 24 percent for the age group of 19-21, and 17 percent for the age group of 22-24.

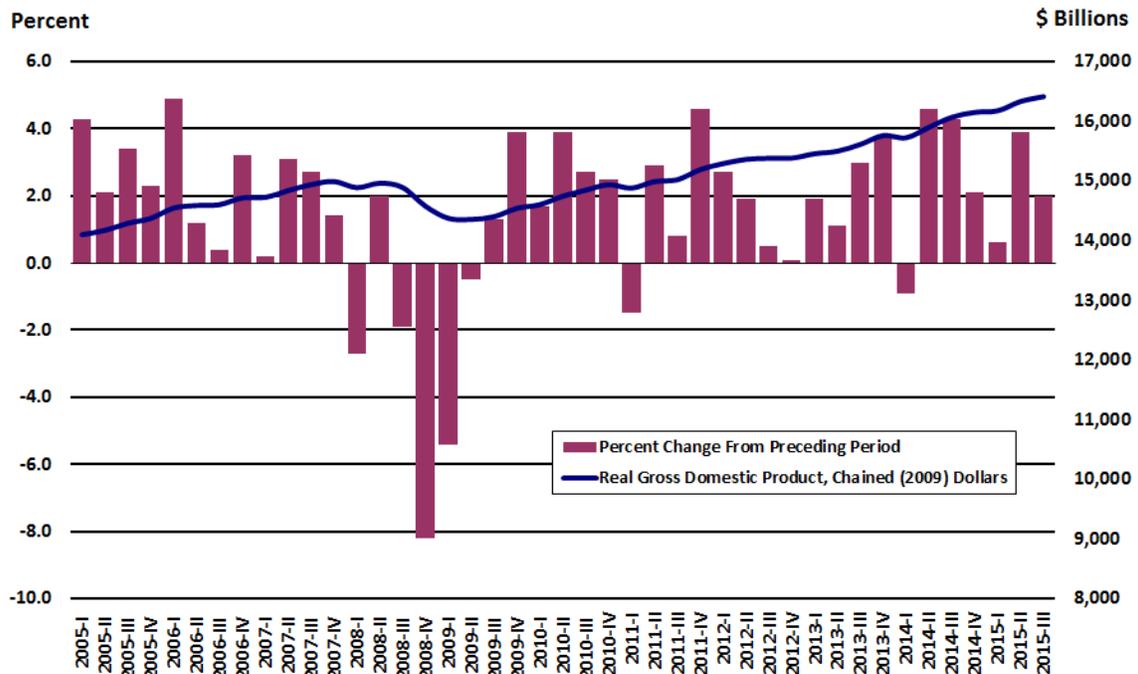
### More Information

The full Oklahoma Youth Workforce publication is available on the OESC website at: [https://www.ok.gov/oesc\\_web/documents/lmiyouthlaborforce2015.pdf](https://www.ok.gov/oesc_web/documents/lmiyouthlaborforce2015.pdf)

It's written in an engaging style and presented in an entertaining format and contains a wealth of information and data regarding trends in Oklahoma's youth labor force.

## Real Gross Domestic Product and Quarterly Change

Source: U.S. Department of Commerce, Bureau of Economic Analysis



### 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**

The U.S. economy grew at a fairly healthy rate over the summer although at a slightly slower pace than previously estimated. Real gross domestic product (GDP) increased at an annual rate of 2.0 percent in the 3rd quarter of 2015, according to the "third" estimate released by the Bureau of Economic Analysis (BEA). In the 2nd quarter, real GDP increased 3.9 percent.

Consumer spending grew at a solid 3.0 percent pace in the 3rd quarter, unchanged from the previous estimate. Sales of durable goods such as autos were revised up 0.1 percent to 6.6 percent while non-durable goods spending was revised upward 0.2 percent to 4.2 percent. Spending on services was revised down 0.1 percent to 2.1 percent. Personal consumption expenditures contributed 2.0 percent to overall 3rd quarter GDP growth, slightly lower than the previously estimated 2.1 percent.

Businesses accumulated \$85.5 billion worth of inventory in the 3rd quarter, instead of the \$90.2 billion reported previously. The change in private inventories subtracted 0.71 percentage point from 3rd-quarter GDP growth, rather than the -0.59 percentage point reported earlier.

Business investment was stronger than previously thought, growing 2.6 percent in the 3rd quarter. Equipment outlays, a good measure of capital spending, shot up 9.9 percent, instead of the 9.5 percent pace estimated earlier. Business investment on structures fell at a 7.2 percent annual rate, slightly worse than previously estimated, as cutbacks in oil and gas exploration hurt the energy sector.

Home construction surged more than previously estimated, rising 8.2 percent for an increase of 0.9 percent. Residential investment added 0.27 percentage points to overall growth in the July through September period, up 0.03 percentage point from the second estimate.

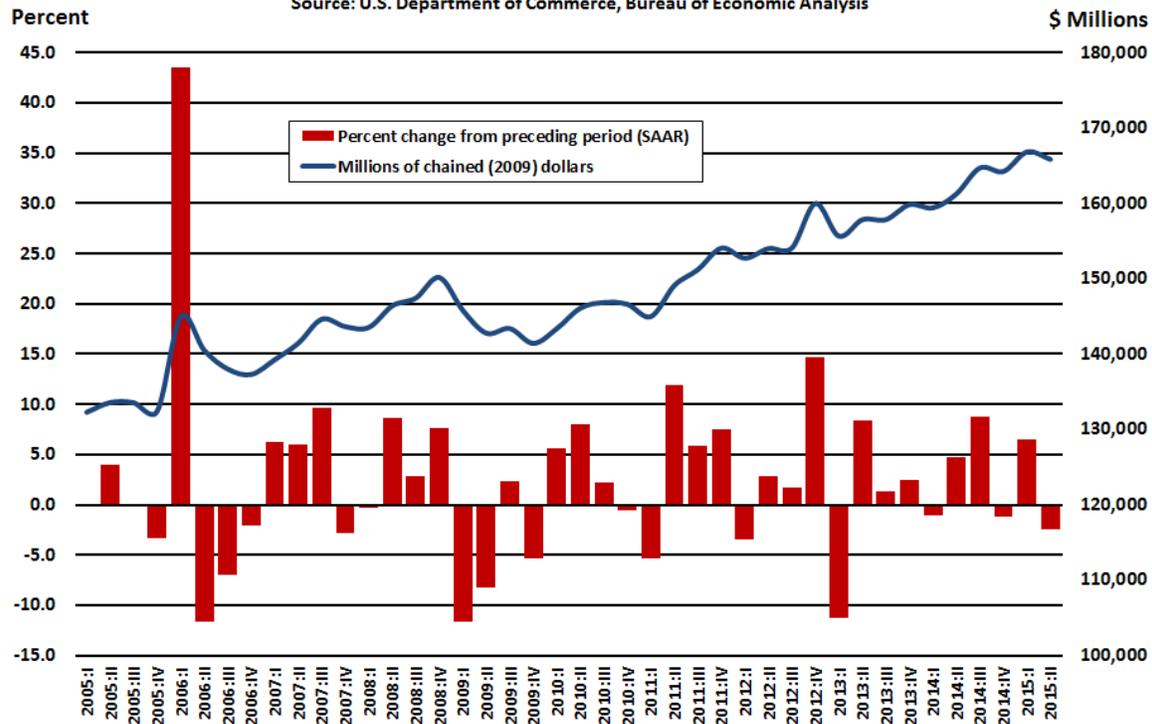
A wider trade deficit also held back growth in the 3rd quarter, as a strong dollar made exports more expensive for foreign consumers and imports cheaper for U.S. consumers. Exports increased just 0.7 percent (instead of the previously reported 0.9 percent), while imports rose 2.3 percent (rather than the 2.1 percent pace reported earlier). Net exports subtracted 0.2 percent from 3rd quarter GDP.

Government spending expanded 1.7 percent in the 3rd quarter, 0.1 percentage point more than previously estimated, as gains in spending by state and local governments offset cuts in defense spending. Federal government rose 0.2 percent, reflecting a 1.4 percent drop in federal defense spending offset by a 2.8 percent increase in nondefense federal spending. State and local government spending grew 2.8 percent, up 0.2 percentage point from the second estimate.

## Oklahoma Real Gross Domestic Product and Quarterly Change

1st Quarter 2005 - 2nd Quarter 2015, Seasonally Adjusted Annual Rates

Source: U.S. Department of Commerce, Bureau of Economic Analysis



### 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 GDP increased in 46 states and the District of Columbia in the 2nd quarter of 2015. Overall, U.S. real GDP by state grew at an annual rate of 3.8 percent in the 2nd quarter after increasing 0.7 percent in the 1st quarter of 2015, according to the Bureau of Economic Analysis (BEA). Growth in the service industries led real GDP growth for the nation in the 2nd quarter. Finance and insurance; professional, scientific, and technical services; and wholesale trade were the leading contributors to real U.S. economic growth in the 2nd quarter.

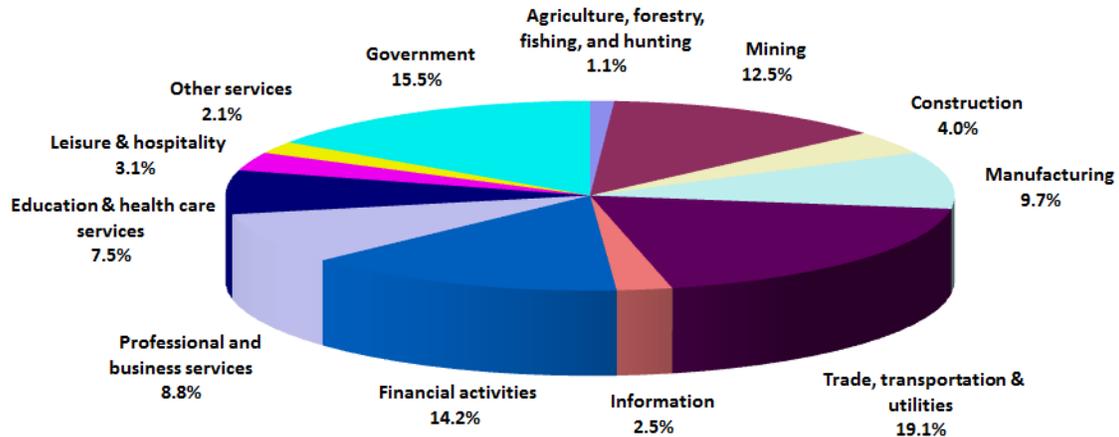
Mining decreased 17.9 percent and subtracted from growth in 49 states in the 2nd quarter of 2015. It subtracted more than two percentage points from real GDP growth in Oklahoma (-4.27 percent), North Dakota (-2.42 percent), West Virginia (-2.8 percent), Texas (-2.13 percent), and Wyoming (-5.43 percent).

The slide in commodity prices caused Oklahoma’s real GDP to contract in the 2nd quarter of 2015. Statewide GDP was at a level of \$165.9 billion in constant 2009 dollars in the 2nd quarter, down from \$166.9 billion in the 1st quarter. The state’s 2nd quarter real GDP declined 2.4 percent, ranking Oklahoma 50th among all other states in terms of GDP growth.

## 2014 Industry Share of Oklahoma's Economy

(by percentage of Gross Domestic Product)

Source: U.S. Department of Commerce, Bureau of Economic Analysis



### Definition & Importance

Oklahoma's economy typically follows a similar trend to that of the nation. State GDP data lags behind national data and is only available annually. As a result, it is not a good indicator of current economic conditions and does not fully reflect the recent changes in Oklahoma's economic climate. However, it is still valuable to understand the state's growth trend compared to the nation and what industries are the largest contributors to Oklahoma's economy.

### Current Developments

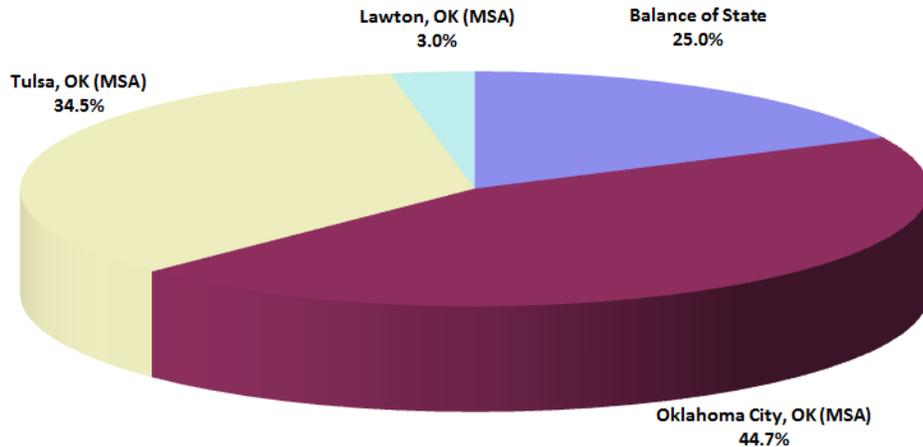
Oklahoma was among 48 states and the District of Columbia experiencing growth in real gross domestic product (GDP) in 2014, according to new statistics from the Bureau of Economic Analysis (BEA). U.S. real GDP grew 2.2 percent in 2014 after increasing 1.9 percent in 2013.

In 2014, Oklahoma's real GDP was at a level of \$162.4 billion, a 2.8 percent gain from the revised \$158.0 billion in 2013. Oklahoma's real GDP growth rate was the 10th highest among all states and the District of Columbia in 2014. Oklahoma's 2013 advance GDP estimate was revised downward from 4.2 percent to 1.8 percent while the state's 2012 GDP was further revised upward from 3.0 percent to 3.5 percent. The Southwest region, which includes Oklahoma, was the fastest growing BEA region in 2014 growing at 4.3 percent, and led by Texas with a 5.2 percent increase.

Although mining was not a significant contributor to real GDP growth for the U.S. economy, it did play a key role in Oklahoma. Mining contributed 1.45 percentage points to statewide real GDP growth in 2014. Other industries adding to 2014 GDP growth in Oklahoma were utilities (0.57 percentage point); non-durable goods manufacturing (0.25 percentage point); wholesale trade (0.22 percentage point); retail trade (0.14 percentage point); and finance & insurance (0.11 percent). Subtracting from Oklahoma GDP growth were real estate, rental & leasing (-0.36 percentage point); construction (-0.22 percentage point); and government (-0.06 percentage point).

## Metropolitan Area Contribution to State Real Gross Domestic Product 2014

Source: U.S. Department of Commerce, Bureau of Economic Analysis



### 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.

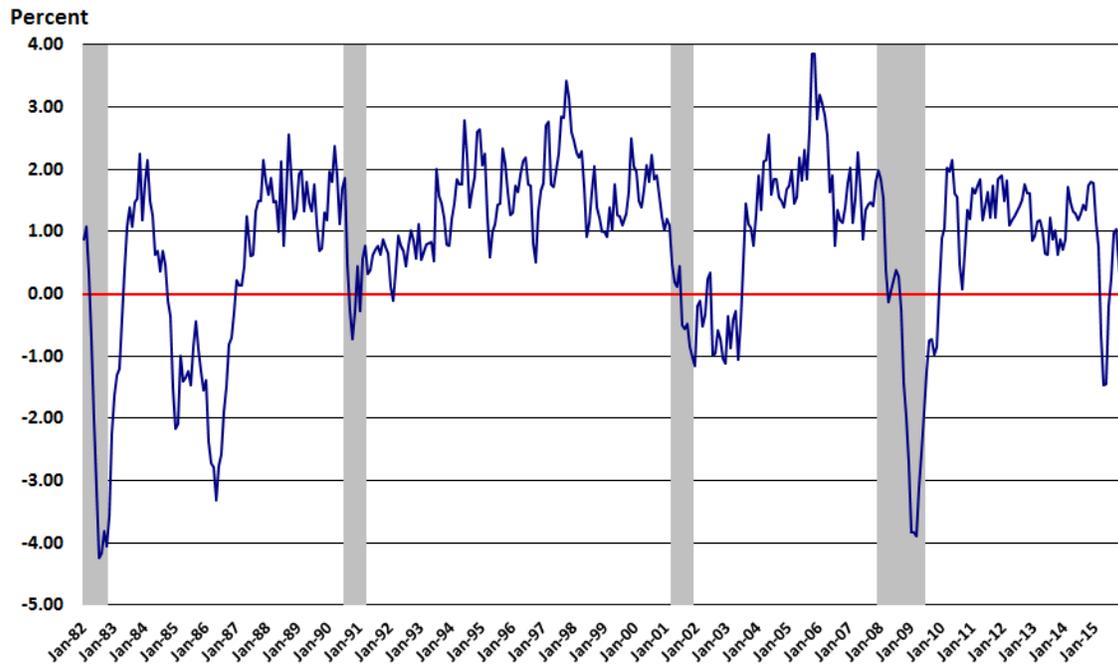
### Current Developments

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.

## Leading Index for Oklahoma, 1982-2015

Source: Federal Reserve Bank of Philadelphia



NOTE: Shaded areas represent National Bureau of Economic Research defined recession periods.

### 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

Declining oil and natural gas prices have weighed on Oklahoma's economy since the beginning of 2015. 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.

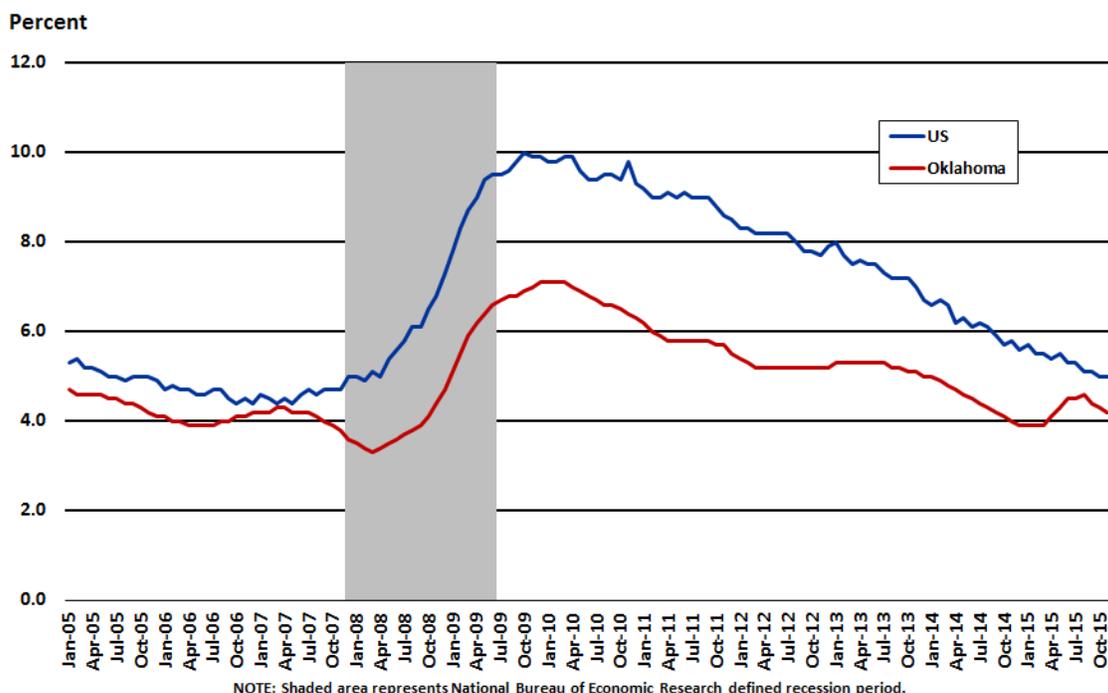
During the first half of 2015, energy sector layoffs translated into elevated initial claims for unemployment insurance while home builders statewide pulled back on applications for residential construction. After rebounding mid-year, initial claims have begun to climb again and residential permitting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

Oklahoma's leading index slipped again in November but remained in positive territory. Leading Index for Oklahoma dropped to 0.11 percent in November following a 0.45 percent reading in October, according to the latest figures from the Federal Reserve Bank of Philadelphia.

Nevertheless, it looks like the Oklahoma economy experienced a recession during the first half of 2015.

## U.S. and Oklahoma Unemployment Rate (Seasonally Adjusted)

Source: U.S. Department of Labor, Bureau of Labor Statistics



### 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

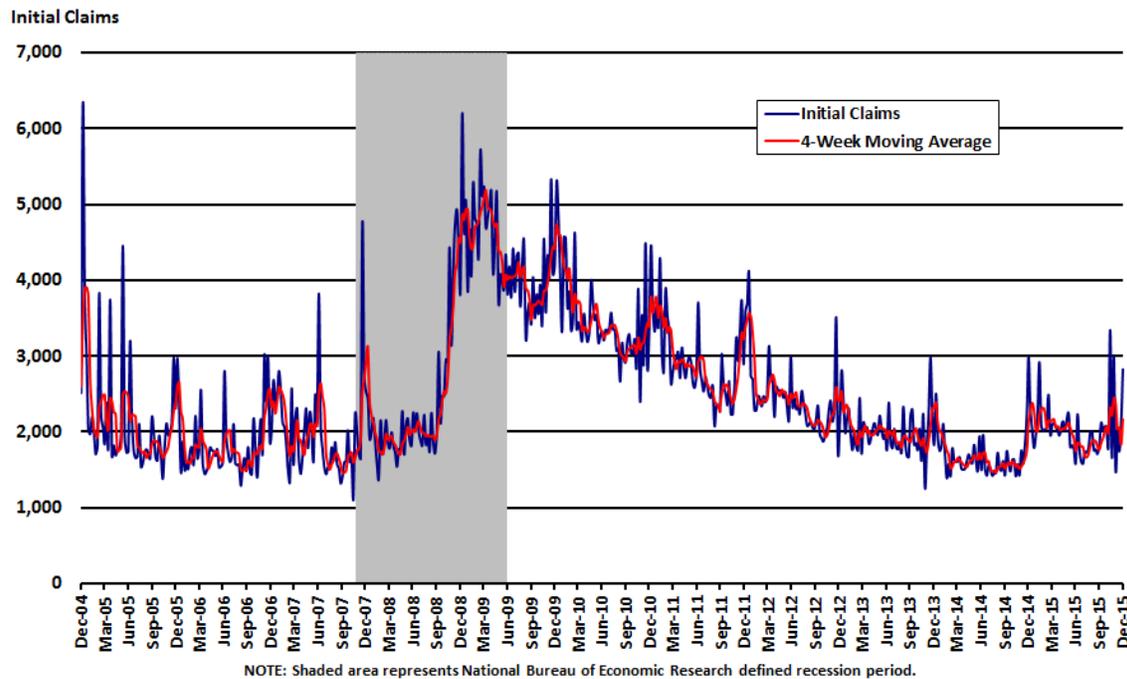
The unemployment rate held steady at a 7-1/2-year low in December as more Americans were looking for jobs and most found them. In December, the unemployment rate held at 5.0 percent, according to the Bureau of Labor Statistics (BLS). The civilian labor force participation rate improved 0.1 to 62.6 percent in December.

Oklahoma's seasonally adjusted unemployment rate decreased 0.1 percentage point to 4.2 percent in November. Oklahoma's jobless rate was again the 16th lowest rate among all states in December, tied with Virginia and Wisconsin. Over the year, the state's seasonally adjusted unemployment rate was 0.2 percentage point more than the November 2014 rate of 4.0 percent.

Unemployment rates rose in 43 of 77 Oklahoma counties, fell in 14 counties, and 20 counties reported no change over the month in November. McIntosh County had the highest jobless rates at 8.3 percent while Cimarron County once again had the lowest rate at 2.0 percent.

## Oklahoma Initial Weekly Claims for Unemployment Insurance (Not Seasonally Adjusted)

Source: U.S. Department of Labor, Employment and Training Administration



### 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

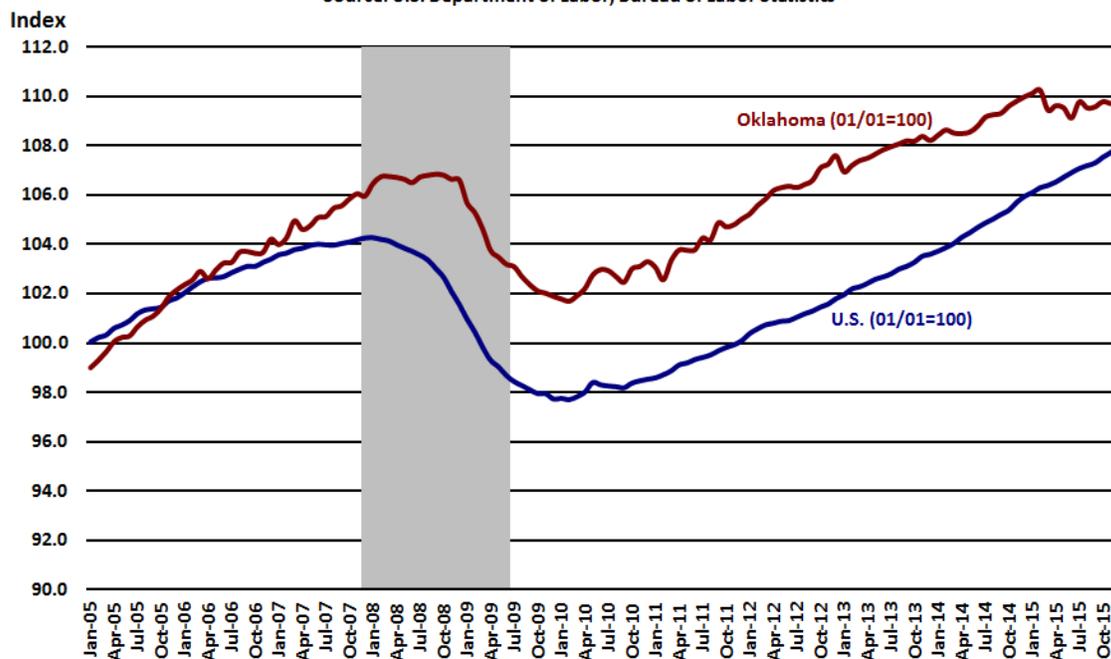
The number of Americans filing new claims for unemployment benefits rose sharply in the last week of December. In the week ending December 26, the advance figure for seasonally adjusted initial claims was 287,000, an increase of 20,000 from the previous week's unrevised level of 267,000, according to figures released by the U.S. Labor Department (DOL). That was the highest level since July, although in recent months the weekly readings for claims have held near a 42-year low. The less volatile 4-week moving average was 277,000, an increase of 4,500 from the previous week's unrevised average of 272,500.

Initial claims for jobless benefits in Oklahoma continued to rise in December. For the file week ending December 26, initial claims for unemployment insurance benefits were at a level of 2,826, or 727 more claims than the previous week. For the same file week ending, the less volatile four-week moving average moved up 333 to 2,166. Continued claims were up 45 to a level of 21,494 for the same file week ending.

## U.S. and Oklahoma Nonfarm Payroll Employment (Seasonally Adjusted)

Index: January 2001=100

Source: U.S. Department of Labor, Bureau of Labor Statistics



NOTE: Shaded area represents National Bureau of Economic Research defined recession period.

### 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

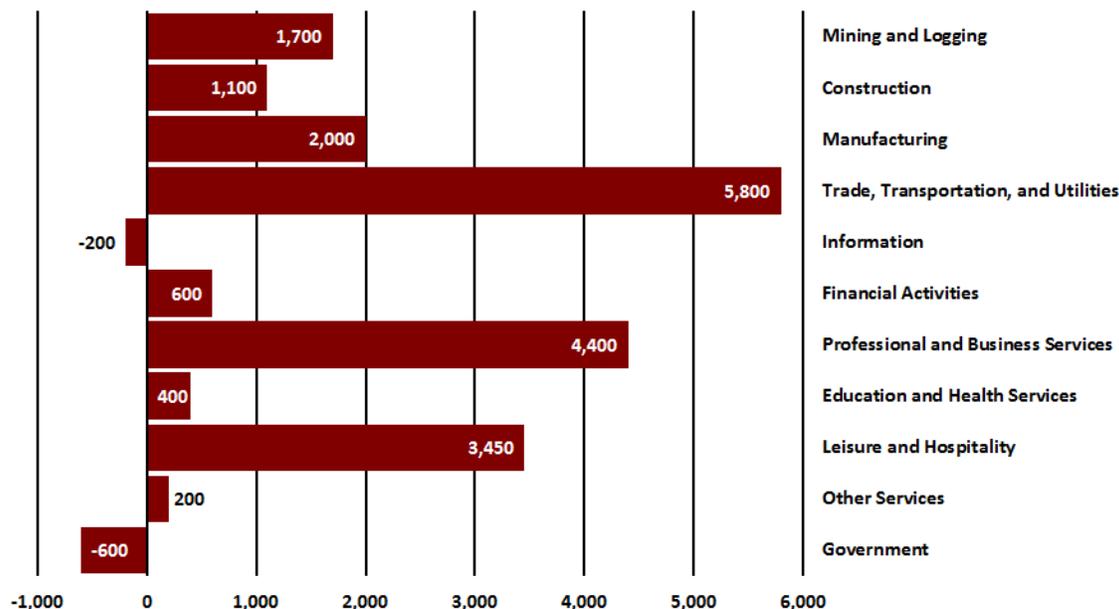
U.S. employers hired at a robust pace in December with employment gains occurring in several industries. Total nonfarm payroll employment rose by 292,000 in December, according to the Bureau of Labor Statistics (BLS). In December, job growth occurred in professional and business services (73,000 jobs); construction (45,000 jobs); health care (39,000 jobs); and food services and drinking places (37,000 jobs). Employment in mining continued to decline in December, losing 8,000 jobs.

Oklahoma's seasonally adjusted nonfarm employment decreased by 1,200 jobs (-0.1 percent) in November. Six of Oklahoma's 11 supersectors added jobs in November, as construction (+1,100 jobs) posted the largest monthly gain followed by financial activities (+900 jobs). Trade, transportation & utilities reported the largest over-the-month loss (-3,100 jobs).

Over the year, statewide total nonfarm employment shed 1,500 jobs (-0.1 percent) led by mining & logging (-12,900 jobs) and manufacturing (-7,900 jobs).

## Oklahoma Employment Change by Industry, 2013-2014 Annual Averages (Not Seasonally Adjusted)

Source: Current Employment Statistics (CES), U.S. Department of Labor, Bureau of Labor Statistics



### 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

Nonfarm employment growth eased a bit in 2014, adding a non-seasonally adjusted 18,900 jobs for a 1.2 percent growth rate, (compared to 2013, with 21,000 jobs added and a 1.3 percent growth rate).

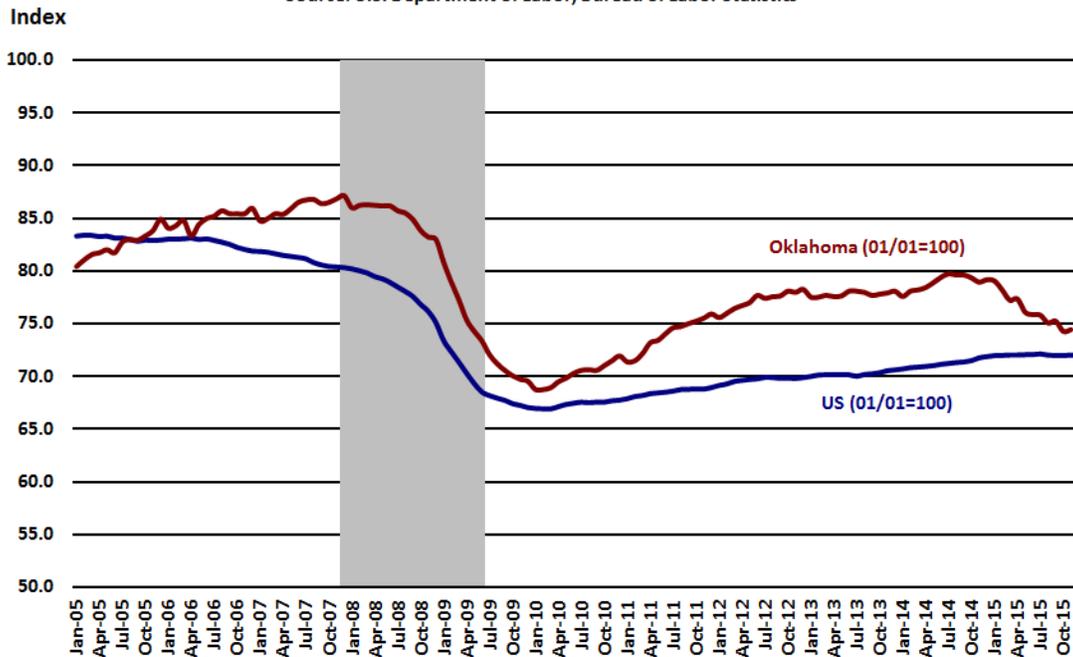
In 2014, nine out of Oklahoma's 11 statewide supersectors recorded job growth. The broad trade, transportation & utilities sector led all other supersectors adding a non-seasonally adjusted 5,800 jobs with the bulk of hiring occurring in retail trade. Professional & business services employment added 4,400 jobs with almost all of the growth coming from administrative & support and waste management & remediation services. Leisure & hospitality added 3,450 employees with most of the growth in accommodation & food services. Manufacturing employment grew by 2,100 driven by job gains in durable goods manufacturing. Mining & logging added 1,700 jobs led by support activities for mining. Construction added 1,100 jobs with nearly all the job growth in specialty trade contractors.

Over-the-year declines were seen in government (-400) and information (-200).

## U.S. and Oklahoma Manufacturing Employment (Seasonally Adjusted)\*

Index: January 2001 = 100

Source: U.S. Department of Labor, Bureau of Labor Statistics



NOTE: Shaded area represents National Bureau of Economic Research defined recession period.

### 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

U.S. factory hiring changed little in December, as a strong U.S. dollar continues to weigh on U.S. exports and cut factory output. Manufacturing employment added 8,000 jobs in December, according to the Bureau of Labor Statistics (BLS). In 2015, manufacturing employment was little changed (+30,000), following strong growth in 2014 (+215,000).

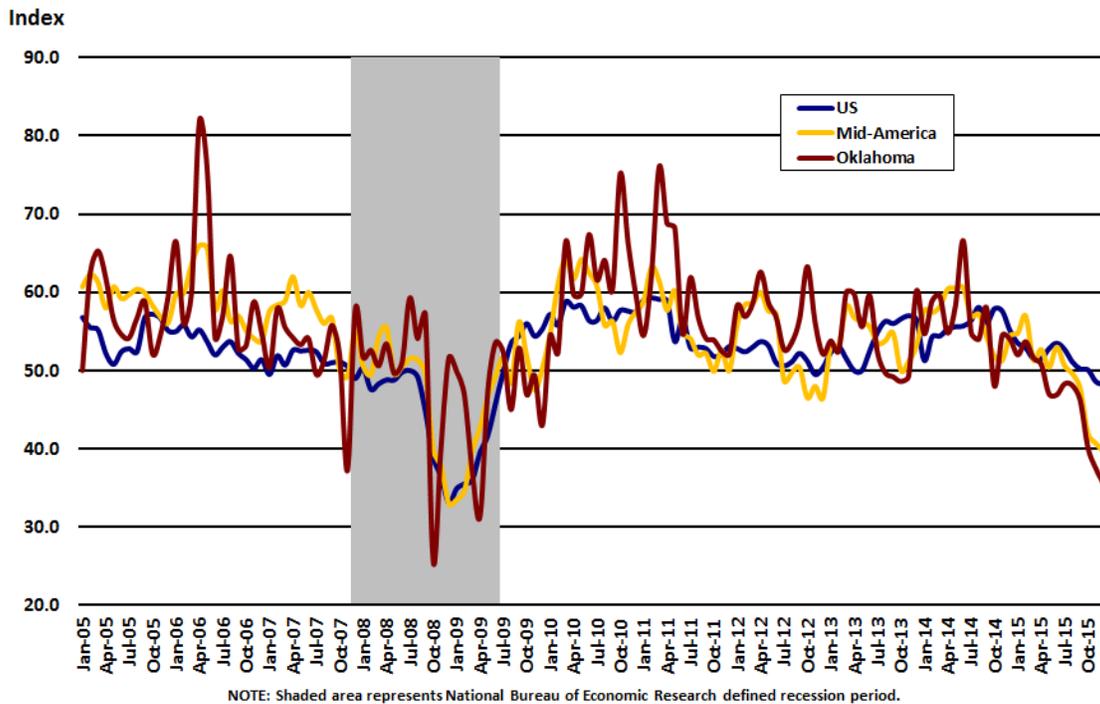
Statewide manufacturing employment managed to add 300 jobs in November. Non-durable goods manufacturing added 900 jobs over the month which were offset by losses in durable goods manufacturing.

Over the year, Oklahoma non-seasonally adjusted manufacturing employment has lost 7,900 jobs (-5.7 percent) with nearly all of the job losses coming from durable goods manufacturing.

*\*As of January 2013, due to employment stability in the Manufacturing and Information supersectors, the BLS has determined that they do not need to be adjusted for seasonal factors at this time.*

## Purchasing Managers' Index (Manufacturing)

Sources: ISM Manufacturing Report On Business® and Business Conditions Index for Mid-America, Creighton University



### 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

U.S. manufacturing activity contracted again in December to the lowest level in more than six years as factories cut jobs and new orders shrank. The December PMI® registered 48.2 from 48.6 in November and is now at its lowest level since June 2009, according to the latest Manufacturing ISM Report On Business®. Of the 18 manufacturing industries, only six reported growth in December while 10 industries reported contraction.

The Employment Index in the ISM report fell sharply last month, slipping 3.2 percentage points to 48.1. The gauge of new orders ticked up slightly in December but remained in contractionary territory registering 49.2 percent, an increase of 0.3 percentage point from the November reading of 48.9 percent. Lower oil prices have caused energy companies to sharply reduce their orders for steel pipe and other drilling equipment, thereby cutting into factory output.

The Mid-America Business Conditions Index for November, a leading economic indicator for a nine-state region stretching from North Dakota to Arkansas, slumped for the month. The Business Conditions Index, which ranges between 0 and 100, sank to 39.6 from November's 40.7, according to the Creighton Economic Forecasting Group. The regional index, much like the national reading, is now in negative territory indicating manufacturing losses linked to the strong U.S. dollar and to economic weakness among global trading partners.

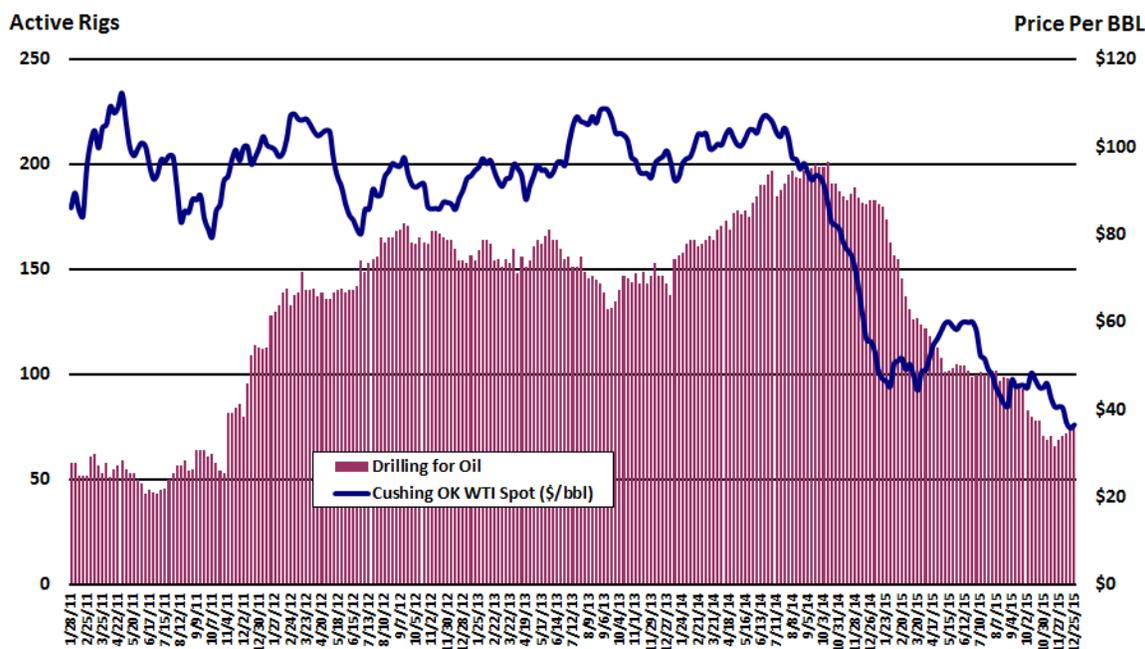
"The U.S. dollar strengthened by almost 10 percent in 2015. This along with economic weakness among the nation's chief trading partners has squeezed, and will continue to squeeze, U.S. and regional manufacturers. While this weakness has yet, to any large degree, spill over into the broader economy in most states in the region, I expect to see this in the first quarter of 2016," said Ernie Goss, Ph.D., director of Creighton University's Economic Forecasting Group.

The December Business Conditions Index for Oklahoma slumped below growth neutral for an eighth straight month. The index from a monthly survey of supply managers in the state fell to 35.5 from 37.5 in November. Components of the December survey of supply managers were new orders at 35.4, production or sales at 36.2, delivery lead time at 48.3, inventories at 44.6, and employment at 38.0.

## Oklahoma Active Rotary Rigs & Cushing, OK WTI Spot Price

January 2011 to December 2015

SOURCES: U.S. Department of Energy, Energy Information Administration and Baker Hughes Rig Counts



### 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**

Several states, including Oklahoma, that collect significant revenue from severance taxes on fossil fuel extraction are re-evaluating current and upcoming operating budgets and taxation structures to address revenue shortfalls, according to a recent article from the U.S. Energy Information Administration (EIA). Severance taxes are often imposed on the extraction of nonrenewable resources such as crude oil, natural gas, and coal. Lower fossil fuel prices, and in some cases, lower production, have led to lower severance tax receipts than were expected when revenue estimates were developed.

The EIA noted that although severance taxes accounted for 8 percent of Oklahoma's revenue collections in 2014, collections from state sales taxes and individual and corporate income taxes are also significantly affected by oil and natural gas prices. The state faces a fiscal year 2017 budget deficit of \$900 million on a general fund budget of nearly \$7 billion. In December 2015 the state declared a revenue failure, which requires state agencies to reduce spending, and allows for use up to 3/8 (37.5 percent) of the state's "Rainy Day" Fund.

Statewide crude oil production increased in October, as production levels remained at 30-year highs during 2015. Oklahoma's crude production in October was at 13,004,000 barrels, a 5.9 percent rise from September's level of 12,577,000 barrels. For the first ten months of 2015, Oklahoma's crude production was 133,695,000 barrels, 28,512 barrels or 27.1 percent more than the 105,183,000 barrels produced during the first ten months of 2014.

The prolonged glut of oil continues to push domestic crude prices lower. In 2015 the price of oil fell 30 percent following a 50 percent plunge in 2014. West Texas Intermediate (WTI-Cushing) spot prices began December at \$40.58/barrel and finished the month at \$37.13/barrel—the lowest WTI-Cushing weekly average price since 2007. In the current *Short Term Energy Outlook*, the EIA expects U.S. crude to average \$38.54/barrel in 2016.

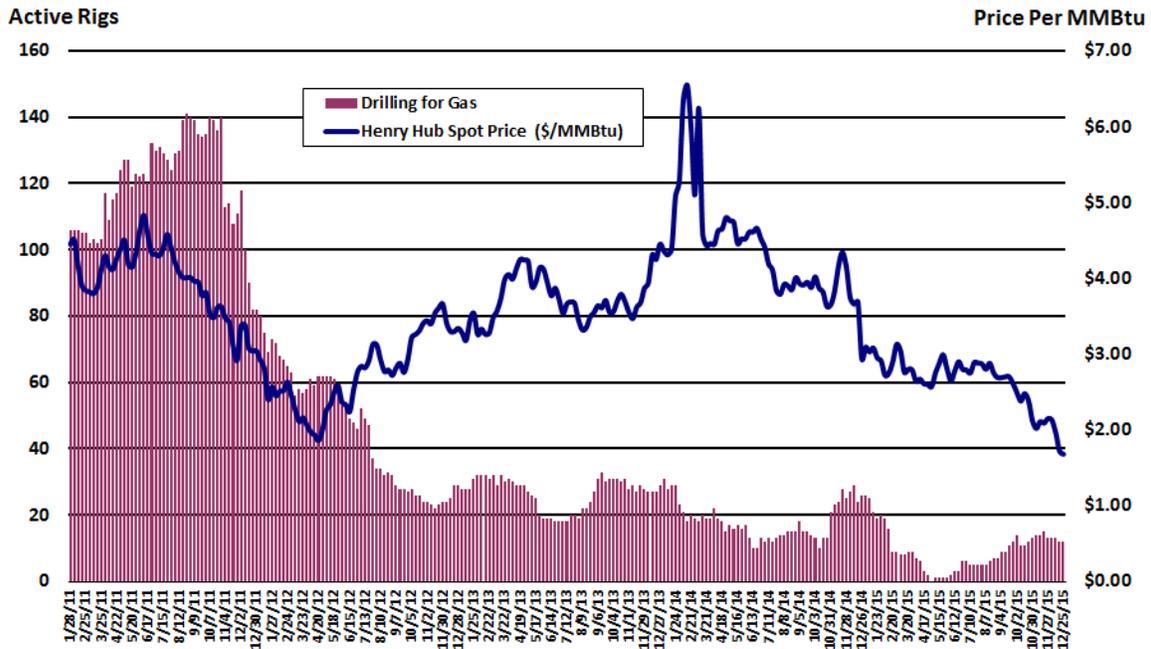
Oklahoma drilling activity saw some improvement in December. The statewide active rig count added six rigs from the last week of November to a level of 88 for the week ending December 25, with 76 rigs being oil-directed. Over the year, Oklahoma's rig count was off 121 from 209 rigs operating December 26, 2014.

The number of rigs drilling for oil in the U.S. has fallen by more than two-thirds, to 536 in the last week of December from an October 2014 peak of 1,609, according to drilling services company Baker Hughes.

# Oklahoma Active Rotary Rigs & Henry Hub Natural Gas Spot Price

January 2011 to December 2015

Sources: U.S. Department of Energy, Energy Information Administration and Baker Hughes Rig Counts



## 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 spot prices in 2015 at the Henry Hub in Louisiana, a national benchmark, averaged \$2.61 per million British thermal unit (MMBtu), the lowest annual average level since 1999. Daily prices fell below \$2/MMBtu this year for the first time since 2012. Henry Hub spot prices began the year relatively low and fell throughout 2015, as production and storage inventories hit record levels and fourth-quarter temperatures were much warmer than normal.

Despite declining prices, total natural gas production, measured in terms of dry gas volume, averaged an estimated 74.9 billion cubic feet per day (Bcf/d) in 2015, 6.3% greater than in 2014. This increase occurred even as the number of natural gas-directed drilling rigs decreased. As of December 18, there were 168 natural gas-directed rigs in operation, only about half the number of rigs at the beginning of 2015, according to data from Baker Hughes Inc. However, the remaining rigs are among the most productive, and producers have continued to make gains in drilling efficiency.

Low prices and strong production led to increase use of natural gas for electric power generation, which is projected to be about 26.5 Bcf/d in 2015, exceeding the 24.9 Bcf/d level in 2012. Natural gas surpassed coal as the leading source of electricity generation on a monthly basis for the first time in April, and again in each of the four months from July through October.

October natural gas gross withdrawals in Oklahoma were at a level of 212,542 MMcf, an increase of 7,528 MMcf from September's production level of 205,014 MMcf. For the first ten months of 2015, Oklahoma natural gas gross withdrawals totaled 2,094,294 MMcf compared to 1,911,808 MMcf for the first ten months of 2014, that's 182,486 MMcf, or 9.5 percent, more than 2014 and puts 2015 on track to be the highest natural gas production since record-keeping began in 1991.

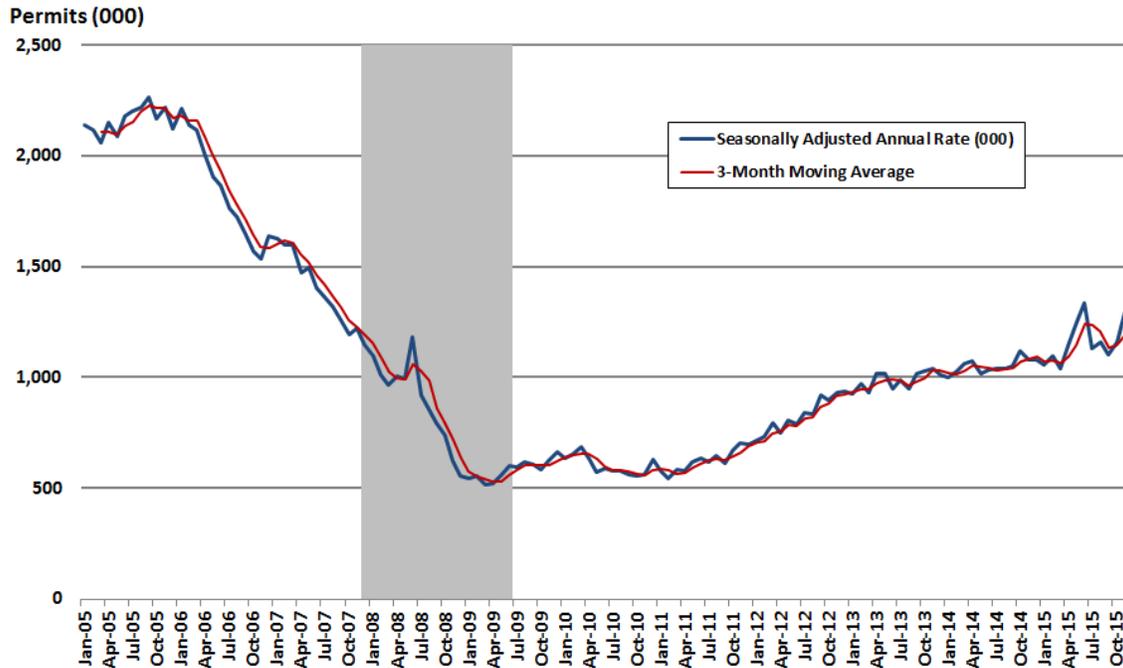
Increased production and record-high inventory levels continue to hold domestic natural gas prices lower. The Henry Hub spot price began the month at \$2.11 per million British thermal units (MMBtu) and finished the month at \$2.28/MMBtu.

Oklahoma's natural gas-directed drilling rig count moved down in December shedding one rig over the month to a level of 12 active rigs. Over the year, Oklahoma's natural gas-directed rotary rig count was down 14 rigs from 26 reported the week ended December 26, 2014.

## U.S. New Private Housing Units Authorized by Building Permit, 2005-2015

### Seasonally Adjusted

Source: U.S. Census Bureau and Department of Housing and Urban Development



NOTE: Shaded area represents National Bureau of Economic Research defined recession period.

### 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

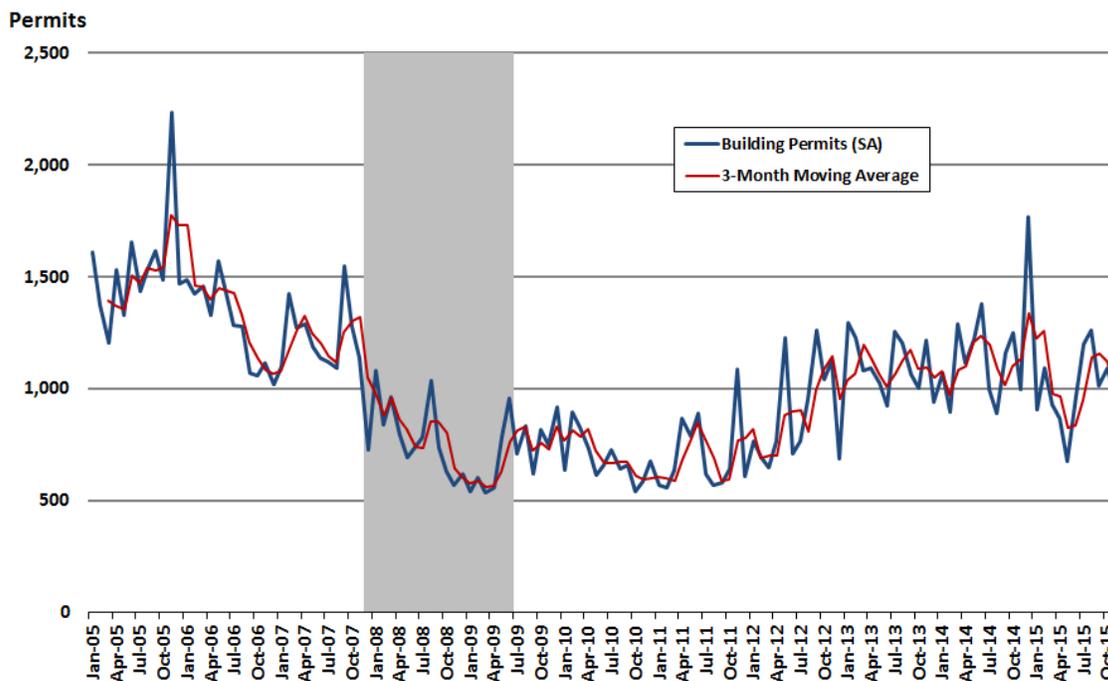
U.S. building permits surged to a five-month high in November, led by strong gains in apartment permitting in the West and Midwest regions. Privately-owned housing units authorized by building permits in November were at a seasonally adjusted annual rate of 1,289,000, or 11.0 percent above the revised October rate of 1,161,000 and 19.5 percent above the November 2014 estimate of 1,079,000, according to the U.S. Census Bureau and the Department of Housing and Urban Development. Permits for the construction of single-family homes increased 1.1 percent to the highest level since December 2007. Multi-family building permits soared 26.9 percent in November.

Separately, the National Association of Home Builders/Wells Fargo builder sentiment index slipped in December to 61 for the second straight monthly of decline.

## Oklahoma New Private Housing Units Authorized by Building Permit, 2005-2015

### Seasonally Adjusted

Sources: U.S. Census Bureau and Department of Housing and Urban Development, Federal Reserve Bank of St. Louis



NOTE: Shaded area represents National Bureau of Economic Research defined recession period.

### 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

Residential permitting activity cooled in November as single-family permits fell to the lowest level in a year. Total residential building permitting for November was at a seasonally-adjusted level of 949, or 13.3 percent below the October level of 1,095 and 4.7 percent below the November 2014 estimate of 996 units, according to figures from the Federal Reserve Bank of St. Louis.

Single-family permitting accounted for 86.1 percent of total residential permitting activity in November while multi-family permitting accounted for 13.9 percent. Applications for single-family homes were at a seasonally adjusted level of 817, or 3.7 percent less than October's level of 848 permits. The more volatile multi-family permitting was at a level of 132 in November, or 46.6 below October's level of 247 units.

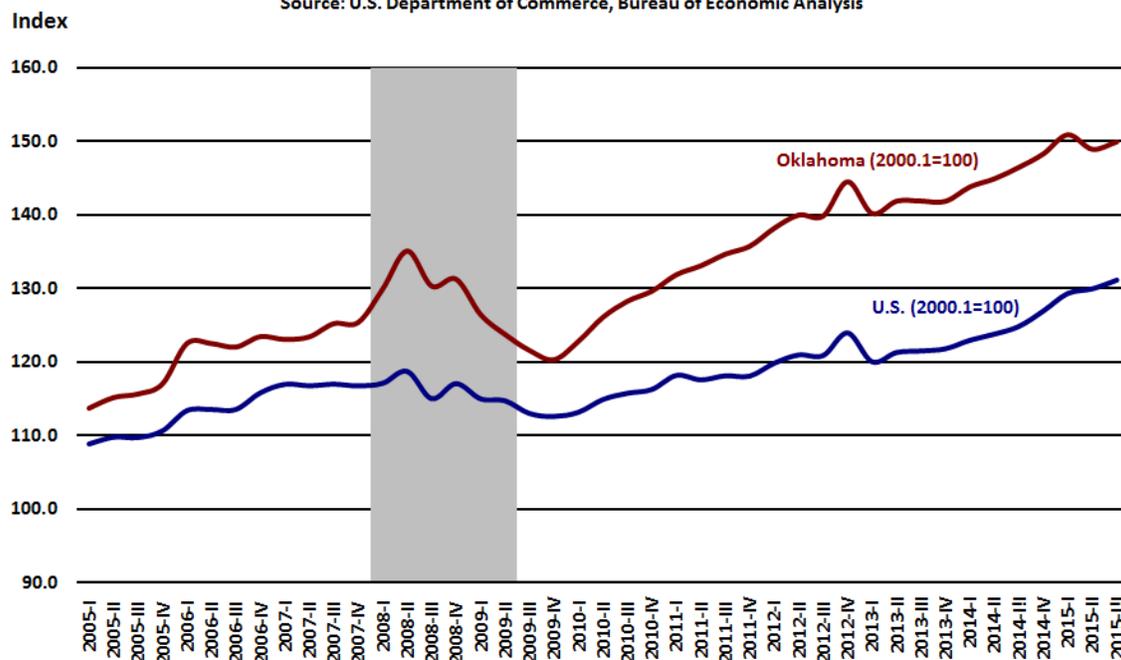
Over the year, single-family permits were nine permits or 1.1 percent more than a year ago, while multi-family permitting was 56, (or -29.8 percent), less than the November 2014 level of 188 permits.

Statewide residential permitting in 2015 continues to lag the previous year. Year to date, total residential building permitting was at a seasonally-adjusted level of 10,972 for the first 11 months of 2015, compared to 12,270 during the same period in 2014—approximately 10.6 less than 2014.

## U.S. and Oklahoma Real Personal Income

Index: 1st Quarter 2000 = 100

Source: U.S. Department of Commerce, Bureau of Economic Analysis



NOTE: Shaded area represents National Bureau of Economic Research defined recession period.

### 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

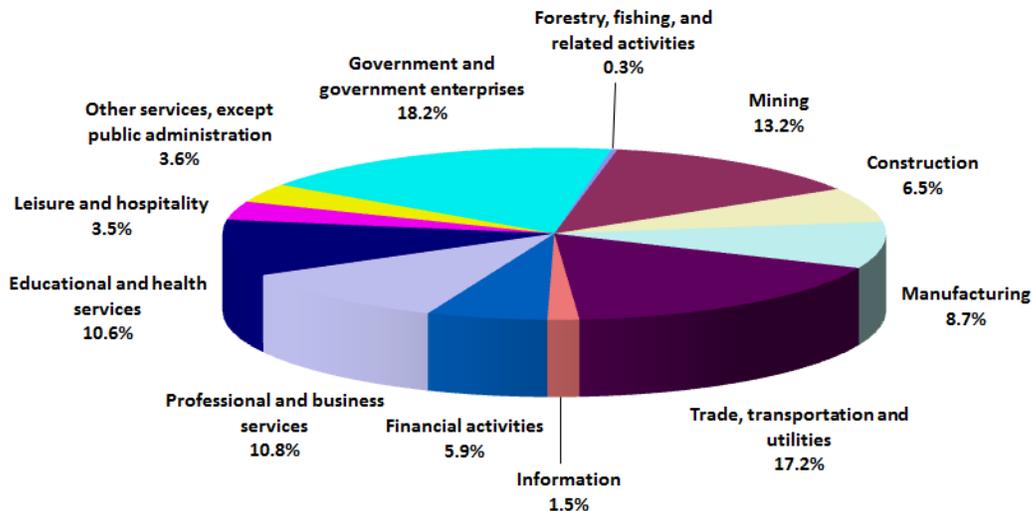
U.S. consumer spending picked up in November as households opened their wallets at the start of the holiday shopping season. Personal income increased \$44.4 billion, or 0.3 percent, and disposable personal income (DPI) increased \$34.5 billion, or 0.3 percent, in November, according to the Bureau of Economic Analysis. Personal consumption expenditures (PCE) increased \$40.1 billion or 0.3 percent in November. In October, personal income increased \$66.9 billion, or 0.4 percent, DPI increased \$54.0 billion, or 0.4 percent, and PCE increased \$3.8 billion, or less than 0.1 percent, based on revised estimates

In November, spending on durable goods rose 1.1 percent following a -0.1 percent decline in October. Spending on nondurable goods increased up 0.9 percent following a -0.1 percent drop the previous month. Spending on services was flat in November as well as October.

The personal saving rate, (personal saving as a percentage of disposable personal income), fell to 5.5 percent of after-tax income in November, down from 5.6 percent in October.

## Oklahoma Nonfarm Contribution to Earnings Third Quarter 2015

Source: U.S. Department of Commerce, Bureau of Economic Analysis



### 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 1.3 percent on average in the 3rd quarter of 2015, the same pace as in the 2nd quarter, according to estimates by the U.S. Bureau of Economic Analysis (BEA). Personal income grew in every state with growth rates ranging from 0.6 percent in Alaska to 2.2 percent in Nebraska and South Dakota. Quarterly state personal income estimates for 1st quarter 2015 and 2nd quarter 2015 were revised.

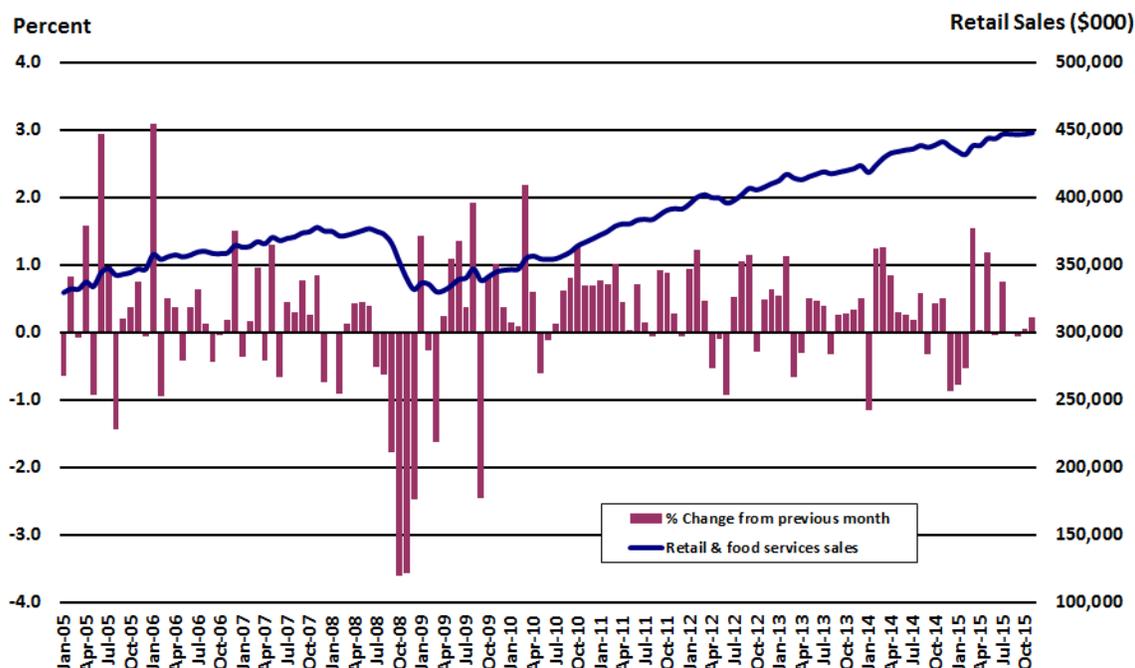
Oklahoma's personal income grew at a 1.0 percent rate, to a level of \$173.9 billion, ranking the state 45th among all states in the 3rd quarter of 2015.

As a result of falling oil prices, personal income gains in the nation's oil-producing states continued to slow during the 3rd quarter. Earnings fell 1.9 percent in mining in the 3rd quarter, after falling 5.5 percent in the 2nd quarter and 0.6 percent in the 1st quarter. This subtracted from personal income growth, particularly in Oklahoma (-0.21 percentage point), as well as North Dakota (-0.26), Wyoming (-0.26), West Virginia (-0.16), Alaska (-0.12), Louisiana (-0.11), and Texas (-0.11).

However, low fuel prices helped the nation's farmers bounce back in the 3rd quarter, as farm earnings grew 17.5 percent in the 3rd quarter after falling 4.5 percent in the 2nd quarter. In Oklahoma, farm earnings grew 22.1 percent in the 3rd quarter. Farm earnings contributed 0.25 percentage point to Oklahoma's personal income in the 3rd quarter.

## U.S. Retail Sales (Adjusted for Seasonal, Holiday, and Trading-Day Differences)

Source: U.S. Census Bureau, Advance Monthly Sales for Retail and Food Services



### 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

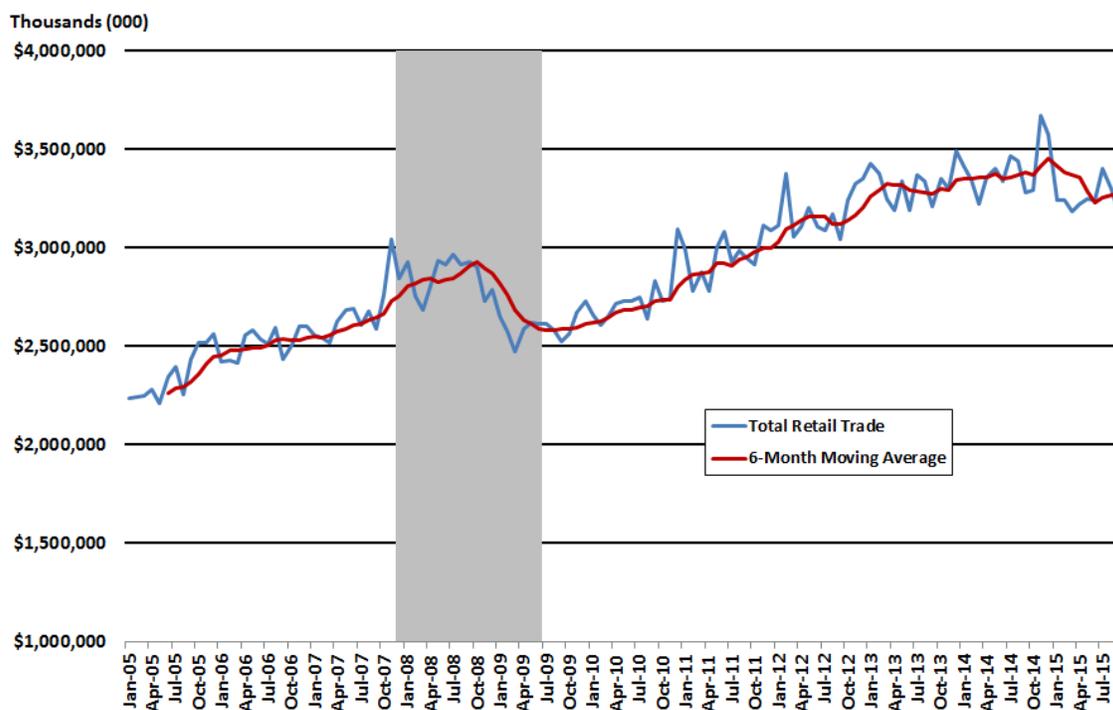
Retail sales climbed by the most in four months in November as consumers increased their spending at clothing stores, sporting goods stores and electronics outlets. Advance estimates of U.S. retail and food services sales for November, adjusted for seasonal variation and holiday and trading-day differences, but not for price changes, were \$448.1 billion, an increase of 0.2 percent from the previous month, and 1.4 percent above November 2014, according to the U.S. Census Bureau. Total sales for the September 2015 through November 2015 period were up 1.7 percent from the same period a year ago. The September 2015 to October 2015 percent change was unrevised from +0.1 percent.

Receipts at gas stations weighed on the retail sales figures again in November dropping 0.8 percent. Sales fell 0.4 percent at automobile dealers last month, after a 0.3 percent decline in October. Excluding both vehicles and gasoline, sales rose a very solid 0.5 percent in November.

The less volatile "core" sales, which strip out automobiles, gasoline, building materials and food services increased 0.6 percent in November after rising 0.2 percent in October. Categories showing sizable gains in November were clothing & accessories (+0.8 percent); electronics & appliances (+0.6 percent); online sales (+0.6 percent), and general merchandise stores (+0.7 percent).

## Oklahoma Total Adjusted Retail Trade, 2005-2015

Source: Center for Economic & Management Research, University of Oklahoma



NOTE: Shaded area represents National Bureau of Economic Research defined recession period.

### 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 total adjusted retail trade continued to fall in September with broad-based losses occurring in both durable and nondurable sales. Total adjusted retail sales for September were at a level of \$3.17 billion, 1.9 percent lower than the August level of \$3.30 billion. For the first 11 months of 2015, total adjusted retail trade was at a level of \$29.28 billion, 3.3 percent lower than \$30.29 billion for the same period in 2014.

Total durable goods sales fell 0.1 percent in September led by big declines in miscellaneous durable goods (-6.7 percent) and electronics & music store sales (-5.3 percent). Other declining durable goods categories were used merchandise (-1.7 percent); and furniture (-0.4 percent). Over-the-month gains were seen in lumber & hardware (3.8 percent) and auto accessories & repair (1.1 percent).

Nondurable goods spending sank 5.2 percent in September led by another big drop in estimated gasoline sales (-25.8 percent) due to lower pump prices. The average price of gasoline in the state stood at \$2.06 per gallon in September, the lowest it's been since 2004, according to AAA. Other declining categories were general merchandise stores (-2.3 percent); apparel (-5.2 percent); drugstore store sales (-3.0 percent); liquor (-2.4 percent); and miscellaneous non-durable goods (-2.0 percent). Advancing were eating & drinking (1.5 percent) and food sales (0.1 percent).